

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- Epidemiologic Notes and Reports**
449 Polychlorinated Biphenyl
Exposure — Idaho, Montana
450 Blastomycosis in Canoeists
— Wisconsin
451 Diphtheria — California
457 Summer Measles
— Los Angeles County

Epidemiologic Notes and Reports

Polychlorinated Biphenyl Exposure — Idaho, Montana

CDC is currently analyzing data from 2 surveys to determine the level of human exposure to polychlorinated biphenyls (PCBs) caused by a leak in an electrical transformer in a Montana meat-packing plant. Meat meal produced at the plant became contaminated in mid-June; however, the meal was used in chicken and hog feed distributed in several northwestern states over the next 2 months. The extent of distribution of the contaminated meat meal, and of products made from the subsequently contaminated chickens and eggs, is being investigated by the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA).

The contamination was discovered when samples of chicken fat from a Provo, Utah, slaughterhouse were found to contain elevated PCB levels after being tested routinely by USDA. The contaminated chickens had been bought from a large egg-producing farm in Franklin, Idaho. USDA and FDA investigated the Franklin farm in August and found PCB levels of 36-67 parts per million (ppm) in chickens and 1.9-3.8 ppm in eggs.

FDA officials then traced the source of the feed used at the farm and discovered that contaminated meat meal had come from the Pierce Packing Company in Billings, Montana. A non-operating transformer in that plant was found to have leaked about 200 gallons of PCBs into a drain line used in the company's rendering operation, where wastes were processed into animal meal. The leak had gone unnoticed, affecting many shipments of animal feed.

Meanwhile, tests of other farm products forced the destruction or quarantine of millions of eggs, hundreds of thousands of chickens, and large quantities of processed foods. To determine the degree of human exposure to the PCBs, state and CDC personnel conducted a community-based survey in Franklin, where most of the population had eaten contaminated eggs. No illness attributable to PCBs had been reported. On September 19, 105 volunteers from the area answered an epidemiologic questionnaire, which included questions on egg consumption and occupation. Blood specimens were drawn from all volunteers, and samples of breast milk were obtained from 8 lactating mothers. These will be analyzed for PCBs at the Idaho state laboratory and compared to documented levels of PCBs in the general population.

An investigation of the workers in the Pierce Packing Company plant was also undertaken by CDC and the Occupational Safety and Health Administration on September 20. Seventeen workers were considered to have had potential exposure to PCBs; 16 were interviewed, and their skin was examined for chloracne. Blood samples for PCBs were drawn from these men and from 16 matched, unexposed employees. Blood lipid and liver function tests were also performed on the potentially exposed workers. Serum PCB levels will be analyzed at CDC.

Polychlorinated Biphenyl Exposure — Continued

Reported by C Brokopp, DrPH, B Cannon, FR Dixon, MD, State Epidemiologist, ES Gallagher, MD, JA Mather, MD, Idaho State Dept of Health and Welfare; MD Skinner, MD, State Epidemiologist, Montana State Dept of Health and Environmental Sciences; R Swanson, Emergency and Epidemiological Operations Br, FDA; H Traybosh, DVM, Residue Evaluation and Surveillance Div, Food Safety and Quality Service, USDA; H Hutton, Occupational Safety and Health Administration; Toxicology Br, Clinical Chemistry Div, Bur of Laboratories; National Institute of Occupational Safety and Health, Special Studies Br, Chronic Diseases Div, Field Services Div, Bur of Epidemiology, CDC.

Editorial Note: PCBs are synthetic, 2-ringed phenyl compounds with varying degrees of chlorine substitution. Commercial PCB formulations are mixtures of many isomers and are classified according to weight percent chlorine in the preparation. They are insoluble in water, but soluble in oil and many organic solvents. Their dielectric properties make them useful as insulators and heat-exchange agents in capacitors and transformers. Many commercial PCB preparations also contain small amounts of highly toxic chlorinated dibenzofurans and naphthalenes. PCBs may enter the body by ingestion, inhalation, and percutaneous absorption. They tend to accumulate in body lipids and are poorly metabolized, especially the more highly chlorinated isomers. Hydroxylated metabolites may be produced by direct enzymatic transformation or by the formation of arene oxide intermediates (1). The latter are generally carcinogenic and mutagenic.

In the U.S. population, background PCB levels are 5-20 parts per billion (ppb) in serum and 500-5,000 ppb in adipose tissue (1,2). In human exposure studies, serum PCB levels of 50-350 ppb have been associated with chloracne (a specific skin lesion), hyperpigmentation, elevated serum triglycerides, and abnormal liver function indices (3,4). Children born to mothers exposed at this level are of low birth weight, may be hyperpigmented, and may develop chloracne from PCBs in their mother's milk (5).

Because of the above dangers, federal legislation in 1976 mandated that manufacture and distribution of PCBs in this country cease within 2½ years, and that all non-enclosed use of the chemical be banned. However, since much equipment containing enclosed PCBs is still in use, exposures such as the present one in Montana may still occur.

References

1. National Institute for Occupational Safety and Health: Criteria for a Recommended Standard. . . . Occupational Exposure to Polychlorinated Biphenyls (PCBs). (DHEW [NIOSH] Pub. No. 77-225). Washington, Government Printing Office, 1977
2. MMWR 27:99-100, 105, 1978
3. Goto M, Higuchi K: The symptomatology of Yusho (chlorobiphenyls poisoning) in dermatology. Fukuoka Acta Medica 60:409-431, 1969
4. Levy BSB, Meyer CR, Lowry L, Smallwood A: Health Hazard Evaluation Determination Report (No. 76-52-386). Cincinnati, US Dept Health, Education, and Welfare, National Institute for Occupational Safety and Health, April 1977
5. Yoshimura T: Epidemiological study on Yusho babies born to mothers who had consumed oil contaminated by PCB. Fukuoka Acta Medica 65:74-80, 1974

Blastomycosis in Canoeists — Wisconsin

In late July, 1979, 3 members of a southeastern Minnesota family developed fever, chills, night sweats, anorexia, weight loss of 6-14 lbs, headache, and pleuritic chest pain. Cough was present in only 1 individual. The diagnosis of pulmonary blastomycosis was made, based on pulmonary infiltrates and sputum cultures positive for *Blastomyces dermatitidis*. Subsequent epidemiologic investigation revealed that the 3 patients were part of a group of 8 who had taken a canoe trip on a northwestern Wisconsin river near Hayward on July 2. A common exposure may have occurred when the group stopped at a campsite along the river and gathered wood to build a fire and eat lunch.

Blastomycosis — Continued

Seven of the 8 group members had chest X-ray changes consistent with those seen in pulmonary blastomycosis; 4 were ill. Sputum from 3 of the symptomatic individuals and 2 of the cases with a positive X-ray grew *B. dermatitidis*. Serologic testing for blastomycosis, using complement-fixation and immunodiffusion methods, has been negative thus far in the 6 individuals tested. There has been no evidence of dissemination beyond the pulmonary tract in any of those infected, and the disease process is resolving without specific therapy. Environmental specimens obtained from the suspect campsite on August 28 are being cultured.

Reported by NS Brewer, MD, KH Rhodes, MD GD Roberts, PhD, JE Rosenblatt, MD, and RE Van Scoy, MD, The Mayo Clinic, Rochester, Minnesota; J Utz, MD, Georgetown University Medical School, Washington, D.C.; JP Davis, MD, State Epidemiologist, Wisconsin State Dept of Health and Social Services; Field Services Div, Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: North American blastomycosis is a granulomatous fungal infection that occurs sporadically in parts of the central and southeastern United States. The disease may be limited to respiratory symptoms, or it may be disseminated. Cases can be fatal if untreated, but the acute respiratory syndrome has been noted to resolve without specific therapy (1).

This unusual outbreak of blastomycosis was notable for the high attack rate, the non-specific nature of the symptoms, and the brevity of the apparent common exposure. A previous outbreak at Big Fork, Minnesota, in 1972 also demonstrated the first 2 features, but was associated with exposure to a site over the course of several months (1). The incubation period of approximately 30 days is consistent with that seen in a laboratory-acquired case (2). The low sensitivity of serologic testing has also been noted previously (1).

Further studies are in progress to investigate the possibility of other cases associated with the Wisconsin site, and to rule out other sites where exposure may have occurred. Suspected cases of blastomycosis in persons who reside in or have visited the area around Hayward should be reported to the Wisconsin State Department of Health and Social Services, to other appropriate health departments, or to CDC.

References

1. Tosh FE, Hammerman KJ, Weeks RJ, Sarosi GA: A common source epidemic of North American blastomycosis. *Am Rev Respir Dis* 109:525-529, 1974
2. Baum GL, Lerner PI: Primary pulmonary blastomycosis: A laboratory-acquired infection. *Ann Intern Med* 73:263, 1970

Diphtheria — California

On May 10, 1979, a 68-year-old man with no history of diphtheria immunization was seen at a Los Angeles County Health Department clinic with a sore throat. When a pharyngeal membrane was noted, a throat culture was taken, and the patient was referred to a hospital with a diagnosis of diphtheria. A physician in the ear, nose, and throat clinic of the hospital stripped the membrane and sent it for culture, made a diagnosis of pharyngitis, and sent the patient home on oral penicillin. The next day, the county health department again referred the patient to the hospital because of the suspicion of diphtheria, but he was sent home with no change in the diagnosis or treatment.

Corynebacterium diphtheriae was cultured from the throat membrane fragments, and guinea pigs were inoculated to test for toxigenicity. When the test was found to be positive on June 1, the county health department was informed of the culture results.

Diphtheria — Continued

The patient, whose throat had healed, was hospitalized on June 4. An electrocardiogram showed a right bundle branch block which had not changed from the pattern a year earlier. The patient was discharged without parenteral penicillin or antitoxin treatment. Two throat cultures taken during admission were reported as negative on June 12 and 13. On June 25, the patient returned to the hospital with trouble swallowing and a nasal quality to his voice. He was admitted with a diagnosis of diphtheritic bulbar neuropathy and was put on tube feeding for the dysphagia. At present, he has a neurologic deficit involving the muscles of the soft palate.

On June 4, the county health department cultured the throats of 20 family members, all of whom had been well. The culture of a 9-year-old granddaughter, who had been previously immunized, was positive for *C. diphtheriae*; that culture was also toxigenic. The granddaughter received 10 days of oral penicillin, and a booster dose of tetanus-diphtheria toxoid was given. The immunizations of all family members have been brought up to date, and all remain well. Because the index patient had made a trip to Albuquerque, New Mexico, 4 weeks before the onset of illness, the New Mexico State Health and Environment Department was notified about the case. All family members in New Mexico who were visited by the patient were followed up for immunizations; all have remained well.

(Continued on page 457)

TABLE I. Summary — cases of specified notifiable diseases, United States
(Cumulative totals include revised and delayed reports through previous weeks.)

DISEASE	38th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 38 WEEKS		
	September 22, 1978	September 23, 1978*		September 22, 1978	September 23, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	408	302	192	5,019	4,122	2,556
Brucellosis	4	4	4	114	130	168
Chickenpox	276	310	310	171,650	124,442	124,442
Diphtheria	1	1	1	63	60	126
Encephalitis: Primary (arthropod-borne & unspec.)	49	46	52	654	848	848
Post-infectious	1	5	4	171	167	199
Hepatitis, Viral: Type B	281	275	275	10,542	10,946	10,937
Type A	493	663	688	21,195	20,974	24,774
Type unspecified	239	179	166	7,624	6,071	6,064
Malaria	27	12	13	509	542	340
Measles (rubeola)	63	75	81	12,193	24,019	24,019
Meningococcal infections: Total	24	22	15	1,967	1,845	1,188
Civilian	24	22	15	1,957	1,822	1,171
Military	—	—	—	10	23	23
Mumps	90	100	164	11,287	13,525	32,862
Pertussis	30	64	42	1,007	1,552	1,161
Rubella (German measles)	50	46	56	10,717	16,920	14,902
Tetanus	1	1	1	51	60	60
Tuberculosis	509	631	631	20,488	21,318	22,341
Tularemia	3	3	3	154	91	106
Typhoid fever	10	10	10	350	374	290
Typhus fever, tick-borne (Rky. Mt. spotted)	28	23	20	886	897	757
Veneral diseases:						
Gonorrhea: Civilian	20,202	23,723	23,723	721,976	726,791	726,791
Military	532	581	651	20,083	18,944	19,948
Syphilis, primary & secondary: Civilian	450	538	538	17,653	15,314	15,314
Military	4	12	10	228	216	219
Rabies in animals	107	65	65	3,625	2,326	2,186

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1978		CUM. 1978
Anthrax	—	Poliomyelitis: Total	23
Botulism (Calif. 1)	18	Paralytic	20
Cholera	1	Psittacosis	76
Congenital rubella syndrome	36	Rabies in man	2
Leprosy † (Oreg. 1, Calif. 1)	116	Trichinosis (N.J. 1)	118
Leptospirosis (Fla. 1)	33	Typhus fever, flea-borne (endemic, murine) (Tenn. 1, Tex. 4)	47
Plague	9		

* 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.

† The following delayed report will be reflected in next week's cumulative total: Leprosy: Minn. +1

TABLE III. Cases of specified notifiable diseases, United States, weeks ending September 22, 1979, and September 23, 1978 (38th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
						1979	1978*	1978	1979	1979	1979		
UNITED STATES	408	4	276	1	63	49	46	1	281	493	239	27	509
NEW ENGLAND	28	-	35	-	-	1	3	-	6	11	8	-	33
Maine †	-	-	13	-	-	-	-	-	-	2	-	-	3
N.H. †	2	-	1	-	-	-	1	-	-	-	-	-	-
Vt.	-	-	-	-	-	-	-	-	-	-	-	-	-
Mass.	18	-	8	-	-	-	2	-	3	2	6	-	9
R.I.	4	-	3	-	-	-	-	-	1	3	-	-	9
Conn. †	4	-	10	-	-	1	-	-	2	4	2	-	12
MID. ATLANTIC	81	-	12	-	-	1	6	-	34	30	13	6	71
Upstate N.Y.	31	-	7	-	-	1	1	-	11	7	6	-	13
N.Y. City	4	-	4	-	-	-	-	-	10	12	2	1	32
N.J.	40	-	NN	-	-	-	3	-	13	11	5	4	12
Pa. †	6	-	1	-	-	-	2	-	NA	NA	NA	1	14
E.N. CENTRAL	53	-	114	-	2	5	23	-	27	65	25	2	38
Ohio	-	-	6	-	-	-	9	-	2	18	-	-	7
Ind. †	-	-	15	-	1	2	8	-	1	3	7	-	1
Ill.	2	-	14	-	-	2	-	-	6	16	6	1	18
Mich.	47	-	15	-	-	1	-	-	17	23	9	1	10
Wis. †	4	-	64	-	1	-	6	-	1	5	3	-	2
W.N. CENTRAL	15	1	41	-	1	1	1	1	18	26	8	1	17
Minn. †	-	-	-	-	-	-	-	-	1	12	-	-	6
Iowa †	10	1	24	-	-	-	-	-	2	9	3	-	2
Mo.	1	-	-	-	1	-	-	-	11	2	4	-	3
N. Dak. †	-	-	3	-	-	-	-	-	-	-	-	1	1
S. Dak.	-	-	-	-	-	1	-	-	2	-	-	-	1
Nebr.	-	-	-	-	-	-	-	-	2	-	-	-	2
Kans.	4	-	14	-	-	-	-	1	-	3	1	-	2
S. ATLANTIC	56	-	25	-	1	10	3	-	65	72	31	4	62
Del.	1	-	1	-	-	-	-	-	-	-	-	-	1
Md.	15	-	5	-	-	2	-	-	10	18	1	1	10
D.C.	-	-	-	-	-	-	-	-	-	-	2	-	6
Va. †	14	-	-	-	1	1	1	-	11	10	7	2	21
W. Va.	2	-	8	-	-	5	-	-	4	1	3	-	2
N.C.	20	-	NN	-	-	2	-	-	11	3	5	-	5
S.C.	-	-	-	-	-	-	-	-	2	3	1	-	1
Ga.	-	-	-	-	-	-	-	-	6	11	-	-	2
Fla.	4	-	11	-	-	1	-	-	21	26	12	1	14
E.S. CENTRAL	46	3	4	-	-	13	1	-	31	34	11	1	9
Ky.	15	-	3	-	-	-	-	-	9	9	-	-	-
Tenn.	10	2	NN	-	-	-	-	-	17	16	7	-	-
Ala.	17	1	1	-	-	5	-	-	4	6	4	-	3
Miss.	4	-	-	-	-	8	1	-	1	3	-	1	6
W.S. CENTRAL	25	-	14	-	-	3	-	-	12	71	39	1	29
Ark.	2	-	-	-	-	-	-	-	-	2	4	-	-
La.	7	-	NN	-	-	-	-	-	3	2	-	1	3
Okla.	1	-	-	-	-	-	-	-	3	3	5	-	4
Tex.	15	-	14	-	-	3	-	-	6	64	30	-	22
MOUNTAIN	14	-	10	-	1	1	5	-	2	65	55	1	14
Mont.	1	-	4	-	-	1	5	-	-	2	-	-	2
Idaho	-	-	1	-	-	-	-	-	-	1	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	1
Colo.	12	-	4	-	-	-	-	-	2	9	-	-	5
N. Mex. †	1	-	-	-	-	-	-	-	-	15	-	-	1
Ariz.	-	-	NN	-	1	-	-	-	-	37	47	-	4
Utah	-	-	-	-	-	-	-	-	-	1	8	-	-
Nev.	-	-	1	-	-	-	-	-	-	-	-	1	1
PACIFIC	90	-	21	1	58	14	4	-	86	119	49	11	236
Wash. †	12	-	12	1	56	4	3	-	4	7	5	-	10
Oreg.	4	-	-	-	-	3	-	-	3	10	2	-	10
Calif.	69	-	-	-	2	6	1	-	76	99	42	11	214
Alaska	3	-	5	-	-	1	-	-	-	-	-	-	-
Hawaii	2	-	4	-	-	-	-	-	3	3	-	-	2
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
P.R. †	1	-	2	-	-	-	-	-	-	3	-	-	1
V.I.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Pac. Trust Terr. †	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-

NA: 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.: N.H. +6, Conn. -1, Pa. -1, Ind. +10, Wis. -1, Iowa -1, Wash.

-1; Chickenpox: Maine +3, Pac.Tr.Terr. +23, Enceph.: Ind. +2; Hep. B: Va. -2; Hep. A: Minn. -1, N.Dak. +4, Va. -1, N.Mex. +3; Hep. unsp.: Va. -2,

P.R. -3, Pac.Tr.Terr. +7.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 22, 1979, and September 23, 1978 (38th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUM. 1979	CUM. 1978*	1978	CUM. 1979	CUM. 1978*	1978	CUM. 1978	1979	1979	CUM. 1979	CUM. 1979
UNITED STATES	63	12,193	24,019	24	1,967	1,845	90	11,287	30	50	10,717	51
NEW ENGLAND	-	287	1,964	1	101	101	9	407	1	2	1,412	4
Maine †	-	17	1,314	-	5	7	3	142	-	-	61	-
N.H. †	-	32	47	-	9	8	-	4	-	-	122	-
Vt.	-	119	27	-	6	2	1	9	-	-	397	-
Mass.	-	13	241	1	33	43	-	36	1	2	483	3
R.I.	-	102	8	-	7	15	3	36	-	-	93	-
Conn. †	-	4	327	-	41	26	2	180	-	-	256	1
MID. ATLANTIC	9	1,522	2,172	6	301	293	8	1,094	2	-	1,898	9
Upstate N.Y.	6	661	1,391	2	101	94	-	157	1	-	1,054	3
N.Y. City	3	759	351	-	75	68	-	119	1	-	259	4
N.J. †	-	57	74	-	70	59	7	534	-	-	321	1
Pa.	-	45	356	4	55	72	1	284	-	-	264	1
E.N. CENTRAL	19	3,160	10,845	3	195	246	18	4,895	7	7	2,491	3
Ohio	-	265	478	-	71	66	3	1,767	-	-	135	2
Ind. †	2	206	192	-	40	41	1	275	1	1	727	-
Ill.	11	1,417	1,090	3	14	78	2	869	3	1	180	-
Mich.	2	825	7,617	-	54	50	1	885	2	2	1,194	1
Wis. †	4	447	1,468	-	16	11	11	1,099	1	3	255	-
W.N. CENTRAL	7	1,733	390	-	57	65	4	657	4	10	461	2
Minn.	2	1,216	36	-	11	16	1	11	4	2	40	-
Iowa	-	16	57	-	9	10	-	231	-	-	52	-
Mo.	-	413	9	-	29	24	1	194	-	2	60	1
N. Dak.	-	20	193	-	1	3	-	2	-	-	8	-
S. Dak.	-	2	-	-	2	3	-	7	-	-	5	-
Nebr.	-	-	50	-	-	-	-	-	-	-	202	-
Kans.	5	66	90	-	5	9	2	205	-	6	94	-
S. ATLANTIC	14	1,834	5,086	6	485	433	10	573	9	3	1,221	8
Del.	-	1	4	-	3	2	1	40	-	-	5	-
Md.	-	15	52	-	42	28	2	157	1	-	28	-
D.C.	-	-	48	-	2	1	-	2	-	-	1	-
Va.	1	270	2,825	1	70	53	2	85	1	1	201	1
W. Va.	-	54	1,045	-	8	11	-	98	1	-	106	-
N.C.	-	112	119	1	76	89	2	72	-	1	528	3
S.C.	1	152	197	-	59	26	-	3	2	-	62	-
Ga.	7	457	30	1	70	48	3	7	3	-	11	-
Fla.	5	773	764	3	155	175	-	109	1	1	279	4
E.S. CENTRAL	3	204	1,413	3	149	145	15	1,338	2	1	299	8
Ky.	-	37	119	-	29	28	14	1,102	1	-	68	1
Tenn.	3	59	949	3	44	37	-	98	1	1	96	-
Ala.	-	84	101	-	36	45	1	23	-	-	44	5
Miss.	-	24	244	-	40	35	-	115	-	-	91	2
W.S. CENTRAL	2	902	1,053	3	314	270	4	1,346	-	4	236	15
Ark.	-	9	16	1	27	21	-	480	-	-	6	4
La.	-	247	343	-	116	112	-	36	-	3	29	2
Okla.	-	22	13	-	27	16	-	-	-	-	22	-
Tex.	2	624	681	2	144	121	4	830	-	1	179	9
MOUNTAIN	3	321	250	-	78	41	5	270	-	7	514	-
Mont.	-	57	106	-	8	3	-	10	-	1	69	-
Idaho	-	21	1	-	7	4	1	9	-	-	199	-
Wyo.	-	36	-	-	1	-	-	-	-	-	-	-
Colo.	2	66	30	-	5	3	2	77	-	-	66	-
N. Mex.	-	39	-	-	5	7	-	12	-	-	11	-
Ariz.	1	73	50	-	33	15	1	54	-	6	132	-
Utah	-	18	44	-	8	5	-	94	-	-	35	-
Nev.	-	11	19	-	11	4	1	14	-	-	2	-
PACIFIC	6	2,230	846	2	287	251	17	707	5	16	2,185	2
Wash. †	-	1,126	169	-	46	44	3	189	3	5	181	-
Oreg.	-	61	146	-	23	28	1	80	-	-	101	-
Calif.	5	960	523	2	202	170	13	330	2	10	1,877	2
Alaska	-	17	1	-	6	6	-	9	-	-	3	-
Hawaii	1	66	7	-	10	3	-	99	-	1	23	-
Guam	NA	7	25	-	1	1	NA	9	NA	NA	4	-
P.R. †	5	342	246	-	5	7	4	538	-	-	34	-
V.I.	NA	4	6	-	3	1	NA	15	NA	NA	-	-
Pac. Trust Terr. †	NA	7	599	-	1	2	NA	30	NA	NA	1	-

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: Wis. -1, Wash. +2, Pac.Tr.Terr. +1; Men inf.: Conn. -2, Ind. +1; Mumps: N.H. +1, P.R. +4, Pac.Tr.Terr. +2; Pertussis: Pac.Tr.Terr. +1; Rubella: Maine -1, N.H. +1, N.J. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 22, 1979, and September 23, 1978 (38th week)

REPORTING AREA	TUBERCULOSIS		TULA-REMICIA	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	509	20,488	154	10	350	28	886	20,202	721,976	726,791	450	17,653	15,314	3,625
NEW ENGLAND	24	570	3	-	16	1	8	535	17,901	18,875	12	353	432	40
Maine	1	40	-	-	1	-	-	44	1,262	1,488	-	10	7	24
N.H.t	-	10	-	-	-	-	-	14	666	871	-	18	5	3
Vt.	-	24	-	-	-	-	-	17	430	459	-	1	3	-
Mass.	9	308	3	-	9	-	4	186	7,048	8,278	7	197	263	10
R.I.	3	51	-	-	2	-	-	30	1,461	1,370	-	12	18	2
Conn.	11	137	-	-	4	1	4	244	7,034	6,409	5	115	136	1
MID. ATLANTIC	81	3,187	1	3	57	-	36	2,719	79,373	71,338	88	2,680	1,995	63
Upstate N.Y.t	4	599	1	-	10	-	22	802	13,585	12,932	19	198	148	45
N.Y. City	20	1,144	-	3	27	-	1	950	31,247	29,795	45	1,804	1,375	-
N.J.	34	602	-	-	13	-	5	160	13,714	14,723	20	359	243	5
Pa.	23	842	-	-	7	-	8	807	20,827	20,888	4	319	229	13
E.N. CENTRAL	88	3,036	-	-	25	1	57	3,860	111,902	110,640	53	2,340	1,710	325
Ohio	14	546	-	-	3	-	20	771	30,644	28,909	15	457	311	29
Ind.	11	384	-	-	-	-	2	450	9,722	11,406	3	169	118	63
Ill.	44	1,212	-	-	7	1	31	1,705	35,222	34,806	25	1,307	1,081	150
Mich.	16	759	-	-	11	-	3	934	26,486	25,599	10	339	151	12
Wis.†	3	135	-	-	4	-	1	NA	9,798	9,920	NA	68	49	71
W.N. CENTRAL	17	696	23	-	15	-	45	922	35,719	36,711	7	234	326	716
Minn.	3	112	-	-	3	-	2	81	5,931	6,219	-	62	133	132
Iowa	-	56	-	-	4	-	13	125	4,249	4,010	1	28	29	137
Mo.	10	372	20	-	6	-	19	425	15,534	16,217	6	108	97	219
N. Dak.	-	14	-	-	-	-	-	18	594	673	-	2	2	53
S. Dak.	-	41	2	-	-	-	-	41	1,205	1,271	-	2	3	78
Nebr.	2	18	1	-	1	-	3	79	2,510	2,677	-	3	11	-
Kans.	2	83	-	-	1	-	8	153	5,696	5,644	-	29	51	97
S. ATLANTIC	95	4,629	8	-	35	15	509	4,080	174,226	178,287	89	4,182	4,048	502
Del.	1	37	-	-	-	-	3	89	2,905	2,491	-	21	8	-
Md.t	-	586	-	-	7	7	60	1,043	21,367	22,878	4	277	307	9
D.C.	2	219	2	-	1	-	2	402	11,571	11,931	8	327	304	-
Va.t	NA	540	1	-	4	1	83	570	16,868	17,010	13	360	347	15
W. Va.	5	179	-	-	3	-	9	52	2,396	2,456	-	4	15	-
N.C.t	12	733	-	-	1	5	199	720	25,163	25,608	16	338	430	14
S.C.	23	349	1	-	3	1	71	396	16,347	17,467	5	214	209	152
Ga.	24	736	4	-	2	-	75	808	33,124	34,221	43	1,173	1,018	268
Fla.t	28	1,250	-	-	14	1	7	NA	44,485	44,225	NA	1,431	1,410	44
E.S. CENTRAL	46	1,878	14	1	18	5	124	1,698	61,816	62,214	47	1,165	800	251
Ky.	10	487	2	-	5	1	19	278	8,200	8,131	5	127	101	99
Tenn.	25	542	12	-	3	-	72	449	22,130	23,059	24	496	270	88
Ala.	11	441	-	1	8	-	17	588	18,516	17,804	7	215	138	63
Miss.	-	408	-	-	2	4	16	383	12,970	13,220	11	327	291	1
W.S. CENTRAL	80	2,491	64	6	57	4	86	2,399	93,166	98,327	78	3,222	2,480	1,374
Ark.	7	215	42	2	5	1	19	168	7,320	7,132	4	106	56	271
La.	29	513	4	-	4	-	1	458	16,511	15,957	12	787	516	21
Okl.a.	3	266	12	-	-	3	51	376	9,092	9,305	1	69	72	218
Tex.	41	1,497	6	4	48	-	15	1,397	60,243	65,933	61	2,260	1,836	864
MOUNTAIN	11	618	36	-	23	1	16	964	29,077	27,420	21	352	294	102
Mont.t	-	29	8	-	-	1	5	44	1,436	1,571	-	6	7	8
Idaho	-	10	1	-	1	-	2	90	1,314	1,118	-	21	12	7
Wyo.	-	6	-	-	1	-	-	40	806	654	-	5	8	-
Colo.	-	89	12	-	12	-	4	169	7,664	7,667	-	71	89	23
N. Mex.t	6	110	4	-	4	-	1	99	3,610	3,942	16	78	67	34
Ariz.	5	302	-	-	-	-	-	366	8,197	6,949	-	94	68	23
Utah	-	25	9	-	-	-	1	58	1,486	1,513	-	3	11	7
Nev.	-	47	2	-	2	-	3	98	4,564	4,026	5	74	32	-
PACIFIC	67	3,383	5	-	104	1	5	3,025	118,796	115,979	55	3,125	3,229	252
Wash.	2	192	3	-	5	-	-	176	10,318	9,332	NA	153	175	-
Oreg.	3	140	-	-	1	-	-	171	7,629	8,010	3	129	114	11
Calif.	60	2,752	2	-	89	1	5	2,504	94,856	92,974	50	2,751	2,902	239
Alaska	-	59	-	-	2	-	-	98	3,731	3,574	-	21	8	2
Hawaii	2	240	-	-	7	-	-	76	2,262	2,089	2	71	30	-
Guam	NA	47	-	NA	-	NA	-	NA	73	91	NA	-	-	-
P.R.	3	224	-	-	4	-	-	52	1,528	1,635	21	390	362	16
V.I.	NA	3	-	NA	1	NA	-	NA	123	148	NA	6	14	-
Pac. Trust Terr.t	NA	21	-	NA	-	NA	-	NA	279	367	NA	1	-	-

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: N.H.+3, Md.-3, N.C.-2, Fla.-2, Pac.Tr.Terr.+4; RMSF: Va.-1, GC: Wis.-3, Pac.Tr.Terr.+33; Syphilis: Mont.+2, An. rabies: Ups. NY+1, Md.+28, N.Mex.+1.

TABLE IV. Deaths in 121 U.S. cities,* week ending
September 22, 1979 (38th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1			ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	612	425	121	30	19	21	S. ATLANTIC	1,180	648	352	98	41	49
Boston, Mass.	170	107	39	12	6	10	Atlanta, Ga.	149	75	45	21	3	1
Bridgeport, Conn.	36	18	9	5	3	1	Baltimore, Md.	277	139	92	28	10	3
Cambridge, Mass.	27	20	7	—	—	3	Charlotte, N.C.	51	30	12	4	3	5
Fall River, Mass.	25	21	3	—	—	1	Jacksonville, Fla.	101	55	29	9	2	6
Hartford, Conn.	53	36	8	5	4	—	Miami, Fla.	126	66	39	12	3	5
Lowell, Mass.	32	26	5	1	—	1	Norfolk, Va.	31	17	12	1	1	—
Lynn, Mass.	24	18	5	1	—	1	Richmond, Va.	68	38	21	4	1	6
New Bedford, Mass.	33	22	9	—	—	—	Savannah, Ga.	47	25	16	5	1	6
New Haven, Conn.	50	35	12	1	1	—	St. Petersburg, Fla.	77	45	10	—	2	3
Providence, R.I.	43	31	6	2	2	2	Tampa, Fla.	67	45	14	3	4	8
Scranton, Pa.	8	5	3	—	—	—	Washington, D.C.	139	65	52	8	8	6
Somerville, Mass.	8	5	3	—	—	—	Wilmington, D.C.	46	29	10	3	3	—
Springfield, Mass.	32	23	7	—	—	1							
Waterbury, Conn.	27	25	1	—	—	1							
Worcester, Mass.	52	38	7	3	3	—							
							E.S. CENTRAL	616	393	139	43	16	24
MID. ATLANTIC	2,433	1,498	612	171	83	103	Birmingham, Ala.	99	59	23	8	3	3
Albany, N.Y.	46	30	7	—	4	1	Chattanooga, Tenn.	49	34	9	4	2	—
Allentown, Pa.	116	70	6	1	—	2	Knoxville, Tenn.	44	35	7	2	—	10
Buffalo, N.Y.	21	10	24	8	10	3	Louisville, Ky.	93	59	18	11	3	1
Camden, N.J.	44	24	14	—	6	2	Memphis, Tenn.	149	95	35	8	3	2
Elizabeth, N.J.	22	14	8	—	—	—	Mobile, Ala.	31	24	4	2	1	2
Erie, Pa.†	41	23	12	3	2	3	Montgomery, Ala.	50	30	14	3	1	1
Jersey City, N.J.	44	39	3	1	—	—	Nashville, Tenn.	101	57	29	5	3	6
Newark, N.J.	70	37	17	11	3	7							
N.Y. City, N.Y.	1,275	771	337	99	35	39	W.S. CENTRAL	1,373	731	359	121	78	25
Paterson, N.J.	25	15	5	3	2	1	Austin, Tex.	29	19	4	4	—	2
Philadelphia, Pa.†	299	178	75	22	12	25	Baton Rouge, La.	38	19	12	3	3	2
Pittsburgh, Pa.†	49	43	17	6	2	4	Corpus Christi, Tex.	33	19	9	3	—	1
Reading, Pa.	40	30	9	1	—	—	Dallas, Tex.	186	100	51	19	10	4
Rochester, N.Y.	131	82	31	9	1	8	El Paso, Tex.	62	25	22	6	5	2
Schenectady, N.Y.	20	13	5	1	—	—	Fort Worth, Tex.	95	62	17	5	6	—
Scranton, Pa.†	19	13	5	1	—	—	Houston, Tex.	463	232	129	42	26	5
Syracuse, N.Y.	74	45	22	2	4	3	Little Rock, Ark.	75	42	21	6	—	3
Trenton, N.J.	44	33	10	—	—	3	New Orleans, La.	114	54	36	5	10	1
Utica, N.Y.	12	6	4	2	—	1	San Antonio, Tex.	144	81	31	20	7	1
Yonkers, N.Y.	21	18	1	1	1	1	Shreveport, La.	54	28	12	3	7	1
							Tulsa, Okla.	80	50	16	5	4	3
							MOUNTAIN	561	345	136	33	25	22
E.N. CENTRAL	2,169	1,318	537	152	90	37	Albuquerque, N. Mex.	65	38	21	1	2	3
Akron, Ohio	97	55	28	6	4	—	Colo. Springs, Colo.	24	16	4	2	1	4
Canton, Ohio	22	14	8	—	—	—	Denver, Colo.	118	76	16	10	8	5
Chicago, Ill.	475	280	109	42	25	5	Las Vegas, Nev.	54	27	19	5	1	3
Cincinnati, Ohio	136	91	30	5	2	3	Ogden, Utah	19	9	7	2	1	2
Cleveland, Ohio	157	87	47	9	9	2	Phoenix, Ariz.	146	98	30	8	9	1
Columbus, Ohio	132	75	35	10	5	5	Pueblo, Colo.	14	11	2	—	—	1
Dayton, Ohio	105	65	28	8	1	3	Salt Lake City, Utah	51	26	17	3	2	2
Detroit, Mich.	283	157	89	23	9	2	Tucson, Ariz.	70	44	20	2	1	—
Evansville, Ind.	32	24	5	—	3	2							
Fort Wayne, Ind.	60	38	12	5	3	—							
Gary, Ind.	17	6	7	3	—	—							
Grand Rapids, Mich.	57	46	6	—	4	2	PACIFIC	1,772	1,124	422	98	54	57
Indianapolis, Ind.	142	83	39	9	5	—	Berkeley, Calif.	22	16	4	2	—	2
Madison, Wis.	34	16	10	5	3	4	Fresno, Calif.	59	44	6	4	2	—
Milwaukee, Wis.	143	94	31	9	4	2	Glandale, Calif.	30	19	10	—	—	2
Peoria, Ill.	39	26	7	1	3	5	Honolulu, Hawaii	64	34	22	3	3	—
Rockford, Ill.	42	26	7	3	4	—	Long Beach, Calif.	103	60	30	8	2	—
South Bend, Ind.	39	28	7	3	1	1	Los Angeles, Calif.	546	345	124	31	17	18
Toledo, Ohio	105	72	21	7	3	1	Oakland, Calif.	69	48	15	5	1	3
Youngstown, Ohio	52	35	11	4	2	—	Pasadena, Calif.	28	23	3	—	1	—
							Portland, Ore.	119	80	28	3	5	—
W.N. CENTRAL	753	459	191	51	27	36	Sacramento, Calif.	73	43	15	6	3	—
Des Moines, Iowa	73	54	10	6	2	10	San Diego, Calif.	97	54	28	6	3	—
Duluth, Minn.	23	14	4	2	1	1	San Francisco, Calif.	149	88	42	8	6	8
Kansas City, Kans.	25	11	8	2	2	1	San Jose, Calif.	158	103	35	8	2	2
Kansas City, Mo.	154	92	40	11	8	2	Seattle, Wash.	162	105	36	12	4	4
Lincoln, Nebr.	29	20	3	2	2	4	Spokane, Wash.	42	31	8	1	2	2
Minneapolis, Minn.	115	66	28	14	2	2	Tacoma, Wash.	51	31	16	1	3	—
Omaha, Nebr.	55	25	23	2	3	1							
St. Louis, Mo.	147	88	45	8	2	7							
St. Paul, Minn.	50	38	8	1	2	3	TOTAL	11,469	6,941	2,869	797	433	374
Wichita, Kans.	82	51	22	3	3	5							

*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, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

Diphtheria — Continued

Reported by S Fannin, MD, Los Angeles County Health Dept; J Chin, MD, State Epidemiologist, California Dept of Health Services; RE Hoffman, MD, Acting State Epidemiologist, New Mexico State Health and Environment Dept; Immunization Div, Bur of State Services, Field Services Div, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The number of reported diphtheria cases has declined since 1975, with fewer than 100 cases reported annually in 1977 and 1978. The mortality rate from diphtheria has also declined since 1970. However, the case-fatality ratio for noncutaneous diphtheria has remained unchanged at 5%-10% since 1920 (1). Diphtheria is likely to be more severe or fatal in individuals with no or unknown histories of immunization. Though the incidence rate of noncutaneous diphtheria decreases with age, adults and children under 5 are less likely to be adequately immunized. This case illustrates the importance of keeping adults up to date with recommended immunizations and of considering the diagnosis of "childhood" diseases in unimmunized adults.

Persons with suspected or proven diphtheria should receive both parenteral penicillin and diphtheria antitoxin after their skin has been tested for hypersensitivity (2). In addition, asymptomatic, unimmunized household contacts should be managed by (1) either benzathine penicillin or a 7-day course of oral erythromycin, with cultures before and after treatment; (2) vaccination with diphtheria toxoid; and (3) daily surveillance for 7 days for evidence of diphtheria. Where close surveillance is impossible or unreliable, diphtheria antitoxin should be given (3).

References

1. CDC: Diphtheria Surveillance Report No. 12, Issued July 1978, p 2
2. American Academy of Pediatrics: Report of the Committee on Infectious Diseases. 18th ed. Evanston, Illinois, AAP, 1977, p 62
3. Public Health Service Advisory Committee on Immunization Practices: Diphtheria and tetanus toxoids and pertussis vaccine. MMWR 26:401-402, 407, 1977

Summer Measles — Los Angeles County

In a joint effort between the Acute Communicable Disease Control Unit of the Los Angeles County Department of Health Services (LACDHS) and the Immunization Assistance Program for Los Angeles County, every reported case of measles this summer in Los Angeles County has been fully investigated.

Forty-eight cases of suspected measles were reported to the LACDHS from July 16 through August 30 (disease weeks 29-34). Twelve of these cases were reported through the established surveillance system; 36—which presumably would otherwise have been unreported—were uncovered by calling private practitioners and by investigating cases. During the similar period in 1978, only 2 cases of measles were reported.

Twenty-two of the 48 reported cases (15 male, 7 female) were clinically confirmed as measles. Of the remaining 26 cases, 17 were confirmed as not being measles, and 9 either could not be located or refused to be interviewed.

Seven house-to-house searches were conducted in areas surrounding the confirmed measles cases. The total number of household members visited was 328. The proportion of these persons 18 years old and under who had proof of measles immunization ranged from 28% to 95%. In the area where 28% provided documentation of measles vaccination, the 3 neighboring public schools had measles immunization levels of 91%, 95%, and 99% in recent audits.

Summer Measles — Continued

Except for 1 19-year-old patient, all of the confirmed measles cases were in preschoolers (i.e., less than 5 years old). Seven of the patients were less than 1 year of age.

Nine of the confirmed measles cases could be traced to known cases; 4 were imported from other countries, and 9 cases could not be traced to a known case. Though all 22 patients reported having seen a physician, only 11 were subsequently reported as cases to local or state health departments.

Two major outbreaks, otherwise unreported, were discovered during the case investigations. One outbreak of 6 cases occurred in 2 adjoining apartment complexes inhabited by immigrants from Mexico, whose length of residence in the United States ranged from 6 months to 2 years. All of the cases could be linked to a single case, who transmitted the disease to the neighboring children while they were playing in the courtyard. The second outbreak of 4 cases occurred as a result of a swimming pool party held by a large extended family.

This collaborative surveillance effort will continue throughout September.

Reported by S Fannin, MD, Los Angeles County Health Dept; J Chin, MD, State Epidemiologist, California Dept of Health Services; Field Services Div, Bur of Epidemiology, Immunization Div, Bur of State Services, CDC.

Editorial Note: This investigation corroborates the findings of the recent measles surveillance effort in Georgia—namely, that in the summer the predominant age group in measles transmission may be children under 5, and that children less than 12 months of age continue to be at high risk (1).

The Los Angeles cases also demonstrate that, though an area may have a high total immunization level, as shown by audits of school records of kindergarten through 12th-grade children, there may still be significant pockets of susceptible people, especially preschool children. In this instance, these subgroups included immigrants, both legal and illegal, and the poor—groups that are often unaware of existing preventive health care programs and that can continue to act as reservoirs for measles.

Reference

1. MMWR 28:425-427, 1979

Addendum, Vol. 28, No. 35

p 413 In the article "Gastroenteritis Associated with Lake Swimming — Michigan," the following names were inadvertently excluded from the credits: NB Keon and J Weber, MPH, both with the Michigan State Department of Public Health.

The Morbidity and Mortality Weekly Report, circulation 87,803, is published by the Center for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs 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. Send reports to: Center for Disease Control, Attn: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

Send mailing list additions, deletions, and address changes to: Center for Disease Control, Attn: Distribution Services, GSO, 1-SB-36, Atlanta, Georgia 30333. When requesting changes be sure to give your former address, including zip code and mailing list code number, or send an old address label.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE / CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333 OFFICIAL BUSINESS

Director, Center for Disease Control
William H. Foege, M.D.
Director, Bureau of Epidemiology
Philip S. Brachman, M.D.
Editor
Michael B. Gregg, M.D.
Managing Editor
Anne D. Mather, M.A.

Postage and Fees Paid
U.S. Department of HEW
HEW 396

