

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

- 109 Trichinosis Outbreak — Iowa
- 110 Primary Bacteremia — Illinois

International Notes

- 115 Quarantine Measures — U.S. Designated Yellow Fever Vaccination Centers

Current Trends

- 116 Arboviral Infections in the United States — 1975

Epidemiologic Notes and Reports

Trichinosis Outbreak—Iowa

Independent reports of a total of 5 clinical trichinosis cases—reported the same day, December 29, 1975, to the Iowa Department of Health by 2 private physicians from separate towns—prompted an investigation that uncovered 73 cases clinically compatible with trichinosis. These patients were among at least 242 persons who had recently eaten locally-produced pork/venison sausage. Studies confirmed the presence of viable *Trichinella spiralis* larvae in the sausage, which had been prepared for and distributed to contributing deer hunters and their families, friends in the community, other states and Canada, and many casual Christmas holiday visitors from other Iowa communities.

On December 29 a Postville, Iowa, physician reported suspect trichinosis in 3 patients who had muscle aches, facial swelling, and periorbital edema during the past week. All 3 patients had consumed locally produced venison and pork summer sausage on and after November 30. Also on December 29 a Waterloo, Iowa, physician reported that a Waterloo couple, after having eaten on December 6 venison and pork sausage provided by a Postville relative, had developed clinical trichinosis.

All persons known to have received some of the sausage were contacted. Exposure to the sausage associated with illness occurred primarily through its distribution within 2 extended-family groups and through a barbecue party on November 30, at which hunters and friends celebrated the successful hunting season. Clinical manifestations of trichinosis were noted in some individuals within both groups of relatives, and in 26 (93%) of 28 other persons who ate 1 or more slices of the implicated sausage at the barbecue.

Paired serum specimens, collected from 4 of the 73 persons with clinical symptoms of trichinosis, either converted from non-reactive to reactive or demonstrated a 4-fold increase in titer to *T. spiralis* antigen by bentonite flocculation test, performed by the State Hygienic Laboratory of Iowa. Single serum samples were obtained from an additional 61 ill persons; 13 (21%) were reactive. The results of subsequent serologic testing of the same individuals are pending. A single gastrocnemius muscle biopsy performed

on 1 typically ill patient showed signs of inflammation, but no *T. spiralis* larvae were found.

The suspect sausage had been produced by a custom locker plant in a 550-pound batch, using venison from 13 deer shot by hunters during the 1975 hunting season. This meat had been ground and mixed in a 2:1 proportion with ground pork and made into links which were wood-smoked for 2½ days. Since strictly herbivorous animals, such as deer, are rarely or never infected with *T. spiralis* under natural conditions, the pork, purchased from a commercial source, was suspected. Although a locker plant operator claimed the temperature of 1 sausage link was 155°F (68.3°C) during smoking, protein coagulation testing, performed on 3 samples by the Food Laboratory at the Iowa Department of Agriculture, indicated that during processing the interior sausage had reached temperatures of only 124°F, 125°F, and 122°F, respectively. On visual inspection, 6 of the sausages appeared soft and raw in the center.

At the Veterinary Medical Research Institute Laboratory, Iowa State University, 100-gram samples of the suspect sausage were examined by the Baermann digestion method; 23 (51%) of 45 samples were positive for *T. spiralis*. Counts of viable larvae ranged from 1 to 65 per 100 gm in 20 (87%) of the positive samples.

Although 2 additional batches of venison/pork sausage were made by the same sausage-maker in the same manner for other hunters, the pork used was from different lots than that used in the implicated batch. Baermann digestion examination of samples from these 2 batches was negative for *T. spiralis* larvae, and no illness has been recognized in at least 40 persons identified as having eaten only from these batches.

Persons possessing the implicated sausage were advised either to destroy what remained or to cook it thoroughly before eating. (Freezing pork, although an effective method for disinfection when implemented under proper conditions, is usually not a practical recommendation in cases such as this because many home freezers do not maintain low enough temperatures.) Persons not yet ill but known to

Trichinosis—Continued

be exposed within the preceding 20 days were referred to local physicians for consideration of prophylactic thia-bendazole therapy.

Reported by MF Kiesau, MD, RH Palmer, MD, Postville; RR Roth, MD, Waterloo; WF Zimmerman, PhD, Veterinary Medical Research

Institute, Iowa State University; AF Wiley, MD, Allamakee County Board of Health, Waukon, Iowa; WJ Hausler, Jr, PhD, State Hygienic Laboratory of Iowa; CH Creamer, DVM, Food Laboratory, Iowa Dept of Agriculture; RW Currier, DVM, CA Herron, MD, State Epidemiologist, and NL Pawlewski, Iowa State Dept of Health; Parasitic Diseases Br, Parasitic Diseases Div, Bur of Epidemiology, CDC.

Primary Bacteremia — Illinois

Enterobacter aerogenes was isolated from the blood of 7 pediatric patients in a Chicago hospital in the period from March 13-17, 1976. The vehicle of infection was intravenous (IV) fluid to which potassium chloride (KCl) had been added, although the means of contamination of the fluid is uncertain. No new cases have occurred since March 17 when the hospital discontinued use of the admixed fluids.

The strain of *E. aerogenes* was resistant to ampicillin and cephalothin, intermediate in sensitivity to nitrofurans, and sensitive to all other antibiotics tested.

In each patient, the onset of sepsis was associated with the infusion of 5% dextrose in 0.2% normal saline (D5/0.2NS) in 250 cc units from 1 lot of IV fluid to which 2.5 cc of KCl from 20 cc vials had been added in the hospital's

pharmacy. Approximately 133 units of this compounded solution were administered to 25 children during the 5-day epidemic period, giving an attack rate of 28% among patients receiving the fluid. *E. aerogenes* was isolated from IV fluid remaining in units that had been infusing into 3 patients.

None of the cases had prior evidence of infection or had preceding cultures which were positive for the epidemic organism. Signs of sepsis were noted in each within 2 to 7 hours (median 4 hours) after a new unit of IV fluid was begun. All 7 patients showed rapid clinical improvement after discontinuation of the infusion or the institution of intravenous therapy with new cannulae, administration sets, and fluids.

(Continued on page 115)

Table 1. Summary—Cases of Specified Notifiable Diseases: United States

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

DISEASE	14th WEEK ENDING		MEDIAN 1971-1975	CUMULATIVE, FIRST 14 WEEKS		
	April 10, 1976	April 5, 1975		April 10, 1976	April 5, 1975	MEDIAN 1971-1975
Aseptic meningitis	28	35	35	495	493	458
Brucellosis	8	1	4	60	36	31
Chickenpox	6,788	4,398	---	78,097	57,408	---
Diphtheria	3	7	3	88	128	57
Encephalitis	19	15	20	214	170	258
{ Primary	6	4	5	68	67	66
{ Post-Infectious	380	257	174	3,876	2,879	2,392
Hepatitis, Viral	694	711	875	9,717	9,737	13,671
{ Type B	147	155	---	2,340	2,082	---
{ Type A	7	2	4	85	70	70
{ Type unspecified	1,704	695	1,291	13,041	7,003	10,569
Malaria	36	29	33	562	477	477
Measles (rubeola)	36	29	30	558	464	465
Meningococcal infections, total	---	---	2	4	13	15
Civilian	1,480	1,790	1,954	18,017	21,383	27,377
Military	19	17	---	296	310	---
Mumps	405	674	955	4,808	4,937	9,702
Pertussis	1	---	2	8	15	14
Rubella (German measles)	688	687	---	8,611	7,928	---
Tetanus	1	2	1	29	14	27
Tuberculosis	4	2	2	87	64	68
Tularemia	2	1	1	10	13	13
Typhoid fever	---	---	---	---	---	---
Typhus, tick-borne (Rky. Mt. spotted fever)	18,383	18,323	---	259,324	248,704	---
Venereal Diseases:	461	596	---	7,810	8,077	---
Gonorrhea	433	534	---	7,078	7,014	---
Syphilis, primary and secondary	9	2	---	107	88	---
Rabies in animals	61	54	85	573	550	908

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	2	Poliomyelitis, total:	4
Botulism:	5	Paralytic: Mich. 1	4
Congenital rubella syndrome: Ups. N.Y. 1	8	Psittacosis:	21
Leprosy:	36	Rabies in man:	---
Leptospirosis: Ups. N.Y. 1	12	Trichinosis: * Minn. 2, Fla. 1	43
Plague:	1	Typhus, murine:	5

*Delayed Report: Me. 1

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 10, 1976 and April 5, 1975 - 14th Week

AREA REPORTING	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified		
	1976	1976	1976	1976	CUM. 1976	1976	1975	1976	1976	1976	1976	1976	CUM. 1976
UNITED STATES	28	6	6,788	3	88	19	15	6	380	694	147	7	85
NEW ENGLAND	1	-	551	-	-	1	-	-	8	30	11	-	5
Maine	-	-	24	-	-	-	-	-	-	11	-	-	-
New Hampshire*	-	-	12	-	-	-	-	-	-	2	-	-	-
Vermont*	-	-	35	-	-	-	-	-	-	3	-	-	-
Massachusetts	-	-	194	-	-	-	-	-	3	2	11	-	3
Rhode Island	1	-	96	-	-	-	-	-	-	6	-	-	1
Connecticut	-	-	190	-	-	1	-	-	5	6	-	-	1
MIDDLE ATLANTIC	1	1	292	-	-	2	3	-	91	90	32	2	18
Upstate New York*	-	-	106	-	-	-	1	-	19	40	11	2	5
New York City	-	-	106	-	-	-	-	-	14	19	-	-	9
New Jersey	1	1	NN	-	-	2	-	-	50	27	20	-	-
Pennsylvania	-	-	80	-	-	-	2	-	8	4	1	-	4
EAST NORTH CENTRAL ..	7	-	3,110	-	-	4	-	1	46	138	12	-	2
Ohio	2	-	258	-	-	3	-	-	13	44	-	-	1
Indiana	-	-	143	-	-	-	-	-	3	11	-	-	-
Illinois	1	-	727	-	-	-	-	-	12	46	-	-	-
Michigan	4	-	1,206	-	-	1	-	-	14	32	12	-	1
Wisconsin	-	-	776	-	-	-	-	1	4	5	-	-	-
WEST NORTH CENTRAL ..	2	-	918	-	4	5	1	-	28	37	7	-	-
Minnesota	-	-	7	-	-	-	-	-	6	7	-	-	-
Iowa	-	-	637	-	-	-	1	-	4	2	-	-	-
Missouri*	2	-	-	-	1	4	-	-	4	13	2	-	-
North Dakota	-	-	3	-	-	-	-	-	-	2	-	-	-
South Dakota	-	-	-	-	3	-	-	-	-	-	-	-	-
Nebraska	-	-	78	-	-	1	-	-	1	-	1	-	-
Kansas	-	-	193	-	-	-	-	-	13	13	4	-	-
SOUTH ATLANTIC	5	4	810	-	-	-	1	2	43	96	19	-	11
Delaware	-	-	6	-	-	-	-	-	-	2	-	-	-
Maryland	-	-	70	-	-	-	-	-	13	7	2	-	-
District of Columbia ..	-	-	8	-	-	-	-	-	-	1	-	-	2
Virginia*	1	3	169	-	-	-	1	-	9	6	3	-	3
West Virginia	-	-	308	-	-	-	-	-	-	2	-	-	-
North Carolina	2	-	NN	-	-	-	-	-	3	7	-	-	2
South Carolina	-	-	27	-	-	-	-	-	2	9	1	-	-
Georgia	-	-	-	-	-	-	-	-	-	22	-	-	-
Florida	2	1	222	-	-	-	-	2	16	40	13	-	4
EAST SOUTH CENTRAL ..	2	1	175	-	-	3	1	-	19	60	-	-	1
Kentucky*	1	-	171	-	-	-	-	-	6	27	-	-	-
Tennessee	-	1	NN	-	-	2	1	-	3	21	-	-	-
Alabama	1	-	2	-	-	-	-	-	6	3	-	-	-
Mississippi	-	-	2	-	-	1	-	-	4	9	-	-	1
WEST SOUTH CENTRAL ..	6	1	482	-	-	-	4	-	31	74	22	2	4
Arkansas	-	-	1	-	-	-	-	-	1	4	1	-	-
Louisiana	-	-	NN	-	-	-	1	-	1	7	3	-	-
Oklahoma	2	-	65	-	-	-	2	-	6	12	6	-	-
Texas	4	1	416	-	-	-	1	-	23	51	12	2	4
MOUNTAIN	-	-	141	-	3	-	1	2	25	45	15	1	4
Montana	-	-	30	-	-	-	-	-	1	2	1	-	-
Idaho	-	-	28	-	-	-	-	-	1	3	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	74	-	3	-	1	1	4	6	4	1	3
New Mexico	-	-	3	-	-	-	-	-	-	7	-	-	-
Arizona	-	-	-	-	-	-	-	-	16	7	2	-	-
Utah	-	-	1	-	-	-	-	1	3	17	8	-	-
Nevada*	-	-	5	-	-	-	-	-	-	3	-	-	1
PACIFIC	4	1	309	3	81	4	4	1	89	124	29	2	40
Washington	1	-	252	3	79	3	3	-	8	13	6	-	1
Oregon	-	-	3	-	-	-	-	-	15	16	7	-	4
California*	3	1	-	-	1	1	1	1	66	95	16	2	35
Alaska	-	-	8	-	1	-	-	-	-	-	-	-	-
Hawaii	-	-	46	-	-	-	-	-	-	-	-	-	-
Guam*	-	-	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	-	-	11	-	-	-	-	-	-	9	-	-	1
Virgin Islands	-	-	1	-	-	-	-	-	-	-	1	-	-

NN: Not Notifiable

*Delayed Reports: Brucellosis: Mo. 1; Chickenpox: N.H. 3, Calif. 243, Guam 3; Enceph: Ups. NY 1 (1975); Hep B: Vt delete 1; Hep A: N.H. 1, Mo. delete 1, Va. delete 1 (1975), delete 3 (1976), Ky. delete 1, Nev. 4; Hep, unsp: Mo. 1, Va. delete 1, Guam 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 10, 1976 and April 5, 1975 - 14th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1976	CUMULATIVE		1976	CUMULATIVE		1976	CUM. 1976	1976	1976	CUM. 1976	CUM. 1976
		1976	1975		1976	1975						
UNITED STATES	1,704	13,041	7,003	36	562	477	1,480	18,017	19	405	4,808	8
NEW ENGLAND	3	128	61	-	25	32	64	715	-	15	135	-
Maine	-	3	6	-	-	4	10	56	-	-	2	-
New Hampshire	1	1	18	-	2	1	-	24	-	2	9	-
Vermont	-	2	-	-	1	-	-	3	-	-	1	-
Massachusetts	-	2	16	-	7	9	8	107	-	6	74	-
Rhode Island	-	14	1	-	4	3	24	273	-	-	4	-
Connecticut	2	106	20	-	11	15	22	252	-	7	45	-
MIDDLE ATLANTIC	416	2,791	369	6	65	38	144	1,315	1	79	918	-
Upstate New York	179	960	112	2	25	13	9	201	-	40	134	-
New York City	22	111	54	2	17	7	63	563	1	4	41	-
New Jersey	75	279	125	1	10	7	32	278	-	28	676	-
Pennsylvania	140	1,441	78	1	13	11	40	273	-	7	67	-
EAST NORTH CENTRAL ..	742	5,172	2,349	3	78	72	657	7,493	3	175	1,551	-
Ohio	11	160	42	2	33	13	49	1,008	-	4	101	-
Indiana	155	1,033	158	-	4	4	33	616	-	17	219	-
Illinois	22	440	483	-	7	11	141	1,008	2	83	415	-
Michigan	366	1,761	1,237	1	28	35	309	3,062	-	49	603	-
Wisconsin	188	1,778	429	-	6	9	125	1,799	1	22	213	-
WEST NORTH CENTRAL ..	30	270	2,007	2	47	30	192	2,100	1	5	161	1
Minnesota	25	87	-	-	8	6	89	458	-	3	13	-
Iowa	-	8	203	-	7	4	60	757	-	-	9	-
Missouri *	1	6	110	-	10	16	-	144	1	-	15	-
North Dakota	-	1	412	1	1	-	22	105	-	-	1	1
South Dakota	-	1	206	-	1	-	-	2	-	-	2	-
Nebraska	-	36	186	-	2	1	1	49	-	-	1	-
Kansas	4	131	890	1	18	3	20	585	-	2	120	-
SOUTH ATLANTIC	186	947	79	16	115	97	98	1,446	1	61	924	3
Delaware	13	102	1	1	1	2	-	13	-	-	4	-
Maryland	44	412	-	1	8	5	41	380	-	-	1	1
District of Columbia ..	-	2	-	-	2	4	1	64	-	-	45	-
Virginia	107	127	9	1	12	11	16	145	-	4	130	-
West Virginia	5	97	50	-	3	4	31	396	-	7	184	-
North Carolina	-	-	-	-	20	18	-	262	-	-	9	-
South Carolina	1	1	-	5	18	12	1	25	1	49	526	-
Georgia	-	-	-	3	10	7	-	-	-	-	-	-
Florida	16	206	19	5	41	34	8	161	-	1	25	2
EAST SOUTH CENTRAL ..	32	328	91	2	37	63	128	1,305	2	9	153	1
Kentucky	32	317	55	-	5	23	40	567	2	6	100	1
Tennessee	-	5	31	1	16	23	84	628	-	3	53	-
Alabama	-	-	1	1	11	10	4	93	-	-	-	-
Mississippi	-	6	4	-	5	7	-	17	-	-	-	-
WEST SOUTH CENTRAL ..	7	325	96	3	92	83	78	1,229	5	8	236	2
Arkansas	-	-	-	-	3	4	2	55	1	1	41	-
Louisiana	1	22	-	2	15	16	-	6	-	-	72	1
Oklahoma	-	200	20	-	15	7	29	413	-	-	37	-
Texas *	6	103	76	1	59	56	47	755	4	7	86	1
MOUNTAIN	238	2,443	517	2	21	15	19	685	4	-	237	-
Montana	44	116	-	-	2	2	1	12	-	-	106	-
Idaho *	112	1,010	4	-	1	1	9	311	4	-	19	-
Wyoming	-	-	-	-	-	-	-	1	-	-	2	-
Colorado	2	39	505	-	8	6	6	101	-	-	9	-
New Mexico	5	8	2	-	1	3	3	123	-	-	5	-
Arizona	5	73	4	2	5	1	-	-	-	-	-	-
Utah	67	1,180	-	-	4	2	-	94	-	-	87	-
Nevada	3	17	2	-	-	-	-	43	-	-	9	-
PACIFIC	50	637	1,434	2	82	47	100	1,729	2	53	493	1
Washington	1	64	51	1	15	7	17	670	2	6	76	-
Oregon	-	12	52	-	5	-	5	194	-	7	47	1
California	49	559	1,297	1	56	40	76	841	-	40	364	-
Alaska	-	-	-	-	4	-	-	14	-	-	-	-
Hawaii	-	2	34	-	2	-	2	10	-	-	6	-
Guam	-	4	5	-	1	1	-	2	-	-	-	-
Puerto Rico	9	64	203	1	2	1	17	325	2	-	5	12
Virgin Islands	1	2	4	-	-	-	-	20	-	-	1	-

*Delayed Reports: Mening. Inf: Tex. delete 2; Rubella: Mo. 1, Idaho delete 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 10, 1976 and April 5, 1975 - 14th Week

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1976	CUM. 1976	CUM. 1976	1976	CUM. 1976	1976	CUM. 1976	1976	CUMULATIVE		1976	CUMULATIVE		CUM. 1976
									1976	1975		1976	1975	
UNITED STATES	688	8,611	29	4	87	2	10	18,383	259,324	248,704	433	7,078	7,014	573
NEW ENGLAND	30	324	-	-	13	-	-	520	7,197	6,925	12	204	254	10
Maine	2	24	-	-	-	-	-	46	608	431	-	7	5	10
New Hampshire*	-	11	-	-	2	-	-	17	176	208	-	3	10	-
Vermont	2	11	-	-	-	-	-	10	144	140	-	2	3	-
Massachusetts	16	192	-	-	9	-	-	252	3,372	3,341	11	147	169	-
Rhode Island	3	21	-	-	-	-	-	54	507	495	-	9	4	-
Connecticut	7	65	-	-	2	-	-	141	2,390	2,310	1	36	63	-
MIDDLE ATLANTIC	73	1,514	-	-	16	-	-	2,519	27,738	30,103	77	1,208	1,296	2
Upstate New York	28	234	-	-	3	-	-	150	4,429	5,466	3	76	135	1
New York City	34	601	-	-	8	-	-	1,404	11,835	13,663	45	781	755	-
New Jersey	11	297	-	-	3	-	-	501	4,563	3,754	12	168	200	1
Pennsylvania	NA	382	-	-	2	-	-	464	6,911	7,220	17	183	206	-
EAST NORTH CENTRAL ..	155	1,101	-	2	5	-	-	3,379	41,952	41,423	37	650	550	31
Ohio	14	186	-	1	2	-	-	1,028	10,856	11,064	5	151	118	-
Indiana	13	164	-	-	-	-	-	395	3,945	3,711	5	36	41	7
Illinois	78	329	-	1	-	-	-	1,038	14,780	14,118	22	347	258	7
Michigan	50	376	-	-	1	-	-	636	8,553	8,402	3	83	99	-
Wisconsin	-	46	-	1	1	-	-	282	3,818	4,128	2	33	34	17
WEST NORTH CENTRAL ..	29	346	9	-	3	-	-	912	13,200	11,917	11	216	154	124
Minnesota	6	63	3	-	2	-	-	143	2,475	2,482	1	30	16	36
Iowa	1	31	-	-	-	-	-	121	1,746	1,482	6	104	9	27
Missouri*	14	166	5	-	1	-	-	439	5,175	4,350	-	49	95	14
North Dakota	-	11	-	-	-	-	-	11	207	193	-	-	3	32
South Dakota	1	20	-	-	-	-	-	20	378	500	-	2	3	1
Nebraska	-	16	-	-	-	-	-	62	1,097	1,019	2	10	3	2
Kansas	7	39	1	-	-	-	-	116	2,122	1,891	2	21	25	12
SOUTH ATLANTIC	140	1,865	3	-	11	1	4	4,395	62,142	61,571	139	2,058	2,168	87
Delaware	2	19	-	-	-	-	-	98	927	886	1	17	24	-
Maryland	23	266	1	-	-	-	-	663	8,641	6,915	22	178	169	-
District of Columbia ..	7	88	-	-	-	-	-	233	3,923	3,803	9	176	178	-
Virginia	31	308	-	-	2	1	2	253	6,568	6,277	20	187	183	19
West Virginia	3	86	-	-	-	-	-	65	783	738	1	13	9	5
North Carolina*	21	340	2	-	1	-	1	800	9,323	9,080	14	409	273	-
South Carolina	16	123	-	-	-	-	-	461	5,949	5,787	5	116	166	2
Georgia	7	241	-	-	2	-	1	702	11,537	11,074	24	243	318	49
Florida	30	394	-	-	6	-	-	1,120	14,491	17,011	43	719	848	12
EAST SOUTH CENTRAL ..	29	758	6	-	3	-	1	1,420	23,309	20,168	20	294	311	40
Kentucky	6	162	1	-	2	-	-	136	2,949	2,625	-	48	50	29
Tennessee	10	239	5	-	1	-	-	542	9,042	8,085	11	121	115	8
Alabama	9	222	-	-	-	-	1	410	6,652	5,374	7	54	85	3
Mississippi	4	135	-	-	-	-	-	332	4,666	4,084	2	71	61	-
WEST SOUTH CENTRAL ..	83	1,021	5	1	3	1	5	2,163	35,873	31,413	31	791	642	126
Arkansas	6	151	1	-	-	-	1	192	3,318	3,253	1	26	19	36
Louisiana*	12	151	1	-	-	-	-	423	5,239	5,978	7	173	150	-
Oklahoma	12	101	-	-	-	1	4	204	3,347	2,837	2	37	31	34
Texas	53	618	3	1	3	-	-	1,344	23,969	19,345	21	555	442	56
MOUNTAIN	18	222	1	1	7	-	-	464	10,050	9,685	12	189	183	34
Montana	-	12	1	-	2	-	-	31	521	547	-	3	3	28
Idaho	-	5	-	-	1	-	-	27	525	471	2	16	3	-
Wyoming	-	4	-	-	-	-	-	15	220	238	-	5	1	1
Colorado	4	44	-	1	1	-	-	77	2,500	2,579	-	50	37	-
New Mexico	5	40	-	-	1	-	-	95	2,075	1,720	4	54	53	-
Arizona	6	102	-	-	2	-	-	163	2,899	2,540	4	46	63	5
Utah	1	5	-	-	-	-	-	43	604	578	1	2	4	-
Nevada*	2	10	-	-	-	-	-	13	706	1,012	1	13	19	-
PACIFIC	131	1,460	5	-	26	-	-	2,611	37,863	35,499	94	1,468	1,456	119
Washington*	9	146	2	-	2	-	-	194	3,205	3,345	10	37	69	-
Oregon	4	51	1	-	-	-	-	244	2,817	2,924	-	47	31	-
California	105	1,089	2	-	23	-	-	2,090	30,033	27,769	82	1,358	1,342	90
Alaska*	-	15	-	-	-	-	-	40	1,046	870	-	2	1	29
Hawaii	13	159	-	-	1	-	-	43	762	591	2	24	13	-
Guam*	-	10	-	-	-	-	-	-	84	128	-	-	2	-
Puerto Rico	-	93	-	-	-	-	-	65	698	867	20	152	206	8
Virgin Islands	-	-	-	-	-	-	-	11	72	46	-	25	9	-

NA: Not available

*Delayed reports: TB: Mo. delete 2 (1975), N.C. delete 6, Nev. delete 1, Alaska 5, Guam 4; GC: N.H. 2 civ. (1975) 1 mil. (1975), La. delete 3, Nev. 37, Wash 74 mil., Guam 10; Syphilis: La. delete 1

Table IV
Deaths in 121 United States Cities*
Week Ending April 10, 1976 - 14th Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES	REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year			ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	
NEW ENGLAND	649	416	171	15	19	37	SOUTH ATLANTIC	1,132	672	319	76	42	61
Boston, Mass.	193	123	49	7	5	12	Atlanta, Ga.	147	85	40	17	3	10
Bridgeport, Conn.	26	14	9	1	1	2	Baltimore, Md.	231	124	79	11	11	6
Cambridge, Mass.	29	20	8	-	-	6	Charlotte, N. C.	60	33	16	3	4	5
Fall River, Mass.	25	18	5	1	-	-	Jacksonville, Fla.	104	60	34	7	2	5
Hartford, Conn.	60	30	22	1	4	3	Miami, Fla.	116	73	28	8	6	7
Lowell, Mass.	20	15	4	-	-	-	Norfolk, Va.	47	28	9	5	3	5
Lynn, Mass.	22	13	9	-	-	1	Richmond, Va.	63	33	18	6	3	6
New Bedford, Mass.	27	21	6	-	-	1	Savannah, Ga.	33	21	10	-	2	4
New Haven, Conn.	37	19	10	1	3	-	St. Petersburg, Fla.	83	71	9	2	1	5
Providence, R.I.	53	33	17	-	2	6	Tampa, Fla.	56	33	17	3	2	3
Somerville, Mass.	15	12	2	-	-	2	Washington, D. C.	131	75	39	11	4	3
Springfield, Mass.	47	33	9	2	2	1	Wilmington, Del.	61	36	20	3	1	2
Waterbury, Conn.	33	22	8	1	1	3							
Worcester, Mass.	62	43	13	1	1	-							
MIDDLE ATLANTIC	2,910	1,844	737	160	85	178	EAST SOUTH CENTRAL	714	425	200	33	23	50
Albany, N. Y.	57	36	13	4	3	3	Birmingham, Ala.	113	68	31	5	4	2
Allentown, Pa.	35	23	9	3	-	-	Chattanooga, Tenn.	51	32	12	2	1	1
Buffalo, N. Y.	129	76	39	5	4	16	Knoxville, Tenn.	47	33	11	2	-	2
Camden, N. J.	37	25	9	2	1	3	Louisville, Ky.	128	69	40	8	5	21
Elizabeth, N. J.	29	20	6	2	1	-	Memphis, Tenn.	154	93	41	8	7	8
Erie, Pa.	22	15	5	2	-	4	Mobile, Ala.	66	47	12	2	2	5
Jersey City, N. J.	47	32	10	2	3	-	Montgomery, Ala.	49	24	21	2	-	3
Newark, N. J.	77	38	28	6	4	3	Nashville, Tenn.	106	59	32	4	4	8
New York City, N. Y.†	1,426	902	354	83	41	68	WEST SOUTH CENTRAL	1,206	666	324	100	64	63
Paterson, N. J.	38	25	9	1	2	5	Austin, Tex.	63	35	17	7	4	6
Philadelphia, Pa.	491	304	136	29	9	25	Baton Rouge, La.	24	15	4	2	1	1
Pittsburgh, Pa.	173	113	40	8	7	26	Corpus Christi, Tex.	28	13	8	1	4	-
Reading, Pa.	27	21	5	-	1	-	Dallas, Tex.	167	93	42	15	5	8
Rochester, N. Y.	114	76	25	5	3	11	El Paso, Tex.	54	25	20	4	3	5
Schenectady, N. Y.	16	10	5	1	-	2	Fort Worth, Tex.	67	43	15	3	3	4
Scranton, Pa.	29	22	6	1	-	3	Houston, Tex.	288	146	87	25	18	8
Syracuse, N. Y.	73	42	17	5	6	1	Little Rock, Ark.	72	48	20	1	1	6
Trenton, N. J.	43	29	12	1	-	2	New Orleans, La.	162	89	42	13	13	6
Utica, N. Y.	19	15	2	-	-	3	San Antonio, Tex.	151	85	37	15	5	8
Yonkers, N. Y.	28	20	7	-	-	3	Shreveport, La.	75	38	22	8	6	4
							Tulsa, Okla.	55	36	10	6	1	7
EAST NORTH CENTRAL	2,393	1,418	618	158	115	93	MOUNTAIN	586	372	117	51	29	40
Akron, Ohio	81	44	18	4	12	-	Albuquerque, N. Mex.	54	33	9	9	3	5
Canton, Ohio	29	20	7	-	2	3	Colorado Springs, Colo.	32	19	8	3	1	4
Chicago, Ill.	591	334	154	51	31	15	Denver, Colo.	116	64	26	11	9	14
Cincinnati, Ohio	140	97	29	2	9	7	Las Vegas, Nev.	27	12	12	3	-	1
Cleveland, Ohio	167	99	51	8	7	2	Ogden, Utah	26	19	4	1	2	2
Columbus, Ohio	130	73	37	11	6	3	Phoenix, Ariz.	144	91	28	13	10	6
Dayton, Ohio	110	72	26	5	3	8	Pueblo, Colo.	28	21	5	-	1	6
Detroit, Mich.	304	164	87	23	10	12	Salt Lake City, Utah	62	40	14	4	3	2
Evansville, Ind.	47	36	7	3	-	2	Tucson, Ariz.	97	73	11	7	-	-
Fort Wayne, Ind.	57	29	13	4	7	8							
Gary, Ind.	18	13	4	1	-	-	PACIFIC	1,729	1,111	416	98	53	78
Grand Rapids, Mich.	68	53	9	4	2	10	Berkeley, Calif.	18	12	5	-	1	1
Indianapolis, Ind.	135	68	44	15	4	1	Fresno, Calif.	53	33	11	4	4	1
Madison, Wis.	31	21	4	3	-	6	Glendale, Calif.	29	22	7	-	-	2
Milwaukee, Wis.	153	94	40	12	6	6	Honolulu, Hawaii	61	31	19	3	7	2
Peoria, Ill.	42	22	13	3	3	2	Long Beach, Calif.	130	81	39	6	1	5
Rockford, Ill.	45	36	5	1	1	2	Los Angeles, Calif.	501	320	114	30	22	24
South Bend, Ind.	43	26	15	-	-	-	Oakland, Calif.	70	53	12	4	1	1
Toledo, Ohio	133	77	37	5	8	-	Pasadena, Calif.	46	39	6	-	-	1
Youngstown, Ohio	69	40	18	3	4	6	Portland, Oreg.	135	96	28	6	1	5
WEST NORTH CENTRAL	840	546	193	36	37	44	Sacramento, Calif.	62	30	21	5	3	2
Des Moines, Iowa	58	42	14	2	-	1	San Diego, Calif.	126	75	37	5	2	5
Duluth, Minn.	41	28	10	1	-	3	San Francisco, Calif.	144	84	40	16	2	5
Kansas City, Kans.	44	24	13	2	1	4	San Jose, Calif.	71	48	14	3	-	1
Kansas City, Mo.	134	91	31	5	3	8	Seattle, Wash.	205	137	43	12	7	14
Lincoln, Nebr.	26	17	6	-	2	2	Spokane, Wash.	49	32	12	3	1	7
Minneapolis, Minn.	100	69	14	4	8	1	Tacoma, Wash.	29	18	8	1	1	2
Omaha, Nebr.	83	51	22	6	3	-							
St. Louis, Mo.	220	135	57	6	14	10	TOTAL	12,159	7,470	3,095	727	467	644
St. Paul, Minn.	70	50	13	6	-	2	Expected Number	12,381	7,537	3,241	775	377	478
Wichita, Kans.	64	39	13	4	6	13							

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

†Delayed Report for Week Ending 4/3/76 (For NYC)

The Morbidity and Mortality Weekly Report, circulation 52,000, 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.

Bacteremia — Continued

Units of the IV fluid containing KCl were obtained from the hospital and cultured by CDC and FDA. Six of 178 units were positive for *E. aerogenes*, though none of these units showed visible evidence of contamination before culture. In contrast, none of 184 sealed units of IV fluid of the same lot number without KCl has shown microbial growth ($p = 0.014$), and none of the 125 vials of KCl has shown any microbial growth.

Review of the hospital microbiology laboratory records indicated that Enterobacter species had not been isolated from any blood cultures during the previous 14 months. During this time the same pharmacy personnel had added KCl to over 20,000 units of IV fluid. The reported technique involved use of a horizontal laminar flow hood, preparing the injection sites of the IV fluid units and the tops of the 20 cc vials of KCl with an alcohol sponge, aspirating the entire contents of a vial into a syringe, and injecting 2.5 cc aliquots through the same needle into 8 consecutive units of IV fluid. Although the needle was changed before a second vial of KCl was entered, the same syringe was often used to add KCl to as many as 8 additional containers of fluid before it was discarded. After being prepared, the units containing KCl were stored in the pharmacy at room temperature. Attempts were made to use the fluid as soon as possible after preparation, but several days often lapsed between admixing and use.

Several days after the epidemic, environmental cultures including air samples were obtained from the laminar flow hood and other surfaces in the satellite pharmacy where these IV fluids are mixed and from the main pharmacy; none yielded the epidemic organism. Cultures from the throat and multiple skin sites were positive for 5 of 20 persons working in the pharmacy and for 2 of 50 persons working in other areas of the hospital ($p = 0.018$). Pharmacy personnel had significantly more sites positive for the epidemic strain than did the other hospital workers ($p = 0.0001$).

Investigation to identify the means of contamination of the IV fluid is continuing.

Reported by AT Davis, MD, HL Nadler, MD, Children's Memorial Hospital, Chicago; MC Brown, MD, O. Brodnitsky, MD, Chicago Dept of Health; BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; Food and Drug Administration; Hospital Infections Br, Epidemiologic Investigations Laboratory Br, Statistical Services Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

International Notes**Quarantine Measures — U.S. Designated Yellow Fever Vaccination Centers**

The following changes should be made in the listing of U.S. Designated Yellow Fever Vaccination Centers included in the Supplement—*Health Information for International Travel*, MMWR, Vol. 24, December 1975:

TEXAS

Houston: Diagnostic Clinic and Hospital, change address to: 6448 Fannin (from 6447 Fannin)

Houston: The Ledbetter Clinic, change address to: 600 Twelve Oaks Tower, 4126 Southwest Freeway 77027 (from 1603 Medical Arts Building 77002)

Houston: Kelsey-Seybold Clinic, change telephone number to: 713-797-1551

Editorial Note: Hospital personnel promptly detected this unusual problem through their infection surveillance system and instituted investigation shortly after the second case was recognized on March 17. The association of illness with the infusion of admixed IV solutions was quickly recognized and further use of these products was curtailed. These prompt actions doubtlessly prevented more cases since additional contaminated admixed units were found.

Studies at CDC have shown that the epidemic organism can proliferate in commercial D5/0.2NS to a mean concentration of 10^6 organisms within 96 hours after inoculation of small numbers of organisms and incubation at room temperature. Intravenous fluid with this concentration of organisms presents no visually detectable abnormalities.

A single episode of cross-contamination during addition of KCl in the hospital pharmacy could explain the outbreak. Based on positive cultures for *E. aerogenes* from 6 unused admixed units and on the assumption that each of the 7 cases received only 1 contaminated unit, it can be estimated that at least 13 units of fluid were contaminated. This number is consistent with that which could result from cross-contamination of units through the use of common equipment to add KCl to as many as 16 containers.

Although the initial source of the organisms causing the epidemic could have been a single unit of intrinsically contaminated IV fluid, KCl, syringe, or needle, neither cultures of sealed units of the products nor surveillance for similar problems in other hospitals has implicated these products. A second possible primary source of contamination could be pharmacy personnel who were colonized with the same strain of *E. aerogenes*. Isolation of this organism from the axillae and anterior nares is uncommon, and the finding that 5 of 20 pharmacy personnel were positive at these sites with 1 strain is being further investigated to determine its significance for pharmacy personnel and the work they perform. The incident causing contamination of the multiple units of fluid has not been identified, although it seems likely that this occurred during compounding of the fluid in the hospital. Further work to identify possible modes of contamination is being performed.

Hospital personnel should be aware that members of the tribe Klebsiellae proliferate in dextrose solutions at room temperature. Consequently, to minimize the chance of infusing contaminated IV fluids into patients, IV fluids should be manipulated as little as possible, and once the seal has been broken on a unit for any reason, the IV fluids should either be used promptly or refrigerated.

VIRGINIA

Charlottesville: Albemarle-Charlottesville Health Dept., change name to: Thomas Jefferson Health District

Christiansburg: Montgomery County Health Dept., change telephone number to: 703-382-6154

WASHINGTON

Yakima: County Health District, change telephone number to: 509-575-4191, change clinic hours to: By appointment, Monday, 10–11 am

The following new center has been added.

OHIO

Toledo: City Health Dept., 635 North Erie Street 43624, telephone number 419-247-6212, Clinic hours: By appointment, Wednesday, 8–11 am, no fee charged

Current Trends**Arboviral Infections in the United States — 1975**

In mid-November 1975, a questionnaire was sent to all state health departments requesting preliminary arboviral disease data for the year. The number of confirmed and presumptive cases of the most common arboviral infections and related deaths were obtained (Table 1).

St. Louis encephalitis (SLE) was epidemic throughout much of the eastern two-thirds of the country, particularly the Midwest. A total of 1,941 confirmed and presumptive SLE cases and 95 deaths was reported from 28 states and Washington, D.C. California encephalitis (CE) was the sec-

ond most frequent arboviral infection, with 120 confirmed and 14 presumptive cases reported. An outbreak of Western equine encephalitis (WEE) in North Dakota and Minnesota, primarily in the Red River Valley, accounted for almost half of the 127 reported cases, as well as 3 of the 4 deaths from this disease. Only 4 sporadic cases of Eastern equine encephalitis, resulting in 1 death, were reported from 4 states in 1975 (Delaware, Florida, Massachusetts, and Virginia).

Reported by Viral Diseases Div, Bur of Epidemiology, CDC.

TABLE 1. Confirmed and presumptive arboviral infections and deaths in the United States, 1975

State	SLE			CE			WEE		
	C*	P*	D**	C	P	D	C	P	D
Alabama	38	19	3	—	—	—	—	—	—
Arizona	4	—	—	—	—	—	—	—	—
Arkansas	10	7	2	1	—	—	—	—	—
Colorado	3	—	—	—	—	—	17	—	—
Georgia	2	—	—	—	—	—	—	—	—
Illinois	381	188	20	25	2	—	3	—	—
Indiana	251	54	4	8	—	—	—	—	—
Iowa	15	—	2	11	—	—	5	—	—
Kansas	31	20	1	—	—	—	8	—	1
Kentucky	54	19	3	—	—	—	—	—	—
Louisiana	7	6	1	—	—	—	—	—	—
Maryland	8	1	—	—	—	—	1	—	—
Michigan	59	25	1	6	2	—	—	—	—
Minnesota	—	—	—	23	—	—	15	—	—
Mississippi	109	80	23	—	—	—	—	—	—
Missouri	21	18	2	—	—	—	1	—	—
Montana	—	—	—	—	—	—	3	1	—
Nebraska	3	—	—	—	—	—	5	—	—
New Jersey	29	—	1	2	—	—	—	—	—
New Mexico	1	—	—	—	—	—	3	—	—
New York	6	—	—	1	—	—	—	—	—
North Carolina	1	—	—	—	—	—	—	—	—
North Dakota	13	—	1	—	—	—	40	—	3
Ohio	195	90	11	15	10	1	—	—	—
Oklahoma	3	—	—	—	—	—	1	—	—
Pennsylvania	9	4	5	—	—	—	—	—	—
South Dakota	11	4	—	—	—	—	17	7	—
Tennessee	56	29	13	1	—	—	—	—	—
Texas	37	—	2	—	—	—	—	—	—
West Virginia	—	9	—	2	—	—	—	—	—
Wisconsin	4	—	—	25	—	—	—	—	—
Washington, D.C.	6	1	—	—	—	—	—	—	—
Total	1,367	574	95	120	14	1	119	8	4

* Reported confirmed (C) and presumptive (P) cases.

** Reported deaths related to C and P categories combined.

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

Director, Center for Disease Control, David J. Sencer, M.D.
 Director, Bureau of Epidemiology, Philip S. Brachman, M.D.
 Editor, Michael B. Gregg, M.D.
 Managing Editor, Anne D. Mather, M.A.

OFFICIAL BUSINESS FIRST CLASS



POSTAGE AND FEES PAID
 U.S. DEPARTMENT OF HEW
 HEW 399

9A1906
 Mrs Mary Alice Mills
 Director, Library
 1-408