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Epidemiologic Notes and Reports

Dengue — U. S. Virgin Islands

Physicians on St. Thomas, U.S. Virgin Islands, recognized an outbreak of dengue in December 1976. Fourteen of 55 paired serum specimens collected by the Virgin Islands Department of Health demonstrated dengue HI seroconversion, and there were 6 isolates of dengue type 2.

In January 1977, the Department of Health began a random survey of the resident population (46,000) of St. Thomas to determine the extent of illness compatible with dengue and to obtain serum specimens. Clinical dengue was defined as an acute febrile illness with 1 or more of the following symptoms: rash, body aches, headache, and eye pain.

Of 400 identified dwelling units on St. Thomas, 345 were visited — 106 in Charlotte-Amalie (urban) and 239 in the outlying quarters (rural). From these dwellings, information was obtained on 1,097 individuals. The attack rate of illness consistent with dengue from November 1976 to February 1977 was 7.6% (26 of 340) in Charlotte-Amalie and 10.3% (78 of 757) in the quarters for an overall attack rate on St. Thomas of 9.5%. There were no apparent differences in attack rates by race. Unpaired serum specimens were collected on 585 individuals during the survey but have not yet been analyzed.

On St. John (population 3,000) there were 2 dengue HI seroconversions, both in Virgin Islands' residents who may have traveled to St. Thomas. On St. Croix (population 47,000) there were 3 reports of dengue-like illness, 2 in resident individuals recently arrived from St. Thomas. There were no isolations or seroconversions.

Symptoms of illness usually included fever, chills, headache, eye pain, severe muscle pains, joint aches, and rash, with occasional desquamation. Although petechiae and menstrual irregularities were sometimes reported, there were no reports of dengue hemorrhagic fever or dengue shock syndrome. Analysis of death certificates revealed no deaths attributable to dengue.

In an attempt to characterize the outbreak further, emergency room records from the Knud-Hansen Memorial Hospital, the only hospital on St. Thomas, were examined. Fifty-one diagnoses of dengue were recorded from December 16, 1976, to February 2, 1977, 20 of which occurred during the week ending December 26. The 51 diagnosed individuals included 24 males and 27 females. Forty-seven of 51 were 39 years of age or younger, and 10 of 51 were 9 years of age or younger. None of the individuals was hospitalized. When emergency room records were examined for diagnoses of influenza and measles (which have certain similarities to dengue), outbreaks of both diseases were noted to have occurred 1-3 weeks before the onset of diagnosed dengue. This suggests that dengue may have been occurring for some time before it was recognized. A similar examination of emergency room records from the Charles Harwood Memorial Hospital, Christiansted, St. Croix, showed no increase in measles-like illness. An increase in diagnoses of influenza occurred in late October, coincident with recognized non-exanthematous upper respiratory disease.

Investigations and surveillance are continuing to characterize further the outbreak on St. Thomas. The Virgin Islands Department of Health has increased vector control measures and is planning to intensify educational programs about mosquito control on St. Thomas.

Reported by RL Schneider, MD, FACS, Commissioner of Health, CW Smith, MD, MPH, Assistant Commissioner of Health, J Moorehead, MD, Deputy Commissioner of Health, EI Stevenson, MD, Health Officer (St. Croix), U.S. Virgin Islands Dept of Health; Rear Admiral B Flanagan, Commander, Naval Forces Caribbean; Captain B Wagner, Commanding Officer, Naval Hospital, Roosevelt Roads, Puerto Rico; the staff of the U.S. Virgin Islands Dept of Health; CE King, Governor, U.S. Virgin Islands; Bur of Laboratories San Juan Div; Field Services Div and Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Neither dengue isolates nor seroconversions have ever been reported by the U.S. Virgin Islands. However, in 1963 there were 3 cases diagnosed in individuals who had visited the Virgin Islands (*1*). An epidemic of dengue-like disease also was reported on St. Thomas in 1917 (*2*); since that time there have been no further reported cases.

Aedes aegypti mosquitoes, vectors of dengue in the New World, are known to be prevalent on St. Thomas and St. Croix, as well as most of the other islands of the Caribbean. In recent years, dengue types 2 and 3 have been identified elsewhere in the Caribbean (*3*).

References

1. MMWR 13(27):235, 1964
2. Lane FF: A clinical study of 100 cases of dengue at St. Thomas, Virgin Islands. U.S. Naval Medical Bulletin 12:615-623, 1918
3. Ehrenkranz NJ, Ventura AK, Cuadrado RR, Pond WL, Porter JE: Pandemic dengue in Caribbean countries and the southern United States - past, present, and potential problems, N Engl J Med 285:1460-1469, 1971

Current Trends

Influenza — Worldwide

United States: At an Armed Forces base in Colorado an outbreak of influenza associated with increased febrile upper respiratory illness seen in the base dispensary since February 10 has yielded 8 isolates of A/Victoria-like virus. No A/Victoria viruses have been isolated from the civilian population in Colorado. Isolates of A/Victoria-like viruses also have been reported in Texas and North Carolina. The Dade County, Florida, area reported increased sporadic cases and scattered school outbreaks in early February, and 4 isolates of A/Victoria-like virus and several influenza B isolates were made from Miami children following an investigation of influenza-like illness in schools. Pneumonia and influenza mortality for Miami is within expected limits. No recent isolates of A/New Jersey from man have been reported.

Reported by the State Epidemiologists from Colorado, Florida, Texas, and North Carolina; the National Institute of Allergy and Infectious Diseases; and the National Influenza Immunization Program, CDC.

Worldwide: An isolate of A/Victoria was reported from Quebec during the week ending February 11. Several isolates of an influenza A virus were reported from Norway during the third week of January. Very little influenza-like illness has been reported in either of these countries. Isolates of influenza B have been reported from Ontario, Canada, Hungary, and Japan. No recent isolates of A/New Jersey/76 from man have been reported.

Reported by the World Health Organization in the Weekly Epidemiological Record 52:63, 1977; and the Influenza Surveillance Report, Canada 6:1, 1977

Epidemiologic Notes and Reports

Malaria Alert for Travelers Returning from Lagos, Nigeria

Four confirmed and 2 suspect cases of malaria have been reported in persons who attended the Second World Black African Festival of Arts and Culture held in Lagos, Nigeria, January 15-February 12. The 4 confirmed cases of malaria were reported by the New York City Department of Health. In 3 of these patients *Plasmodium falciparum* was identified; in 1 patient *P. ovale* was identified.

At least 600 Americans from at least 24 states attended the Festival, but most of the travelers originated from New York, Illinois, and California. Most of these travelers were given information about malaria prophylaxis before departure for Lagos. Efforts are being made to contact all American travelers who attended the festival to advise them to continue taking chloroquine prophylaxis for 6 weeks after returning to the United States and to consult with their physicians if they develop fever. *(Continued on page 75)*

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

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

DISEASE	8th WEEK ENDING		MEDIAN 1972–1976	CUMULATIVE, FIRST 8 WEEKS		MEDIAN 1972–1976
	February 26, 1977	February 28, 1976		February 26, 1977	February 28, 1976	
Aseptic meningitis	42	27	27	282	300	292
Brucellosis	7	9	2	27	43	16
Chickenpox	7,317	5,797	---	42,642	39,344	---
Diphtheria	3	4	6	5	62	23
Encephalitis, Primary	9	13	13	91	133	120
Encephalitis, Post-Infectious	5	4	4	14	33	33
Hepatitis, Viral, Type B	300	245	179	2,210	1,940	1,463
Hepatitis, Viral, Type A	567	727	880	4,801	5,404	6,753
Hepatitis, Viral, Type unspecified	189	140		1,386	1,372	
Malaria	6	3	4	39	44	42
Measles (rubeola)	1,855	866	622	8,783	4,573	4,573
Meningococcal infections, total	49	55	41	314	271	270
Civilian	49	55	40	312	268	263
Military	-	-	-	2	3	7
Mumps	739	1,366	1,526	4,541	9,367	12,633
Pertussis	2	25	---	91	198	---
Rubella (German measles)	814	498	695	2,670	2,068	2,067
Tetanus	-	2	2	5	6	8
Tuberculosis	536	569	---	3,997	4,490	---
Tularemia	1	1	1	11	20	13
Typhoid fever	5	3	3	45	58	37
Typhus, tick-borne (Rky. Mt. spotted fever)	1	-	-	14	3	9
Venereal Diseases:						
Gonorrhea, Civilian	17,075	18,336	---	142,836	151,780	---
Gonorrhea, Military	304	552	---	4,094	4,706	---
Syphilis, primary and secondary, Civilian	454	525	---	3,471	4,086	---
Syphilis, primary and secondary, Military	7	8	---	52	63	---
Rabies in animals	38	39	45	301	255	369

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	-	Poliomyelitis, total:	2
Botulism: Mo. 2	4	Paralytic:	2
Congenital rubella syndrome:	1	Psittacosis: Md. 1, Ga. 2	7
Leprosy: Hawaii 7	19	Rabies in man:	-
Leptospirosis: *Ala. 1	7	Trichinosis: *N.J. 2	18
Plague: Colo. 1	1	Typhus, murine: P.R. 1	6

*Delayed reports: Leptospirosis: Pa. 2, Tex.(1976); Trichinosis: Pa. 1 (1976), Calif. 1 (1977)

Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending February 26, 1977 and February 28, 1976 – 8th 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		
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	42	7	7,317	3	5	9	13	5	300	567	189	6	39
NEW ENGLAND	–	–	667	–	–	–	1	–	5	13	18	–	2
Maine	–	–	1	–	–	–	–	–	–	1	–	–	–
New Hampshire*	–	–	145	–	–	–	–	–	–	1	–	–	–
Vermont	–	–	4	–	–	–	–	–	–	1	–	–	–
Massachusetts	–	–	215	–	–	–	1	–	1	4	13	–	2
Rhode Island*	–	–	155	–	–	–	–	–	–	2	–	–	–
Connecticut	–	–	146	–	–	–	–	–	4	4	5	–	–
MIDDLE ATLANTIC	1	2	940	–	–	6	1	1	40	47	25	1	8
Upstate New York	–	–	729	–	–	1	–	1	1	2	3	–	4
New York City	1	–	63	–	–	1	–	–	8	9	8	–	3
New Jersey	–	2	NN	–	–	2	–	–	21	26	14	–	–
Pennsylvania*	–	–	148	–	–	2	1	–	10	10	–	1	1
EAST NORTH CENTRAL	7	–	2,898	–	–	–	3	–	50	86	13	1	2
Ohio	–	–	89	–	–	–	2	–	4	13	–	–	–
Indiana	2	–	193	–	–	–	–	–	1	2	5	–	–
Illinois	–	–	294	–	–	–	–	–	19	18	2	1	1
Michigan*	5	–	1,771	–	–	–	1	–	20	49	6	–	1
Wisconsin	–	–	551	–	–	–	–	–	6	4	–	–	–
WEST NORTH CENTRAL	1	2	986	–	–	–	–	1	21	27	6	–	2
Minnesota	–	–	4	–	–	–	–	–	10	17	–	–	1
Iowa	–	–	565	–	–	–	–	–	–	–	–	–	–
Missouri*	1	1	65	–	–	–	–	–	6	7	2	–	1
North Dakota	–	–	75	–	–	–	–	–	–	–	–	–	–
South Dakota	–	–	47	–	–	–	–	1	1	–	–	–	–
Nebraska	–	–	56	–	–	–	–	–	–	1	–	–	–
Kansas	–	1	172	–	–	–	–	–	4	2	4	–	–
SOUTH ATLANTIC	10	1	385	–	–	3	1	1	63	85	17	2	6
Delaware	–	–	2	–	–	–	1	–	2	–	–	–	–
Maryland	–	–	1	–	–	–	–	–	11	2	3	–	2
District of Columbia	–	–	–	–	–	–	–	–	1	2	–	–	–
Virginia*	1	–	38	–	–	2	–	1	4	4	3	1	3
West Virginia*	1	–	78	–	–	–	–	–	3	9	–	–	–
North Carolina	–	–	NN	–	–	1	–	–	18	7	1	–	–
South Carolina	1	–	35	–	–	–	–	–	2	1	5	–	–
Georgia	–	1	–	–	–	–	–	–	–	23	–	1	1
Florida*	7	–	231	–	–	–	–	–	22	37	5	–	–
EAST SOUTH CENTRAL	2	–	158	–	–	–	–	2	20	55	9	–	2
Kentucky*	1	–	42	–	–	–	–	–	5	30	2	–	2
Tennessee	1	–	NN	–	–	–	–	–	8	13	2	–	–
Alabama	–	–	105	–	–	–	–	1	6	1	5	–	–
Mississippi	–	–	11	–	–	–	–	1	1	11	–	–	–
WEST SOUTH CENTRAL	1	2	487	–	–	–	2	–	23	83	38	1	4
Arkansas	–	–	7	–	–	–	–	–	2	14	–	–	–
Louisiana	–	–	NN	–	–	–	1	–	–	–	1	–	–
Oklahoma	1	–	67	–	–	–	1	–	3	18	6	–	–
Texas	–	2	413	–	–	–	–	–	18	51	31	1	4
MOUNTAIN	1	–	248	–	–	–	–	–	22	65	9	–	4
Montana	–	–	9	–	–	–	–	–	–	3	1	–	–
Idaho	–	–	45	–	–	–	–	–	2	8	–	–	–
Wyoming	–	–	9	–	–	–	–	–	–	1	–	–	–
Colorado	1	–	150	–	–	–	–	–	2	12	5	–	3
New Mexico	–	–	5	–	–	–	–	–	1	4	–	–	–
Arizona*	–	–	NN	–	–	–	–	–	16	36	3	–	1
Utah	–	–	7	–	–	–	–	–	1	1	–	–	–
Nevada	–	–	23	–	–	–	–	–	–	–	–	–	–
PACIFIC	19	–	548	3	5	–	5	–	56	106	54	1	9
Washington*	–	–	536	3	4	–	–	–	3	4	1	–	–
Oregon	–	–	2	–	–	–	–	–	7	9	2	–	–
California*	16	–	–	–	–	–	3	–	45	79	51	1	5
Alaska	–	–	1	–	1	–	2	–	–	14	–	–	–
Hawaii	3	–	9	–	–	–	–	–	1	–	–	–	4
Guam*	NA	NA	NA	NA	–	NA	–	–	–	NA	NA	NA	–
Puerto Rico*	–	–	10	–	–	–	–	–	–	6	–	–	–
Virgin Islands	–	–	1	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable
NA: Not available
*Delayed reports: Asep. meng.: Calif. add 11 (1977); Brucellosis: Pa. add 1 (1976), Mo. add 1, Calif. add 2 (1977); Chickenpox: P.R. add 18 (1976), N. Hamp. add 36, R.I. add 60, W.Va. delete 109, Wash. add 191, Calif. add 115, Guam add 6 (1977); Enceph, post: Calif. add 1 (1977); Hep. B: Pa. add 2, P.R. add 1 (1976), Mo. add 1, Va. delete 1, Wash add 2, Calif. add 84 (1977); Hep. A: Pa. add 5, P.R. add 17 (1976), Mich delete 3, Fla. delete 12, Ky. delete 1, Ariz. add 145, Wash add 11, Calif. add 147, Guam add 1 (1977); Hep. unsp.: Pa. add 1 (1976), Mo. delete 1, Fla. delete 2, Calif add 54 (1977); Malaria: Pa. add 1 (1976), Calif. add 1 (1977).

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending February 26, 1977 and February 28, 1976 – 8th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	1,855	8,783	4,573	49	314	271	739	4,541	2	814	2,670	5
NEW ENGLAND	30	357	73	2	17	15	30	220	–	28	126	–
Maine	1	1	–	–	2	–	–	6	–	8	9	–
New Hampshire*	7	137	–	–	1	2	12	30	–	8	17	–
Vermont	18	104	–	–	1	1	–	2	–	–	–	–
Massachusetts*	2	56	2	–	4	4	6	37	–	9	60	–
Rhode Island*	–	–	12	–	–	2	4	15	–	–	12	–
Connecticut	2	59	59	2	9	6	8	130	–	3	28	–
MIDDLE ATLANTIC	194	1,056	583	5	47	25	31	260	–	167	533	–
Upstate New York	79	219	301	–	13	7	6	46	–	73	199	–
New York City	2	43	35	1	9	9	10	115	–	4	42	–
New Jersey	8	26	46	3	15	3	2	67	–	75	252	–
Pennsylvania*	105	768	201	1	10	6	13	32	–	15	40	–
EAST NORTH CENTRAL	498	2,647	1,593	2	32	28	233	1,565	–	148	799	–
Ohio	43	148	2	1	19	10	42	261	–	30	204	–
Indiana	186	1,358	298	–	–	1	18	84	–	40	285	–
Illinois	141	301	127	1	5	1	11	139	–	14	62	–
Michigan	70	207	351	–	6	12	70	486	–	54	175	–
Wisconsin	58	633	815	–	2	4	92	595	–	10	73	–
WEST NORTH CENTRAL	261	1,808	75	8	17	25	259	1,192	–	24	116	1
Minnesota	54	250	12	6	6	2	–	3	–	–	2	–
Iowa	152	1,040	8	–	1	5	133	665	–	15	70	–
Missouri*	8	107	4	1	8	4	123	254	–	1	9	1
North Dakota	–	2	1	–	–	–	–	4	–	–	–	–
South Dakota	1	7	–	1	1	2	–	12	–	–	–	–
Nebraska	–	67	32	–	–	2	1	3	–	–	1	–
Kansas	46	335	18	–	1	10	2	251	–	8	34	–
SOUTH ATLANTIC	121	315	463	8	62	62	23	169	1	71	126	1
Delaware	–	–	34	–	1	–	3	30	–	–	–	–
Maryland	3	13	235	3	7	4	–	10	–	–	–	–
District of Columbia	–	–	1	–	–	–	–	2	–	–	–	–
Virginia	80	201	4	–	3	2	5	33	1	31	47	1
West Virginia	2	28	48	1	6	3	7	50	–	4	19	–
North Carolina	–	1	–	1	13	13	–	3	–	34	44	–
South Carolina	1	3	–	–	4	6	–	2	–	–	12	–
Georgia	35	69	–	–	10	5	1	3	–	–	–	–
Florida*	–	–	141	3	18	29	7	36	–	2	4	–
EAST SOUTH CENTRAL	30	143	132	3	30	16	36	267	–	120	368	1
Kentucky	23	77	127	1	13	2	–	20	–	2	13	1
Tennessee	5	63	1	–	8	8	7	160	–	118	352	–
Alabama	–	–	–	1	7	4	29	87	–	–	3	–
Mississippi	2	3	4	1	2	2	–	–	–	–	–	–
WEST SOUTH CENTRAL	128	419	265	14	60	48	55	436	1	106	177	1
Arkansas	–	1	–	1	2	2	3	3	–	–	–	–
Louisiana	3	22	5	4	24	2	–	19	–	–	5	–
Oklahoma	6	23	182	–	1	11	26	159	–	1	8	–
Texas	119	373	78	9	33	33	26	255	1	105	164	1
MOUNTAIN	150	517	1,119	–	5	15	12	160	–	71	114	–
Montana	93	292	19	–	–	1	–	1	–	–	4	–
Idaho	2	22	366	–	1	–	4	50	–	–	–	–
Wyoming	1	1	–	–	–	–	–	–	–	–	1	–
Colorado	48	144	19	–	1	8	5	30	–	65	74	–
New Mexico	4	4	3	–	–	1	3	49	–	–	1	–
Arizona	2	43	109	–	2	3	–	–	–	–	–	–
Utah	–	2	598	–	–	2	–	29	–	6	33	–
Nevada	–	9	5	–	1	–	–	1	–	–	1	–
PACIFIC	443	1,521	270	7	44	37	60	272	–	79	311	1
Washington*	19	108	25	–	6	8	9	56	–	25	99	–
Oregon	16	30	2	–	2	2	25	62	–	2	20	–
California*	408	1,335	241	3	26	26	25	138	–	52	189	1
Alaska	–	48	–	4	9	–	–	11	–	–	–	–
Hawaii	–	–	2	–	1	1	1	5	–	–	3	–
Guam*	NA	1	4	–	–	1	NA	–	NA	NA	–	–
Puerto Rico*	27	99	21	–	–	1	14	83	1	–	3	1
Virgin Islands	–	5	–	–	–	–	10	36	–	–	–	–

NA: Not available

*Delayed reports: Measles: P.R. add 22 (1976), N. Hamp. add 4, Mass. delete 2, Pa. delete 40, Mo. delete 1, Wash. add 18, Calif. add 279, Guam add 1 (1977); Men. Inf.: Pa. add 1, P.R. add 1 (1976), Wash. add 1, Calif. add 2 (1977); Mumps: P.R. add 15 (1976) R.I. add 1, Pa. add 3, Wash. add 4, Calif. add 21 (1977); Pertussis: Mo. add 1, Wash. add 2, Calif. add 3 (1977); Rubella: P. R. add 6 (1976), Fla. add 1, Wash. add 4, Calif. add 44 (1977).

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending February 26, 1977 and February 28, 1976 – 8th Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
									CUMULATIVE			CUMULATIVE		
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	1977	1976	1977	1977	1976	CUM. 1977
UNITED STATES	536	3,997	11	5	45	1	14	17,075	142,836	151,780	454	3,471	4,086	301
NEW ENGLAND	17	124	–	–	2	–	–	412	3,713	4,257	21	128	103	3
Maine	1	12	–	–	–	–	–	40	306	402	4	6	6	3
New Hampshire	1	6	–	–	–	–	–	24	141	89	–	–	–	–
Vermont	–	3	–	–	–	–	–	14	90	92	–	2	1	–
Massachusetts	11	58	–	–	1	–	–	149	1,624	2,017	12	88	70	–
Rhode Island	1	9	–	–	–	–	–	40	258	288	1	2	5	–
Connecticut	3	36	–	–	1	–	–	145	1,294	1,369	4	30	21	–
MIDDLE ATLANTIC	110	567	–	–	8	–	1	1,901	17,147	15,126	63	515	685	4
Upstate New York	19	71	–	–	1	–	1	202	1,976	2,263	8	45	39	4
New York City	35	180	–	–	6	–	–	464	8,576	6,372	38	327	457	–
New Jersey	17	164	–	–	1	–	–	583	2,449	2,445	6	68	96	–
Pennsylvania*	39	152	–	–	–	–	–	652	4,146	4,046	11	75	93	–
EAST NORTH CENTRAL	119	671	2	1	6	–	–	2,420	22,025	25,012	51	414	383	12
Ohio	10	123	1	–	1	–	–	445	5,638	6,454	19	112	93	–
Indiana	6	57	–	–	–	–	–	324	1,847	2,207	–	19	16	1
Illinois	41	236	–	–	1	–	–	677	7,750	9,166	24	225	205	–
Michigan*	57	217	–	1	4	–	–	565	4,766	4,891	6	44	54	1
Wisconsin	5	38	1	–	–	–	–	409	2,024	2,294	2	14	15	10
WEST NORTH CENTRAL	18	132	2	–	4	–	3	786	7,597	7,632	14	77	79	70
Minnesota	4	23	–	–	1	–	–	118	1,229	1,515	2	25	19	37
Iowa	1	14	–	–	–	–	–	119	954	1,033	1	6	12	11
Missouri*	9	60	1	–	1	–	3	248	3,247	2,943	5	23	34	4
North Dakota	–	1	–	–	–	–	–	28	123	106	–	–	–	12
South Dakota*	2	4	1	–	–	–	–	17	217	248	–	1	1	–
Nebraska	2	5	–	–	–	–	–	125	616	616	6	12	5	–
Kansas*	–	25	–	–	2	–	–	131	1,211	1,171	–	10	8	6
SOUTH ATLANTIC	149	1,040	5	–	8	–	4	4,258	34,178	35,967	116	1,032	1,242	38
Delaware	–	7	–	–	–	–	–	122	520	499	–	8	11	–
Maryland	9	139	–	–	–	–	–	391	4,101	4,862	6	70	99	–
District of Columbia	8	50	–	–	–	–	–	206	1,940	2,173	11	106	110	–
Virginia	20	129	–	–	3	–	1	306	3,511	3,960	10	87	109	1
West Virginia	6	36	–	–	1	–	–	48	446	454	1	1	6	1
North Carolina*	25	181	–	–	–	–	3	920	5,509	5,457	16	147	221	–
South Carolina	18	105	2	–	–	–	–	476	3,173	3,322	6	43	70	–
Georgia	27	117	3	–	–	–	–	1,025	6,696	6,818	21	188	165	32
Florida	36	276	–	–	4	–	–	764	8,282	8,422	45	382	451	4
EAST SOUTH CENTRAL	42	339	–	1	1	1	4	1,443	11,969	13,571	13	115	182	2
Kentucky	17	72	–	–	–	–	1	229	1,640	1,744	–	13	32	–
Tennessee	5	114	–	–	–	–	2	506	4,969	5,303	5	34	77	2
Alabama	17	101	–	1	1	1	1	499	3,217	3,684	2	19	29	–
Mississippi	3	52	–	–	–	–	–	209	2,143	2,840	6	49	44	–
WEST SOUTH CENTRAL	9	413	1	–	–	–	2	2,592	19,610	22,484	86	482	453	124
Arkansas	4	38	–	–	–	–	–	195	1,511	2,069	4	11	20	8
Louisiana	5	104	–	–	–	–	–	350	2,685	3,248	35	106	97	–
Oklahoma	–	42	–	–	–	–	1	164	1,584	1,988	2	12	23	38
Texas*	–	229	1	–	–	–	1	1,883	13,830	15,179	45	353	313	78
MOUNTAIN	13	98	1	1	6	–	–	607	5,620	6,071	12	75	130	3
Montana*	2	5	1	–	–	–	–	35	321	316	–	–	2	3
Idaho*	–	9	–	–	–	–	–	38	290	298	–	5	5	–
Wyoming	–	3	–	–	–	–	–	18	173	148	–	5	4	–
Colorado*	2	14	–	1	4	–	–	151	1,457	1,498	4	24	39	–
New Mexico	1	7	–	–	–	–	–	91	754	1,330	5	15	40	–
Arizona	7	50	–	–	1	–	–	168	1,613	1,650	3	23	31	–
Utah	–	2	–	–	1	–	–	37	320	362	–	2	1	–
Nevada	1	8	–	–	–	–	–	69	692	469	–	1	8	–
PACIFIC	59	613	–	2	10	–	–	2,656	20,977	21,660	78	633	829	45
Washington*	5	14	–	–	–	–	–	NA	1,613	1,846	NA	10	15	–
Oregon	5	30	–	1	2	–	–	274	1,593	1,679	4	29	28	–
California*	43	455	–	1	8	–	–	2,156	16,539	17,004	71	582	772	36
Alaska	–	8	–	–	–	–	–	144	743	663	3	4	1	9
Hawaii	6	105	–	–	–	–	–	82	489	468	–	8	13	–
Guam*	NA	6	–	NA	–	NA	–	NA	30	66	NA	–	–	–
Puerto Rico*	–	57	–	–	1	–	–	35	460	426	10	93	81	6
Virgin Islands	–	–	–	–	–	–	–	1	23	47	–	–	18	–

NA: Not available

*Delayed reports: TB: Mo. delete 1, N.C. delete 1, Mont. add 1, Colo. add 2, P. R. add 19,(1976), Mich. delete 1, Mo. delete 2, Kans. delete 1, N.C. delete 1, Wash. add 18, Calif. add 67, Guam add 3 (1977); Typhoid fever: Mo. delete 1 (1976); RMSF: Pa. add 5 (1976); GC: P.R. add 137 civ. (1976), Idaho add 3 mil., Calif. add 2702 civ., add 136 mil, Guam add 17 civ. (1977); Syphilis: P. R. add 36 (1976), Tex. delete 1, Idaho delete 3, Calif. add 110 (1977); An. rabies: P.R. add 1 (1976), S. Dak. add 10, Calif. add 11 (1977)

Table IV
Deaths in 121 United States Cities*
Week Ending February 26, 1977 – 8th 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	735	473	193	36	21	39
Boston, Mass.	190	111	50	19	8	11
Bridgeport, Conn.	46	27	16	–	2	1
Cambridge, Mass.	38	26	9	2	–	5
Fall River, Mass.	27	19	8	–	–	–
Hartford, Conn.	61	26	24	5	3	1
Lowell, Mass.	30	20	10	–	–	2
Lynn, Mass.	29	18	10	1	–	5
New Bedford, Mass.	28	21	5	1	1	1
New Haven, Conn.	63	45	15	1	1	–
Providence, R.I.	65	41	16	3	3	5
Somerville, Mass.	10	7	3	–	–	–
Springfield, Mass.	32	20	8	1	2	–
Waterbury, Conn.	50	40	7	2	–	5
Worcester, Mass.	66	52	12	1	1	3
MIDDLE ATLANTIC	2,999	1,916	734	184	81	150
Albany, N. Y.	62	33	23	4	2	–
Allentown, Pa.	27	17	8	–	1	1
Buffalo, N. Y.	99	55	34	8	–	6
Camden, N. J.	43	24	14	1	2	2
Elizabeth, N. J.	43	32	10	–	–	2
Erie, Pa.	30	20	9	1	–	2
Jersey City, N. J.	60	38	14	7	1	1
Newark, N. J.	54	20	21	5	5	4
New York City, N. Y.	1,482	978	316	109	38	69
Paterson, N. J.	45	24	12	4	3	5
Philadelphia, Pa.	396	242	108	16	14	26
Pittsburgh, Pa.	206	131	53	8	6	10
Reading, Pa.	57	45	9	3	–	2
Rochester, N. Y.	128	83	32	7	4	12
Schenectady, N. Y.	22	15	5	1	–	–
Scranton, Pa.	41	24	12	4	–	–
Syracuse, N. Y.	101	62	28	3	4	–
Trenton, N. J.	47	29	15	2	1	2
Utica, N. Y.	20	17	3	–	–	2
Yonkers, N. Y.	36	27	8	1	–	4
EAST NORTH CENTRAL	2,285	1,355	616	147	102	68
Akron, Ohio	81	47	14	4	13	–
Canton, Ohio	42	29	12	1	–	1
Chicago, Ill.	554	296	165	50	25	13
Cincinnati, Ohio	149	98	33	3	10	3
Cleveland, Ohio	145	88	39	12	3	9
Columbus, Ohio	131	77	34	6	5	6
Dayton, Ohio	108	57	39	9	2	–
Detroit, Mich.	296	167	87	23	13	3
Evansville, Ind.	39	30	8	1	–	1
Fort Wayne, Ind.	60	32	18	3	5	1
Gary, Ind.	22	11	9	1	1	–
Grand Rapids, Mich.	66	40	16	4	4	8
Indianapolis, Ind.	166	93	50	10	6	4
Madison, Wis.	41	28	9	2	1	6
Milwaukee, Wis.	131	87	34	5	3	3
Peoria, Ill.	41	28	4	2	4	1
Rockford, Ill.	47	30	11	2	4	3
South Bend, Ind.	26	18	4	2	1	–
Toledo, Ohio	80	57	18	3	2	4
Youngstown, Ohio	60	42	12	4	–	2
WEST NORTH CENTRAL	674	430	158	35	21	19
Des Moines, Iowa	44	26	14	1	2	3
Duluth, Minn.	28	20	4	2	1	3
Kansas City, Kans.	30	17	6	3	2	1
Kansas City, Mo.	115	66	27	8	4	2
Lincoln, Nebr.	34	21	7	1	2	1
Minneapolis, Minn.	99	66	22	6	1	5
Omaha, Nebr.	78	48	20	5	5	1
St. Louis, Mo.	162	107	38	8	2	1
St. Paul, Minn.	50	37	10	–	2	–
Wichita, Kans.	34	22	10	1	–	2

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	1,210	679	349	79	51	53
Atlanta, Ga.	121	58	44	10	2	6
Baltimore, Md.	269	139	89	18	10	2
Charlotte, N. C.	57	22	22	5	3	4
Jacksonville, Fla.	101	63	23	5	9	4
Miami, Fla.	117	71	32	6	4	7
Norfolk, Va.	59	35	12	4	4	5
Richmond, Va.	67	43	16	1	3	6
Savannah, Ga.	59	34	16	4	–	4
St. Petersburg, Fla.	81	61	15	1	3	7
Tampa, Fla.	80	53	14	7	4	5
Washington, D. C.	145	72	50	13	5	2
Wilmington, Del.	54	28	16	5	4	1
EAST SOUTH CENTRAL	665	390	171	37	34	34
Birmingham, Ala.	105	65	23	8	7	7
Chattanooga, Tenn.	64	33	20	6	1	2
Knoxville, Tenn.	41	33	8	–	–	1
Louisville, Ky.	89	45	28	6	4	5
Memphis, Tenn.	187	94	52	12	15	3
Mobile, Ala.	39	20	13	2	–	1
Montgomery, Ala.	34	26	7	–	1	8
Nashville, Tenn.	106	74	20	3	6	7
WEST SOUTH CENTRAL	1,345	734	380	112	47	56
Austin, Tex.	22	14	5	2	–	1
Baton Rouge, La.	94	50	32	7	1	6
Corpus Christi, Tex.	46	30	13	–	2	2
Dallas, Tex.	220	113	61	21	14	8
El Paso, Tex.	37	18	12	5	–	1
Fort Worth, Tex.	69	44	13	7	3	–
Houston, Tex.	324	145	98	38	10	10
Little Rock, Ark.	72	41	20	7	1	6
New Orleans, La.	188	107	70	5	1	1
San Antonio, Tex.	137	85	27	9	9	9
Shreveport, La.	56	35	11	5	4	7
Tulsa, Okla.	80	52	18	6	2	5
MOUNTAIN	536	295	149	35	31	24
Albuquerque, N. Mex.	56	31	17	3	4	7
Colorado Springs, Colo.	38	16	13	3	2	5
Denver, Colo.	119	68	37	7	3	3
Las Vegas, Nev.	20	10	7	–	2	2
Ogden, Utah	18	12	2	1	3	1
Phoenix, Ariz.	115	66	23	10	8	–
Pueblo, Colo.	23	14	6	2	1	3
Salt Lake City, Utah	62	29	18	4	6	3
Tucson, Ariz.	85	49	26	5	2	–
PACIFIC	1,390	889	343	79	42	40
Berkeley, Calif.	13	6	6	–	–	–
Fresno, Calif.	55	33	14	4	–	–
Glendale, Calif.	9	7	2	–	–	–
Honolulu, Hawaii	49	30	13	4	1	3
Long Beach, Calif.	91	59	20	10	1	1
Los Angeles, Calif.	402	259	97	19	13	11
Oakland, Calif.	52	38	8	4	1	2
Pasadena, Calif.	27	20	5	1	1	1
Portland, Oreg.	96	72	17	2	3	5
Sacramento, Calif.	48	30	14	–	2	2
San Diego, Calif.	100	62	26	3	8	2
San Francisco, Calif.	162	97	47	12	3	3
San Jose, Calif.	57	36	15	6	–	1
Seattle, Wash.	130	76	36	8	7	3
Spokane, Wash.	68	43	18	3	1	5
Tacoma, Wash.	31	21	5	3	1	1
TOTAL	11,839	7,161	3,093	744	430	483
Expected Number	12,682	7,833	3,258	774	401	558

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

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

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.

Malaria — Continued

Reported by S Berger, MD, New York City; HB Shookhoff, MD, Acting Director, Bur of Preventable Diseases, New York City Dept of Health; D Lyman, MD, State Epidemiologist, New York State Dept of Health; ME Levy, MD, State Epidemiologist, District of Columbia Community Health and Hospital Administration; and Parasitic Diseases Div, Bur of Epidemiology, CDC.

Current Trends

Fatal Ectopic Pregnancy After Sterilization or Abortion — New York, California

Over the past 10 years, ectopic pregnancy has increased in relative importance as a cause of death from pregnancy and childbirth, accounting for over 12% of deaths occurring in pregnant women in 1975 (*1*). The growing use of fertility control measures, some of which have been associated with ectopic pregnancies, may have contributed to this trend. Since 1972, CDC has been collecting information on deaths associated with selected fertility control methods. Three recent cases of fatal ectopic pregnancy after sterilization or abortion illustrate how some fertility control measures can create potential hazards by delaying the patient from seeking medical care or impeding correct diagnosis.

Case 1: A 29-year-old obese gravida 6, para 4, abortus 1, whose last menstrual period had been 10 weeks earlier, died enroute to a hospital. Eighteen months before, the patient had undergone a bilateral tubal ligation, confirmed by histologic examination of the excised tubal segments. On the evening before and morning of her death, the patient had complained to her husband of abdominal discomfort. An ambulance was called, but she died before reaching the hospital. Postmortem examination revealed extensive pulmonary edema and approximately 1,500 to 2,000 cc of freshly clotted blood in the peritoneal cavity. The right fallopian tube contained a ruptured ectopic pregnancy distal to the site of previous ligation.

Case 2: A 19-year-old gravida 3, para 2, whose last menstrual period had been 9 weeks earlier, underwent a suction curettage abortion. Pelvic examination, while the patient was under general anesthesia, revealed the uterus to be approximately 8 weeks in size; no adnexal masses were noted. The suction curettage was uneventful, although the records contain no gross description of the abortion aspirate. The patient was discharged the day after the abortion but returned that evening complaining of increasing weakness, shortness of breath, nausea, and vomiting. She was examined in the emergency room, given medication, and released. Approximately 2 hours after leaving the emergency room, the patient became acutely agitated and complained of being unable to breath. She died several minutes later. The pathology report on the abortion specimen, returned after the patient's death, revealed uterine changes consistent with pregnancy; however, there were no fecal or placental parts. Postmortem examination demonstrated 2,000 cc of blood in the peritoneal cavity and a ruptured right cornual pregnancy.

Case 3: A 24-year-old gravida 1, para 0, whose last menstrual period was 8 weeks earlier, underwent a suction curettage abortion. The pregnancy test was positive and physical examination on admission noted the uterus to be approximately 10 weeks in size; no adnexal masses were noted. Suction curettage produced a "moderate" amount of tissue, and the patient was discharged on the day of procedure with instructions to return for a post-abortion checkup in 2 weeks. The pathology report, returned after the patient's discharge, revealed no evidence of placental or fetal tissue. An attempt was made to call the patient, but her phone had been disconnected. Five days after the abortion, she died at home. Postmortem examination revealed a massive hemoperitoneum caused by rupture of the right fallopian tube.

Editorial Note: The prompt and correct diagnosis of ectopic pregnancy is frequently difficult, and, as evidenced here, some fertility control measures may compound this difficulty. Although tubal sterilization failure rates rarely exceed 2%, 16-24% of the resulting pregnancies may be ectopic (*2-6*). The combination of post-sterilization amenorrhea and abdominal pain in a woman of reproductive age requires prompt attention; the fact that a woman has previously undergone a sterilization procedure, as occurred in case 1, should not delay appropriate evaluation and diagnostic tests for possible ectopic pregnancy.

The presence of fetal tissue should be confirmed after each abortion; lack of fetal tissue suggests the possiblity of ectopic pregnancy or failed attempted abortion. In rare instances, an intrauterine and ectopic pregnancy may coexist. Complaints of abdominal pain after a recent induced abortion may be due to previously unsuspected ectopic pregnancy.

The Family Planning Evaluation Division of the Bureau of Epidemiology at CDC is interested in learning about deaths from ectopic pregnancy associated with fertility control measures. Any such deaths should be reported first to the state health departments and then to CDC at the following address: Family Planning Evaluation Division, Center for Disease Control, attention: Ectopic Pregnancy Death, Atlanta, Georgia 30333.

Reported by E Hughes, MD, Subcommittee on Maternal and Child Welfare, Medical Society of the State of New York; C Immordino, MD, J Pakter, MD, MPH, Bureau of Maternity Services and Family Planning, New York City Dept of Health; G Cunningham, MD, MPH, Maternal Child Health Br, California Dept of Public Health; and the Family Planning Evaluation Div, Bur of Epidemiology, CDC.

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International Notes

Poliomyelitis — Sweden

Two cases of poliomyelitis, 1 paralytic, have recently been reported in Sweden. These cases represent the first non-imported cases of poliomyelitis in that country since 1963.

A 2-year-old girl from Järna, a small community (population: 5,000), 45 kilometers from Stockholm, experienced onset of sore throat and high fever on January 21, 1977. By January 27 she appeared tired, cried easily, and had difficulty chewing. On January 28 she exhibited facial asymmetry and experienced some difficulty walking. She was admitted to a university hospital on January 29 with weakness of the left upper and lower extremities. Evidence of facial nerve involvement was also seen. On January 31 the patient developed paralysis of the left arm and became comatose. By February 2, however, clinical improvement was noted. On February 9, type 2 poliovirus was isolated from a stool specimen obtained on January 31. The patient had no history of polio immunization. She was transferred to Stockholm Hospital for Infectious Diseases on February 12, where her paralysis appears to be resolving. The source of her infection is as yet unknown.

Another child, also a 2-year-old female, was hospitalized on February 12 following 24 hours of fever, irritability, ataxia, and a history of an inability to hold on to familiar objects. Type 2 poliovirus was isolated from her stool, and she has been diagnosed as having non-paralytic poliomyelitis. She was a close contact of the index patient's 5-year-old brother, who was found to be excreting type 2 poliovirus.

Both patients' families are active in Anthroposophy, a lifestyle also known as the Rudolf Steiner Movement after its Austrian-born founder. The largest Anthroposophy community in Sweden—a small-farm collective of several hundred members—is near Järna. The community is the site of frequent short visits by large numbers of Rudolph Steiner communities from throughout Europe. In the Järna community the residents are experimenting with "natural" sewage treatment, biodynamic agriculture, drama, the arts, and special teachings in their own school. Here, too, the Rudolf Steiner College of Teaching has been established. The father of the index patient sometimes attends the college, but he had not done so from September 1976 through January 1977. He did, however, have contact with several students who were at the college.

The father of the index patient had traveled extensively in the Netherlands from September through December 1976 visiting several families in Amsterdam and the Hague. He returned to his home on December 13. For 6 weeks beginning in mid-November, 2 German music students lived with his family. No history of illness in these students could be obtained; their immunization status is unknown. Beginning approximately December 26, the mother and 5-year-old brother of the index patient experienced frequent colds, fever, and diarrhea. Because of unsanitary environmental conditions, including lack of drinking water and the accumulation of 5 to 6 inches of raw sewage in the basement of their dwelling, the family moved to a new residence just before the onset of illness in the index patient.

While the Rudolf Steiner movement does not oppose polio immunization, its members practice "natural medicine." More than 60 of the 180 pre-school and school-age children attending the Anthroposophy community school were unimmunized. After several meetings of Swedish health officials, approximately 20 of these unimmunized children have begun primary immunization with inactivated poliomyelitis vaccine (IPV), the only poliovirus vaccine officially and routinely used in Sweden. Immunization levels against polio in 2 other community schools in Järna exceed 99%. Community clinics to encourage updating of polio immunization throughout Sweden originally scheduled for March through May of this year were begun in Järna during the third week of February.

All close contacts of the index family during January (approximately 25 individuals) as well as many members of the Järna Anthroposophy community have been contacted and interviewed and have supplied stool and throat cultures and serologic specimens for laboratory evaluation. To date, 16 primary and secondary contacts of the index family have been identified as excreting type 2 poliovirus. At least 3 adults among these 16 individuals have a history of prior partial immunization with IPV. Several contacts, including some of those subsequently found to be excreting polio type 2 virus, have moved to Delsbo, a small village approximately 300 kilometers north of Stockholm. They remain under surveillance as do those in Järna.

Epidemiologic investigations for the source and for contacts continue as do sewage isolation studies from several selected areas and laboratory surveillance and viral characterization studies of isolates from the cases and known excreters.

Reported by M Böttiger, MD, National Epidemiologist, National Bacterialogical Laboratory, Stockholm, Sweden.

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