CENTER FOR DISEASE CONTROL

March 24, 1978 / Vol. 27 / No. 12

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Epidemiologic Notes and Reports

Polychlorinated Biphenyl Exposure – Indiana

In January 1978, high concentrations of polycholorinated biphenyls (PCB) were found as contaminants in municipal sewage sludge used by residents of Bloomington, Indiana, for garden fertilizer. The source of the PCB was attributed to an electrical manufacturing firm in Bloomington, which had used PCB as a dielectric in the production of capacitors and had discharged PCB into the city sewage system. Fourteen sludge samples had a mean PCB concentration of 479.1 parts per million (ppm) (range, 0.1-1,700 ppm), and 28 samples of sludge-treated soil had a mean PCB content of 17.1 ppm (range, 0.1-107 ppm).

To evaluate the possible health effects of PCB exposure, the Monroe County Board of Health and CDC conducted epidemiologic and clinical evaluations on 3 groups: (1) a small group of workers (principally capacitor workers) exposed occupationally to PCB, (2) the workers' families, and (3) community residents who had applied sludge to their gardens.

Serum levels of PCB were found to be highest in th 18 workers exposed occupationally to PCB (mean 71.7 parts per billion (ppb); range 16-357 ppb). Previous studies of population groups in the United States (1,2) and in western Europe (3) without occupational or other unusual exposures to PCB have shown mean serum PCB levels of 5-20 ppb with 99% of values being less than 30 ppb. Nineteen members of workers' families had a mean serum PCB concentration of 33.6 ppb (range 12-164 ppb). Ninety-one community residents who had been exposed to sewage sludge had a mean PCB concentration of 17.6 ppb while 23 without sludge exposure had a mean level of 23.8 ppb. Serum PCB levels showed no correlation with number of years of sludge use, total pounds used, or interval since last use. Forty-five (49%) of the 91 sludge users evaluated had applied sludge to their gardens no more than twice. Since heavy consumption of fresh water game fish has previously been associated with elevation in serum PCB levels (1), histories of fish consumption were taken; no correlation was noted.

Because alteration in hepatocellular function has been reported in human and animal studies of PCB exposure (4), a battery of 6 liver function tests was conducted on 43 adult subjects. Serum levels of the liver enzyme gamma glutamyl transpeptidase (GGTP) increased significantly with serum PCB concentrations ($r=0.21$; $p<0.05$). This correlation was independent of age in adults (≥21 years) and was strengthened by the exclusion from analysis of alcohol drinkers ($r=0.42$; $p<0.0001$). No correlations were observed between serum PCB levels and the results of other less sensitive liver function studies.

Plasma triglyceride levels have previously been found to be elevated in persons exposed to PCB (5). The apparent mechanism for this elevation is a PCB-induced impairment in the hepatic enzymes which regulate removal of circulating lipoprotein from plasma. In this study 10 fasting adults who were found to have triglyceride levels above the 90th percentile for age, sex, and race (mean triglyceride=279.9 mg/100 ml) had a mean serum PCB content of 65.0 ppb. Plasma triglyceride concentrations increased significantly with increases in serum PCB levels ($r=0.36$; $p<0.003$). In adults this association was independent of age.

Reported by FX McCloskey, Mayor, Bloomington; TO Middleton, MD, R Schneider, Monroe County Board of Health; J Van Fleet, MD, WT Paynter, MD, RD Talle, MD, State Epidemiologist, Indiana State Board of Health; CJ Glueck, MD, University of Cincinnati Medical Center; Div of Surveillance, Health Effects, and Field Services, NIOSH, Toxicology Br, Clinical Chemistry Div, Bur of Laboratories, Special Studies Br, Chronic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Both the manufacture and the use of PCB in the United States have decreased sharply in recent years with recognition of the compound's toxicity and potential for long persistence in the environment. Despite this decreased production, persons exposed to PCB deserve evaluation because the compound, once absorbed, is excreted and metabolized very slowly and because the delayed effects of exposure to PCB are still largely unknown.

No evidence was found in this investigation to indicate that exposure to PCB-contaminated sewage sludge, applied as fertilizer, resulted in increased absorption of PCB. Nevertheless, the lack of a demonstrable association in this study between serum PCB levels and exposure to PCB-contaminated sludge must be interpreted cautiously, since the majority of sludge users in Bloomington had relatively brief exposure to PCB. Sewage sludge and wastewaters, particularly those from industrial sources, have been shown to contain numerous toxic contaminants, among them heavy metals (6), persistent pesticides, and other halogenated hydrocar-

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Polychlorinated Biphenyl Exposure – continued

bons. It has been postulated that the repeated application of partially treated sewage containing these materials to crop and grazing lands could lead ultimately to the accumulation of toxic chemicals in human foodstuffs (*7,8*).

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International Notes

Infant Botulism – England

England has reported its first recognized case of infant botulism. Clinical and laboratory features of the case are as follows.

The patient, a 5-month-old breast-fed female, had been introduced to home cooked and commercial solids in December. Her development was normal until December 31, 1977, when she had onset of constipation. Over the next 10 days, she became irritable, developing generalized weakness so that she was unable to suckle and tended to choke when spoon fed. When admitted to the hospital on January 11 she was lethargic and had poor head control, sluggish reflexes, and reduced muscle tone. Cerebrospinal fluid was clear, an electroencephalogram was normal, and a Tensilon test was negative. Type A botulinal toxin was detected in a 7-gram specimen of feces collected on January 16. *Clostri-*

(continued on page 105)

Table I. Summary—Cases of Specified Notifiable Diseases: United States

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	11th WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 11 WEEKS		
	March 18, 1978	March 19, 1977†	1973–1977††	March 18, 1978	March 19, 1977†	MEDIAN 1973–1977††
Aseptic meningitis	29	43	35	408	400	393
Brucellosis	–	3	3	28	37	29
Chickenpox	4,997	8,523	6,317	48,987	64,910	57,786
Diphtheria	2	2	4	22	12	54
Encephalitis: Primary	10	9	15	115	130	167
Encephalitis: Post-infectious	1	3	4	25	23	41
Hepatitis, Viral: Type B	295	332	218	3,067	3,317	2,230
Hepatitis, Viral: Type A	593	630	762	5,704	7,071	7,676
Hepatitis, Viral: Type unspecified	184	165		1,791	1,976	
Malaria	16	8	8	96	67	61
Measles (rubeola)	827	1,756	782	4,926	14,633	7,272
Meningococcal infections, total	54	77	44	570	508	393
Civilian	53	77	43	565	506	382
Military	1	–	1	5	2	6
Mumps	490	635	1,676	4,287	6,399	16,190
Pertussis	30	15	——	480	152	——
Rabies (Human cases)	229	1,241	655	2,199	9,387	3,945
Tetanus	–	–	1	7	8	9
Tuberculosis	632	589	644	5,544	5,953	5,996
Tularemia	2	–	–	16	17	17
Typhoid fever	19	10	9	67	69	69
Typhus, tick-borne (Rky. Mt. spotted fever)	1	1	–	10	17	11
Venereal Diseases: Gonorrhea: Civilian	17,226	17,985	17,985	191,922	198,598	198,598
Gonorrhea: Military	263	344	277	4,665	5,798	6,311
Syphilis, primary and secondary: Civilian	423	354	472	4,233	4,699	5,515
Syphilis, primary and secondary: Military	3	4	4	63	63	71
Rabies in animals	53	50	70	491	491	491

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	–	Poliomyelitis, total:	–
Botulism: *	4	Paralytic	–
Congenital rubella syndrome:	7	Psittacosis: * Minn. 1	15
Leprosy: Calif. 1	15	Rabies in man:	–
Leptospirosis: * Utah 1	7	Trichinosis:	7
Plague:	–	Typhus, murine: *	7

†Delayed reports received for calendar year 1977 are used to update last year's weekly and cumulative totals. ††Medians for Gonorrhea and Syphilis are based on data for 1976-1977
*Delayed reports: Botulism: Ida. –1 (1977); Leptospirosis: Ida. –1 (1977); Polio., para.,: Minn. –1 (1977): Typhus, murine: NYC –1 (1977)

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Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending March 18, 1978 and March 19, 1977 – 11th Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN-POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post-infectious	Type B	Type A	Type Unspecified		
	1978	1978	1978	1978	CUM. 1978	1978	1977†	1978	1978	1978	1978	1978	CUM. 1978
UNITED STATES	29	–	4,997	2	22	10	9	1	295	593	164	16	86
NEW ENGLAND	3	–	673	–	–	–	–	–	13	13	8	–	9
Maine	2	–	55	–	–	–	–	–	–	1	–	–	1
New Hampshire	–	–	–	–	–	–	–	–	–	3	–	–	1
Vermont	–	–	13	–	–	–	–	–	–	–	–	–	–
Massachusetts	1	–	196	–	–	–	–	–	2	5	8	–	1
Rhode Island	–	–	40	–	–	–	–	–	1	–	–	–	–
Connecticut*	–	–	179	–	–	–	–	–	7	4	–	–	2
MIDDLE ATLANTIC	2	–	338	–	–	1	1	–	36	42	16	3	26
Upstate New York	–	–	271	–	–	–	–	–	9	11	3	2	3
New York City	–	–	47	–	–	1	–	–	15	18	9	–	12
New Jersey	2	–	NN	–	–	–	1	–	12	13	8	1	5
Pennsylvania*	–	–	–	–	–	–	–	–	–	–	–	–	6
EAST NORTH CENTRAL	2	–	1,850	–	–	1	–	–	28	88	4	–	2
Ohio	1	–	84	–	–	–	–	–	11	38	–	–	–
Indiana	–	–	213	–	–	–	–	–	2	2	–	–	–
Illinois	–	–	777	–	–	–	–	–	5	39	3	–	2
Michigan	1	–	315	–	–	1	–	–	7	12	1	–	–
Wisconsin	–	–	461	–	–	–	–	–	3	17	–	–	–
WEST NORTH CENTRAL	–	–	887	–	–	–	1	–	16	43	6	–	7
Minnesota	–	–	3	–	–	–	–	–	8	7	–	–	1
Iowa	–	–	219	–	–	–	–	–	2	8	–	–	–
Missouri*	–	–	284	–	–	–	1	–	4	14	4	–	4
North Dakota	–	–	–	–	–	–	–	–	–	6	–	–	–
South Dakota	–	–	11	–	–	–	–	–	–	2	–	–	–
Nebraska	–	–	66	–	–	–	–	–	1	5	1	–	1
Kansas	–	–	304	–	–	–	–	–	1	5	1	–	1
SOUTH ATLANTIC	7	–	559	–	–	2	3	–	44	70	12	4	17
Delaware	–	–	5	–	–	–	–	–	–	–	–	2	1
Maryland	1	–	–	–	–	–	–	–	7	11	–	2	6
District of Columbia	–	–	–	–	–	–	–	–	–	–	–	–	–
Virginia	–	–	29	–	–	–	1	–	9	6	2	1	2
West Virginia	1	–	229	–	–	–	–	–	2	2	1	–	–
North Carolina	2	–	NN	–	–	2	–	–	2	4	–	–	–
South Carolina	–	–	16	–	–	–	–	–	2	4	5	–	1
Georgia	–	–	20	–	–	–	–	–	3	12	–	–	1
Florida	3	–	260	–	–	–	2	–	21	31	4	1	6
EAST SOUTH CENTRAL	3	–	195	–	–	–	2	1	29	31	3	–	1
Kentucky	–	–	35	–	–	–	–	–	2	3	–	–	–
Tennessee	1	–	NN	–	–	–	–	–	13	14	3	–	1
Alabama	2	–	79	–	–	–	–	1	6	–	–	–	–
Mississippi	–	–	31	–	–	–	2	–	6	14	–	–	–
WEST SOUTH CENTRAL	3	–	183	–	–	1	–	–	31	86	40	1	6
Arkansas	–	–	1	–	–	–	–	–	2	3	–	–	–
Louisiana	1	–	NN	–	–	–	–	–	9	37	11	–	2
Oklahoma	1	–	–	–	–	–	–	–	8	7	9	–	–
Texas*	1	–	182	–	–	1	–	–	12	39	20	1	2
MOUNTAIN	2	–	223	–	1	1	–	–	8	73	31	1	2
Montana	–	–	31	–	–	–	–	–	1	13	1	–	–
Idaho	–	–	39	–	–	–	–	–	–	2	2	–	–
Wyoming	–	–	–	–	–	–	–	–	1	–	–	–	–
Colorado*	1	–	100	–	–	1	–	–	4	16	4	–	1
New Mexico	–	–	–	–	–	–	–	–	–	5	–	–	–
Arizona	–	–	NN	–	–	–	–	–	1	28	23	1	1
Utah	1	–	42	–	–	–	–	–	1	9	1	–	–
Nevada	–	–	11	–	1	–	–	–	–	–	–	–	–
PACIFIC	7	–	339	2	21	4	2	–	95	147	44	7	26
Washington*	1	–	310	2	21	–	–	–	4	14	8	–	1
Oregon	1	–	–	–	–	–	–	–	9	14	1	2	2
California*	5	–	–	–	–	4	2	–	80	112	35	5	20
Alaska	–	–	6	–	–	–	–	–	–	5	–	–	–
Hawaii	–	–	23	–	–	–	–	–	2	2	–	–	1
Guam*	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Puerto Rico	–	–	29	–	–	–	–	–	4	4	4	–	2
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable
NA: Not available
†Delayed reports received for 1977 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 issue: Asep. meng.: Conn. –1; Chickenpox: Calif. +2, Guam +12; Dieh.: Wash. –2; Enceph., prim.: Pa. –1, Wis. –1; Enceph., post. infec.: Wis. +1, Wash. –1; Hep. B: Mo. –1, Tex. –1, Guam +1; Hep. A: Tex. +1, Colo. –1, Guam +1; Hep. unsp.: Mo. –1, Guam –2.

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Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending March 16, 1978 and March 19, 1977 – 11th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUMULATIVE 1978	CUMULATIVE 1977†	1978	CUMULATIVE 1978	CUMULATIVE 1977†	1978	CUMUL. 1978	1978	1978	CUMUL. 1978	CUMUL. 1978
UNITED STATES	827	4,928	14,633	54	570	508	490	4,287	30	229	2,199	?
NEW ENGLAND	32	265	637	1	31	28	10	224	–	10	83	–
Maine	12	110	3	–	3	2	2	148	–	2	50	–
New Hampshire	–	7	209	1	5	3	–	5	–	1	4	–
Vermont	–	5	160	–	1	2	–	2	–	–	–	–
Massachusetts	7	74	111	–	6	5	3	24	–	7	25	–
Rhode Island	–	–	5	–	7	–	–	9	–	–	1	–
Connecticut	13	73	149	–	9	16	5	36	–	–	3	–
MIDDLE ATLANTIC	20	372	1,615	5	79	41	15	188	4	23	306	–
Upstate New York	3	243	410	–	27	16	7	84	4	9	41	–
New York City	5	72	80	4	22	12	5	58	–	–	14	–
New Jersey	–	1	31	3	16	17	3	45	–	14	180	–
Pennsylvania	8	56	1,094	–	14	16	–	19	–	–	71	–
EAST NORTH CENTRAL	181	1,886	3,733	4	41	53	168	1,518	13	73	875	1
Ohio	60	79	162	–	3	24	12	144	7	9	57	–
Indiana	9	41	1,089	–	11	2	20	96	5	6	51	1
Illinois	15	271	333	–	3	11	74	923	–	13	64	–
Michigan	51	1,260	612	4	21	12	33	493	1	16	581	–
Wisconsin	50	235	939	–	3	4	29	262	–	29	202	–
WEST NORTH CENTRAL	3	35	2,797	–	22	36	159	912	1	10	86	1
Minnesota	3	4	391	–	5	14	–	10	–	5	6	–
Iowa	–	10	1,675	–	1	3	13	65	–	2	9	–
Missouri	–	1	186	–	13	15	125	516	1	2	21	–
North Dakota	–	–	3	–	–	1	–	4	–	–	–	–
South Dakota	–	–	9	–	2	3	2	4	–	–	16	–
Nebraska	–	–	67	–	–	–	–	5	–	–	–	–
Kansas	–	20	466	–	1	–	19	310	–	1	34	1
SOUTH ATLANTIC	618	1,394	688	11	164	103	23	237	5	33	169	2
Delaware	1	4	17	–	–	1	2	16	–	–	1	–
Maryland	–	1	30	3	7	8	2	25	–	–	1	1
District of Columbia	–	–	1	–	1	–	–	–	–	–	1	–
Virginia	298	963	419	4	22	6	5	46	1	5	29	–
West Virginia	19	223	36	–	5	6	2	41	1	8	99	–
North Carolina	12	37	16	3	38	27	2	28	–	14	19	–
South Carolina	63	110	70	–	14	10	2	9	–	2	2	–
Georgia	2	4	91	–	20	18	3	8	2	1	1	–
Florida	23	50	8	1	57	27	7	64	1	3	16	1
EAST SOUTH CENTRAL	92	419	211	9	49	50	19	370	3	6	91	1
Kentucky	–	45	83	–	11	17	2	41	–	–	32	1
Tennessee	52	304	119	3	17	10	9	210	2	2	43	–
Alabama	–	1	–	3	13	17	10	106	–	2	4	–
Mississippi	40	69	9	3	8	6	2	13	1	–	12	–
WEST SOUTH CENTRAL	29	279	781	14	81	105	93	474	1	24	189	2
Arkansas	–	1	5	2	8	5	6	69	1	1	4	1
Louisiana	26	157	49	4	23	52	9	28	–	20	71	–
Oklahoma	–	4	35	1	9	2	–	4	–	–	3	–
Texas	3	115	692	7	42	46	38	373	–	3	111	1
MOUNTAIN	5	45	1,201	3	9	10	15	78	–	6	48	–
Montana	4	29	904	–	1	–	–	7	–	1	7	–
Idaho	–	1	25	–	1	1	4	15	–	–	3	–
Wyoming	–	–	1	–	–	–	–	–	–	–	–	–
Colorado	–	7	246	1	1	1	3	26	–	3	9	–
New Mexico	–	–	109	–	2	2	3	7	–	–	–	–
Arizona	4	8	127	1	3	5	–	2	–	2	19	–
Utah	–	1	2	1	1	–	4	22	–	–	13	–
Nevada	1	3	22	–	–	1	1	1	–	–	1	–
PACIFIC	51	225	2,968	7	94	62	26	286	3	44	352	–
Washington	1	30	190	–	17	8	9	86	1	8	68	–
Oregon	–	38	78	–	4	6	2	31	–	2	25	–
California	49	151	2,645	7	69	38	15	160	2	36	278	–
Alaska	1	1	55	–	3	9	–	4	–	–	–	–
Hawaii	–	5	–	–	1	1	–	5	–	–	1	–
Guam	NA	1	3	–	–	–	NA	1	NA	NA	–	–
Puerto Rico	17	48	169	–	–	–	31	234	–	–	3	1
Virgin Islands	–	8	6	–	–	–	–	–	–	–	–	–

NA: Not available
†Delayed reports received for 1977 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 issue: Measles: Wis. –1; Rubella: N. Dak. +1, Tex. –1

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Table III-Continued

Cases of Specified Notifiable Diseases: United States

Weeks Ending March 18, 1978 and March 19, 1977 – 11th Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER, TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1978	CUM. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	1978	CUMULATIVE 1978	CUMULATIVE 1977†	1978	CUMULATIVE 1978	CUMULATIVE 1977†	CUM. 1978
UNITED STATES	632	5,544	16	19	87	1	10	17,226	191,922	198,598	423	4,233	4,899	491
NEW ENGLAND	27	167	–	7	22	–	–	470	4,758	5,073	8	138	166	24
Maine	1	9	–	–	–	–	–	42	359	433	1	2	7	24
New Hampshire	–	6	–	–	5	–	–	29	232	192	–	1	–	–
Vermont	1	8	–	–	–	–	–	7	110	125	–	–	3	–
Massachusetts	16	83	–	7	9	–	–	158	2,067	2,179	6	92	118	–
Rhode Island	1	15	–	–	4	–	–	19	285	368	–	3	2	–
Connecticut	8	46	–	–	4	–	–	215	1,697	1,776	3	40	36	–
MIDDLE ATLANTIC	164	940	1	2	12	–	3	1,696	21,380	22,259	75	557	680	10
Upstate New York	32	130	1	–	3	–	1	337	3,302	2,854	6	34	52	10
New York City	56	432	–	2	6	–	–	810	8,563	10,632	33	379	436	–
New Jersey	–	219	–	–	1	–	–	122	3,918	3,102	33	89	91	–
Pennsylvania	69	159	–	–	2	–	2	427	5,597	5,671	3	55	101	–
EAST NORTH CENTRAL	73	776	–	1	5	–	–	2,690	26,295	29,891	45	413	526	19
Ohio	17	155	–	–	1	–	–	516	7,001	7,880	19	74	145	–
Indiana	4	113	–	–	–	–	–	362	3,147	2,462	1	26	35	2
Illinois	20	275	–	–	1	–	–	958	7,134	10,321	22	261	273	1
Michigan	29	195	–	1	3	–	–	812	6,438	6,535	2	38	51	–
Wisconsin	3	36	–	–	–	–	–	242	2,575	2,693	1	14	22	16
WEST NORTH CENTRAL	18	191	7	–	4	–	–	903	9,531	10,145	13	95	103	191
Minnesota	1	44	–	–	–	–	–	198	1,823	1,769	7	37	34	53
Iowa	2	19	–	–	2	–	–	163	1,203	1,290	–	7	8	29
Missouri*	3	66	6	–	2	–	–	267	3,569	4,348	1	28	30	17
North Dakota	5	9	–	–	–	–	–	20	237	161	–	–	1	28
South Dakota	1	18	–	–	–	–	–	26	366	274	–	1	1	18
Nebraska	–	2	–	–	–	–	–	33	706	769	1	2	14	–
Kansas	6	23	1	–	–	–	–	216	1,627	1,934	4	20	15	6
SOUTH ATLANTIC	137	1,205	2	1	6	1	4	3,884	46,224	47,700	88	1,136	1,352	93
Delaware	3	8	–	–	–	–	–	23	800	615	–	3	11	–
Maryland	24	241	1	–	–	–	–	486	6,469	5,888	2	78	94	–
District of Columbia	8	70	–	–	–	–	1	280	2,991	3,079	10	98	141	–
Virginia	14	124	–	–	1	–	–	418	4,139	4,984	8	110	128	1
West Virginia	4	60	–	–	–	–	–	60	714	610	1	4	1	1
North Carolina	18	212	–	–	–	1	2	569	6,088	7,600	6	98	191	–
South Carolina	9	99	–	–	–	–	–	518	4,290	4,415	5	56	62	4
Georgia	15	142	–	–	–	–	1	758	8,758	9,313	21	270	248	41
Florida*	40	309	1	1	5	–	–	964	11,975	11,288	35	419	476	6
EAST SOUTH CENTRAL	68	588	3	–	1	–	1	1,659	16,588	16,790	17	196	165	22
Kentucky*	13	118	–	–	1	–	–	132	1,861	2,348	1	19	19	16
Tennessee	28	176	3	–	–	–	1	727	6,043	6,855	10	76	43	3
Alabama	18	136	–	–	–	–	–	507	5,074	4,428	2	27	31	3
Mississippi	9	158	–	–	–	–	–	293	3,610	3,159	4	74	72	–
WEST SOUTH CENTRAL	62	625	2	1	2	–	1	2,196	26,922	25,925	71	658	595	126
Arkansas	10	63	2	–	–	–	–	192	1,993	1,967	1	39	14	19
Louisiana	14	144	–	–	–	–	–	617	4,666	3,599	27	135	126	3
Oklahoma	9	76	–	–	–	–	–	200	2,368	2,281	–	23	17	36
Texas	29	344	–	1	2	–	1	1,147	18,097	18,078	43	461	438	68
MOUNTAIN	9	149	–	5	7	–	–	447	7,117	7,878	7	89	91	2
Montana	–	19	–	–	–	–	–	27	459	631	–	6	–	–
Idaho	3	7	–	4	5	–	–	29	240	368	–	–	2	–
Wyoming	1	4	–	–	–	–	–	10	164	219	–	3	2	–
Colorado	–	–	–	–	–	–	–	191	1,987	2,029	4	30	29	–
New Mexico	3	30	–	–	–	–	–	92	996	1,179	–	17	15	1
Arizona	1	76	–	–	–	–	–	178	1,772	2,131	3	22	37	1
Utah	1	7	–	1	1	–	–	41	420	454	–	3	6	–
Nevada	–	10	–	–	1	–	–	79	1,079	1,072	–	8	2	–
PACIFIC	74	853	1	2	28	–	1	3,121	33,107	32,937	99	951	1,021	86
Washington	NA	19	–	–	1	–	–	271	2,316	2,424	NA	26	33	–
Oregon	1	36	–	–	1	–	–	178	2,347	2,365	3	24	38	–
California	63	657	1	2	26	–	1	2,548	26,838	26,434	96	898	935	82
Alaska	–	16	–	–	–	–	–	53	975	1,039	–	4	4	2
Hawaii	10	125	–	–	–	–	–	71	631	675	–	7	11	–
Guam*	NA	7	–	NA	–	NA	–	NA	27	67	NA	–	1	–
Puerto Rico	6	94	–	–	–	–	–	53	587	610	9	91	119	6
Virgin Islands	–	–	–	–	–	–	–	–	44	32	–	4	1	–

NA: Not available

†Delayed reports received for 1977 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 issue: TB: Mo. +7, Fla. –2, Guam: +6; GC: Guam +3; An. rabies: Ky. +2

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Table IV
Deaths in 121 United States Cities*
Week Ending March 18, 1978 – 11th Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
NEW ENGLAND	630	412	143	31	22	45
Boston, Mass.	170	102	39	10	12	12
Bridgeport, Conn.	25	14	8	2	–	5
Cambridge, Mass.	26	15	8	3	–	2
Fall River, Mass.	38	23	7	3	1	1
Hartford, Conn.	51	28	16	3	2	1
Lowell, Mass.	26	21	3	2	–	1
Lynn, Mass.	27	23	3	1	–	2
New Bedford, Mass.	26	20	3	1	1	1
New Haven, Conn.	41	26	10	3	–	1
Providence, R.I.	68	44	19	2	2	4
Somerville, Mass.	6	6	–	–	–	–
Springfield, Mass.	49	30	14	1	3	5
Waterbury, Conn.	38	26	7	–	–	6
Worcester, Mass.	47	34	10	–	1	4
MIDDLE ATLANTIC	2,850	1,862	710	160	56	143
Albany, N. Y.	50	36	20	2	–	–
Allentown, Pa.	25	19	4	1	–	1
Buffalo, N. Y.	91	63	23	4	–	3
Camden, N. J.	47	31	14	2	–	3
Elizabeth, N. J.	31	22	6	3	–	1
Erie, Pa.	36	23	10	2	1	6
Jersey City, N. J.	54	31	19	–	2	2
Newark, N. J.	66	28	26	7	6	3
New York City, N. Y.	1,328	885	306	91	25	91
Paterson, N. J.	43	31	10	1	2	3
Philadelphia, Pa.	400	256	102	19	7	31
Pittsburgh, Pa.	226	134	67	14	5	8
Reading, Pa.	45	37	8	–	–	5
Rochester, N. Y.	133	86	35	9	3	10
Schenectady, N. Y.	27	18	5	2	–	1
Scranton, Pa.	39	29	10	–	–	1
Syracuse, N. Y.	99	65	21	9	3	3
Trenton, N. J.	52	34	15	1	–	5
Utica, N. Y.	20	15	5	–	–	1
Yonkers, N. Y.	28	21	6	1	–	5
EAST NORTH CENTRAL	2,351	1,419	608	165	73	84
Akron, Ohio	66	49	10	4	–	–
Canton, Ohio	39	27	8	3	–	2
Chicago, Ill.	558	300	178	54	29	16
Cincinnati, Ohio	138	97	45	5	3	8
Cleveland, Ohio	196	102	64	17	8	4
Columbus, Ohio	138	84	31	12	4	7
Dayton, Ohio	115	72	30	8	2	3
Detroit, Mich.	288	162	80	20	13	6
Evansville, Ind.	49	33	9	1	1	1
Fort Wayne, Ind.	54	35	12	3	1	2
Gary, Ind.	28	12	7	7	–	2
Grand Rapids, Mich.	63	50	8	2	2	8
Indianapolis, Ind.	152	89	46	9	2	1
Madison, Wis.	32	17	9	3	2	4
Milwaukee, Wis.	130	82	35	9	3	6
Peoria, Ill.	34	24	9	–	1	5
Rockford, Ill.	36	28	5	1	1	5
South Bend, Ind.	60	44	10	1	1	2
Toledo, Ohio	90	57	24	6	1	1
Youngstown, Ohio	69	46	19	2	–	1
WEST NORTH CENTRAL	776	489	204	38	34	36
Des Moines, Iowa	66	35	11	–	–	1
Duluth, Minn.	23	16	7	–	–	6
Kansas City, Kans.	36	23	8	1	1	–
Kansas City, Mo.	126	73	34	4	8	5
Lincoln, Nebr.	28	18	9	–	1	3
Minneapolis, Minn.	91	58	23	6	4	4
Omaha, Nebr.	117	73	28	4	9	2
St. Louis, Mo.	177	105	52	12	6	3
St. Paul, Minn.	70	49	17	1	2	2
Wichita, Kans.	64	41	15	2	3	8

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
SOUTH ATLANTIC	1,392	939	364	83	57	70
Atlanta, Ga.	155	91	37	14	6	9
Baltimore, Md.	257	140	72	23	11	5
Charlotte, N. C.	69	35	18	3	7	1
Jacksonville, Fla.	90	53	29	1	5	6
Miami, Fla.	109	118	54	10	1	13
Norfolk, Va.	59	30	13	7	6	3
Richmond, Va.	76	39	19	4	11	7
Savannah, Ga.	49	32	12	2	2	5
St. Petersburg, Fla.	111	91	16	2	2	5
Tampa, Fla.	89	57	21	3	2	6
Washington, D. C.	193	118	56	11	6	9
Wilmington, Del.	34	35	17	3	–	7
EAST SOUTH CENTRAL	676	430	197	40	22	45
Birmingham, Ala.	95	57	26	3	3	1
Chattanooga, Tenn.	76	44	24	2	2	6
Knoxville, Tenn.	51	33	12	3	1	3
Louisville, Ky.	86	50	24	3	7	15
Memphis, Tenn.	169	112	31	12	2	9
Mobile, Ala.	72	51	11	7	1	0
Montgomery, Ala.	35	23	9	–	1	4
Nashville, Tenn.	98	60	20	8	5	5
WEST SOUTH CENTRAL	1,223	687	335	96	92	90
Austin, Tex.	65	33	13	7	3	5
Baton Rouge, La.	31	19	10	–	1	–
Corpus Christi, Tex.	56	34	17	2	2	2
Dallas, Tex.	179	106	47	13	6	7
El Paso, Tex.	59	32	16	4	2	1
Fort Worth, Tex.	98	68	21	4	0	3
Houston, Tex.	219	100	72	24	9	6
Little Rock, Ark.	51	28	13	3	6	6
New Orleans, La.	138	78	40	16	4	–
San Antonio, Tex.	177	109	51	9	7	6
Shreveport, La.	52	30	12	7	2	5
Tulsa, Okla.	98	62	25	5	2	11
MOUNTAIN	503	353	137	42	25	29
Albuquerque, N. Mex.	63	40	9	5	3	8
Colorado Springs, Colo.	29	20	7	1	1	1
Denver, Colo.	147	84	43	13	3	6
Las Vegas, Nev.	39	21	11	3	–	2
Ogden, Utah	18	11	4	1	1	2
Phoenix, Ariz.	153	98	32	11	12	6
Pueblo, Colo.	19	13	4	–	1	1
Salt Lake City, Utah	40	26	9	4	1	1
Tucson, Ariz.	75	40	18	4	2	1
PACIFIC	1,641	1,056	384	87	65	63
Berkeley, Calif.	14	11	3	–	–	–
Fresno, Calif.	78	44	22	4	6	–
Glendale, Calif.	30	22	7	1	–	2
Honolulu, Hawaii	66	38	19	3	6	1
Long Beach, Calif.	186	67	27	2	3	–
Los Angeles, Calif.	492	321	103	35	15	22
Oakland, Calif.	67	45	13	3	6	1
Pasadena, Calif.	25	19	3	2	1	–
Portland, Oreg.	124	73	36	6	6	3
Sacramento, Calif.	81	58	18	3	2	–
San Diego, Calif.	139	83	31	9	5	–
San Francisco, Calif.	149	93	37	8	8	–
San Jose, Calif.	46	28	12	4	–	2
Seattle, Wash.	145	97	37	5	3	7
Spokane, Wash.	52	33	14	1	1	3
Tacoma, Wash.	33	24	6	1	1	–
TOTAL	12,122	7,547	3,034	734	485	543
Expected Number	11,969	7,389	3,070	711	424	518

*By place of occurrence and week of filing certificate. Excludes fetal deaths.

The Morbidity and Mortality Weekly Report, circulation 70,000, is published by the Center for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphic reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes brief reports of interesting cases, unusual outbreaks or other material 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, CDC, 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.

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Botulism – continued

dium botulinum type A organisms were isolated from the same fecal specimen. Toxin was not detected in 2 follow-up fecal specimens or in serum from the infant.

On January 20 there had been some improvement in her condition, although her head control was still poor, the gag reflex was weak, and bilateral ptosis, generalized weakness, and hypotonia were still noted. With supportive management her condition continued to improve. No home contacts were ill.

Reported by A Dixon-Turner, MD, RJ Gilbert, MD, AC Ghosh, L Peteschmacher, MD, K Jefferson, and the Public Health Laboratory Service in the Communicable Disease Report 78(5), 1978.

Editorial Note: This is the first case of infant botulism reported from outside the United States. The epidemiologic features, clinical presentation, and hospital course are similar to cases previously reported in the United States. In the United States 3 cases of infant botulism have been reported in 1978, bringing the U.S. total to 61 cases since the disease was recognized in 1975. As physician awareness increases and more laboratory facilities for diagnostic testing become available, reports of cases from other countries can be expected.

Reported by Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Current Trends

Primary and Secondary Syphilis – United States, January 1978

Reported cases of primary and secondary syphilis numbered 1,543 in January 1978, a decrease of 12.7% over the 1,767 cases reported in January 1977 (provisional data, Table 1). Eighteen areas reported more cases in January 1978 than in January 1977, 9 areas reported the same number of cases, and 32 areas reported fewer cases. Reported early latent syphilis cases (less than 1 year's duration) numbered 1,202 in January 1978, representing a decline in reported cases of 11.9% from the number reported during the same time period of 1977.

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

TABLE 1. Summary of reported primary and secondary syphilis cases by reporting area, January 1978 and January 1977, provisional data

Reporting Area by HSMI Region	January		Calendar Year Cumulative January–January	
	1978	1977	1978	1977
Connecticut	13	16	13	16
Maine	9	7	9	7
Massachusetts	26	42	26	42
New Hampshire	0	1	0	0
Rhode Island	1	1	1	1
Vermont	0	1	0	1
REGION I TOTAL	39	68	39	68
New Jersey	27	39	27	39
New York (Excl. NYC)	35	34	35	34
New York City	103	142	103	142
REGION II TOTAL	165	215	165	215
Delaware	3	6	3	6
District of Columbia	26	31	26	31
Maryland (Excl. Baltimore)	21	16	21	16
Baltimore	21	25	21	25
Pennsylvania (Excl. Phila.)	14	14	14	14
Philadelphia	11	21	11	21
Virginia	49	42	49	42
West Virginia	0	0	0	0
REGION III TOTAL	145	155	145	155
Alabama	11	10	11	10
Florida	105	103	105	103
Georgia (Excl. Atlanta)	38	38	38	38
Atlanta	45	35	45	35
Kentucky	7	9	7	9
Mississippi	12	17	12	17
North Carolina	41	41	41	41
South Carolina	22	22	22	22
Tennessee	17	22	17	22
REGION IV TOTAL	300	297	300	297

Reporting Area by HSMI Region	January		Calendar Year Cumulative January–January	
	1978	1977	1978	1977
Illinois (Excl. Chicago)	10	21	10	21
Chicago	114	99	114	99
Indiana (Excl. Indianapolis)	1	1	1	1
Indianapolis	1	1	1	1
Michigan	21	22	21	22
Minnesota	10	12	10	12
Ohio	10	8	10	8
Wisconsin	5	6	5	6
REGION V TOTAL	182	170	182	170
Arkansas	10	3	10	3
Louisiana	53	54	53	54
New Mexico	0	0	0	0
Oklahoma	0	0	0	0
Texas	132	110	132	110
REGION VI TOTAL	215	167	215	167
Iowa	2	2	2	2
Kansas	10	6	10	6
Missouri	1	15	1	15
Nebraska	1	1	1	1
REGION VII TOTAL	14	24	14	24
Colorado	10	10	10	10
Montana	0	0	0	0
North Dakota	0	0	0	0
South Dakota	1	1	1	1
Utah	2	2	2	2
Wyoming	3	3	3	3
REGION VIII TOTAL	16	16	16	16

Reporting Area by HSMI Region	January		Calendar Year Cumulative January–January	
	1978	1977	1978	1977
Arizona	13	11	13	11
California (Excl. LA & SF)	384	457	384	457
Los Angeles*	688	656	688	656
San Francisco*	46	65	46	65
Hawaii	5	3	5	3
Nevada	3	3	3	3
REGION IX TOTAL	389	395	389	395
Alaska	1	1	1	1
Idaho	4	4	4	4
Oregon	11	10	11	10
Washington	11	15	11	15
REGION X TOTAL	16	30	16	30
UNITED STATES TOTAL	1,550	1,707	1,550	1,707
Puerto Rico	35	56	35	56
Virgin Islands	1	1	1	1
Guam, Samoa, Trust Territories				
Outlying Areas	1,586	1,764	1,586	1,764

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

Source: CDC 9-55, HSMI-CDC-000 VD Control Division, Atlanta, Georgia

Epidemiologic Notes and Reports

Pneumonic Tularemia – Washington

On November 15, 1977, a 19-year-old King County resident went deer hunting with friends and relatives in central Washington state. While on the trail 2 days later, he found a partially dismembered dead rabbit. The hunter amputated the front paws for good luck charms, which he gave to another hunter in the party.

The rabbit had been handled with bare hands that were bruised and scratched from the hunter's work as an automobile mechanic. Festering sores on his hands, legs, and knees were noted on November 19. Spiking fevers followed 24 hours later. He was cared for at home until December 11 when his physician admitted him to a local hospital because of continued bouts of fever and a weight loss of 10 pounds.

Initial white blood counts showed 8,400 cells/mm^3 with a normal differential pattern. The chest X rays showed a right superior mediastinal mass with hilar adenopathy and no evidence of peripheral pneumonitis. Because Hodgkin's disease was suspected, a mediastinoscopy with a mediastinal needle biopsy was performed. The report indicated the presence of necrotizing granuloma. By December 14 the fevers had subsided, and the patient was discharged.

A blood specimen, drawn on December 16, was sent to

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Tularemia — continued

the state's public health laboratory for agglutination tests for tularemia, brucellosis, and proteus OX 2, OX 19, and OX K. Because of a high positive titer for tularemia (1:20, 480), an epidemiologic investigation was begun.

Despite repeated attempts to elicit a history of exposure to wild rabbits, none was obtained until after Christmas, when the grandfather remembered the rabbit paw incident. A 10-day course of tetracycline therapy (2 gms. daily) was started on December 21. On January 3 a second blood specimen showed no decline in agglutination titer. The patient has declined further blood studies. He remains well with no evidence of relapse.

The recipient of the "good luck charms" remains well. He had discarded the paws, however, so they could not be recovered.

Reported by DG Kestle, MD, Bellevue, Washington; AMB Pedersen, MD, MPH, J Spearman, RN, MH, E Tronca, MS, Seattle-King County Health Dept; J Allard, PHD, JW Taylor, MD, State Epidemiologist, Washington Dept of Social and Health Services; Bacterial Zoonoses Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: It is presumed that illness resulted from exposure to the dead rabbit and that the portal of entry was primarily through traumatic skin breaks in the hands, with secondary mediastinal involvement. However, simultaneous inhalation of aerosolized *Francisella tularensis* cannot be excluded.

International Notes

Quarantine Measures

The following changes should be made in the *"Supplement-Health Information for International Travel,"* MMWR Vol. 26, August 1977:

FRENCH GUIANA
Smallpox — Delete all information. Insert code II. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GABON
Smallpox — Delete all information. Insert code II >6 mos. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GAMBIA
Smallpox — Delete all information. Insert code II >1 yr. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GERMAN DEMOCRATIC REPUBLIC (EAST)
Smallpox — Delete note. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in: Africa: Ethiopia, Kenya, Somalia

GERMANY, FEDERAL REPUBLIC OF (WEST)
Smallpox — Delete the note and insert: A Certificate is ALSO required from air travelers who within the preceding 14 days have been in: Africa: Ethiopia, Somalia

GIBRALTAR
Smallpox — Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GUADELOUPE
Smallpox — Delete all information, Insert code II. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GUATEMALA
Smallpox — Delete note. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GUERNSEY, ALDERNEY, AND SARK
Smallpox — Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GUINEA-BISSAU
Smallpox — Delete all information. Insert code II>3 mos. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GUYANA
Smallpox — Under code insert >3 mos. Under Asia insert: Pakistan.

Erratum, Vol. 27, No. 7

p 55 In the article, "Coccidioidomycosis—California," change the names of the authors from Smith CD, Simmons SA to Smith CD, Saito MT, Simmons S.

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

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.
Chief, MMWR Statistical Activity, Dennis J. Bregman, M.S.

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HEW Publication No. (CDC) 78-8017