CENTER FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Surveillance Summary

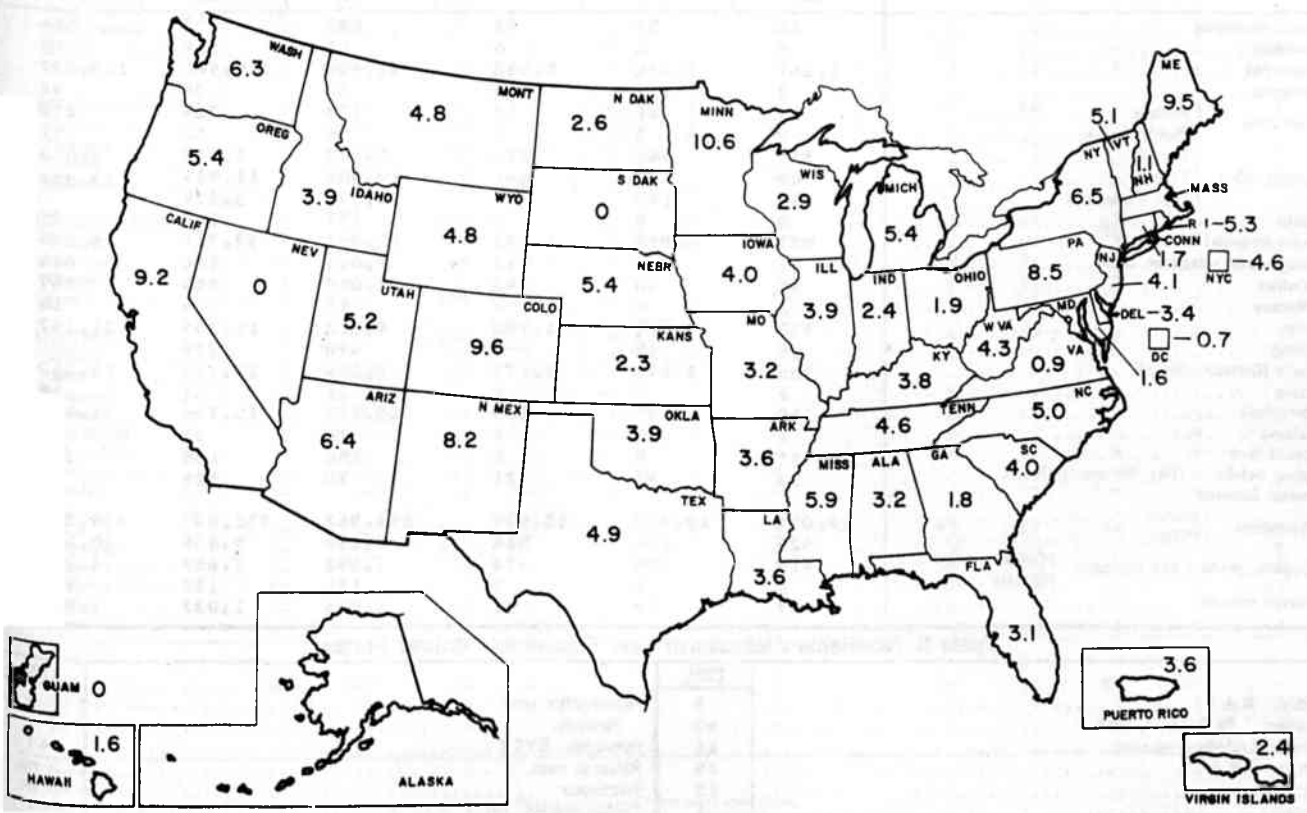
Intestinal Parasite Surveillance — United States, 1976

CDC conducted a survey of state and territorial public health laboratories from January 1 through December 31, 1976, to determine the frequency of diagnosis of intestinal parasitic infections. A total of 414,820 stool specimens from 54 of 55 public health laboratories in the 50 states, the District of Columbia, New York City, Guam, Puerto Rico, and the Virgin Islands were examined by the laboratories. Of these specimens, 64,901 or 15.6% contained 1 or more pathogenic or non-pathogenic intestinal parasites. *Giardia lamblia*, the most frequently identified organism (Figure 1), was present in 3.8% of all stool specimens examined. It was followed in frequency by *Trichuris trichiura* (2.7%), *Ascaris lumbricoides* (2.3%), and *Enterobius vermicularis* (1.7%). *Entamoeba histolytica* was found in 0.6% of stool specimens.

Reported by the Parasitic Diseases Div, Bur Epidemiology, CDC.

Editorial Note: There are several possible explanations for the marked differences in identification rates for individual intestinal helminths and protozoa from 1 laboratory to another. First, the patient populations from which stool specimens are referred to state and territorial public health laboratories differ from area to area. Data from some laboratories are undoubtedly biased because a disproportion-

FIGURE 1. Percent of stool specimens positive for *Giardia lamblia*, 1976



Intestinal Parasite Surveillance — Continued

ately large number of stool specimens come from immigrants, patients in state hospitals, or persons in lower socioeconomic groups. Second, laboratories use many different methods for examining stool specimens for intestinal parasites. Most laboratories probably examine both a direct and a concentrated specimen, but only a few stain slides specifically for identification of protozoan trophozoites. Third, the experience of laboratory personnel undoubtedly varies, leading to under- and over-diagnosis of all intestinal parasites, but particularly protozoa. Nevertheless, these survey data do provide an estimate of the relative prevalence of infections with intestinal protozoa and helminths in the United States.

The frequency with which *G. lamblia* was identified by laboratories in all reporting areas suggests that infection with this organism may be endemic throughout the United States.

Although *E. vermicularis* is usually considered the most common pathogenic intestinal parasite in the United States, it was less frequently identified in this survey than *G. lamblia, A. lumbricoides,* or *T. trichiura.* This was probably due to the fact that stool examinations are a less sensitive diagnostic technique than the "scotch tape" swab. Since some laboratories included the results of perianal swab examinations in their reports, the rates of identification of *E. vermicularis* over-estimated the frequency with which this organism can be identified by routine stool examinations.

Infections with intestinal nematodes (roundworms) are generally thought to be most common in the southern states because of the favorable climatic conditions for development of infective ova and larvae in the soil. The frequency with which intestinal helminths were identified in many northern states in this survey emphasizes the necessity for physicians in all parts of the country to consider helminths in their differential diagnosis in patients with unexplained eosinophilia and/or gastrointestinal disease.

▲ A copy of the report from which these data were derived is available on request from CDC, Attn: Intestinal Parasite Surveillance, Parasitic Diseases Division, Bureau of Epidemiology, Atlanta, Georgia 30333

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

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

DISEASE	19th WEEK ENDING May 13, 1978	19th WEEK ENDING May 14, 1977†	MEDIAN 1973-1977††	CUMULATIVE, FIRST 19 WEEKS May 13, 1978	CUMULATIVE, FIRST 19 WEEKS May 14, 1977†	CUMULATIVE, FIRST 19 WEEKS MEDIAN 1973-1977††
Aseptic meningitis	36	53	33	685	703	684
Brucellosis	4	6	6	45	64	62
Chickenpox	5,361	7,221	5,980	81,558	119,566	109,077
Diphtheria	2	–	8	30	36	98
Encephalitis, Primary	12	11	13	198	224	278
Encephalitis, Post-Infectious	5	5	7	56	62	91
Hepatitis, Viral, Type B	335	368	250	5,429	5,982	4,053
Hepatitis, Viral, Type A	568	621	807	10,302	11,915	13,316
Hepatitis, Viral, Type unspecified	161	149		3,156	3,229	
Malaria	8	8	6	157	140	95
Measles (rubeola)	927	2,968	1,303	12,958	33,711	16,879
Meningococcal infections, total	47	60	43	1,043	854	664
Civilian	45	60	43	1,030	850	647
Military	2	–	–	13	4	16
Mumps	432	588	1,700	8,312	11,255	31,197
Pertussis	19	18	---	690	279	---
Rubella (German measles)	965	1,171	1,171	8,056	12,715	10,060
Tetanus	2	2	1	21	17	18
Tuberculosis	619	639	639	10,533	10,786	11,409
Tularemia	1	4	1	26	37	34
Typhoid fever	11	8	6	156	130	115
Typhus, tick-borne (Rky. Mt. spotted fever)	32	47	21	70	114	60
Venereal Diseases:						
Gonorrhea, Civilian	18,077	18,839	18,839	335,962	338,887	339,811
Gonorrhea, Military	424	616	616	8,634	9,836	10,694
Syphilis, primary and secondary, Civilian	412	388	418	7,598	7,658	9,282
Syphilis, primary and secondary, Military	8	8	8	121	112	132
Rabies in animals	77	71	71	1,034	1,032	1,032

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax: N.H. 1	3	Poliomyelitis, total:	–
Botulism: * Pa. 1, Tex. 1, Wash. 1	45	Paralytic:	–
Congenital rubella syndrome:	11	Psittacosis: NYC 2	43
Leprosy: P.R. 1	38	Rabies in man:	–
Leptospirosis:	15	Trichinosis:	9
Plague:	1	Typhus, murine: Tex. 1	13

†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 report: Botulism: Colo. 1

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 13, 1978 and May 14, 1977 — 19th Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	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	36	4	5,361	2	30	12	11	5	335	568	161	8	157
NEW ENGLAND	2	–	669	–	–	–	–	–	11	13	13	–	7
Maine*	–	–	189	–	–	–	–	–	1	–	–	–	1
New Hampshire	2	–	4	–	–	–	–	–	1	–	–	–	1
Vermont*	–	–	2	–	–	–	–	–	1	–	–	–	–
Massachusetts	–	–	267	–	–	–	–	–	–	4	12	–	1
Rhode Island	–	–	68	–	–	–	–	–	3	3	–	–	–
Connecticut	–	–	139	–	–	–	–	–	5	6	1	–	4
MIDDLE ATLANTIC	3	4	338	–	1	1	4	–	46	63	35	2	36
Upstate New York	–	4	141	–	–	1	–	–	12	23	10	–	4
New York City	1	–	122	–	1	–	–	–	20	20	12	1	17
New Jersey*	–	–	NN	–	–	–	3	–	8	15	10	1	5
Pennsylvania*	2	–	75	–	–	–	1	–	6	5	3	–	10
EAST NORTH CENTRAL	1	–	2,386	–	–	2	–	–	68	98	6	2	6
Ohio*	–	–	418	–	–	1	–	–	14	39	–	–	–
Indiana*	1	–	453	–	–	–	–	–	1	5	2	–	–
Illinois	–	–	588	–	–	–	–	–	30	18	1	–	2
Michigan	–	–	435	–	–	1	–	–	20	30	3	2	3
Wisconsin	–	–	492	–	–	–	–	–	3	6	–	–	1
WEST NORTH CENTRAL	5	–	489	–	–	1	–	2	17	37	4	–	10
Minnesota	–	–	–	–	–	–	–	–	5	6	–	–	2
Iowa	–	–	317	–	–	–	–	–	–	7	–	–	–
Missouri*	4	–	3	–	–	1	–	–	10	19	4	–	4
North Dakota	–	–	8	–	–	–	–	–	–	1	–	–	–
South Dakota	–	–	14	–	–	–	–	–	–	–	–	–	–
Nebraska	1	–	16	–	–	–	–	2	–	2	–	–	3
Kansas	–	–	131	–	–	–	–	–	2	2	–	–	1
SOUTH ATLANTIC	3	–	551	–	–	2	–	2	59	71	26	1	32
Delaware	–	–	–	–	–	–	–	–	2	–	1	–	1
Maryland	–	–	–	–	–	–	–	–	14	11	11	–	9
District of Columbia	–	–	2	–	–	–	–	–	3	2	–	–	–
Virginia	–	–	36	–	–	2	–	–	7	3	3	–	6
West Virginia*	–	–	362	–	–	–	–	–	2	2	–	–	1
North Carolina	1	–	NN	–	–	–	–	1	4	3	1	–	1
South Carolina	–	–	16	–	–	–	–	–	4	1	1	1	2
Georgia	–	–	–	–	–	–	–	–	11	17	–	–	1
Florida	2	–	135	–	–	–	–	1	12	32	9	–	11
EAST SOUTH CENTRAL	4	–	241	–	–	1	2	1	23	38	–	–	3
Kentucky	–	–	159	–	–	1	–	1	4	–	–	–	1
Tennessee	1	–	NN	–	–	–	–	–	7	24	–	–	1
Alabama	3	–	75	–	–	–	–	–	8	7	–	–	1
Mississippi	–	–	7	–	–	–	2	–	4	7	–	–	–
WEST SOUTH CENTRAL	1	–	208	–	1	–	2	–	27	81	37	–	8
Arkansas	–	–	2	–	1	–	–	–	2	3	4	–	–
Louisiana*	–	–	NN	–	–	–	–	–	8	21	5	–	3
Oklahoma	1	–	–	–	–	–	–	–	5	12	4	–	–
Texas*	–	–	206	–	–	–	2	–	12	45	24	–	5
MOUNTAIN	2	–	198	1	3	–	–	–	19	47	12	–	3
Montana	–	–	30	–	–	–	–	–	–	–	–	–	–
Idaho	1	–	30	–	–	–	–	–	–	2	–	–	–
Wyoming	–	–	–	–	–	–	–	–	1	–	–	–	–
Colorado	–	–	88	1	2	–	–	–	8	11	2	–	1
New Mexico	1	–	–	–	–	–	–	–	5	8	–	–	–
Arizona*	–	–	NN	–	–	–	–	–	4	17	6	–	1
Utah	–	–	47	–	–	–	–	–	–	7	4	–	–
Nevada	–	–	3	–	1	–	–	–	1	2	–	–	1
PACIFIC	15	–	281	1	25	5	3	–	65	120	28	3	52
Washington	–	–	234	1	25	–	–	–	3	20	3	–	2
Oregon	–	–	2	–	–	–	–	–	4	19	3	–	3
California*	15	–	–	–	–	5	3	–	57	72	21	2	43
Alaska	–	–	10	–	–	–	–	–	1	7	–	–	1
Hawaii	–	–	35	–	–	–	–	–	–	2	1	1	3
Guam*	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Puerto Rico	–	–	4	–	–	–	–	–	–	4	4	1	3
Virgin Islands	–	–	3	–	–	–	–	–	–	–	–	–	1

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 cumulative totals: Asep. meng.: W.Va. +1; Chickenpox: Mo. +54, W.Va. +189, Calif. +79; Guam +7; Enceph, post: Ind. +2; Hep. B: Vt. +1, Pa. +8, Ohio +1, W.Va. +1, La. −1, Tex. +1; Hep. A: N.J. −1, Pa. +8, Ohio −1, Mo. −2, W.Va. +4, La. −1, Ariz. +1, Guam +2; Hep. unsp.: Vt. −1, Mo. −1, Tex. −1, Ariz. −1; Malaria: Ind.+3.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 13, 1978 and May 14, 1977 – 19th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUMULATIVE		1978	CUMULATIVE		1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
		1978	1977†		1978	1977†						
UNITED STATES	927	12,958	33,711	47	1,043	854	432	8,312	19	965	8,056	21
NEW ENGLAND	109	1,499	1,575	2	51	39	21	517	–	75	395	–
Maine*	76	999	4	–	4	3	14	380	–	9	136	–
New Hampshire	5	16	449	–	6	3	–	7	–	7	83	–
Vermont	–	22	254	–	2	4	–	4	–	6	20	–
Massachusetts	9	156	419	–	13	11	–	45	–	7	66	–
Rhode Island	–	4	11	–	11	–	4	18	–	12	13	–
Connecticut	19	302	438	2	15	18	3	63	–	34	77	–
MIDDLE ATLANTIC	83	1,079	4,215	9	160	109	21	337	–	151	1,534	1
Upstate New York	49	729	1,381	2	54	27	5	113	–	34	230	–
New York City	13	126	217	2	37	24	5	91	–	4	37	–
New Jersey	1	19	100	4	34	26	6	67	–	88	1,016	–
Pennsylvania*	20	205	2,517	1	35	32	5	66	–	25	251	1
EAST NORTH CENTRAL	431	4,876	7,429	3	85	94	212	2,968	2	501	3,445	1
Ohio	29	264	734	–	21	30	46	377	–	115	577	–
Indiana*	21	89	3,457	2	17	7	16	141	–	165	282	1
Illinois	17	425	928	–	6	24	92	1,038	–	4	251	–
Michigan*	301	3,238	675	1	33	24	29	848	–	103	1,413	–
Wisconsin	63	860	1,635	–	8	9	29	564	2	114	922	–
WEST NORTH CENTRAL	21	204	6,470	2	37	49	17	1,520	–	35	236	1
Minnesota	2	18	1,382	–	5	19	–	12	–	16	31	–
Iowa	–	35	3,220	–	5	7	3	99	–	9	28	–
Missouri*	–	6	715	2	19	14	5	910	–	–	50	–
North Dakota*	15	104	10	–	1	1	1	7	–	1	27	–
South Dakota	–	–	47	–	2	4	–	5	–	–	25	–
Nebraska	–	1	178	–	–	–	–	13	–	–	4	–
Kansas	4	40	918	–	5	4	8	474	–	9	71	1
SOUTH ATLANTIC	139	3,018	2,310	11	283	191	25	420	7	41	655	3
Delaware	–	5	22	4	9	15	2	25	–	5	18	–
Maryland	–	3	279	–	13	12	–	45	–	–	2	1
District of Columbia	–	–	3	–	1	–	–	1	–	–	1	–
Virginia	58	2,001	1,243	3	39	14	6	83	1	5	191	–
West Virginia*	31	558	111	–	5	8	1	79	–	19	182	–
North Carolina	28	79	34	2	53	48	3	43	2	–	155	–
South Carolina	3	157	116	–	17	17	–	11	–	1	8	–
Georgia	4	10	401	1	36	30	11	37	1	–	1	–
Florida	15	205	101	1	110	47	2	96	3	11	97	2
EAST SOUTH CENTRAL	56	842	1,086	5	86	102	46	668	3	38	269	1
Kentucky	14	80	462	1	16	19	7	91	1	1	43	1
Tennessee	42	625	543	1	24	23	10	344	2	13	107	–
Alabama*	–	25	62	2	24	39	16	196	–	1	13	–
Mississippi	–	112	19	1	22	21	13	37	–	23	106	–
WEST SOUTH CENTRAL	44	844	1,692	9	159	149	39	1,255	–	65	644	10
Arkansas	–	10	26	1	14	9	8	536	–	–	57	1
Louisiana*	–	368	66	7	57	52	–	43	–	30	376	1
Oklahoma	–	10	47	–	14	5	–	4	–	–	9	1
Texas	44	456	1,553	1	74	83	31	672	–	35	202	7
MOUNTAIN	24	138	2,000	4	25	21	19	138	2	11	91	–
Montana	4	84	952	–	1	2	–	9	1	2	11	–
Idaho	–	1	63	–	2	2	–	18	–	–	3	–
Wyoming	–	–	2	–	–	1	–	–	–	–	–	–
Colorado	–	13	428	–	2	1	7	40	–	–	17	–
New Mexico	–	–	246	–	4	6	–	7	–	–	3	–
Arizona	–	8	228	2	9	7	1	4	1	9	37	–
Utah	20	24	5	–	4	1	11	57	–	–	17	–
Nevada	–	8	76	2	3	1	–	3	–	–	3	–
PACIFIC	20	458	6,934	2	157	100	32	489	5	48	787	4
Washington	3	40	355	–	26	11	8	142	2	4	82	–
Oregon	3	128	231	–	4	13	4	47	1	2	60	–
California	12	282	6,281	2	121	54	15	273	2	42	642	4
Alaska	–	1	55	–	5	20	1	5	–	–	1	–
Hawaii	2	7	12	–	1	2	4	22	–	–	2	–
Guam*	NA	1	3	–	–	–	NA	1	NA	NA	–	–
Puerto Rico	1	90	509	–	1	–	39	652	1	–	11	1
Virgin Islands	–	6	10	–	–	–	–	1	–	–	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 cumulative totals: Measles: Maine +1, Mich. +8, N. Dak. +13, W.Va. +72, Ala. +6, La. –1; Mumps: Mo. +10, N. Dak. –1, W. Va. +47, Guam +1; Pertussis: Pa. +1, Ind. +2; Rubella: Mich. –8, Mo. +1, N.Dak. +2, W.Va. +25, Ala. –6, La. –2.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 13, 1978 and May 14, 1977 — 19th 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	619	10,533	26	11	156	32	70	18,077	335,962	338,887	412	7,598	7,658	1,034
NEW ENGLAND	18	350	–	1	34	–	–	486	8,598	8,854	13	233	302	47
Maine	2	21	–	–	–	–	–	28	662	669	1	5	8	44
New Hampshire	–	8	–	–	5	–	–	11	385	351	–	1	1	–
Vermont	1	13	–	–	1	–	–	19	227	222	–	1	4	–
Massachusetts	3	203	–	1	19	–	–	225	3,764	3,854	8	154	225	1
Rhode Island	3	22	–	–	4	–	–	52	612	702	1	8	3	–
Connecticut	9	83	–	–	5	–	–	151	2,948	3,056	3	64	61	2
MIDDLE ATLANTIC	113	1,804	1	3	17	–	5	1,913	37,374	35,979	51	1,027	1,101	17
Upstate New York*	15	268	1	3	6	–	3	390	6,026	5,494	6	70	98	16
New York City	35	697	–	–	8	–	–	755	14,629	15,472	38	729	691	–
New Jersey	33	470	–	–	1	–	–	58	6,809	5,590	1	111	144	–
Pennsylvania	30	369	–	–	2	–	2	710	9,910	9,423	6	117	168	1
EAST NORTH CENTRAL	90	1,561	–	–	6	–	–	2,779	48,502	52,189	38	808	842	35
Ohio	11	285	–	–	1	–	–	754	13,023	13,638	8	168	212	3
Indiana	9	188	–	–	–	–	–	98	4,896	4,812	1	46	60	4
Illinois	27	560	–	–	1	–	–	914	14,716	17,391	20	498	442	5
Michigan	43	460	–	–	4	–	–	709	11,334	11,516	5	69	91	1
Wisconsin	–	68	–	–	–	–	–	304	4,533	4,832	4	27	37	22
WEST NORTH CENTRAL	29	370	7	–	10	1	5	612	16,317	17,594	8	188	175	247
Minnesota	11	73	–	–	4	–	–	203	3,001	3,170	3	84	54	78
Iowa*	5	46	–	–	2	–	–	90	1,953	2,126	4	21	17	52
Missouri	7	155	6	–	2	1	4	204	6,565	7,476	1	46	64	29
North Dakota	–	16	–	–	–	–	–	14	345	313	–	2	2	40
South Dakota	4	36	–	–	–	–	–	28	617	464	–	1	1	37
Nebraska	–	5	–	–	–	–	–	55	1,232	1,492	–	5	17	1
Kansas	2	39	1	–	2	–	1	18	2,604	2,553	–	29	20	10
SOUTH ATLANTIC	122	2,264	2	1	16	18	33	4,383	80,937	81,407	138	2,015	2,212	104
Delaware	–	17	–	–	–	–	–	69	1,193	974	–	3	13	1
Maryland	9	384	2	–	1	2	2	532	10,650	10,474	18	162	139	–
District of Columbia*	9	118	–	–	1	–	1	348	5,445	5,538	6	158	244	–
Virginia	5	249	–	–	4	6	13	453	7,514	8,542	12	184	219	2
West Virginia*	2	81	–	–	1	2	2	73	1,195	1,169	–	5	1	–
North Carolina*	24	365	–	–	1	4	6	704	11,579	11,701	11	177	324	2
South Carolina	3	177	–	1	1	4	6	424	7,601	7,579	4	91	98	10
Georgia	39	301	–	–	2	–	3	587	15,014	15,692	35	498	404	79
Florida*	31	572	–	–	5	–	–	1,193	20,746	19,738	52	737	770	10
EAST SOUTH CENTRAL	51	995	4	–	1	5	10	1,580	28,854	30,147	21	389	262	60
Kentucky	9	218	1	–	1	–	1	216	3,269	4,016	3	43	32	35
Tennessee*	12	314	3	–	–	5	9	564	10,684	12,300	–	160	80	12
Alabama	18	235	–	–	–	–	–	456	8,549	8,216	5	51	47	13
Mississippi	12	228	–	–	–	–	–	344	6,352	5,615	13	135	103	–
WEST SOUTH CENTRAL	74	1,203	9	–	12	8	16	2,589	46,916	43,254	46	1,116	1,002	343
Arkansas	10	130	8	–	–	7	9	168	3,657	3,245	–	35	26	54
Louisiana*	13	230	1	–	1	–	–	396	7,820	6,449	6	215	224	5
Oklahoma	7	132	–	–	–	–	2	219	4,208	4,037	1	37	29	83
Texas	44	711	–	–	11	1	5	1,806	31,231	29,523	39	829	723	201
MOUNTAIN	20	297	2	1	10	–	–	613	12,398	13,755	7	150	155	14
Montana	–	22	–	–	–	–	–	41	777	701	–	6	–	2
Idaho	–	10	2	–	5	–	–	27	436	671	–	1	4	–
Wyoming	1	5	–	–	–	–	–	3	279	348	–	3	2	–
Colorado	1	17	–	–	2	–	–	213	3,473	3,535	2	46	47	–
New Mexico	1	56	–	–	–	–	–	101	1,738	2,021	2	44	30	5
Arizona	12	145	–	1	1	–	–	117	3,111	3,915	–	28	62	7
Utah	3	15	–	–	1	–	–	25	727	802	2	6	4	–
Nevada	2	27	–	–	1	–	–	86	1,857	1,762	1	16	6	–
PACIFIC	102	1,689	1	5	50	–	1	3,122	56,066	55,708	90	1,672	1,607	167
Washington*	NA	56	–	–	3	–	–	336	4,221	4,154	NA	76	73	–
Oregon	3	70	–	–	1	–	–	214	3,921	4,069	6	59	51	1
California	85	1,311	1	4	44	–	1	2,373	44,955	44,451	84	1,516	1,455	164
Alaska	–	16	–	–	–	–	–	146	1,857	1,839	–	5	12	2
Hawaii	14	236	–	1	2	–	–	53	1,112	1,195	–	16	16	–
Guam*	NA	26	–	NA	–	NA	–	NA	59	95	NA	–	1	–
Puerto Rico	14	157	–	–	–	–	–	23	932	1,080	12	163	215	10
Virgin Islands	–	2	–	–	2	–	–	4	73	60	–	6	3	–

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 cumulative totals: TB: Iowa –1, W.Va. +5, N.C. –2, Fla. –2, Guam +1; RMSF: D.C. –1; GC: W.Va. +50, La. –24, Guam +6; Syphilis: W.Va. +1 civ., Tenn. –22 civ., Wash. –17 civ. –9 mil.; An. rabies: Ups. N.Y. +1.

Table IV
Deaths in 121 United States Cities*
Week Ending May 13, 1978 — 19th 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	728	480	172	43	18	47
Boston, Mass.	187	108	48	21	6	11
Bridgeport, Conn.	35	30	5	–	–	6
Cambridge, Mass.	31	23	8	–	–	2
Fall River, Mass.	36	24	9	1	1	1
Hartford, Conn.	53	29	17	4	2	1
Lowell, Mass.	43	28	12	1	–	3
Lynn, Mass.	21	16	3	1	–	1
New Bedford, Mass.	24	23	–	1	–	1
New Haven, Conn.	52	36	13	3	–	3
Providence, R.I.	76	48	19	2	4	8
Somerville, Mass.	13	9	3	1	–	–
Springfield, Mass.	50	35	10	3	–	2
Waterbury, Conn.	43	29	10	3	1	4
Worcester, Mass.	64	42	15	2	4	4
MIDDLE ATLANTIC	2,527	1,624	616	142	77	91
Albany, N. Y.	47	30	9	2	3	–
Allentown, Pa.	20	14	6	–	–	–
Buffalo, N. Y.	94	52	31	3	5	5
Camden, N. J.	30	19	10	1	–	3
Elizabeth, N. J.	25	13	6	5	–	1
Erie, Pa.	45	29	10	4	1	3
Jersey City, N. J.	68	55	8	3	2	1
Newark, N. J.	65	33	21	4	3	2
New York City, N. Y.	1,299	848	306	77	35	42
Paterson, N. J.	44	29	9	2	2	4
Philadelphia, Pa.	291	171	82	17	11	11
Pittsburgh, Pa.	79	42	31	3	2	3
Reading, Pa.	54	42	7	2	2	2
Rochester, N. Y.	108	74	20	7	4	6
Schenectady, N. Y.	27	17	6	2	–	2
†Scranton, Pa.	35	26	9	1	–	1
Syracuse, N. Y.	108	65	24	8	7	3
Trenton, N. J.	32	23	8	–	–	1
Utica, N. Y.	28	22	5	1	–	–
Yonkers, N. Y.	28	20	8	–	–	1
EAST NORTH CENTRAL	2,236	1,294	626	141	99	56
Akron, Ohio	53	35	13	1	4	–
Canton, Ohio	35	22	11	2	–	2
Chicago, Ill.	547	298	161	35	30	10
Cincinnati, Ohio	145	89	42	9	3	4
Cleveland, Ohio	146	73	47	15	3	3
Columbus, Ohio	140	78	32	15	11	3
Dayton, Ohio	96	56	21	9	6	–
Detroit, Mich.	250	134	76	16	11	7
Evansville, Ind.	62	31	22	3	4	2
Fort Wayne, Ind.	32	20	8	–	3	1
Gary, Ind.	14	7	4	1	1	–
Grand Rapids, Mich.	73	53	14	1	2	5
Indianapolis, Ind.	167	91	57	8	3	4
Madison, Wis.	43	32	5	4	2	4
Milwaukee, Wis.	133	79	39	8	5	1
Peoria, Ill.	42	24	13	1	2	2
Rockford, Ill.	53	32	15	2	3	4
South Bend, Ind.	45	28	13	3	–	1
Toledo, Ohio	110	80	18	6	5	2
Youngstown, Ohio	50	32	15	2	1	1
WEST NORTH CENTRAL	643	424	151	30	21	15
Des Moines, Iowa	60	46	7	2	1	2
Duluth, Minn.	14	7	5	1	–	2
Kansas City, Kans.	25	17	5	1	–	–
Kansas City, Mo.	110	71	27	5	5	2
Lincoln, Nebr.	37	27	7	2	1	–
Minneapolis, Minn.	88	53	22	7	4	2
Omaha, Nebr.	79	50	20	2	5	3
St. Louis, Mo.	124	74	37	6	4	–
St. Paul, Minn.	64	48	13	2	–	3
Wichita, Kans.	42	31	8	2	1	1

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	1,301	719	374	101	61	42
Atlanta, Ga.	117	70	24	14	6	7
Baltimore, Md.	250	136	72	21	13	–
Charlotte, N. C.	66	28	24	6	6	1
Jacksonville, Fla.	81	39	23	8	5	6
Miami, Fla.	112	55	39	9	1	6
Norfolk, Va.	64	35	18	3	6	5
Richmond, Va.	83	42	26	2	9	2
Savannah, Ga.	54	29	14	7	3	3
St. Petersburg, Fla.	96	82	9	3	1	5
Tampa, Fla.	59	27	21	7	1	3
Washington, D. C.	261	150	80	19	8	4
Wilmington, Del.	58	26	24	2	2	–
EAST SOUTH CENTRAL	647	405	162	45	14	32
Birmingham, Ala.	107	68	27	9	2	6
Chattanooga, Tenn.	28	18	8	2	–	3
Knoxville, Tenn.	50	37	10	1	2	2
Louisville, Ky.	91	57	20	4	4	5
Memphis, Tenn.	157	100	39	12	1	2
Mobile, Ala.	78	44	20	6	5	6
Montgomery, Ala.	39	20	8	7	–	4
Nashville, Tenn.	97	61	30	4	–	4
WEST SOUTH CENTRAL	1,187	684	303	87	45	27
Austin, Tex.	42	26	8	4	–	2
Baton Rouge, La.	32	22	8	1	1	–
Corpus Christi, Tex.	41	24	13	4	–	1
Dallas, Tex.	180	91	53	16	9	4
El Paso, Tex.	49	32	12	3	1	2
Fort Worth, Tex.	68	45	13	4	3	–
Houston, Tex.	232	106	75	20	13	3
Little Rock, Ark.	62	37	17	2	4	1
New Orleans, La.	158	94	33	7	8	–
San Antonio, Tex.	153	100	29	16	2	2
Shreveport, La.	79	50	18	7	2	2
Tulsa, Okla.	91	57	23	3	2	10
MOUNTAIN	561	326	147	35	27	19
Albuquerque, N. Mex.	48	28	10	7	1	2
Colorado Springs, Colo.	34	20	8	3	1	5
Denver, Colo.	106	60	31	5	6	1
Las Vegas, Nev.	54	23	18	6	3	1
Ogden, Utah	28	22	5	–	–	5
Phoenix, Ariz.	144	83	41	7	6	2
Pueblo, Colo.	15	11	2	1	1	3
Salt Lake City, Utah	59	34	12	4	7	–
Tucson, Ariz.	73	45	20	2	2	–
PACIFIC	1,673	1,049	401	104	55	34
Berkeley, Calif.	21	16	3	1	1	–
Fresno, Calif.	57	23	15	8	6	1
Glendale, Calif.	28	17	10	1	–	–
Honolulu, Hawaii	55	31	18	3	2	–
Long Beach, Calif.	88	52	23	8	1	1
Los Angeles, Calif.	482	300	110	45	12	12
Oakland, Calif.	87	62	17	4	1	1
Pasadena, Calif.	44	31	10	2	1	1
Portland, Oreg.	144	88	36	6	6	–
Sacramento, Calif.	70	46	12	3	2	2
San Diego, Calif.	136	81	37	7	6	3
San Francisco, Calif.	156	92	43	7	8	–
San Jose, Calif.	50	36	11	1	1	4
Seattle, Wash.	142	101	30	4	3	6
Spokane, Wash.	65	42	13	3	5	2
Tacoma, Wash.	48	31	13	1	–	1
TOTAL	11,503	7,005	2,951	728	417	363
Expected Number	10,982	6,681	2,839	680	412	390

*By place of occurrence and week of filing certificate. Excludes fetal deaths.
†Data not available: figures are estimates based on average percent of regional total

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Recommendation of the Public Health Service

Advisory Committee on Immunization Practices

Cholera Vaccine

INTRODUCTION

Historically, cholera has commonly occurred in endemic and epidemic form in parts of southern and southeastern Asia. Since 1961, cholera due to the El Tor biotype has been epidemic throughout much of Asia, the Middle East, and Africa, and in certain parts of Europe. Infection is acquired primarily from contaminated water or food; person-to-person transmission is not important except in rare instances. The risk of cholera for travelers who use the usual tourist accommodations is very small.

CHOLERA VACCINE

Currently available cholera vaccines,* whether prepared from Classic or El Tor strains, are of limited usefulness. In field trials conducted in areas with endemic cholera, vaccines have been shown to provide only about 50% effectiveness in reducing incidence of clinical illness for a period of 3-6 months. They do not prevent transmission of infection. Recognizing this, the Public Health Service no longer requires cholera vaccination for travelers coming to the United States from cholera-infected areas, and the World Health Organization (WHO) no longer recommends cholera vaccination for travel to or from cholera-infected areas. Surveillance and treatment are sufficient to prevent spread of the disease if it were to be introduced into the United States.

Vaccine available in the United States is prepared from a combination of phenol-inactivated suspensions of classic Inaba and Ogawa strains of *Vibrio cholerae* grown on agar or in broth.

VACCINE USAGE

General Recommendations

The only indications for cholera vaccine are travel to and residence in countries with cholera. Vaccine should not be used to manage contacts of imported cases or to control the spread of infection.

Repeated vaccination may sometimes be required of, or advised for, laboratory workers and airline and ship crews. Since groups such as these are unlikely to acquire or transmit cholera, and since there is limited information on the long-term safety of repeated vaccination, such practices should be continued only when resolutely demanded by some countries for international travel.

Vaccine is not recommended for infants under 6 months of age and is not required for travel by most countries.

Vaccination for International Travel

The risk of cholera to U.S. travelers is so low that it is questionable whether vaccination is of benefit. Persons following the usual tourist itinerary who use standard accommodations in countries affected by cholera are at virtually no risk of infection. **The traveler's best protection against cholera, as well as against many other enteric diseases, is to avoid food and water that might be contaminated.**

*Official name: Cholera Vaccine

However, many countries affected or threatened by cholera require evidence of cholera vaccination for entry. For persons anticipating travel to such countries who are to be vaccinated in the United States, *a single dose of vaccine is sufficient to satisfy International Health Regulations.* With the threat or occurrence of epidemic cholera, health authorities of some countries may require evidence of a complete primary series of 2 doses or a booster dose within 6 months before arrival. The complete primary series is otherwise suggested only for special high-risk groups that work and live in highly endemic areas under less than sanitary conditions. (See Table 1 for appropriate dose.)

Vaccination requirements published by WHO are regularly updated and summarized for travelers by the Public Health Service and distributed to state and local health departments, airlines, travel agents, many physicians, and others. Physicians and travelers should seek information on requirements from these sources.

Physicians administering vaccine to travelers should emphasize that an International Certificate of Vaccination against cholera must be validated for it to be acceptable to quarantine authorities. Validation can be obtained at most city, county, and state health departments as well as many private clinics and physicians' offices. Failure to secure validation may cause travelers to be revaccinated or quarantined. A properly documented Certificate is valid for 6 months beginning 6 days after vaccination or beginning on the date of revaccination, if this revaccination is within 6 months of a previous injection.

Primary Immunization

Complete primary immunization consists of 2 doses of vaccine given 1 week to 1 month or more apart. (This is not required to satisfy International Health Regulations.) Dose volume by age group and by route of administration is shown in Table 1. The intradermal route is satisfactory for persons 5 years of age and older.

Booster Doses

Booster doses may be given every 6 months if necessary for travel or for residence in highly endemic, unsanitary areas. In areas where cholera occurs in a 2-3 month "season," protection is best if the booster dose is given at the beginning of the season. The primary series does not ever need to be repeated for booster doses to be effective.

Summary

The recommended doses for primary and booster immunization are in Table 1.

TABLE 1: Recommended doses, by volume (ml), for immunization against cholera

Dose number	Route & Age			
	Intradermal*	Subcutaneous or Intramuscular		
	5 years and over	6 mos-4years	5-10 years	Over 10 years
1 & 2	0.2 ml	0.2 ml	0.3 ml	0.5 ml
Boosters	0.2 ml	0.2 ml	0.3 ml	0.5 ml

*Higher levels of protection (antibody) may be achieved in children less than 5 years old by the subcutaneous or intramuscular routes.

Cholera Vaccine — Continued

PRECAUTIONS AND CONTRAINDICATIONS

Reactions

Vaccination often results in 1-2 days of pain, erythema, and induration at the site of injection. The local reaction may be accompanied by fever, malaise, and headache.

Serious reactions following cholera vaccination are extremely rare. If a person has experienced a serious reaction to the vaccine, revaccination is not advisable. Most governments will permit an unvaccinated traveler to proceed if he or she carries a physician's statement of medical contraindication. However, some countries may quarantine such unvaccinated persons or place them under surveillance if they come from areas with cholera.

Pregnancy

There is no specific information on the safety of cholera vaccine during pregnancy. Its use should be individualized to reflect actual need.

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p 138 In the article, "Botulism—New Mexico," the credits for Dr. Morrison should have been: RE Morrison, MD, William Beaumont Army Medical Center, El Paso.

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