

### Epidemiologic Notes and Reports

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Epidemiologic Notes and Reports

# Outbreak of Viral Hepatitis in the Staff of a Pediatric Ward - California

Sixteen cases of viral hepatitis occurred during October and November 1976 among the staff and patients of a 300bed public teaching hospital in California.

On September 23, 1976, an 18-month-old male was admitted to the pediatric ward with bloody diarrhea. The child and his mother had recently returned from several months in Mexico, during which time the child had experlenced intermittent fever and diarrhea and the mother had become jaundiced. The child was isolated for the first 5 days of hospitalization. Stool cultures revealed Shigella group B, and the patient was treated with ampicillin. A single serum bilirubin was within normal limits. The child was described as a "messy" patient who frequently removed his soiled diapers, contaminating himself and the bed with feces and urine. The child improved and was discharged on October 7. On October 13, he was readmitted because of recurrent diarrhea. On this admission, serum bilirubin and transaminase levels were found to be elevated, and a diagnosis of viral hepatitis was established.

In the period from October 21 through November 5, 11 of 55 staff members (20%) who worked on the pediatric Ward during the first hospitalization of the index patient developed HB<sub>s</sub>Ag-negative hepatitis (Figure 1). These patients included the admitting physician and nurse, an attending physician, 3 registered nurses, and 5 nursing attendants, all of whom had had direct contact with the index Patient. Three other cases occurred in the hospital during this time, including 2 patients on the ward, 1 of whom occupied the room after the index patient, and a laundryman. In addition, an aunt who had been exposed to the child in the hospital (and also to his mother while she was ill) developed hepatitis in mid-October.





Immunoglobulin was administered to the pediatric staff from November 5 to November 11, and also to the laundry employees on November 9-10. Immunoglobulin was also administered to household contacts of all cases. Despite the prophylaxis, a laundryman who may have been exposed to the linen of the index patient developed anicteric hepatitis on November 17. Two additional cases also occurred among individuals epidemiologically linked to the secondary cases that had not received prophylaxis. One patient, a relative of the ill aunt, became jaundiced in mid-November, and the other patient, a friend of 1 of the affected pediatric patients, developed anicteric hepatitis in early December.

No further hospital cases have occurred since November. Surveillance is being continued to detect possible further cases in the community.

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Editorial Note: Although a control population was not studied, the data presented here strongly suggest that the 18-month-old child was the source of hepatitis A; these dates also strongly suggest that the child was excreting virus during his incubation period. The infectiousness of individuals incubating hepatitis A virus (HAV) infection has been shown in an investigation of a foodborne outbreak of hepatitis A where food contamination probably occurred 6 days before onset of symptoms in the index patient (1). Experimental data for both humans and chimpanzees have shown that peak HAV excretion occurs 2-10 days prior to elevation of hepatic transaminases (2-4). More recent experimental data from chimpanzees inoculated with sub-passage human-derived HAV material have shown that HAV excretion can occur as early as 9 days after inoculation (5).

Immunoglobulin prophylaxis was initiated in selected hospital employees only after cases appeared in the pediatric staff and the first laundryman. Only 1 additional case in an employee occurred after prophylaxis. This was in another laundryman, who developed anicteric hepatitis on November 17, 7 days after receiving immunoglobulin. This suggests that his exposure occurred at least 2 weeks before prophylaxis and that even if immunoglobulin had not been given, no further cases would have occurred among

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the staff exposed to the index patient during his first hospitalization. The use of immunoglobulin is based on data from studies which have shown that if given within 14 days after exposure, it can be effective in the control of type A viral hepatitis (6).

References

1. Denes AE, Smith JL, Hindman SA, et al: Foodborne hepatitis A infection: A report of two urban restaurant-associated outbreaks. Am J Epidemiol (in press)

2. Purcell RA, Dienstag TL, Feinstone SM, et al: The relationship

### Current Trends

## Reve Syndrome — United States

A total of 152 suspect cases of Reye syndrome have been reported to CDC through telephone surveys since January 1, 1977. This is the largest case total since the 1973-74 outbreak, when 379 cases were documented.

The results of an initial telephone survey in February, 1977, have been reported (MMWR 26[8], 1977). The second telephone survey, conducted on March 3 by the Viral Diseases Division, Bureau of Epidemiology, was undertaken because of persistence of influenza B in many states. All 50 states, as well as the District of Columbia, Puerto Rico, the U. S. Virgin Islands, and New York City, were contacted. Of these, 33 jurisdictions reported the 152 suspect cases; 29 of the 33 also reported influenza B activity. According to the survey, Reye syndrome is being reported in all areas of the continental United States except the northwestern region. The Eastern Seaboard and southeastern states appear to have the greatest activity. Relatively few cases were reported by the Great Lakes and central midwestern states, the states which had the most activity during the 1973-74 outbreak of Reye syndrome.

of hepatitis A antigen to viral hepatitis. Am J Med Sci 270:61-71,

3. Dienstag TL, Feinstone SM, Kapikion AF, et al: Fecal shedding

4. Maynard JE, Bradley DW, Gravelle CR, et al: Preliminary studies

hepatitis A virus in experimentally infected chimpanzees: Biophysical characterization of the associated HAV particles. Journal of

6. Ringertz O: Prevention of infections with type A hepatitis virus.

of hepatitis A in chimpanzees. J Infect Dis 131:194-196, 1975 5. Bradley DW, Gravelle CR, Cook EH, et al: Cyclic excretion of

of hepatitis A antigen. Lancet 1:765-757, 1975

Medical Virology (in press)

Am J Dis Child 128:425-428, 1972

In 29 cases the outcome of the patient was known; 18 of these patients died. However, preliminary information provided by health departments suggests that the overall casefatality ratio may be considerably lower because of increased recognition of milder cases and institution of earlier treatment.

Reported by the Viral Diseases Div, Bur of Epidemiology, CDC (Continued on page 83)

	9th W	EEK ENDING		CUMULATIVE, FIRST 9 WEEKS					
DISEASE	March 5, 1977	March 6, 1976	MEDIAN 1972–1976	March 5, 1977	March 6, 1976	MEDIAN 1972–1976			
Aseptic meningitis	24	31	31	317	331	320			
Brucellosis	1	5	2	31	48	16			
Chickenpox	6,054	5,992		48,989	45,336	and the second			
Diphtheria	3	6	3	8	68	23			
Encephalitis Primary	15	8	13	106	141	141			
Post-Infectious	2	3	3	17	36	36			
(Туре В	310	243	235	2,606	2,183	1,698			
Hepatitis, Viral 🛛 Type A	634	707	906	5,722	6,111	7.659			
(Type unspecified	198	128	1	1,635	1,500	)			
Valerie	5	6	5	45	50	47			
Veasles (rubeola)	1,607	1,235	792	10,646	5,808	5,547			
Meningococcel infections, total	46	40	36	363	311	309			
Civilian	45	40	35	360	308	300			
Military	1	- 1	1 1	3	3	9			
Aumps	532	1,485	1,757	5,102	10,852	14,390			
Pertussis	10	15		107	213				
Rubella (German measles)	559	253	379	3,278	2,321	2,321			
Tetanus	V-1	-	1	5	6	9			
Fuberculosis	630	672		4,707	5,162				
Fularemia	I	2	2	12	22	17			
(yphoid fever	9	3	7	54	61	45			
Fyphus, tick-borne (Rky. Mt. spotted fever)	(10)(-1)-y	2	1	14	5	9			
Concerbos (Civilian	15.863	18.236		161-401	170.016				
(Military	440	453		4.673	5.159				
Suphilic primary and monodary (Civilian	271	501		3.848	4.587				
Military	5	8		57	71				
Rabies in animals	51	47	59	373	302	444			
Table II. No	otifiable Dise	eases of Low	Frequency: Uni	ited States					
T allefa	1.1	CUM.	and see 1	5 L		CUN			
Inthrex: lotulism: "Ore. 3, Alaska 1 Congenital rubella syndrome: Ups. N.Y. 1 .eprosy: NYC 1, Md. 1 .eptospirosis:		- Polic 8 Pa 2 Psitt 21 Rabi 7 Trick	myelitis, total: ralytic: icosis: • in man: inosis:* N.J. 3			22 7 22			

\*Delayed reports: Botulism: Conn. 1 (1976): Psittacosis: Nev. delate 1 (1976): Trichinosis: Kans. 8 (1976)

### Table III **Cases of Specified Notifiable Diseases: United States** Weeks Ending March 5, 1977 and March 6, 1976 - 9th Week

The second se						F	NCEPHALIT	15	HE	PATITIS VI	RAL		
	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTI	IERIA	Primary: A	Arthropod-	Post In-	Туре В	Type A	Type	МА	LARIA
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	24	1	6,054	3	8	15	8	2	310	634	198	5	45
	1	_	620		-	,	_	_	11	10	14		2
Maine	-	_	13	_	-	-	-	_	_	-	_	_	-
New Hampshire*	-	-	8	-	-	-	-	-	-	1	1	-	
Vermont	-	-	10	-	-	-	_	_	1	2	12		-
Rhode Island	-	_	131	_	_	_	-	-	2	5	-	_	-
Connecticut	-	-	125	-	-	1	-	-	3	8	3	-	
MIDDLE ATLANTIC	4	_	468	1	1	6	_	_	68	81	42	2	10
Upstate New York	-	-	192	-	-	-	-	-	11	24	1		4
New York City	-	-	96 NN	1	<u>+</u>	2	_	Ē.	18	16 22	31	2	5
Pennsylvania*	-	-	180	-	-	-	-	-	21	19	2	- 1	1
EAST NORTH CENTRAL	1	_	2.947	1 - I	_	1	2		52	110	15	1	3
Ohia *	-	-	179		-	-	-	-	15	28	-	î	1
Indiana	-	-	231	-	-	-	-	-	5	6	9	-	-
Michinan	1	-	4 34	-	_	1	1	_	12	42	4	_	1
Wisconsin	-	-	846	-	-	-	_	-	5	3	-	-	_
WEST NORTH CENTRAL	_	_	559	-	_	1	1	_	23	34	4	1	3
Minnesota	_	-	1	-	_	<u> </u>	î	-	7	8	-	-	ĩ
lowa*	-	ы. Н	293	-	-	-	-	-	7	5	1	-	-
Missouri*	-	-	1	-	-	-	_	_	6	13	1	1	2
South Dakota	-	_	*3 6	_	-	-	_	_	_	-	_		
Nebraska	-	-	32	-	-	1	-	-	3	6	2	-	-
Kansas*	-	-	181	-	-	-	-	-	-	-	-	-	-
SOUTH ATLANTIC	3	1	455	-	-	2	1	-	44	90	19	-	6
Delaware	-	-	8	-	-	-	-	-	_	3	3	-	
waryland	-	_	11	-	_	- E	_	2	13	8	1		2
Virginia *	1	-	12	-	-	1	-	- '	5	8	2	-	3
West Virginia	-	-	101	-	-	- T	-		-	11	Ē	-	-
South Carolina	-	-	36	-	_	1	1	_	11	11 6	5		
Georgia	-	-	29		-	-	-	-	_	19	-	-	1
Florida *	1	1	258	-	-	-	-	-	6	24	7	-	-
EAST SOUTH CENTRAL	2	-	97	_	-	3	-	1	21	44	3	_	2
Kentucky		-	23	-	-	2	-	-	7	6	1	-	2
Alabama *	1	-	NN 50	-	_	1	-	_	12	23	2	-	
Mississippi	1	-	15	-	-	<u> </u>		1	i	14	-	-	-
WEST SOUTH CENTRAL	2	_	307	-	_	1	2	_	15	53	28	_	4
Arkansas	-	-		1	-	-		-	2	9	2	-	-
Louisiana *	-		NN	-	-	1	1	-	3	11	3	-	-
Texas *	2	_	37		-	-	1	_	-	7	8	-	-
			210						10	20	17		
MUUNTAIN		-	206	-	-	-	-	-	6	61	13	-	4
Idaho	_	-	40	_	_	_	-	_	_	2	1	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
Volorado +	-	-	112	-	-	-	-	-	3	17	4	-	3
Arizona	-	-	11 NN	-	-	_	-	-	-	16	7	_	1
Utah	-	-		-	-	-	-	-	-	-	-	-	-
Nevada	-	-	8	-	-	-	-	-	2	1	-	-	-
PACIFIC	11	-	495	2	7	-	2	1	70	142	58	1	11
Washington	2	-	442	2	6	-	-	-	2	5	12	-	-
California*	1 7	-	6	-	-	-	-	- ī	9 53	15	3	-	7
Alaska	<u>'</u>	-	1	_	1	-	ĩ	-	4	19	-	_	-
Hawaii	1	-	46	-	-		-	-	2	-	-	-	4
<b>C</b>													
Puerte Rice	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	-
Virgin Islands	N 4		36 NA	NA	-	NA NA	-	- 2	-	NA	NA	NA	
	114	114	114										

NA: Not available NN: Not notifiable Delayed reports: Asep. Meng: Mo. delete 1, Okla. add 1, Colo. delete 8 (1976), Pa. add 1 (1977); Brucellosis: Kans. delete 1 (1977); Chickenpox: N. Hamp. add 20, Iowa delete 60, Calif. add 74 (1977); Delayed reports: Asep. Meng: Mo. delete 1, Okla. add 1, Colo. delete 8 (1976), Pa. add 1 (1977); Brucellosis: Kans. delete 1 (1977); Chickenpox: N. Hamp. add 20, Iowa delete 60, Calif. add 74 (1977); Delayed reports: Asep. Meng: Mo. delete 2, Ala. add 20 (1976), Pa. delete 1 (1977); Enceph.: Mo. delete 1, Tex. delete 2, Tex. delete 2 (1977); Hep. A: Ohio delete 1, La. delete 4, Okla. add 1 (1976), Brucello, M. Dak. add 1, Fla. delete 2, La. delete 1, Tex. add 1 (1977); Hep. unsp.: La. delete 1 (1976), Mo. delete 3, Fla. delete 2, Guam add 2 (1977)

# **Table III-Continued** Cases of Specified Notifiable Diseases: United States Weeks Ending March 5, 1977 and March 6, 1976 – 9th Week

	N	EASLES (Rub	eola)	MENING	DCOCCAL II	NFECTIONS	м	UMPS	PERTUSSIS	RU	BELLA	TETANUS
REPORTING AREA		CUM			сими	LATIVE						
	1977	1977	1976	1977	1977	1976	1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
UNITED STATES	1,607	10,646	5,808	46	363	311	532	5,102	10	559	3, 278	5
NEW ENGLAND	47	406	76	2	19	18	19	240	1	17	143	-
Maine	1	2	3	_	2		8	14	_	1	10	- 01
New Hampshire	.5	146	-	1	2	2	-	30	-	-	17	-
Vermont	51	141	- 2	-	5	1	-	41	-	1	43	_
Massachusetts	-	-	12	-	-	- 3	-	16	-	-	12	_
Connecticut	-	59	59	-	9	8	7	137	-	12	40	
MIDDLE ATLANTIC	94	1,110	909	6	53	26	42	305	-	77	610	-
Upstate New York	38	257	435	2	15	7	1	47		21	220	a = 11
New York City	17	60	45	2	11	9	12	127	-	-	42	-
New Jersey	38	766	375	1	10	3	15	82		51	303	
Pennsylvania	50	700	5.5	-			A 4	47		- <b>1</b>	42	
EAST NORTH CENTRAL	320	2,967	2,238	2	34	33	197	1,762	-	213	1,012	- 2
Ohia	100	149	4	1	20	11	38	299		48	252	
Indiana	14	315	155	-	5	3	22	161		13	75	-
Michigan	29	236	730	1	7	13	74	560	-	64	239	111
Wisconsin	96	729	921	-	2	4	50	645	-	21	94	10-10
	344	2 171	94	10.00	17	20	0.1	1 202		7	122	
WEST NUHTH CENTHAL	73	323	21		6	23		1,203	1		223	- <b>1</b>
Inwa <sup>#</sup>	259	1,299	8	-	1	6	54	719		5	75	
Missouri *	-	106	4	-	8	6	4	258	-	-	9	1
North Dakota	-	2	1	-	-	-	-	4	-	-	-	
South Dakota	-	- 1			1	2		12		-		-
Nebraska	32	367	18	-	1	11	31	282	-	2	36	10.00
SOUTH ATLANTIC	118	433	490	12	74	76	25	194	2	87	214	1
Delaware	8	21	235		7	6	1	- 11		_		
District of Columbia	-		1	-		-		2	-	-		-
Virginia	30	231	6	1	4	4	3	36	-	23	70	1
West Virginia	3	31	54	-	6	3	6	56	1	7	26	-
North Carolina	14	15		4	17	16	4	1		54	98	
Georgia	8	77	-	3	13	5	1	3		-	13	-
Florida	5	5	159	ī	19	33	4	40	1	2	7	- 11 -
EAST SOUTH CENTRAL	21	164	136	7	37	21	28	295		56	424	1
Kentucky	1	78	127	4	17	2	-	20		4	17	1
Теппеззее	14	77	5	1	9	10	19	179	-	52	404	-
Alabama	-	-	-	2	9	7	5	92		-	3	
wiisaissippi	ŭ	ľ			2	-				_		-
WEST SOUTH CENTRAL	105	524	271	7	67	49	58	494	2	34	211	1
1 nuisiana*	1	23	5	2	26	2	ī	20		1	6	
Oklahoma	-	23	183		1	11	31	190		-	8	-
Texas*	104	477	83	5	38	34	26	281	2	33	197	1
ΜΠΙΝΤΑΙΝ	180	697	1.279	5	10	17	28	188		15	129	_ 1.
Montana	110	402	39	- 1	-	i	-	1			- 4	
Idaho	2	24	454	-	1		3	53		-	-	-
Wyoming		1		_	-				-	-	1	-
Colorado	49	193	19	2	1	8	16	46		15	89	
Arizona	15	58	120	3	5	3	-	-		_	-	
Utah	-	2	639	-	_	4	-	29		-	33	-
Nevada	3	12	5	-	1	-	-	1		-	i	-57
PACIFIC	358	2,174	323	5	52	42	44	341	4	53	412	1
Washington	32	156	25	1	8	11	17	77	2	17	120	1000
Oregon	20	50	2	1	3	2	15	.77	1	3	23	
Alaska*	306	1,920	294	د –	51	27	12	1/1	1	32	265	1
Hawaii	-	-	2	- 1 <b>-</b> 1	í	î	1.15	ŝ	- 1	1	4	12
	_							100 A 100 A				
Guam	NA	2	4			1	NA	-	NA	NA	-	
Puerto Rico	18	117	21			1	26	109	1	_	3	2
virgin Islands	NA	5	-	-	-	-	NA	36	NA	NA	-	2.2

NA: Not available
\*Delayed reports: Measles: Tex. add 4 (1976), Iowa add 13 (1977); Men. Inf: La. delete 4 (1976), Minn. delete 5, Mo. add 1, Alaska delete 1 (1977): Mumps: Mo. add 1 (1977); Pertussis: R.I. add 8 (1976); Rubella: Texas delete 4 (1976), Iowa add 1 (1977)

# Table III-Continued **Cases of Specified Notifiable Diseases: United States** Weeks Ending March 5, 1977 and March 6, 1976 – 9th Week

	· · · · ·		TULA	TYPHOLD		TYPHUS-FEVER		R VENEREAL DISEASES (Civilian Cases Only)							
	TUBE	RCULOSIS	REMIA	FE	VER	TICK-E	ORNE		GONORRHEA		S	PHILIS (Pri	. & Sec.)		
REPORTING AREA					1		1		CUMU	ATIVE		СЦМП	ATIVE	Antonias	
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	1977	1976	1977	1977	1976	CUM. 1977	
UNITED STATES	630	4,707	12	9	54	-	14	15,863	161,401	170,016	271	3,848	4,587	373	
NEW ENGLAND	30	154	-	-	2	-	-	410	4,123	4,665	13	141	122	5	
Maine	-	12	-	-		-	-	38	344	433		6	6	5	
New Hampshire*	-	6	-	-	-	-	-	11	152	99	-	-		-	
Vermont	18	76		-	1	-	1	148	1.772	2.194	13	101	83		
Bhode Island	1	10	-	-	- <u>-</u>	_	_	43	301	315		2	6	-	
Connecticut	7	43	-	-	1	-	-	162	1,456	1,527	-	30	25		
MIDDLE ATLANTIC	118	685	-	2	10	-	1	1,566	18,713	17,483	53	568	793	5	
Upstate New York	28	99	-	-	1		1	387	2,363	2,460	-	45	42	5	
New York City	30	210	_	-	2	-	12	624	2,505	3,088	39	500	111		
Pannsylvania *	30	182	-	-	_	-	-	499	4,645	4,555	11	86	104	- 11	
EAST NORTH CENTRAL	102	772	2	1	7	-	-	2,070	24,095	27,983	19	433	418	12	
Ohio	11	134	1	1	2	-	-	373	6,011	6,905	7	119	101	-	
Indiana	22	79		-	_	-	-	168	2,015	2,661	3	22	23	1	
Illinois	35	271	-	_	1	_	-	637	8,187	10,176	6	231	223		
Wisconsin	31	41	1	-	-	-		276	2,300	2,571	2	16	15	10	
WEST NORTH CENTRAL	19	148	3		4	_	3	885	8,482	8,454	9	86	90	90	
Minnesota	ŝ	28	-	-	i	-	-	163	1,392	1,675	-	25	22	40	
lowa*	3	17			-		-	88	1,042	1,075	-	6	12	13	
Missouri	4	62	2	_	1	_	3	405	3,652	3,320	4	27	41	12	
North Dakota	1	2		_	_		_	15	138	248		-		13	
Nabraska	1	6	L 🖞 🗌		10 E 10			78	694	673	_	12	5	12	
Kansas	5	29	-	-	2	-	17	121	1,332	1,324	5	15	9	6	
SOUTH ATLANTIC	142	1,181	5	3	11	-	4	3,778	37,956	40,461	89	1,121	1,403	43	
Delaware	5	12	-	-	-	-		18	538	600	1	9	14	-	
Maryland	23	162		-	-	-		637	4,738	51591	11	117	122		
Virginia*	10	139		2	5		1	430	3,941	4.598	10	97	124	1	
West Virginia	4	40	-	ī	2	-	-	51	497	522	-	i	8	ī	
North Carolina *	27	207	-	-	-	-	3	495	6,004	6,033	15	162	257	-	
South Carolina*	15	120	2	-	-	-	-	430	3,603	3,708	. 3	46	14	25	
Florida	35	311	-	-5	4			1,037	9,319	9,358	31	413	518	35 6	
FAST COUTH OF WERE		202						1.692	17.452	16 110	0	123	203	6	
Kentucky	12	902	_	- 20	<u>_</u>	_		318	1,958	2.011	1	14	33	3	
Tennessee	20	134		_	-		ź	630	5,599	5,983	3	37	88	2	
Alabama	6	107	-	-	1	-	1	342	3,559	4,085	4	23	34	-	
Mississippi	5	57		-	-		-	393	2,536	3,039	-	49	48		
WEST SOUTH CENTRAL	71	484	1	- 1	-		2	1,814	21,424	24,841	30	511	502	140	
Arkansas	7	45	-	-	-		-	168	1,679	2,090	2	13	20	8	
Louisiana*	15	119	-	-	-	-		341	3,026	3,555	6	112	108	<u> </u>	
	4	274	1	-	-	_	1	200	1,042	16,970	22	374	349	85	
MOUNTAIN		214					•		14,000	10,710					
Mantena	28	126	1	1	6		_	771	6,391	6,723	6	78	134	6	
Idaho		9	-	_	_			20	310	348		2	5	-	
Wyoming	-	3	-	-	-	-	-	21	194	162		5	4	- 1 C	
Colorado *	13	27	-	-	4		-	197	1,654	1,644	-	24	39		
New Mexico *	5	12	-	-	-		-	128	882	1,377	1	16	40	-	
Arizona	8	58			1	1.1	_	226	1,839	1,901	3	20		- 2 -	
Nevada		8	-	-	-		-	113	805	546	î	2	10	-	
PACIFIC	77	775		3	13	11.2		2,886	26.565	24.288	44	787	922	67	
Washington*	NA	32	-	-		-	-	183	1,796	1,987	NA	10	27	-	
Uregon	4	34	-	-	2		-	261	1,854	1,900	4	33	30		
Alaska	67	590	-	3	11	-	17	2,323	21,564	19,110	40	732	848	58	
Hawaii	6	111	-	-	-	-		51	540	525	-	8	16	-	
	s in star	1200	Croix.		-				1.0					11.1	
Blane Di	NA	9	-	NA	-	NA	-	NA	47	74	NA	-	-	-	
Virgin Islands	6	63	-		1		1	46	506	473	12	105	91	6	
.a 1918/02	NA	-	-	NA	-	NA		NA	23	51	NA		25		

NA: Not available

NA: Not available Delayed reports: TB: Colo. delete 1 (1976), Mass. add 17, Mich., delete 1, N.C. delete 2, S.C. delete 2, Tex. add 29, Ariz. delete 1, Guam add 1 (1977); Tularemia: Va. delete 5, (1976); Typhoid Ever: R.I. add 2 (1976); RMSF: Pa. delete 1 (1976); GC: La. delete 9 civ. (1976), N. Hamp. add 2 mil., La. delete 30 civ., Wash. add 199 civ., add 82 mil., Guam add 6 (1977); Syphilis: La. delete 1 (1976), Texas delete 2 civ., N. Mex. delete 1 civ., Wash. add 11 civ., add 2 mil. (1977); An. rabies: Iowa add 1, S. Dak. add 6 (1977)

# **Table IV** Deaths in 121 United States Cities\* Week Ending March 5, 1977 – 9th Week

		A	LL CAUSI	ES		Pneu-		ALL CAUSES						
REPORTING AREA	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	and and Influenza ALL AGES	REPORTING AREA	ALL AGES	65 Years and Over	45–64 Years	25–44 Years	Under 1 Year	and Influenza ALL AGES	
NEW ENGLAND	672	407	174	42	32	48	SOUTH ATLANTIC	1,333	805	376	70	41	71	
Boston, Mass.	193	99	56	17	14	11	Atlanta, Ga.	1 53	87	52	.8	3	7	
Bridgeport, Conn.	26	22	2	1	1	5	Baltimore, Md	282	160	21	15	10	3	
Cambridge, Mass.	27	21	5	1	-	i	Jacksonville Fla	87	45	35	3	3	9	
Hartford, Conn.	61	36	18	6	1	-	Miami, Fla.	1 20	72	30	11	3	9	
Lowell, Mass	23	14	9		-	2	Norfolk, Va	57	34	22	1	-	5	
Lynn, Mass.	26	20	5	1	_	-	Richmond, Va.	1 00	58	34	4		5	
New Bedtord, Mass New Haven Conn	56	31	14	4	5	-	St. Petersburg Fla.	1 14	98	10	4	2	7	
Providence, R.I.	75	45	20	5	5	13	Tampa, Fla.	1 08	77	21	2	6	6	
Somerville, Mass.	8	3	4	-	1	-	Washington, D. C.	161	85	40	15	12	8	
Springfield, Mass.	34	17	11	2	3	3	Wilmington, Del	52	34	13	1	1		
Waterbury, Conn. Worcester Mass	55	40	11	ī	1	5								
Wordeater, Waaa							EAST SOUTH CENTRAL	816	482	221	48	31	51	
							Birmingham, Ala.	1 22	67	39	9	5	4	
MIDDLE ATLANTIC	2,863	1,831	706	173	71	168	Chattanooga, Tenn	72	37	23	6	1	10	
Albany, N. Y	42	25	13	-	1	3	Knoxville, Tenn	52	35	14	-	2	2	
Buffalo N Y	110	65	30	8	2	7	Louisville, Ky.	162	98	42	10	10	4	
Camden, N. J.	46	27	11	3	3	-	Mobile, Ala.	1 00	58	25	4	2	5	
Elizabeth, N. J.	25	17	8	-	-	-	Montgomery, Ala.	59	39	11	5		7	
Erie, Pa.	30	19	5	1	1	4	Nashville, Tenn.	1 23	72	39	8	2	10	
Jersey City, N. J.	53	29	22	5	4	1								
New York City N Y	1,511	1,002	344	97	30	82	WEST SOUTH CENTRAL	1,192	657	327	99	47	38	
Paterson, N. J.	44	27	13	3	-	5	Austin, Tex.	51	26	13	8	2	2	
Philadelphia, Pa	395	244	99	29	9	30	Baton Rouge, La.	74	44	16	8		1	
Pittsburgh, Pa	165	92	51	9	8	3	Corpus Christi, Tex.	31	14	9	.5	1	- 2	
Reading, Pa.	119	78	30	5	5	16	El Paro Tox	73	33	19	7	13	6	
Schenectady, N. Y.	19	8	8	ĩ	_	_	Fort Worth, Tex.	83	53	17	6	2		
Scranton, Pa.	37	24	13	-	-	-	Houston, Tex.	184	80	67	21	6	4	
Syracuse, N. Y.	63	42	13	3	2	2	Little Rock, Ark	58	37	16	1	3	5	
Trenton, N. J.	39	15	8	و	1	3	New Orleans, La San Antonio, Tax	1 29	70	46	3	8		
Yonkers, N. Y.	30	21	8	-	-	î	Shreveport, La	45	30	11	3	Ē	1	
EAST NODTH CENTRAL	0.503	1.511	655	151	84	97								
Akron Ohio	65	45	13	4	1	-	MOUNTAIN	5 31	330	127	37	16	26	
Canton, Ohio	33	15	15	2	1	2	Albuquerque, N. Mex.	44	26	11	3	3	4	
Chicago, III	539	317	146	41	16	18	Colorado Springs, Colo.	34	22	5	4		6	
Cincinnati, Ohio	208	129	57	10	د 8	5	Denver, Colo,	1 36	20	33	14	4	1	
Columbus Ohio	184	97	49	18	11	7	Onden Utah	21	14	6	1	<u>.</u>	4	
Dayton, Ohio	112	67	26	4	6	5	Phoenix, Ariz.	1 18	78	26	4	6	1	
Detroit, Mich.	292	182	81	13	10	12	Puzblo, Colo.	18	13	2	2	-	2	
Evansville, Ind.	50	35	14	1	-	4	Salt Lake City, Utah	54	39	10	2	7	2	
Fort Wayne, Ind.	44	54	5	2	_	-	Lucson, Ariz.	00	38	23	2	2		
Grand Banids Mich	67	46	ñ	5	2	7								
Indianapolis, Ind.	138	75	37	13	7	1	PACIFIC	1,791	1,087	448	114	59	50	
Madison, Wis.	44	21	13	4	2	5	Berkeley, Calif.	25	17	3	2	1	2	
Milwaukee, Wis.	156	97	43	5	6	5	Fresno, Calif	52	30	10	3	?	2	
Peoria, III	50	37	9	2	1	8	Glendale, Calit	50	24	20	1	1	-	
South Bend Ind	50	36	10	1	ź	3	Loon Beach Calif	95	62	24	3	5	2	
Toledo, Ohio	134	91	25	8	4	3	Los Angeles, Calif.	6 23	336	174	51	22	24	
Youngstown, Ohio	68	45	18	2	1		Oakland, Calif.	73	41	20	5	2	-	
							Pasadena, Calif	29	20	22	1	2		
WEST NODTH CENTRAL	855	551	190	44	32	25	Sacramento Calif	142	41	52 ] 7	8	4	1	
Des Moines, Iowa	75	50	19	3		3	San Diego, Calif.	151	93	37	13	i	6	
Duluth, Minn.	17	13	1	1	1	1	San Francisco, Calif	1 60	99	44	8	3	2	
Kansas City, Kans	34	19	6	2	5	2	San Jose, Calif.	56	35	9	7	-	1	
Kansas City, Mo.	142	94	24	9	5	4	Seattle, Wash	1 57	108	37	4	3	5	
Lincoln, Nebr Minneanolie Minn	40 85	20	22	6	1	1	Tacoma Wash	) E R	28	8	- 2	L.	ĩ	
Omaha, Nebr	93	61	18	4	3	i		-0	21	,	Ľ	-	<u> </u>	
St. Louis, Mo.	240	141	64	14	12	5								
St. Paul, Minn.	70	49	16	2	1	-	TOTAL	12,556	7,661	3,224	778	413	574	
Wichita, Kans	59	43	10	2	2	5	Expected Number	12,603	7,783	3,239	770	398	555	

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

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# March 11, 1977 Reye Syndrome - Continued

Editorial Note: Fitty-two cases of Reye syndrome were reported to CDC in 1976, 52 in 1975, and 379 in the 1973-74 outbreak. In the 1974-75 and 1975-76 seasons, there was less overall influenza B activity in the United States. That, plus less active CDC surveillance of the syndrome in those seasons, may explain the relatively fewer cases reported in those years.

### Influenza – Worldwide

United States: Isolates of influenza B have been made for the first time this season from Arizona, Maine, and Mississippi. In Michigan 6 deaths due to respiratory illness were reported among the residents of a nursing home, where an outbreak of influenza reached its peak during the week end-Ing February 19. Influenza B isolates were recovered from several patients. In Indiana 50 out of 76 residents of a nursing home had an influenza-like illness during an outbreak which began during the week ending January 22 and lasted for 2 weeks. A single death from respiratory causes was reported in this outbreak. Three seroconversions to influenza B were reported in the Indiana outbreak. An Air Force base in Texas reported a mixed influenza B and influenza A outbreak (predominantly A) among recruits in mid-February.

Reported by Colonel G Laithrup, Brooks Air Force Base, Texas; J Snyder, DO, Detroit; D Nolan, MD, Detroit City Health Dept; R

# International Notes

It was noted during the 1973-74 outbreak that, regardless of method of treatment, early diagnosis and hospitalization of children with Reye syndrome were the most crucial factors in determining outcome. Prompt recognition and accurate reporting of outbreaks of Reye syndrome should serve to alert physicians to the possibility of this diagnosis.

Egerer, DrPh, CN Jansen, RN, MPH, and G Kralapp, MS, Michigan Dept of Public Health; and State Epidemiologists from Arizona, Indiana, Maine, Michigan, Mississippi, and Texas; and the National Influenza Immunization Program, CDC.

Worldwide: This winter outbreaks of influenza-like illness have been reported in Bulgaria, Czechoslovakia, Germany, Israel, Italy, Senegal, and the United Kingdom. Influenza A/Victoria/75-like viruses were isolated in all of these outbreaks except in Czechoslovakia and Israel, where numerous influenza B isolates have been made. The USSR appears to have had an influenza epidemic of moderate severity, beginning in November, which has involved most of the larger towns throughout the country. The epidemic has been mainly due to influenza B, although influenza A has been seen in some towns.

Reported by the World Health Organization in the Weekly Epidemiological Record 52:81, 1977.

## Smallpox – Worldwide

Kenya: Five cases of smallpox - all in members of 1 family group - have been reported in Kenya as of February 11, 1977. All of the cases were reported from the Arabia area of Mandera District, the northern part of Kenya that shares <sup>a</sup> common border with Somalia. Laboratory confirmation Is pending on the last 3 cases. Dates of onset range from December 26, 1976, to February 5, 1977. Because the movements of the initial patient in this outbreak have not Yet been identified, the information reported here is subject to confirmation pending investigation already initiated by both Somali and Kenyan staff.

It is believed that the initial patient was an adult male studying at a school in Mogadishu, Somalia, who traveled to his home area in Kenya in the latter part of December. He developed a mild rash on December 26 in the village of Ledhi in the Arabia area, where he met his sister; reportedly, he immediately returned to Somalia. Intensive investigation is being carried out by national/World Health Organization (WHO) surveillance teams to locate this patient in Mogadishu. In Mandera District the case was reported to the local surveillance team which visited the household in early January. The team was unable to locate and vaccinate all the immediate contacts and, subsequently, the 23-yearold sister of the student developed a rash on January 9. This case has been confirmed by a WHO Reference Laboratory. On January 22, 2 unvaccinated children of the sister developed a rash; then, on February 5, a 4-month-old child became ill. These 3 children are now considered as suspect cases, pending receipt of laboratory confirmation.

The Mandera District of Kenya has been under intensive surveillance since September 1976, when the current outbreak in Mogadishu was first reported. Local surveillance teams have now been reinforced by additional personnel from Nairobi and a WHO epidemiologist will be assisting in these activities. The Kenyan authorities have established vaccination centers at Mandera and El Wak, the 2 major border towns in the area, and have instituted house-tohouse searches in the 7 towns which may have been implicated in this outbreak. Movements of the initial patient, as far as are known, have been communicated to Somali authorities, who are carrying out investigations both in Mogadishu and along the route presumably taken by the student on leaving and returning to the capital city.

Somalia: In Mogadishu the last known case occurred on January 17. Extensive house-to-house searches have been organized by national and WHO personnel during the last 2 weeks, particularly in those areas where the cases have previously occurred. As of February 7, 11,305 houses have been searched in these areas. National/WHO joint teams are also traveling outside of Mogadishu in an organized effort to search for hidden foci in the southern part of Somalia. Ethiopia: Although no case has been reported since August 9, 1976, planned surveillance activities have been continually strengthened, particularly in the areas bordering Somalia and Kenya. As a result of the reported outbreak in the Mandera District of Kenya, increased supervision by national and WHO staff is being directed to those areas of the Sidamo and Bale regions where nomadic movements from both Somalia and Kenya are known to be occurring frequently.

Reported by the World Health Organization in the Weekly Epidemiological Record 52:62-63, 1977.

Epidemiologic Notes and Reports

### Follow-up on Salmonella Infantis – United States

Salmonellae (Group C-1) have been isolated by the Food and Drug Administration (FDA) from a new production lot of Precision Isotonic Diet, 778A0327Z. This lot has been voluntarily recalled by the manufacturer, Doyle Pharmaceutical Company in Minneapolis, Minnesota. All lots produced before January 27, 1977, which were identified by a serial number ending in U, had been recalled on that date (MMWR 26[6], 1977). The egg albumin used in the pro-

## Fatal Rocky Mountain Spotted Fever – Georgia

Two Center for Disease Control employees developed febrile illnesses on February 23, 1977, and died 4 and 5 days later, respectively, with Rocky Mountain Spotted Fever (RMSF). Although the mode of acquisition has not been determined, studies thus far suggest an employmentrelated illness.

The employees had similar clinical illnesses. Each had a mild febrile upper respiratory illness on February 18 that did not require medical attention. On February 23 each employee developed fever, chills, and marked weakness. Both developed nausea, vomiting, and diarrhea shortly thereafter. One was admitted to a hospital on February 24 after a seizure and the onset of upper gastrointestinal hemorrhage. He remained febrile during 4 days of hospitalization and died of a cardiac arrest after a surgical procedure to treat persisting gastrointestinal hemorrhage. The other employee was admitted on February 27 to another hospital with nausea, vomiting, and frontal headache after 3 days of fever. He became delirious, had a seizure, developed oliguric renal failure, and died early in the second hospital day. A rash was not noted on either patient. Terminally, both had low normal white blood cell counts, thrombocytopenia, marked left shifts of white blood cell differential counts, and red blood cell morphologies suggesting microangiopathic hemolytic anemia. Both were treated with broad-spectrum antibiotics.

Postmortem examinations showed a variety of nonspecific abnormalities. Tissues were collected for microbiologic, pathologic, and toxicologic evaluation. Guinea pigs inoculated with blood or tissue from each patient developed fever in 2 to 3 days and scrotal swelling, which progressed to hemorrhage and necrosis. Guinea pig tissues were

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duction of the new lots was obtained from a different source than the egg albumin thought by the the manufacturer to have been the source of contamination in the previous production lots. The mechanism of contamination is unknown. Other lots with serial numbers ending in the letter Z are under culture in FDA laboratories.

Reported by the Food and Drug Administration; and Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

# ky Wountain Spotted Pever – Georgia

positive by direct fluorescent antibody tests for rickettsia of the spotted fever group.

Both employees had duties that included work in the CDC building where a variety of viruses, rickettsiae, and the bacterium which caused the respiratory illness in Legionnaires is processed. RMSF was studied in several laboratories to which both employees had access. One employee was responsible for glassware distribution, and the other was a custodian. Neither had been immunized against RMSF. Investigations thus far have not identified the sources of routes of exposures. No laboratory accidents have been identified. Investigations are continuing.

Reported by PB Hazard, MD, Atlanta; JE McCroan, PhD, State Epidemiologist, Georgia Dept of Human Resources; Bur of Laboratories, and Bur of Epidemiology, CDC.

Editorial Note: The vast majority of RMSF cases occur in spring and summer and are associated with tick exposures (1). However, laboratory acquisition of RMSF is a recognized hazard (2). In recent years, the occurrence of laboratory-associated disease has decreased. The simultaneous occurrences and rapid progression to death of these employees suggest a common exposure to large numbers of microorganisms. If these illnesses were laboratory-acquired, they represent the first 2 fatalities in CDC's history.

RMSF patients usually have a typical skin rash. However, recent studies have suggested that mortality may be increased among those patients who have no discernable rash.

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