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WEEKLY REPORT

For Week Ending February 2, 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE

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EPIDEMIOLOGIC NOTES AND REPORTS
FOLLOW-UP ON *SALMONELLA EASTBOURNE* EPIDEMIC – United States, Canada

On February 1, 1974, the Food and Drug Administration announced the voluntary recall of Regent brand foil-wrapped chocolate balls manufactured by Regent Chocolate, Ltd., St. Hyacinthe, Quebec, Canada, and distributed by Triumph Candy Corporation, Englewood Cliffs, New Jersey. Cases of *Salmonella eastbourne* infection in the United States had been epidemiologically associated with consumption of these chocolates, and the laboratories of the New Jersey State Department of Health had recovered *S. eastbourne* from samples of the candy obtained from the homes of 2 ill residents.

Since last week's report of this outbreak (MMWR, Vol. 23, No. 4), CDC has been notified of 10 more cases from California (1), Connecticut (1), Massachusetts (1), New Jersey (1), North Dakota (1), and Ohio (5), for a total of 53 cases

CONTENTS

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	5th WEEK ENDING		MEDIAN 1969-1973	CUMULATIVE, FIRST 5 WEEKS		
	February 2, 1974	February 3, 1973		1974	1973	MEDIAN 1969-1973
Aseptic meningitis	43	37	36	179	209	176
Brucellosis	4	2	2	8	8	8
Chickenpox	3,672	4,665	– – –	15,049	21,756	– – –
Diphtheria	3	1	3	6	10	11
Encephalitis:						
Primary: Arthropod-borne and unspecified	16	25	19	67	74	98
Post-Infectious	3	6	6	15	16	22
Hepatitis, Viral:						
Type B	208	160	160	799	685	685
Type A	928	1,024	1,024	4,041	4,748	5,327
Type unspecified	138			658		
Malaria	3	4	51	12	11	207
Measles (rubeola)	332	664	790	1,881	2,757	3,189
Meningococcal infections, total	24	27	53	122	140	281
Civilian	24	27	51	122	132	264
Military	–	–	2	–	8	12
Mumps	1,547	1,914	2,364	7,376	8,255	10,398
Pertussis	9	– – –	– – –	111	– – –	– – –
Rubella (German measles)	179	503	559	836	1,828	2,274
Tetanus	–	1	1	4	5	5
Tuberculosis, new active	657	631	– – –	2,517	2,465	– – –
Tularemia	2	–	1	8	8	9
Typhoid fever	5	5	5	29	18	22
Typhus, tick-borne (Rky. Mt. spotted fever)	2	–	–	12	2	2
Venereal Diseases:						
Gonorrhea	17,497	15,183	– – –	81,008	71,692	– – –
Syphilis, primary and secondary	480	508	– – –	2,199	2,401	– – –
Rabies in animals	49	45	66	224	258	285

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	1	Poliomyelitis, total:	–
Botulism:	–	Paralytic:	–
Congenital rubella syndrome: N.Y. Ups.-1	5	Psittacosis:	1
Leprosy:	3	Rabies in man:	–
Leptospirosis:*	4	Trichinosis:	11
Plague:	–	Typhus, murine:	–

* Delayed Reports: Leptospirosis: Colo. delete 1 (1973)

SALMONELLA EASTBOURNE – Continued

in 15 states in December and January. Approximately 40 isolations of *S. eastbourne* in Canada have been reported to health authorities there since August.

Regent manufactures chocolate balls and other products distributed in the United States by several companies under various labels. Further investigations to clarify the details of their distribution and to determine how the chocolate balls became contaminated are in progress.

(Reported by S. Benson Werner, M.D., Medical Epidemiologist, and James Chin, M.D., State Epidemiologist, California State Department of Health; James C. Hart, M.D., State Epidemiologist, Connecticut State Department of Health; Carl W. Langkop, Field Epidemiologist, Russell J. Martin, D.V.M., and Byron J. Francis, M.D., State Epidemiologist, Illinois Department of Public Health; Nicholas J. Fiumara, M.D., Director, and George E. Waterman, M.D., Assistant Director, Division of Communicable Diseases, Massachusetts Department of Public Health; D. Coohon, D.V.M., Chief, Division of Disease Control, and Norman S. Hayner, M.D., State Epidemiologist, Michigan Department of Public Health; Howard Rosenfeld, V.M.D., Senior Public Health Veterinarian, Ronald Altman, M.D., State Epidemiologist, and Martin Goldfield, M.D., Assistant Commissioner, New Jersey State Department of Health; Pat Steele, Director, Division of Laboratories, and Kenneth Mosser, State Epidemiologist, North Dakota State Department of Health; Frederick Bradshaw, Bacteriologist, Laboratories, and John A. Ackerman, M.D., State Epidemiologist, Ohio Department of Health; John W. Davies, M.B.B.S., D.P.H., Director, Bureau of Epidemiology, Laboratory Centre for Disease Control, Health and Welfare Canada, Ottawa, Canada; Food and Drug Administration; the Enteric Unit, Enterobacteriology Section, Division of Bacteriology, Bureau of Laboratories, CDC; and 7 EIS Officers.)

DIPHENYLHYDANTOIN INTOXICATION IN MILITARY AVIATORS – Germany

On the morning of October 16, 1972, 11 aviators from Feucht Army Airfield, Nürnberg, Germany, reported symptoms of fatigue, nausea, changes in perception and coordination, dizziness, headache, intermittent diplopia, and dry mouth 30 to 90 minutes after reporting to work. One more pilot reported symptoms 11 hours after arriving. All 12 were afebrile and had no vomiting or diarrhea. None had evidence of previous neurologic disease or a history of drug ingestion (including diphenylhydantoin [DPH], acetylsalicylic acid, isoniazid, or antibiotics). Physical examination revealed lateral gaze nystagmus in 2 patients; yet, no ataxia or objective documentation of neurologic symptoms was found. The symptoms cleared spontaneously over a 24-hour period. None have had neurologic sequelae.

Detailed histories from the ill aviators indicated a preference for the second pot of coffee served at the airfield that morning. Twelve of the 14 individuals who had drunk coffee from this pot were symptomatic (Table 1), while none of the 8 who had drunk from only the first pot became ill (Table 2). No relationship was found between illness and eating breakfast or use of cream or sugar.

Further investigation revealed that the coffee had been boiled for 15-20 minutes and served approximately 15 minutes after brewing. Qualitative chemical analysis of samples of brewed coffee, fresh and brewed coffee grounds, sugar, cream, water, and of 1 urine sample from a symptomatic individual by ultraviolet spectroscopy and wet chemical methods demonstrated no lysergic acid diethylamide, amphetamines, barbiturates, or opiates. However, phenytoin was subsequently discovered in the liquid coffee and in 3 of 4 urine samples obtained from ill aviators 4-6 hours after they had drunk the coffee. Further quantitative analysis of the liquid coffee and of 1 urine sample revealed DPH concentrations of 3.4 mg/100 ml and 0.4 mg/100 ml, respectively.

Simultaneous investigation of personnel in the affected area disclosed that 2 soldiers had intentionally added 8 "downers" to the second pot of coffee (about 25 liters in volume) while preparing it the night before. These "downers" were 100 mg tablets of DPH which had been obtained from a friend who was taking the drug for epilepsy.

Table 1
Symptoms and Signs of 14 Army Pilots Who Ingested Coffee from the Second Pot

	Number	Percent
Symptoms of Fatigue	11	79
Nausea	10	71
Perception Changes	9	64
Co-ordination Changes	9	64
Dizziness	9	64
Headache	9	64
Diplopia	4	29
Dry Mouth	3	21
Signs of Nystagmus (transient)	2	14

Table 2
Coffee Preferences of Sick and Well Aviation Pilots

	Coffee From		Total
	Pot Number 1 Only	Pot Number 2	
Sick	0	12	12
Well	8	2	10
Total	8	14	22

X^2 6.84; .01 $< p <$ .001

(Reported by Willard Cates, Jr., M.D., CPT, MC, Chief, Preventive Medicine, Department of the Army, Headquarters, US Army Hospital, Nürnberg Medical Department Activity; MAJ Harry D. Silsby, M.D., Office for Drug Abuse and Alcohol Control, US Army Medical Command, Europe, Heidelberg, Germany; and LTC Claude L. McFarlane, M.D., USAF, Chief, Environmental Health Division, 4th Medical Service Squadron, Wiesbaden, Germany.)

Editorial Note

Epidemics of DPH intoxication have previously been described *(1,2)*. The unusual aspect of this outbreak centers around the dose-response relationship.

The quantitative analysis of DPH in the liquid coffee is compatible with the alleged dose of 800 mg of DPH added to 25 liters in the coffee pot (an average of 3.2 mg/100 ml). As-

suming 175-200 cc per cup and knowing that the 12 symptomatic persons drank 1-3 cups each, the amount ingested would be between 6.3 mg and 20.4 mg. The mean anticonvulsant therapeutic blood level for DPH is 1.0-1.5 mg/100 ml and is maintained with an average daily dose of 300-400 mg orally *(3,4,5)*. When blood levels are in the therapeutic range, there are usually no signs of toxicity. Nystagmus occurs at blood concentrations of 2 mg/100 ml and lethargy at concentrations of 4 mg/100 *(4,5,6)*.

The reason for such a high attack rate from a relatively small oral dose of DPH is unclear, but several factors can be considered. 1) Transient neurologic side effects, usually manifested by cerebellar and vestibular symptoms, have been reported to occur upon initial exposure to DPH therapy. The symptoms usually subside with continued treatment, however *(3)*. 2) The pharmacologic effects of DPH are definitely influenced by interaction with other medications or excipients. Enhancement of DPH toxicity by caffeine has not been reported but must be considered in this instance. The excipient of the DPH tablet, calcium sulphate dihydrate, is not known to potentiate the effects of DPH. 3) Exaggeration of symptoms secondary to close contact may have occurred. 4) More than 800 mg of DPH may have been added initially. Quantitative analysis of blood DPH and 24-hour DPH excretion would have helped correlate severity of symptoms with amount of exposure.

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SHIGELLOSIS IN 2 SCHOOLS FOR THE MENTALLY RETARDED – Utah, Illinois

Utah

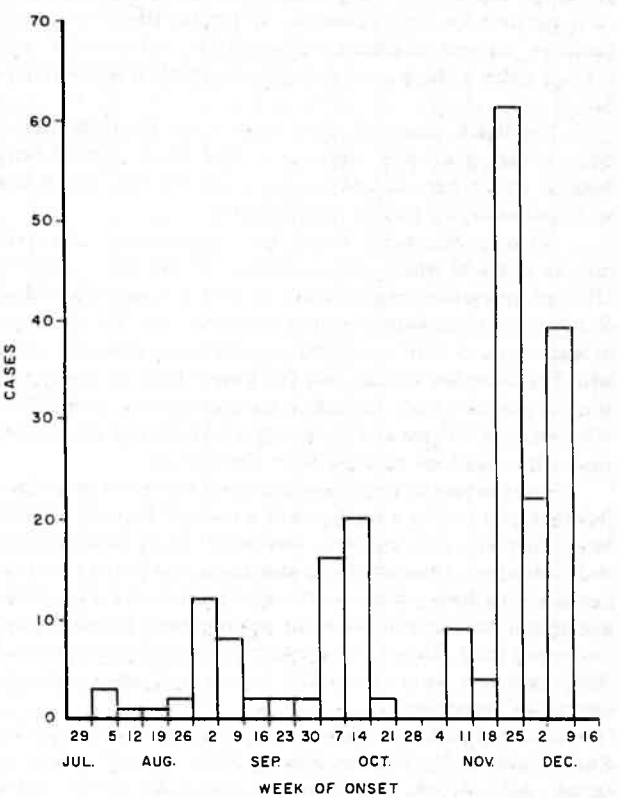
Between July 29 and December 16, 1973, approximately 200 cases of diarrheal illness occurred in residents and staff of a school for the mentally retarded in American Fork, Utah (Figure 1); the overall attack rate for residents of affected buildings was 34.9%. Thirteen rectal swabs obtained for culture were positive for *Shigella flexneri* 2. An outbreak caused by the same organism had occurred at the school between August and October 1972; sporadic cases of diarrhea occurred during the early summer of 1973.

This outbreak became apparent in late August 1973. The first cases occurred in residents of a building that housed 51 ambulatory, non-toilet trained children in 2 separate dormitories for girls and boys. On approximately October 1, cases of diarrhea began to occur in residents of a second building that housed the most severely retarded children. Most of these residents were essentially non-ambulatory and slept in cribs. In November, cases also appeared in residents of 6 other buildings in the school. Tetracycline therapy, patient isolation, and improved sanitation procedures were instituted. On November 30, stool specimens were obtained from 10 children in their third day of tetracycline therapy, and 7 were positive for *S. flexneri* 2.

The exact nature of transmission from residents of the first affected building to residents of the second was not determined. However, 2 staff members from the first building who had had contact with ill residents had been transferred to an occupational therapy class attended by children in the second building. Two weeks after their transfer, illness began among children attending that class, and by October 17, 45% (9 of 20) of the children in the class had had diarrhea. The children in occupational therapy class may also have spread disease when they came in contact with children from other areas of the school in additional classes and by being transferred from one building to another.

Antibiotic sensitivity testing was performed on selected isolates at several intervals during the epidemic. All isolates of *S. flexneri* 2 were resistant to cephalothin and sulfonamides whenever tested; in September 1972 (prior to the 1973 epidemic), isolates were sensitive to 7 other antibiotics tested, including ampicillin and tetracycline. In October 1973, resistance to ampicillin was noted, and from November 1973 on, all isolates tested were resistant to tetracycline as well as to the other 3 drugs. The successive development of ampicillin, then tetracycline resistance was associated with the widespread use of first ampicillin then tetracycline for treatment.

Figure 1
DIARRHEA CASES, BY WEEK OF ONSET
AMERICAN FORK, UTAH – JULY-DECEMBER 1973



SHIGELLOSIS – Continued

Recommended control measures included isolating ill children, limiting new admissions, suspending transfers of patients to and from those buildings where cases were occurring, restricting ill staff members from handling food or working with children until they had had 3 negative stool specimens, providing in-service hygienic training for personnel, installing additional sinks, and initiating routine culturing of stool specimens from all new patients for bacteria and parasites before admission. New cases, but at a reduced rate, have continued to occur, perhaps reflecting the establishment of *S. flexneri* 2 as an endemic pathogen at the institution.

(Reported by Elmo L. Walker, M.D., Physician-in-charge, Paul Sagers, Administrator, American Fork Training School; Marguerite Carroll, PHN, Seth E. Smoot, M.D., Health Officer, Utah County Health Department; Taira Fukushima, M.D., State Epidemiologist, Lyman J. Olsen, M.D., Director of Health, Utah State Division of Health; and 2 EIS Officers.)

Illinois

Between October 12 and November 26, 1973, 99 cases of acute gastrointestinal illness occurred at a residential school for retarded children in northeastern Illinois (Figure 2). Eighty-four (64%) of 140 students and 15 (21%) of 72 employees who responded to a questionnaire experienced diarrhea, abdominal pain, or fever. Twelve students were hospitalized, and one died. Rectal swab cultures from 23 of 115 residents and employees processed at the State laboratory were positive for *Shigella sonnei*. All but the first 2 sensitivity patterns showed resistance to ampicillin, tetracycline, and sulfonamides. (These 2 isolates were resistant to sulfonamides only.)

The index case and many early cases occurred among boys living in a single dormitory. The more capable boys assisted in kitchen and dining room chores but only a few were permitted to handle food directly.

Between November 7 and 16, 15 employees at a community hospital who had been caring for the more seriously affected institution residents also became symptomatic; 9 had *S. sonnei* isolated from rectal or stool cultures. The first case in the hospital staff occurred in a licensed practical nurse who had provided special care for hospitalized patients from the residential school, including the patient who died. Other affected hospital personnel also gave histories of direct contact with shigellosis patients from the school.

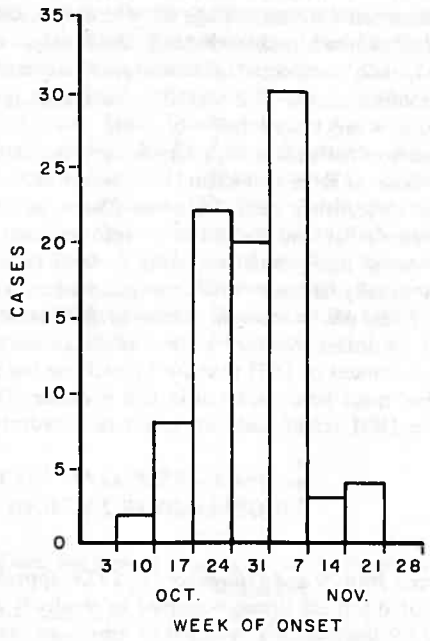
Investigation of the school disclosed no defect in kitchen facilities, the water supply, or the sewage disposal system. More frequent and effective handwashing by students and staff, intensive environmental sanitation, removal of all residents and culture-positive staff members from food handling, and antibiotic treatment for many patients were recommended on November 8. Student interaction between dormitories and classrooms was minimized. The last symptomatic case occurred on November 26.

(Reported by John B. Bellucci, Jr., M.D., private physician, Ruth Swan, R.N., Charles Roane, R.S., Institutional Sanitarian, John Mock, R.S., Environmental Sanitarian, Lake County Health Department; Richard Morrissey, M.P.H., Chief, Division of Public Health Laboratories, M. Louise Brown, M.S., Chief, Tony Endo, M.P.H., Assistant Chief, Microbiology Section, Byron J. Francis, M.D., M.P.H., State Epidemiologist, Illinois Department of Public Health; and 2 EIS Officers.)

Editorial Note

Shigellosis continues to be a significant, often intractable problem at custodial institutions and has annually accounted for 6-12% of all shigella isolates reported to CDC. Since 1970, *S. sonnei* has represented 59.7% of all isolates from institutions, and *S. flexneri* 2a 7.9%, paralleling the relative incidence of these serotypes in the country as a whole. Attempts to control outbreaks in these settings have usually been disappointing in part because adequate hygienic practices may be difficult to implement and in part because overcrowded living conditions which frequently exist make isolation of patients all but impossible.

Figure 2
DIARRHEA CASES, BY WEEK OF ONSET
NORTHEASTERN ILLINOIS CUSTODIAL INSTITUTION
OCTOBER-NOVEMBER 1973



In the first outbreak, frequent contact between residents from affected buildings and residents from unaffected areas facilitated transmission despite the widespread use of antimicrobial agents, which were ineffective in controlling the epidemic in the absence of concurrent isolation, education, and good hygiene. The widespread use of antibiotics under these circumstances may have actually facilitated the emergence of antibiotic resistance in an organism that then could only be treated with potentially more toxic drugs. In the second outbreak also, antibiotic sensitivity patterns suggest that the organism entered the institution as a sensitive strain which acquired multiple resistance properties in association with widespread antibiotic use.

In both outbreaks, staff members played important roles. In the first, epidemiologic evidence suggests that staff members may have transmitted shigellosis when they were transferred from an affected building to an unaffected one. In the second, illness among the professional hospital staff suggests that there were breaks in enteric precautions leading to fecal-oral transmission from students to staff. While the intractable nature of shigellosis at many custodial institutions is a consequence of the limited intellectual capacities of residents, staff members and other professionals may increase transmission by becoming infected themselves through breaks in sound hygienic practices.

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 2, 1974 AND FEBRUARY 3, 1973 (5th WEEK)

AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1974	1974	1974	1974	Cum. 1974	1974	1973	1974	1974	1974	1974	1974	Cum. 1974
UNITED STATES	43	4	3,672	3	6	16	25	3	208	928	138	3	12
NEW ENGLAND	3	–	717	–	–	–	1	–	5	32	9	–	–
Maine *	–	–	14	–	–	–	–	–	–	7	–	–	–
New Hampshire *	1	–	69	–	–	–	–	–	–	3	–	–	–
Vermont *	–	–	34	–	–	–	–	–	–	2	3	–	–
Massachusetts	–	–	296	–	–	–	1	–	2	5	6	–	–
Rhode Island	2	–	136	–	–	–	–	–	2	8	–	–	–
Connecticut	–	–	168	–	–	–	–	–	1	7	–	–	–
MIDDLE ATLANTIC	3	–	114	–	–	5	3	–	19	95	15	–	–
Upstate New York	–	–	33	–	–	3	1	–	2	47	4	–	–
New York City	–	–	78	–	–	1	1	–	5	13	–	–	–
New Jersey	3	–	NN	–	–	1	–	–	11	23	11	–	–
Pennsylvania *	–	–	3	–	–	–	1	–	1	12	–	–	–
EAST NORTH CENTRAL	8	–	1,307	–	–	3	6	–	45	158	11	–	–
Ohio *	1	–	171	–	–	2	3	–	7	34	–	–	–
Indiana	–	–	54	–	–	–	–	–	–	2	–	–	–
Illinois	2	–	–	–	–	–	–	–	15	40	7	–	–
Michigan	4	–	695	–	–	1	3	–	18	72	4	–	–
Wisconsin	1	–	387	–	–	–	–	–	5	10	–	–	–
WEST NORTH CENTRAL	2	2	446	–	–	–	8	–	5	20	–	–	–
Minnesota *	2	–	–	–	–	–	–	–	–	2	–	–	–
Iowa *	–	2	362	–	–	–	7	–	2	3	–	–	–
Missouri	–	–	14	–	–	–	–	–	1	–	–	–	–
North Dakota	–	–	28	–	–	–	–	–	–	–	–	–	–
South Dakota	–	–	–	–	–	–	–	–	–	4	–	–	–
Nebraska	–	–	6	–	–	–	–	–	2	–	–	–	–
Kansas *	–	–	36	–	–	–	1	–	–	11	–	–	–
SOUTH ATLANTIC	5	–	166	1	1	1	3	1	21	166	15	1	3
Delaware	–	–	3	–	–	–	–	–	–	1	–	–	–
Maryland	–	–	6	–	–	–	–	–	2	5	2	–	–
District of Columbia	–	–	4	–	–	–	–	–	3	3	–	1	2
Virginia	1	–	4	–	–	–	–	–	2	23	3	–	1
West Virginia *	–	–	145	–	–	–	–	–	–	4	–	–	–
North Carolina *	–	–	NN	–	–	–	–	–	–	16	–	–	–
South Carolina	–	–	4	–	–	–	–	–	1	8	3	–	–
Georgia	–	–	–	–	–	–	–	–	–	35	–	–	–
Florida	4	–	–	1	1	1	3	1	13	71	7	–	–
EAST SOUTH CENTRAL	2	–	107	–	–	–	–	–	26	73	30	–	–
Kentucky	–	–	64	–	–	–	–	–	1	15	29	–	–
Tennessee	1	–	–	–	–	–	–	–	4	47	–	–	–
Alabama	1	–	37	–	–	–	–	–	19	8	1	–	–
Mississippi	–	–	6	–	–	–	–	–	2	3	–	–	–
WEST SOUTH CENTRAL	5	–	405	–	–	–	1	–	6	155	10	1	1
Arkansas	–	–	160	–	–	–	–	–	–	5	–	–	–
Louisiana	1	–	NN	–	–	–	1	–	6	9	6	1	1
Oklahoma	1	–	26	–	–	–	–	–	–	14	4	–	–
Texas	3	–	219	–	–	–	–	–	–	127	–	–	–
MOUNTAIN	–	–	92	–	–	1	1	–	4	41	6	–	–
Montana *	–	–	27	–	–	–	1	–	–	2	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	3	1	–	–
Wyoming	–	–	1	–	–	–	–	–	–	–	–	–	–
Colorado	–	–	16	–	–	1	–	–	–	–	1	–	–
New Mexico	–	–	45	–	–	–	–	–	–	15	–	–	–
Arizona *	–	–	–	–	–	–	–	–	–	10	1	–	–
Utah	–	–	3	–	–	–	–	–	4	8	3	–	–
Nevada *	–	–	–	–	–	–	–	–	–	3	–	–	–
PACIFIC	15	2	318	2	5	6	2	2	77	188	42	1	8
Washington	1	–	307	1	4	–	–	–	4	6	19	–	–
Oregon	–	–	2	–	–	–	–	–	4	9	4	–	–
California	14	1	–	1	1	6	2	2	61	165	18	1	8
Alaska	–	1	5	–	–	–	–	–	–	1	–	–	–
Hawaii *	–	–	4	–	–	–	–	–	8	7	1	–	–
Guam *	–	–	–	–	–	–	–	–	–	–	–	–	–
Puerto Rico *	–	–	–	–	–	–	–	–	–	–	–	–	–
Virgin Islands	–	–	28	–	–	–	–	–	–	1	–	–	–

* Delayed Reports:

Aseptic Meningitis: N.H. 1, Penn. 7, Minn. 2 (1973), W. Va. delete 1, Guam +2 (1974)
Brucellosis: Minn. 1 (1973)
Chickenpox: Me. 2, Guam 1, Puerto Rico 14 (1974)
Encephalitis, primary: Ohio delete 1 (1974)
Hepatitis B: Penn. 9, Minn. 1, Kansas 2, Ariz. 2, Hi. 4 (1973), N.H. 4, Iowa 4, Ariz. delete 2 (1974)
Hepatitis A: Vt. delete 2, Penn. 46, Kansas 6, N.C. delete 1, Ariz. 64, Hi. 10 (1973), Me. 1, N.H. 6, Iowa 8, Mt. delete 3, Ariz. delete 11, Nv. 1, Guam 3, Puerto Rico 3 (1974)
Hepatitis Unspecified: Ariz. delete 3, Puerto Rico 12 (1974)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 2, 1974 AND FEBRUARY 3, 1973 (5th WEEK) – Continued

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1974	Cumulative		1974	Cumulative		1974	Cum. 1974	1974	1974	Cum. 1974	Cum. 1974
		1974	1973		1974	1973						
UNITED STATES	332	1,881	2,757	24	122	140	1,547	7,376	9	179	836	4
NEW ENGLAND	21	169	1,115	1	7	9	228	1,118	–	15	51	–
Maine	2	6	4	–	–	–	32	185	–	1	1	–
New Hampshire *	8	102	199	–	1	1	3	66	–	–	2	–
Vermont *	–	–	14	–	–	–	1	4	–	1	4	–
Massachusetts *	4	25	564	–	1	4	63	197	–	11	28	–
Rhode Island	5	30	60	–	3	–	96	381	–	–	5	–
Connecticut	2	6	274	1	2	4	33	285	–	2	11	–
MIDDLE ATLANTIC	109	529	204	–	12	22	99	557	–	13	52	1
Upstate New York *	1	6	22	–	1	7	13	98	–	5	17	–
New York City	3	40	125	–	5	6	24	103	–	2	17	–
New Jersey	57	355	44	–	5	4	33	160	–	5	13	1
Pennsylvania *	48	125	13	–	1	5	29	196	–	1	5	–
EAST NORTH CENTRAL	141	740	750	2	9	14	432	2,168	4	69	325	–
Ohio *	25	357	38	–	4	10	107	589	–	7	44	–
Indiana	2	21	66	–	–	–	4	138	–	2	48	–
Illinois	34	145	273	1	1	1	64	242	–	15	42	–
Michigan *	70	167	230	1	4	1	223	920	–	41	146	–
Wisconsin *	10	50	143	–	–	2	34	279	4	4	45	–
WEST NORTH CENTRAL	2	53	84	1	8	11	108	499	–	5	13	–
Minnesota	1	42	4	–	4	–	–	9	–	1	2	–
Iowa	–	2	66	1	2	3	88	383	–	2	4	–
Missouri	–	4	3	–	–	5	–	56	–	1	4	–
North Dakota	–	3	3	–	1	–	3	4	–	–	1	–
South Dakota	–	1	–	–	–	–	–	–	–	–	–	–
Nebraska	1	1	1	–	–	–	5	23	–	1	2	–
Kansas	–	–	7	–	1	3	12	24	–	–	–	–
SOUTH ATLANTIC	15	61	83	10	30	20	165	610	1	6	52	1
Delaware	2	2	1	–	3	–	4	13	–	–	2	–
Maryland	2	2	–	2	4	7	5	13	–	–	–	–
District of Columbia	–	–	–	–	–	1	2	13	–	–	–	–
Virginia	–	4	5	1	6	3	12	62	1	2	2	–
West Virginia *	6	20	22	–	2	–	95	308	–	–	28	–
North Carolina	–	–	3	5	10	6	NN	NN	–	–	1	–
South Carolina *	–	5	7	–	1	2	2	5	–	–	–	–
Georgia	–	1	1	1	1	–	–	–	–	–	2	–
Florida	5	27	44	1	3	1	45	196	–	4	17	1
EAST SOUTH CENTRAL	–	7	84	1	7	12	210	766	–	9	56	1
Kentucky	–	7	15	–	2	4	51	248	–	2	10	–
Tennessee	–	–	51	1	4	5	140	424	–	4	34	1
Alabama *	–	–	–	–	1	2	19	80	–	2	6	–
Mississippi	–	–	18	–	–	1	–	14	–	1	6	–
WEST SOUTH CENTRAL	3	21	118	6	29	14	108	510	2	11	44	–
Arkansas	–	–	2	–	4	2	18	63	–	–	6	–
Louisiana	–	3	7	3	7	1	1	21	–	1	1	–
Oklahoma	–	3	4	1	5	2	15	37	–	3	13	–
Texas *	3	15	105	2	13	9	74	389	2	7	24	
MOUNTAIN	3	108	50	1	3	8	45	277	–	4	69	–
Montana	1	95	1	–	–	–	3	49	–	1	48	–
Idaho	2	3	5	–	–	–	2	57	–	1	3	–
Wyoming	–	–	–	–	–	–	1	1	–	–	–	–
Colorado	–	4	10	–	–	2	16	98	–	2	7	–
New Mexico	–	5	29	–	1	1	22	70	–	–	9	–
Arizona	–	1	5	1	1	2	–	–	–	–	–	–
Utah	–	–	–	–	1	1	1	2	–	–	–	–
Nevada	–	–	–	–	–	2	–	–	–	–	2	–
PACIFIC	38	193	269	2	17	30	152	871	2	47	174	1
Washington	1	6	156	–	3	3	60	297	–	16	81	–
Oregon	–	–	52	–	3	2	22	213	1	2	13	–
California	37	187	59	2	11	25	66	320	1	29	78	1
Alaska	–	–	–	–	–	–	–	32	–	–	–	–
Hawaii *	–	–	2	–	–	–	4	9	–	–	2	–
Guam *	–	–	2	–	–	–	–	10	–	–	–	–
Puerto Rico *	–	18	157	–	–	–	–	58	–	–	–	–
Virgin Islands	2	5	–	–	–	–	–	2	–	–	–	–

* Delayed Reports:
Measles: Mass. delete 1, Vt. 1 (1973), N.H. 11, S.C. delete 1, Puerto Rico 10 (1974)
Meningococcal Infection: Ohio 1, W.Va. 1, (1974)
Mumps: Penn. 1 (1973), Me. 10, N.H. 2, Guam 9, Puerto Rico 51 (1974)
Pertussis: Upstate N.Y. 4, Mich. 1, Wi. 10, Texas 6, (1974)
Rubella: Hi. 1 (1973)
Tetanus: Ala. 1(1973)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDING FEBRUARY 2, 1974 AND FEBRUARY 3, 1973 (5th WEEK) – Continued

AREA	TUBERCULOSIS (New Active)		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1974	Cum. 1974	Cum. 1974	1974	Cum. 1974	1974	Cum. 1974	1974	Cumulative 1974	Cumulative 1973	1974	Cumulative 1974	Cumulative 1973	Cum. 1974
UNITED STATES	657	2,517	8	5	29	2	12	17,497	81,008	71,692	480	2,199	2,401	224
NEW ENGLAND	21	121	–	–	–	–	–	503	2,237	1,964	10	40	49	2
Maine	5	13	–	–	–	–	–	36	192	123	2	3	2	1
New Hampshire *	–	5	–	–	–	–	–	13	56	56	2	2	2	–
Vermont	2	3	–	–	–	–	–	30	83	30	–	–	3	–
Massachusetts	11	72	–	–	–	–	–	221	958	871	4	16	18	–
Rhode Island	2	10	–	–	–	–	–	35	165	260	–	2	1	1
Connecticut	1	18	–	–	–	–	–	168	783	624	2	17	23	–
MIDDLE ATLANTIC	135	395	1	1	8	–	9	2,203	10,468	9,805	119	505	546	2
Upstate New York	8	21	1	–	–	–	–	493	1,762	2,182	20	52	38	1
New York City	71	207	–	1	8	–	–	936	4,624	4,308	71	303	354	–
New Jersey	33	95	–	–	–	–	–	301	1,596	1,175	19	73	83	–
Pennsylvania	23	72	–	–	–	–	9	473	2,486	2,140	9	77	71	1
EAST NORTH CENTRAL	71	359	–	–	1	–	–	2,189	10,013	8,850	15	105	133	10
Ohio *	21	126	–	–	–	–	–	751	3,779	3,045	6	26	18	–
Indiana	9	43	–	–	–	–	–	182	910	1,072	–	20	33	1
Illinois	27	82	–	–	–	–	–	218	1,054	1,132	1	18	16	1
Michigan	14	108	–	–	1	–	–	784	3,157	2,763	6	32	58	–
Wisconsin	–	–	–	–	–	–	–	254	1,113	838	2	9	8	8
WEST NORTH CENTRAL	27	86	1	–	1	–	–	844	4,020	4,190	2	37	29	59
Minnesota	–	17	–	–	1	–	–	186	914	884	–	4	10	31
Iowa *	–	10	–	–	–	–	–	1	537	463	–	7	2	10
Missouri *	21	42	1	–	–	–	–	300	1,250	1,812	–	20	13	1
North Dakota	–	1	–	–	–	–	–	11	72	70	–	–	–	12
South Dakota	3	5	–	–	–	–	–	62	213	224	–	–	1	–
Nebraska	–	1	–	–	–	–	–	128	349	383	–	–	1	–
Kansas	3	10	–	–	–	–	–	156	685	354	2	6	2	5
SOUTH ATLANTIC	115	461	1	1	3	2	2	4,355	20,526	18,716	160	716	705	29
Delaware	–	8	–	–	–	–	–	54	248	224	5	18	8	–
Maryland	10	56	–	–	1	1	1	413	2,046	1,784	28	75	110	–
District of Columbia	15	38	–	–	–	–	–	372	1,638	1,634	13	57	76	–
Virginia *	4	64	1	–	–	–	–	378	1,986	1,659	15	109	65	15
West Virginia	7	28	–	1	1	–	–	49	228	282	2	3	3	4
North Carolina *	19	81	–	–	–	–	–	657	2,584	2,645	3	47	44	–
South Carolina	7	68	–	–	–	–	–	414	2,419	2,363	31	122	82	–
Georgia *	12	19	–	–	–	1	1	603	4,196	3,182	18	70	141	7
Florida	41	99	–	–	1	–	–	1,415	5,181	4,943	45	215	176	3
EAST SOUTH CENTRAL	51	223	3	1	2	–	–	1,348	6,265	5,999	15	122	179	29
Kentucky *	19	51	1	1	1	–	–	301	903	716	4	22	87	17
Tennessee	12	77	2	–	1	–	–	548	2,684	2,543	6	51	36	9
Alabama	11	57	–	–	–	–	–	289	1,394	1,299	1	23	15	3
Mississippi *	9	38	–	–	–	–	–	210	1,284	1,441	4	26	41	–
WEST SOUTH CENTRAL	107	393	2	1	2	–	–	2,572	12,216	8,977	46	217	245	60
Arkansas	11	59	–	–	–	–	–	511	1,144	1,259	–	13	15	11
Louisiana *	16	62	1	–	–	–	–	352	2,187	1,595	14	60	60	2
Oklahoma	2	19	–	–	–	–	–	148	887	1,048	5	14	13	12
Texas	78	253	1	1	2	–	–	1,561	7,998	5,075	27	130	157	35
MOUNTAIN	38	62	–	–	2	–	1	679	3,100	2,526	18	55	76	6
Montana	7	8	–	–	–	–	–	33	180	170	–	–	–	–
Idaho	–	–	–	–	–	–	–	70	267	136	–	–	2	–
Wyoming	–	2	–	–	2	–	–	11	70	11	–	1	1	–
Colorado	–	–	–	–	–	–	1	184	901	696	3	11	31	–
New Mexico	9	22	–	–	–	–	–	99	418	426	–	5	8	3
Arizona *	20	20	–	–	–	–	–	177	911	752	5	19	26	3
Utah	2	3	–	–	–	–	–	55	133	142	4	5	–	–
Nevada	–	7	–	–	–	–	–	50	220	193	6	14	8	–
PACIFIC	92	417	–	1	10	–	–	2,804	12,163	10,665	95	402	439	27
Washington	9	33	–	–	1	–	–	258	1,049	1,093	–	–	17	–
Oregon	5	10	–	–	–	–	–	179	891	1,036	1	9	10	–
California	75	343	–	1	9	–	–	2,250	9,628	7,980	91	388	384	27
Alaska	–	–	–	–	–	–	–	55	299	293	–	–	15	–
Hawaii	3	31	–	–	–	–	–	62	296	263	3	5	13	–
Guam *	–	–	–	–	–	–	–	–	18	45	–	–	–	–
Puerto Rico *	–	36	–	–	–	–	–	–	181	348	–	42	75	4
Virgin Islands	–	–	–	–	–	–	–	7	16	18	–	–	–	–

* Delayed Report:

Tuberculosis: N.H. 1, Ohio delete 2, Mo. 14, N.C. delete 1, Ga. 5, Ky. delete 1, Ariz. 25 (1973), N.H. delete 1, Ohio delete 1, Ariz. delete 18, Puerto Rico 22 (1974)
RMSF: Mo. 1 (1973)
Gonorrhea: Iowa 408, La. delete 2, Guam 3, Puerto Rico 69 (1974)
Syphilis: Ohio delete 1, Va. delete 1,203 (1973), Iowa 6, Miss. 1, Puerto Rico 12 (1974)
Rabies: Puerto Rico 2 (1974)

Week No. 5

TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING FEBRUARY 2, 1974

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

Area	All Causes					Pneumonia and Influenza All Ages
	All Ages	65 years and over	45-64 years	25-44 years	Under 1 year	
NEW ENGLAND	652	436	146	37	16	54
Boston, Mass.	175	113	34	14	6	10
Bridgeport, Conn.	41	24	12	3	2	8
Cambridge, Mass.	24	18	5	1	–	7
Fall River, Mass.	39	32	7	–	–	1
Hartford, Conn.	49	27	17	3	2	2
Lowell, Mass.	24	17	6	–	–	–
Lynn, Mass.	21	13	6	1	–	2
New Bedford, Mass.	24	17	4	2	–	2
New Haven, Conn.	65	41	15	5	2	3
Providence, R. I. *	53	34	13	3	2	6
Somerville, Mass.	9	7	2	–	–	–
Springfield, Mass.	47	35	8	2	1	8
Waterbury, Conn.	28	21	6	–	1	–
Worcester, Mass.	53	37	11	3	–	5
MIDDLE ATLANTIC	2,992	1,877	779	158	70	123
Albany, N. Y.	50	28	19	2	–	1
Allentown, Pa.	42	31	11	–	–	3
Buffalo, N. Y.	117	76	31	4	1	9
Camden, N. J.	49	31	14	3	1	2
Elizabeth, N. J.	28	19	8	1	–	2
Erie, Pa.	38	29	7	–	1	5
Jersey City, N. J.	67	43	16	6	2	2
Newark, N. J.	113	55	36	8	7	4
New York City, N. Y.	1,387	870	354	80	36	58
Paterson, N. J.	32	19	9	2	–	–
Philadelphia, Pa.	505	312	129	29	9	9
Pittsburgh, Pa.	174	101	61	8	3	5
Reading, Pa.	38	27	9	1	1	2
Rochester, N. Y.	110	74	22	6	3	7
Schenectady, N. Y.	31	21	9	–	–	1
Scranton, Pa.	35	23	7	1	2	3
Syracuse, N. Y.	76	47	19	2	2	1
Trenton, N. J.	42	31	6	3	2	4
Utica, N. Y.	36	28	6	1	–	4
Yonkers, N. Y.	22	12	6	1	–	1
EAST NORTH CENTRAL	2,502	1,511	629	180	95	80
Akron, Ohio	82	51	17	5	6	3
Canton, Ohio	47	34	10	2	1	2
Chicago, Ill.	667	369	179	58	30	15
Cincinnati, Ohio	140	90	42	2	5	2
Cleveland, Ohio	165	100	44	9	6	2
Columbus, Ohio	135	82	31	14	5	6
Dayton, Ohio	109	64	31	6	3	2
Detroit, Mich.	338	188	85	31	15	17
Evansville, Ind.	41	25	9	6	1	3
Fort Wayne, Ind.	49	38	9	1	1	5
Gary, Ind.	17	8	6	2	–	3
Grand Rapids, Mich.	55	32	13	6	1	4
Indianapolis, Ind.	167	109	36	12	8	3
Madison, Wis.	33	20	8	1	2	5
Milwaukee, Wis.	146	91	46	4	1	3
Peoria, Ill.	29	19	4	2	3	1
Rockford, Ill.	50	31	9	5	3	1
South Bend, Ind.	47	29	12	4	1	2
Toledo, Ohio	125	88	25	8	2	1
Youngstown, Ohio	60	43	13	2	1	–
WEST NORTH CENTRAL	788	513	179	34	38	34
Des Moines, Iowa	59	35	19	3	2	1
Duluth, Minn.	27	19	4	1	1	2
Kansas City, Kans.	22	13	6	–	1	1
Kansas City, Mo.	109	71	26	2	8	3
Lincoln, Nebr.	28	24	1	1	2	5
Minneapolis, Minn.	105	62	27	3	9	2
Omaha, Nebr.	93	62	21	3	5	2
St. Louis, Mo.	198	120	47	16	5	8
St. Paul, Minn.	73	55	13	3	–	1
Wichita, Kans.	74	52	15	2	5	9
SOUTH ATLANTIC	1,261	701	381	94	39	52
Atlanta, Ga.	102	54	28	10	9	6
Baltimore, Md.	245	131	80	22	3	3
Charlotte, N. C.	62	30	20	5	5	–
Jacksonville, Fla.	85	41	28	8	4	–
Miami, Fla.	116	65	32	9	5	9
Norfolk, Va.	59	33	22	2	–	7
Richmond, Va.	84	58	17	5	1	7
Savannah, Ga.	29	14	10	4	1	4
St. Petersburg, Fla.	107	90	12	–	–	2
Tampa, Fla.	91	48	28	7	5	5
Washington, D. C.	254	122	98	18	6	8
Wilmington, Del.	27	15	6	4	–	1
EAST SOUTH CENTRAL	727	436	210	43	19	29
Birmingham, Ala.	114	68	38	7	1	2
Chattanooga, Tenn.	56	38	9	4	3	8
Knoxville, Tenn.	37	28	5	1	–	1
Louisville, Ky.	118	72	36	7	1	11
Memphis, Tenn.	205	118	57	12	10	3
Mobile, Ala.	59	33	16	7	2	1
Montgomery, Ala.	38	23	13	1	1	2
Nashville, Tenn.	100	56	36	4	1	1
WEST SOUTH CENTRAL	1,214	649	348	97	59	46
Austin, Tex.	29	17	6	2	3	1
Baton Rouge, La.	59	28	26	2	2	5
Corpus Christi, Tex.	27	16	5	3	1	1
Dallas, Tex.	177	101	52	11	4	3
El Paso, Tex.	50	28	13	1	4	4
Fort Worth, Tex.	110	70	25	7	4	3
Houston, Tex.	276	120	86	32	20	6
Little Rock, Ark.	62	40	16	3	1	–
New Orleans, La.	171	84	56	11	12	8
San Antonio, Tex.	137	72	35	14	7	5
Shreveport, La.	53	29	14	9	–	3
Tulsa, Okla.	63	44	14	2	1	7
MOUNTAIN	501	283	141	32	21	22
Albuquerque, N. Mex.	49	27	13	4	2	9
Colorado Springs, Colo.	24	14	6	1	1	4
Denver, Colo.	104	60	36	5	–	1
Las Vegas, Nev.	28	10	14	2	1	1
Ogden, Utah	23	17	4	–	–	1
Phoenix, Ariz.	127	64	38	10	9	3
Pueblo, Colo.	30	16	6	4	2	2
Salt Lake City, Utah	48	36	9	1	1	1
Tucson, Ariz.	68	39	15	5	5	–
PACIFIC	1,729	1,065	435	124	43	49
Berkeley, Calif.	22	16	5	–	–	1
Fresno, Calif.	66	42	14	5	4	–
Glendale, Calif.	15	11	3	–	–	–
Honolulu, Hawaii	61	29	22	4	3	–
Long Beach, Calif.	90	60	23	4	1	–
Los Angeles, Calif.	612	354	156	61	17	9
Oakland, Calif.	66	42	15	4	3	2
Pasadena, Calif.	34	24	9	1	–	1
Portland, Oreg.	121	80	30	8	1	10
Sacramento, Calif.	54	32	14	6	1	1
San Diego, Calif.	141	87	34	7	7	4
San Francisco, Calif.	157	100	40	6	1	8
San Jose, Calif.	59	40	15	4	–	1
Seattle, Wash.	132	77	36	12	2	7
Spokane, Wash.	46	34	7	1	1	5
Tacoma, Wash.	53	37	12	1	2	–
Total	12,366	7,471	3,248	799	400	489
Expected Number	13,220	7,883	3,561	828	459	547

† Delayed Report for week ending January 26, 1974
*Estimate based on average percent of divisional total

HEPATITIS-B TRANSMITTED BY HUMAN BITE – California

In October 1972, a 52-year-old teacher complaining of nausea, weakness, loss of appetite, dark urine, and jaundice was seen at a San Diego clinic. Liver function studies confirmed the diagnosis of hepatitis. She denied eating raw shellfish, having previous blood transfusions, taking parenteral medications, or using intravenous drugs, took only antihypertensive medicine by mouth, had had no dental work in the previous year, and knew no one with hepatitis. Her hepatitis-B antigen (HBAg) test was positive; it reverted to negative after convalescence.

Four and one-half months before onset of her illness, she had been bitten on the finger by a 14-year-old retarded boy who was a known HBAg carrier at the training school where she worked. Serologic survey of 22 other students and 13 members of staff, family, and foster family revealed only 1 other HBAg carrier, a 14-year-old retarded girl. The teacher had no known exposure to this child that could have resulted in hepatitis. Five saliva specimens collected from the boy were positive for HBAg and guaiac-negative for occult blood. Four urine specimens were negative for HBAg. All specimens were tested by radioimmunoassay. The incubation period of 4 1/2 months is within the expected range for hepatitis-B. The finding of HBAg in the boy's saliva supports the probability of hepatitis-B virus inoculation during the biting incident. A further link between the bite exposure and the teacher's illness is that both she and the boy had the same antigen subtype, ad. *(Reported by Donald A. Wolochow, M.D., Southern California Permanente Medical Group; Howard L. Wolfinger, Jr., M.D., San Diego Regional Center for the Mentally Retarded; J. B. Askew, M.D., Health Officer, San Diego County Health Department; James Chin, M.D., State Epidemiologist, and the Virus and Rickettsial Disease Laboratory, California State Department of Health, and an EIS Officer.)*

Editorial Note

It has been known for many years that hepatitis-B is transmitted parenterally through inoculation of contaminated blood, i.e., blood transfusion, accidental needle sticks, percutaneous drug use, and tattooing. Recently, studies in humans have demonstrated that HBAg-positive serum can transmit hepatitis-B orally *(1)*. Epidemiologic evidence also suggests that non-parenteral person-to-person spread of type B hepatitis may occur, presumably by ingestion of infectious excreta or blood. Studies in mentally retarded patients have shown that HBAg may be present in saliva and mouth washings of carriers with chronic antigenemia *(2)*. How HBAg gets into saliva is unclear. Bleeding or serum transudation from traumatized gingival tissue is the most likely origin. The possible role of HBAg-contaminated saliva in contact spread of hepatitis-B by the oral-oral route deserves study, especially in view of the observed spouse relationships in the epidemiology of hepatitis-B.

The HBAg test is an important tool in the diagnosis and management of patients with viral hepatitis. It should be performed on all patients to aid in the differentiation of hepatitis types A and B. The HBAg test is also helpful in epidemiologic investigation and control of viral hepatitis, especially in making decisions about the use of ISG in case contacts.

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SURVEILLANCE SUMMARY
VENEZUELAN EQUINE ENCEPHALITIS – Venezuela, 1973

On September 4, 1973, an alert was sent to all local health services in Zulia State, Venezuela, to maintain surveillance of the number of patients seen each day with febrile syndromes and neurologic complaints. The alert was issued after a Zulia University research group studying Venezuelan equine encephalitis (VEE) reported that hamsters used as sentinels in the possible endemic focus of VEE in that area were dying and because mosquito populations were increasing after heavy rains. In early October, physicians began reporting the death of "burros".

Between October 1 and 27, Paraguaipoa and Sinamaica, 2 localities in the Guajira near the Colombian border north of Maracaibo City, reported a total of 594 cases of an illness clinically compatible with VEE and 2 deaths. Sixty percent of the cases and both deaths were in children under 5 years of age.

Ten isolates from humans were confirmed as VEE at the Zulia University in Maracaibo and at the National Institute of Health in Caracas. Two isolates from equines were confirmed as VEE early in the outbreak by the Veterinarian Investigation Institute in Maracay, Aragua State.

Control measures included aerial and terrestrial spraying of insecticides and the vaccination of equines in the surrounding districts by the Ministry of Agriculture.

Outbreaks of VEE had been observed in this same area in 1962, when 6,762 human cases and 42 deaths were reported in the period October-December, and in 1968 and 1969. *(Reported by José Ramón Hernández, M.D., Chief, Department of Epidemiology, Ministerio de Sanidad y, Asistencia Social, Caracas, Venezuela.)*

Editorial Note

The outbreak of VEE which swept north through Mexico and entered Texas in 1971 may have actually originated in 1968-1969 in South America; however, it is not known how it spread to Central America. No cases in animals were reported from the United States in either 1972 or 1973, although 2 persons exposed in Mexico developed the disease after returning to the United States in 1972. In 1973, surveillance of ill horses, mosquitoes, and sentinel chicken flocks by various state and federal agencies detected a number of arboviruses, including eastern equine encephalitis, western equine encephalitis, St. Louis encephalitis, California encephalitis, Turlock, and some unidentified viruses isolated from mosquitoes. Specimens were also tested for evidence of VEE and were uniformly negative.

The last isolation of VEE in North America was from mosquitoes collected in mid-January 1973 near Mexico City.

EPIDEMIOLOGIC NOTES AND REPORTS

INFLUENZA – Arkansas, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, Oklahoma, Pennsylvania, Texas

Arkansas: There have been sporadic outbreaks of influenza-like disease throughout Arkansas involving the towns of Berryville, Beebee, Camden, Louisville, Smackover, and Little Rock. The disease is occurring primarily in school-age children causing absenteeism to increase 15-32%.
(Reported by G. Doty Murphy III, State Epidemiologist, Arkansas State Board of Health; and an EIS Officer.)

Illinois: The outbreak of influenza-like disease reported previously (MMWR. Vol. 23, No. 4) has now spread to Cook, Dupage, Peoria, Logan, Sangamon, Clay, and Fayette counties. Statewide surveillance reveals an increase of 10% in emergency room visits in Cook County. The disease appears to be centered primarily in school children; fever, cough, headache, sore throat, occasional nausea, vomiting, and abdominal pain have also been reported. Influenza B virus has been isolated in Dupage and Cook Counties.
(Reported by Byron J. Francis, M.D., State Epidemiologist, Illinois Department of Public Health.)

Iowa: The influenza outbreak in Iowa is now statewide. Since the beginning of the outbreak, school absenteeism has been greater than 10% per day in 17 Iowa counties throughout the state. Affected schools generally have had elevated absenteeism for 2 weeks, reaching a peak of 30-40% of students absent due to influenza-like disease. Influenza B has been isolated from 2 high school students in Iowa City who had an illness characterized by fever, pharyngitis, headache, and cough.
(Reported by William Hausler, Ph.D., Director, Iowa State Hygienic Laboratory, and Charles A. Herron, M.D., State Epidemiologist, Iowa State Department of Health.)

Kansas: There are currently outbreaks of influenza-like disease in school children in southern Kansas. School absenteeism in the affected areas ranges from 15% to 55%. Population centers with 5,000-10,000 persons seem to be the most affected by the illness. Virologic studies are currently in progress.
(Reported by Donald D. Wilcox, M.D., State Epidemiologist, Kansas State Department of Health.)

Louisiana: An increase in influenza-like illness has been observed in the pediatric emergency room of Charity Hospital in New Orleans. A throat swab from a child seen in the emergency room was positive for influenza type B. In addition, 3 children demonstrated serologic evidence of influenza B infection. The illness in the children was characterized by cough, rhinorrhea, gastrointestinal symptoms, including vomiting, and fever lasting 3 to 5 days.
(Reported by Robert S. Gohd, Mae Richards, and Mitzi Russel, Laboratory of Virology, Charity Hospital, New Orleans; and Charles T. Caraway, D.V.M., State Epidemiologist, Louisiana Health and Social and Rehabilitation Services Administration.)

Michigan: The influenza outbreak on the northern peninsula of Michigan is continuing, and there are also reports of influenza-like disease from the southern peninsula. The major population centers in southern Michigan have not been affected, however.
(Reported by Norman S. Hayner, M.D., State Epidemiologist, Michigan Department of Public Health; and an EIS Officer.)

Minnesota: The influenza outbreak reported in Minnesota (MMWR, Vol. 23, No. 4) has subsided in Duluth and Austin. However, there is currently an outbreak of influenza-like disease in the Minneapolis-St. Paul suburbs and in Winona in southeastern Minnesota. The syndrome is seen primarily in junior and senior high school students and is characterized by fever, headache, cough, and pharyngitis.
(Reported by D.S. Fleming, M.D., State Epidemiologist, Minnesota State Department of Health; and an EIS Officer.)

Mississippi: Four counties in northwestern Mississippi have reported an increase in school absenteeism among elementary school students. The students have an illness characterized by fever, cough, headache, pharyngitis, and occasional gastrointestinal symptoms. Virologic studies are in progress.
(Reported by Durward L. Blakey, M.D., State Epidemiologist, Mississippi State Board of Health; and an EIS Officer.)

Missouri: Statewide surveillance indicates that school absenteeism due to influenza-like illness is well above normal levels. In addition, some schools in Pike County in northeastern Missouri have closed because of high absentee rates.
(Reported by H. Denny Donnell, Jr., M.D., M.P.H., Director, Section of Epidemiology, Missouri Division of Health.)

Nebraska: Widespread influenza-like disease is occurring in the eastern third of the state. While the disease is primarily rural in nature, the Omaha schools have recently reported a marked increase in school absenteeism. In addition, there have been 2 cases of Reye's syndrome following influenza-like disease.
(Reported by Russell W. Currier, II, D.V.M., Nebraska State Department of Health.)

New Jersey: There are outbreaks of influenza-like disease in Burlington, Morris, and Camden counties. The disease has affected primarily school-age children and is manifested by an increase in school absenteeism to 20-30%. This syndrome is characterized by fever, cough, and some gastrointestinal symptoms.
(Reported by Ronald Altman, M.D., State Epidemiologist, New Jersey State Department of Health.)

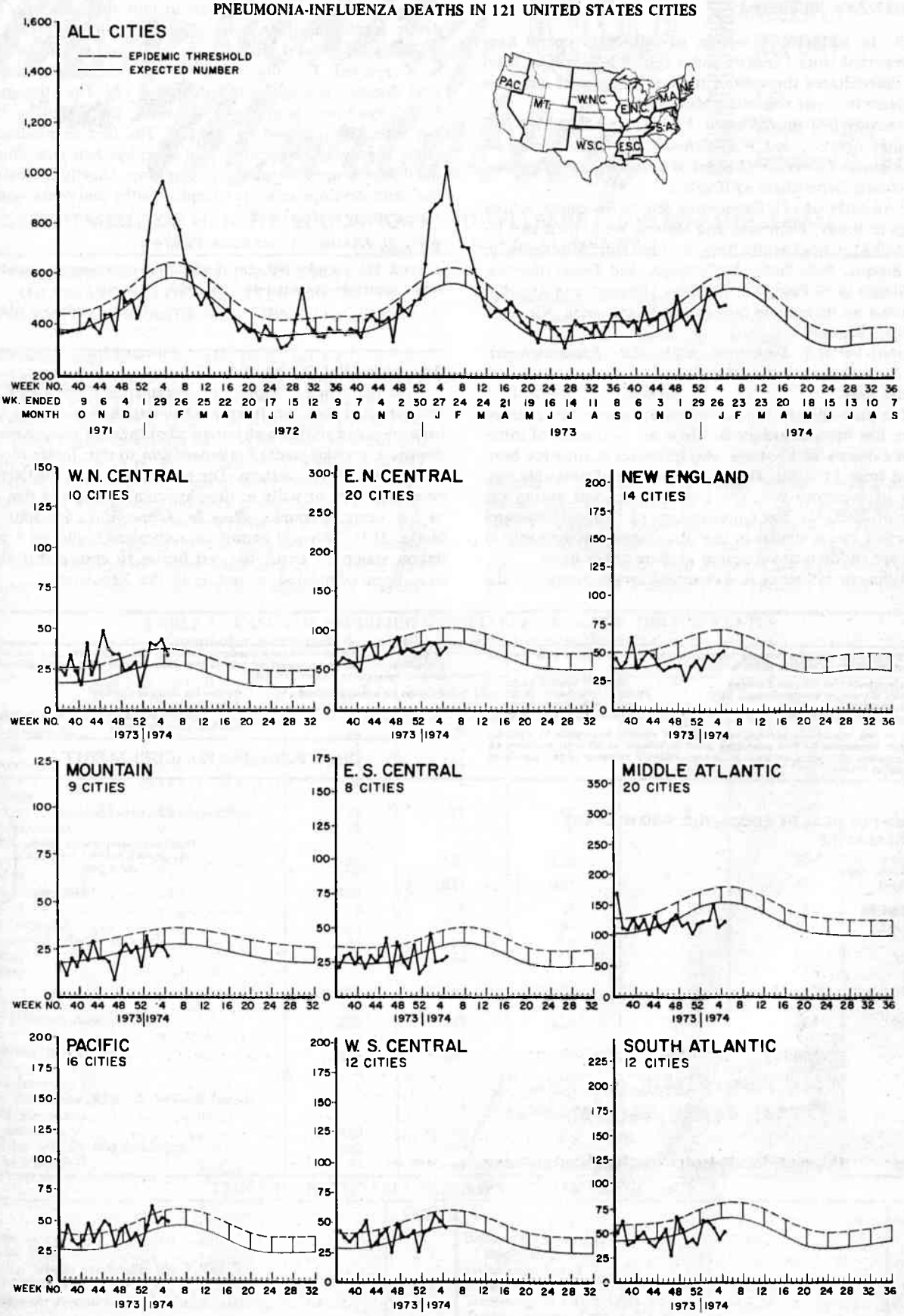
New York: The Albany and Schenectady areas have reported an increase in school absenteeism to 40-50%. Four children had influenza B isolated from pharyngeal cultures; the isolates appear to be intermediate strains. Sporadic outbreaks of influenza-like disease caused elevated school absenteeism in Syracuse and Westchester County. In addition, there have been 2 cases of Reye's syndrome in the Albany area.

Five isolates of influenza A have been reported from Nassau County; however, there is no evidence of increased influenza-like disease in the county.
(Reported by Rudolph Deibel, Ph.D., State Virus Laboratory, and Alan R. Hinman, M.D., Assistant Commissioner for Epidemiology and Preventive Health Services, New York State Department of Health.)

Oklahoma: The outbreak of influenza in Oklahoma is continuing with areas in the southeastern part of the state reporting increased school absenteeism and some school closings due to influenza-like disease. Furthermore, there have been 3 isolates of influenza type B, intermediate strain, isolated from Shawnee, Oklahoma.
(Reported by William Schmreding, Ph.D., Director, State Laboratory, and Stanley W. Ferguson, Ph.D., State Epidemiologist, Oklahoma State Department of Health.)

Pennsylvania: There has been an outbreak of influenza-like disease in Norristown with school absenteeism elevated to

Figure 3
PNEUMONIA-INFLUENZA DEATHS IN 121 UNITED STATES CITIES



INFLUENZA – Continued

50-60%. In addition, 5 isolates of influenza type B have been reported from Lansdale and 1 type B isolate from Bryn Mawr. Surveillance throughout the rest of the state indicates no increase in upper respiratory disease.

(Reported by William E. Parkin, V.M.D., Dr.P.H., Chief, Epidemiology Section, and W.D. Schrack, Jr., M.D., State Epidemiologist and Director, Division of Communicable Diseases, Pennsylvania Department of Health.)

Texas: An outbreak of influenza-like disease has caused school closings in Brady, Plainview, and Mineral Wells. Increased influenza-like activity has also been reported from Montgomery, Hale, Bosque, Palo Pinto, McCullough, and Travis counties. Surveillance in El Paso, San Antonio, Houston, and Amarillo has shown no increase in indices due to influenza. Virologic studies are pending.

(Reported by M.S. Dickerson, M.D., State Epidemiologist, Texas State Department of Health.)

Editorial Note

The predominant type of influenza seen in this country to date has been influenza B. There are outbreaks of influenza-like disease in 17 states, and influenza B virus has been isolated from 11 states. The last appearance of statewide outbreaks of influenza B in the United States was during the winter of 1970-71. The epidemiology of that outbreak and the current one is similar in that the disease was primarily in school-age children and appeared to spare urban areas.

Although influenza is widespread geographically, at the present time there is no increase in mortality above the epidemic threshold either nationally or regionally (Figure 2).

It is of interest that 4 cases of Reye's syndrome have been reported. This illness has been associated with several viral diseases, among them influenza B *(1)*. The etiology of Reye's syndrome is unknown; however, the clinical picture has been characterized as biphasic. The first or prodromal phase is generally associated with an antecedent viral illness, usually with upper respiratory symptoms. Shortly thereafter, the child develops an acute encephalopathy and coma, and in a great many instances, dies.

Reference

1. Glick TH, Likosky WH, Levitt LP: Reye's syndrome: an epidemiologic approach. Pediatrics 46:371, 1970

Addendum, Vol. 23, No. 3, p. 27

In the article, "Signing of Vaccination Certificates", it was reported that the International Health Regulations had been amended so that a physician administering vaccine could designate persons under his supervision to sign International Certificates of Vaccination. The person who signs the Certificate must type or write in the physician's name and sign his or her name. Example: Mary W. Stone, R.N., for John R. Marks, M.D. This will permit an authorized holder of a validation stamp to check the certificates to ensure that they have been completed according to the Regulations.

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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.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

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