CENTERS FOR DISEASE CONTROL

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Epidemiologic Notes and Reports

Severe Neutropenia during Pentamidine Treatment of *Pneumocystis carinii* Pneumonia in Patients with Acquired Immunodeficiency Syndrome — New York City

During November 1983, three patients at one New York City hospital who had the acquired immunodeficiency syndrome (AIDS) and *Pneumocystis carinii* pneumonia (PCP) developed severe neutropenia while being treated with pentamidine isethionate. Since August 1981, 23 other patients with AIDS and PCP had been treated with pentamidine at this institution. None developed neutropenia that could not be explained by the simultaneous administration of another drug.

Case 1: A 43-year-old male with recently diagnosed Kaposi's sarcoma (KS) was suspected of having PCP in late October 1983, based on symptoms of cough, dyspnea on exertion, a chest roentgenogram showing bilateral interstitial pulmonary infiltrates, and pulmonary-function tests showing a drop in arterial pO_2 with exercise. He was begun on sulfamethoxazole/trimethoprim (SXT) (20 mg trimethoprim/kg/day orally) as an outpatient. Before treatment, his white blood cell count (WBC) was 5,700/mm^3 (4,560 neutrophils/mm^3). After 9 days of SXT, he developed a maculopapular rash, an elevated serum glutamic-oxaloacetic transaminase (SGOT), an elevated serum creatinine, and neutropenia (WBC = 1,700/mm^3 with 816 neutrophils/mm^3). SXT was discontinued. The patient was admitted to the hospital 4 days later. Toluidine-blue and Gram-Weigert stains of a bronchoalveolar lavage showed *P. carinii* cysts, and the patient was started on pentamidine isethionate 4 mg/kg/day intravenously.* Two days before pentamidine was started, his WBC was 2,700/mm^3 (1,377 neutrophils/mm^3) but rose to 4,000/mm^3 at initiation of pentamidine. All other manifestations of SXT toxicity had resolved. The patient's WBC ranged between 3,200/mm^3 and 5,600/mm^3 during the first 5 days of treatment. He experienced transient flushing during the treatment infusion, which disappeared when the infusion time was increased from 45 to 90 minutes. On day 6 of pentamidine, he developed a fever but no thrombocytopenia or anemia. His WBC was 1,900/mm^3 and dropped to 300/mm^3 (36 neutrophils/mm^3) on day 7. The drug was discontinued, and gentamicin plus moxalactam were begun. During the 10 days after discontinuation of pentamidine, his WBC rose gradually to 2,800/mm^3 (868 neutrophils/mm^3), and a bone-marrow aspirate showed an increased myeloid to erythroid stem-cell ratio.

*Since intravenous administration of pentamidine can be hazardous, CDC recommends that it be given intramuscularly whenever possible.

Neutropenia – Continued

The patient received no further therapy for PCP, and a repeat bronchoalveolar lavage revealed no *P. carinii*. His respiratory symptoms improved markedly. However, *Mycobacterium avium-intracellulare* was found in a blood culture that had been taken in late October, and the patient was treated with ansamycin. During the first 4 days of ansamycin, his WBC ranged from 2,800/mm^3 to 4,300/mm^3 (neutrophils 868 mm^3 to 1,785/mm^3) but fell to 1,900/mm^3 on day 5 when the drug was discontinued. The following day, his WBC was 1,500/mm^3, with 405 neutrophils/mm^3. Five days later, the patient was discharged with a WBC of 1,500/mm^3. Thereafter, he remained well, and during the 25 days after discharge, his WBC rose gradually to 2,200 mm^3.

Case 2: A 30-year-old male, referred for diarrhea and started on tetracycline as an outpatient, was admitted with fever, dyspnea, abnormal chest roentgenogram, and abnormal pulmonary-function tests. *P. carinii* cysts were seen on toluidine-blue and Gram-Weigert stains of a bronchoalveolar lavage, as well as on a methenamine-silver stain of a transbronchial biopsy and a Gram-Weigert stain of bronchial brushings. *Vibrio parahemolyticus* and *Giardia lamblia* were found in his stool. He was begun on SXT (20 mg trimethoprim/kg/day intravenously) and tetracycline. After 8 days of SXT, he developed a rash, and his WBC fell from a pretreatment level of 5,400/mm^3 (3,888 neutrophils/mm^3) to 1,900/mm^3. SXT and tetracycline were discontinued. The following day, his WBC was 1,800/mm^3, with 1,026 neutrophils/mm^3. Over the next 4 days, the rash disappeared, and his WBC rose to 2,900/mm^3 (2,175 neutrophils/mm^3). The patient was then started on pentamidine isethionate 2 mg/kg/day intravenously, which was increased to 4 mg/kg/day after 2 days. During the first 6 days of pentamidine, his WBC rose to 4,300/mm^3 but then gradually fell to 1,700/mm^3 (980 neutrophils/mm^3) by the 11th day of therapy. Pentamidine was discontinued, and his WBC fell to 1,600/mm^3 2 days later. He did not develop anemia or thrombocytopenia. However, his respiratory status had improved markedly, and he was discharged from the hospital. Quinacrine was begun for his *Giardia* infection as an outpatient. After 7 days, his WBC rose to 2,800/mm^3. He remained clinically well 2 weeks after all therapy was discontinued.

Case 3: A 29-year-old male was admitted with a history of fever and dyspnea for 2 weeks. *P. carinii* cysts were seen on a Gram-Weigert stain of a bronchoalveolar lavage. Since the patient gave a history of a diffuse pruritic rash when treated with SXT in August 1983 for an upper respiratory infection, he was started on pentamidine isethionate 4 mg/kg/day intravenously at the outset. With each infusion of the drug, he developed hypotension, flushing, and chills, which were controlled by increasing the infusion time from 1 to 3 hours and by pretreatment with meperidine and diphenhydramine. His WBC before pentamidine administration was 1,300/mm^3 with 910 neutrophils/mm^3. His WBC initially was stable but fell from 1,400/mm^3 on day 6 to 500/mm^3 (55 neutrophils/mm^3) on day 7. He developed a fever and was placed on gentamicin and ticarcillin. The following day, with a WBC of 400/mm^3 (8 neutrophils/mm^3), pentamidine was discontinued. Throughout this period, the patient did not develop anemia or thrombocytopenia. He was begun on SXT (15 mg trimethoprim/kg/day intravenously); the drug was continued for 11 days, during which his WBC rose to 1,700/mm^3. SXT was well tolerated, except for mild pruritis and an erythematous rash that disappeared when the drug was stopped. His chest film and respiratory symptomatology had improved markedly. The patient was discharged 12 days later and remained well at a follow-up appointment 7 days thereafter.

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Neutropenia — Continued

Editorial Note: For each patient, this was the first admission for PCP, and each showed clinical recovery. In two, recovery occurred while on pentamidine therapy. Folinic acid, topical antifungal agents, benzodiazepines, and in one patient, meperidine and diphenhydramine, were administered during the period in which the pentamidine-associated neutropenia developed. Furthermore, despite intensive screening, only a few other infectious agents (*G. lamblia, V. parahemolyticus, M. avium-intracellulare,* and superficial *Candida*) complicated these cases. In two of these, neutropenia developed or worsened during the administration of other anti-infective drugs. Thus, despite the close temporal relationship between neutropenia and the administration of pentamidine and the gradual improvement of the neutropenia after withdrawal of the drug, it should not be presumed that these reactions were specifically related to pentamidine.

CDC's Parasitic Diseases Drug Service has received standard report forms for 179 patients with AIDS and PCP treated with pentamidine from January 1982 to September 1983. Of these, 26 (14.5%) developed leukopenia, with decreases in leukocyte counts from pre-therapy to mid- or post-therapy of 50% or more. In 12 instances, the physician discontinued pentamidine because of leukopenia, and in six of these 12, neutropenia or granuocytopenia was specifically mentioned as a complication. However, standard report forms ask only for WBC and are otherwise not sufficient to further characterize this phenomenon. CDC has sent a questionnaire to physicians for 114 randomly selected patients for whom pentamidine was released from October 1, to December 16, 1983, to obtain a more complete characterization and incidence estimate. In addition, physicians using pentamidine are encouraged to provide more detailed information on hematologic changes occurring during pentamidine treatment on the standard patient report form for pentamidine therapy.

International Notes

Lung Cancer among Women — Canada

From 1932 to 1981, the age-standardized mortality rates (ages 25-74 years) for lung cancer among Canadian women increased from 2.8/100,000 to 25.1/100,000. This is the most rapidly increasing cancer rate among women, and lung cancer rates for Canadian women have risen from ninth position in 1965 to second in 1981 (Table 1). Since this increase has shown an exponential rise, and breast cancer mortality has tended to decrease (Figure 1), lung cancer can be expected to become the leading cause of cancer death for Canadian women by about 1987. Furthermore, because the lung cancer mortality rates

TABLE 1. Lung and breast cancer mortality ranks and percentage of total cancer among women — Canada

Year	Lung Cancer		Breast Cancer	
	Rank	%	Rank	%
1965	9	4.1	1	20.6
1966	8	4.4	1	19.9
1971	5	5.8	1	20.6
1976	3	8.5	1	20.4
1981	2	11.9	1	19.8

Lung Cancer — Continued

among males are gradually slowing, lung cancer mortality rates for females may equal those for males by 2000 (*1*).

The risk of developing lung cancer is strongly associated with smoking. A survey of smoking habits by the Canada Labour Force showed that changes in smoking habits of Canadian women are related to the increased lung cancer rate:

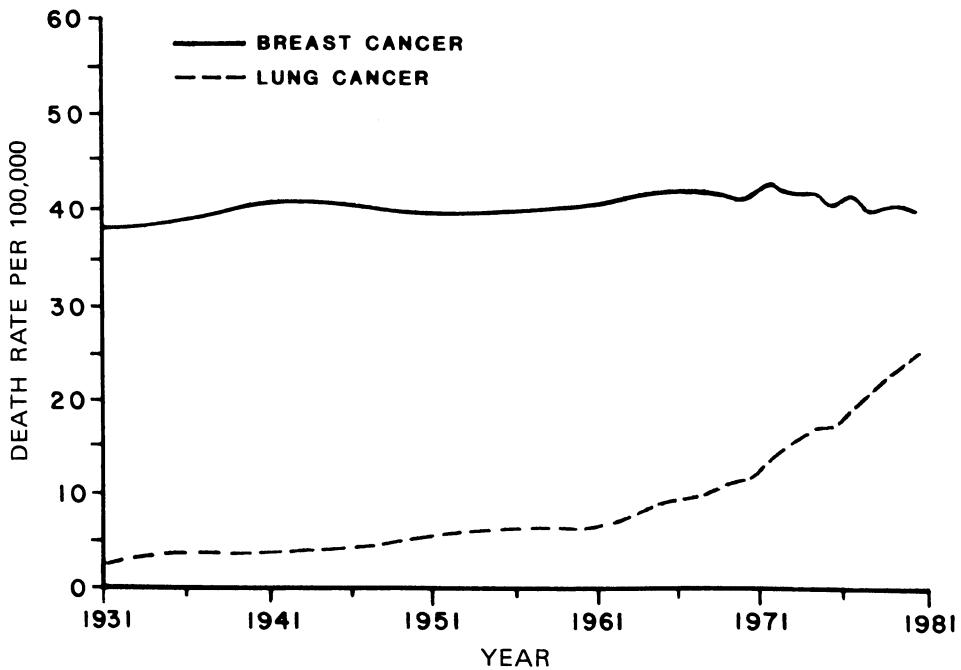
1. From 1965 to 1979, the proportion of regular women smokers was constant, but the proportion of heavy smokers (25 or more cigarettes/day) increased continuously.
2. In the province of British Columbia, the proportion of heavy smokers rose before other provinces, and was reflected by an earlier trend in the rapid increase of lung cancer mortality among women in British Columbia.

The proportion of heavy smokers in British Columbia remains higher than in the other Canadian provinces and is reflected by a faster increasing rate of lung cancer among British Columbian women than among women in the rest of Canada. In some provinces, the proportion of regular smokers continues to decrease, despite increases in the proportion of heavy smokers and in the average number of cigarettes consumed per day.

Reported in Chronic Diseases in Canada *(1983;4:32-4) by Y Mao, H Smith, Non-Communicable Disease Div, Bureau of Epidemiology, Laboratory Centre for Disease Control, Health and Welfare Canada; Office of the Director, Center for Health Promotion and Education, CDC.*

Editorial Note: The lung cancer epidemic among women is also occurring in the United States (Figure 2). The American Cancer Society estimates that 36,000 women will die in the United States from lung cancer in 1984. This approaches the 37,300 estimated deaths from

FIGURE 1. Age-standardized (25-74 years) lung and breast cancer mortality rates among women — Canada, 1931-1981



Lung Cancer — Continued

breast cancer, which has been the primary cause of cancer mortality among U.S. women (*2*). In at least two states, Kentucky and Washington, lung cancer deaths have exceeded breast cancer deaths among women (*3,4*).

Approximately 85% of all lung cancer cases are attributable to cigarette smoking (*5*). The lung cancer epidemic is especially tragic because it is preventable. Increased focus on the health problems of smoking among women and on the potential for effective intervention is needed (*6*).

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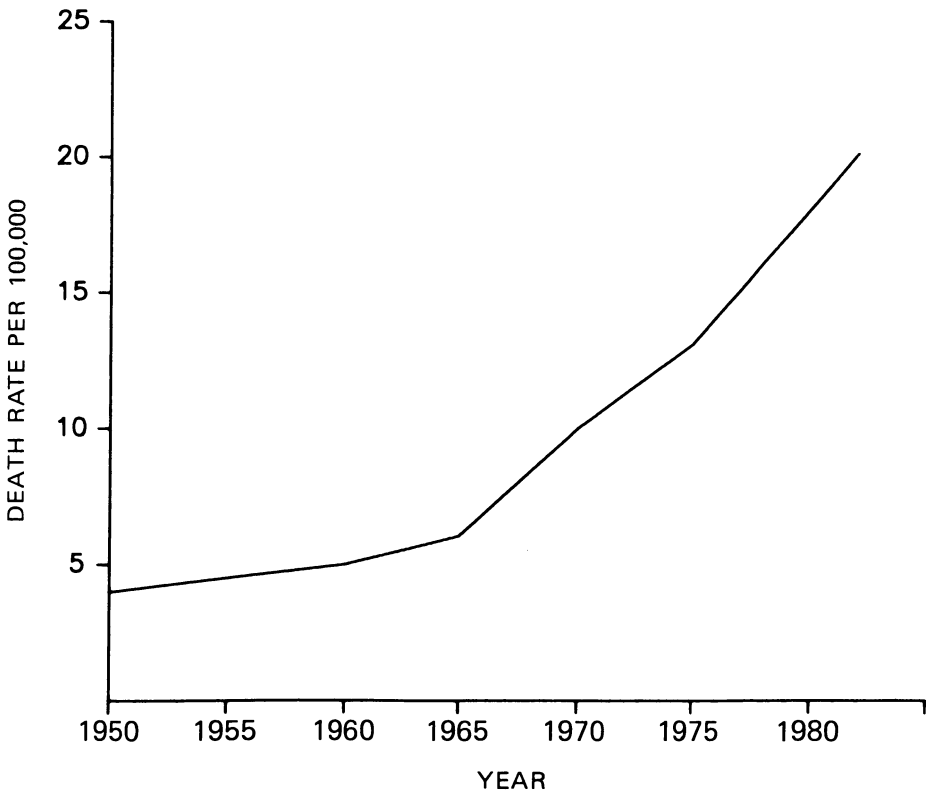
FIGURE 2. Age-adjusted death rates of respiratory cancer among white women — United States, 1950-1982



Epidemiologic Notes and Reports

Fulminant Hepatitis B among Parenteral Drug Abusers — Kentucky, California

During the first 10 months of 1983, unrelated clusters of fulminant hepatitis B (HB) deaths occurred in Madisonville, Kentucky, and Porterville, California. Both outbreaks were limited to circles of parenteral drug abusers and their sexual contacts. Thirty-six cases occurred, with five deaths, for a case-fatality ratio (CFR) over 10 times the expected ratio.

Investigations involved active HB case finding, identification of possible risk factors for fulminant HB, and serotesting for HB and the Delta agent (a dependent virus recently implicated as a co-factor in fulminant HB infection). In both outbreaks, a case was defined as: (1) acute clinical symptoms compatible with hepatitis B; (2) acute elevation of serum glutamic-oxaloacetic transaminase (SGOT) or serum glutamic-pyruvic transaminase (SGPT) two or more times greater than the upper limit of normal; and (3) positive hepatitis B surface antigen (HBsAg) serology.

(Continued on page 76)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	6th Week Ending			Cumulative, 6th Week Ending		
	February 11, 1984	February 12, 1983	Median 1979-1983	February 11, 1984	February 12, 1983	Median 1979-1983
Acquired Immunodeficiency Syndrome (AIDS)	47	N	N	304	N	N
Aseptic meningitis	51	89	77	496	539	399
Encephalitis: Primary (arthropod-borne & unspec.)	10	23	17	75	106	97
Post-infectious	1	-	2	4	5	11
Gonorrhea: Civilian	13,966	17,406	17,693	93,031	108,745	112,172
Military	304	638	552	2,314	3,055	3,205
Hepatitis: Type A	351	404	442	2,243	2,709	2,709
Type B	347	450	371	2,288	2,380	1,912
Non A, Non B	32	57	N	313	326	N
Unspecified	124	100	163	642	777	1,050
Legionellosis	6	11	N	37	60	N
Leprosy	7	5	5	22	31	27
Malaria	2	21	17	55	73	73
Measles: Total*	35	12	35	163	52	199
Indigenous	35	6	N	156	34	N
Imported	-	6	N	7	18	N
Meningococcal infections: Total	54	78	78	288	344	353
Civilian	54	77	77	288	335	352
Military	-	1	-	-	9	1
Mumps	52	83	134	344	462	579
Pertussis	57	23	19	167	113	113
Rubella (German measles)	5	11	44	42	83	251
Syphilis (Primary & Secondary): Civilian	513	669	568	3,095	4,019	3,394
Military	7	13	11	40	64	54
Toxic Shock syndrome	2	9	N	30	52	N
Tuberculosis	338	454	472	1,920	2,180	2,434
Tularemia	3	1	1	8	14	11
Typhoid fever	3	4	5	21	34	35
Typhus fever, tick-borne (RMSF)	2	1	1	6	7	7
Rabies, animal	80	93	93	398	536	517

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1984		Cum. 1984
Anthrax	-	Plague	1
Botulism: Foodborne	-	Poliomyelitis: Total	-
Infant	5	Paralytic	-
Other	1	Psittacosis (Hawaii 1)	7
Brucellosis (Va. 1)	12	Rabies, human	-
Cholera	-	Tetanus (Va. 1)	3
Congenital rubella syndrome	-	Trichinosis	2
Diphtheria	-	Typhus fever, flea-borne (endemic, murine)	2
Leptospirosis	2		

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending February 11, 1984 and February 12, 1983 (6th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1984	1984	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1983	1984	1984	1984	1984	1984	Cum. 1984
UNITED STATES	304	51	75	4	93,031	108,745	351	347	32	124	6	22
NEW ENGLAND	15	2	3	-	3,114	2,654	8	21	1	12	-	1
Maine	-	-	-	-	128	165	-	-	-	-	-	-
N.H.	-	1	1	-	70	81	1	-	-	-	-	-
Vt.	-	-	-	-	43	50	-	-	1	-	-	-
Mass.	8	-	2	-	1,094	1,188	5	11	-	12	-	1
R.I.	-	1	-	-	187	161	1	8	-	-	-	-
Conn.	7	-	-	-	1,592	1,009	1	2	-	-	-	-
MID ATLANTIC	174	5	5	-	11,863	13,708	52	67	2	7	-	2
Upstate N.Y.	-	3	1	-	1,869	1,841	13	24	1	4	-	2
N.Y. City	158	-	-	-	5,316	5,704	33	15	-	3	-	-
N.J.	16	-	2	-	1,687	2,713	6	28	1	-	-	-
Pa.	-	2	2	-	2,991	3,450	-	-	-	-	-	-
E.N. CENTRAL	10	7	15	1	11,811	15,354	16	39	3	6	3	1
Ohio	7	4	4	1	2,989	4,041	4	25	1	3	1	-
Ind.	-	-	-	-	1,861	1,683	4	3	2	2	-	-
Ill.	2	1	2	-	1,780	4,005	1	1	-	-	-	-
Mich.	1	2	6	-	3,776	4,336	6	10	-	1	2	1
Wis.	-	-	3	-	1,405	1,289	1	-	-	-	-	-
W.N. CENTRAL	1	3	3	-	4,475	5,019	16	8	-	1	-	-
Minn.	-	-	-	-	627	797	6	2	-	-	-	-
Iowa	1	1	2	-	569	538	2	2	-	-	-	-
Mo.	-	1	-	-	1,992	2,316	1	4	-	1	-	-
N. Dak.	-	-	-	-	50	51	-	-	-	-	-	-
S. Dak.	-	-	-	-	147	144	7	-	-	-	-	-
Nebr.	-	1	-	-	340	288	-	-	-	-	-	-
Kans.	-	-	1	-	750	885	-	-	-	-	-	-
S. ATLANTIC	19	14	20	3	24,608	26,527	17	87	11	14	-	1
Del.	1	-	1	-	428	574	-	-	-	-	-	-
Md.	5	3	3	-	3,370	3,493	1	12	1	2	-	-
D.C.	4	-	-	-	1,747	1,780	-	-	-	-	-	-
Va.	2	5	7	2	2,481	2,423	-	23	3	2	-	1
W. Va.	-	-	2	-	283	291	1	3	-	-	-	-
N.C.	-	4	1	1	3,955	3,508	4	3	1	4	-	-
S.C.	-	-	1	-	2,253	2,815	2	13	-	3	-	-
Ga.	-	-	2	-	4,773	4,962	4	13	2	1	-	-
Fla.	7	2	3	-	5,318	6,681	5	20	4	2	-	-
E.S. CENTRAL	1	11	3	-	8,097	9,732	36	38	2	-	1	-
Ky.	1	4	-	-	1,014	1,309	18	-	-	-	1	-
Tenn.	-	-	1	-	3,268	3,618	3	22	2	-	-	-
Ala.	-	7	2	-	2,600	3,248	13	14	-	-	-	-
Miss.	-	-	-	-	1,215	1,557	2	2	-	-	-	-
W.S. CENTRAL	2	5	5	-	13,206	15,402	84	61	3	72	1	-
Ark.	-	-	-	-	1,164	1,178	1	5	1	3	-	-
La.	-	2	1	-	3,162	2,361	9	22	1	3	-	-
Okla.	1	2	-	-	1,508	1,832	9	6	-	4	1	-
Tex.	1	1	4	-	7,372	10,031	65	28	1	62	-	-
MOUNTAIN	4	2	1	-	2,915	3,108	82	16	7	11	1	4
Mont.	-	-	-	-	156	161	1	-	-	-	-	-
Idaho	-	1	-	-	116	165	1	-	-	-	-	-
Wyo.	-	-	-	-	77	99	2	-	-	-	-	-
Colo.	-	-	-	-	739	862	20	5	3	2	-	-
N. Mex.	-	-	-	-	369	421	11	-	-	-	-	-
Ariz.	4	1	-	-	766	709	19	3	2	6	1	4
Utah	-	-	1	-	165	149	28	3	1	3	-	-
Nev.	-	-	-	-	527	542	-	5	1	-	-	-
PACIFIC	78	2	20	-	12,942	17,241	40	10	3	1	-	13
Wash.	-	-	-	-	843	1,061	8	6	1	1	-	1
Oreg.	-	-	-	-	776	774	32	3	2	-	-	-
Calif.	78	U	20	-	10,791	14,725	U	U	U	U	U	9
Alaska	-	-	-	-	311	347	-	1	-	-	-	-
Hawaii	-	2	-	-	221	334	-	-	-	-	-	3
Guam	-	U	-	-	-	32	U	U	U	U	U	-
P.R.	-	2	-	-	405	390	13	13	-	3	-	-
V.I.	-	-	-	-	54	30	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 11, 1984 and February 12, 1983 (6th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983
UNITED STATES	55	35	156	-	7	52	288	52	344	57	167	113	5	42	83
NEW ENGLAND	5	-	1	-	-	-	14	5	13	1	3	7	-	1	-
Maine	-	-	-	-	-	-	-	1	5	-	-	-	-	-	-
N.H.	-	-	1	-	-	-	2	-	1	-	1	2	-	-	-
Vt.	-	-	-	-	-	-	2	1	1	1	1	1	-	-	-
Mass.	4	-	-	-	-	-	3	3	6	-	-	3	-	1	-
R.I.	-	-	-	-	-	-	3	-	-	-	1	1	-	-	-
Conn.	1	-	-	-	-	-	4	-	-	-	-	-	-	-	-
MID ATLANTIC	2	-	-	-	-	1	35	10	65	2	7	21	-	-	2
Upstate N.Y.	1	-	-	-	-	1	14	1	12	-	5	11	-	-	1
N.Y. City	-	-	-	-	-	-	1	-	1	-	-	1	-	-	1
N.J.	-	-	-	-	-	-	8	7	49	-	-	3	-	-	-
Pa.	1	-	-	-	-	-	12	2	3	2	2	6	-	-	-
E.N. CENTRAL	7	11	98	-	-	22	50	20	104	20	34	36	-	4	14
Ohio	4	-	-	-	-	-	21	3	25	-	5	16	-	-	1
Ind.	-	-	-	-	-	-	6	5	11	19	19	3	-	-	-
Ill.	1	4	15	-	-	17	6	4	31	-	3	11	-	3	4
Mich.	1	7	83	-	-	5	12	8	30	1	4	1	-	1	2
Wis.	1	-	-	-	-	-	5	-	7	-	3	5	-	-	7
W.N. CENTRAL	3	-	-	-	-	-	26	4	16	3	42	6	1	3	8
Minn.	-	-	-	-	-	-	2	1	1	-	2	-	-	-	2
Iowa	-	-	-	-	-	-	10	2	3	-	3	2	-	-	-
Mo.	2	-	-	-	-	-	9	1	4	-	1	1	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
S. Dak.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
Kans.	1	-	-	-	-	-	2	-	7	3	36	3	1	2	6
S. ATLANTIC	9	-	-	-	-	3	79	8	28	10	23	19	1	3	5
Del.	2	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Md.	3	-	-	-	-	-	5	2	6	-	1	2	-	-	-
D.C.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Va.	2	-	-	-	-	2	6	1	2	-	4	6	-	-	-
W. Va.	-	-	-	-	-	-	2	1	5	-	2	1	-	-	-
N.C.	1	-	-	-	-	-	10	-	3	6	7	-	-	-	-
S.C.	1	-	-	-	-	1	10	1	1	1	1	-	-	-	-
Ga.	-	-	-	-	-	-	20	1	3	-	2	9	-	1	2
Fla.	-	-	-	-	-	-	24	N	N	3	6	1	1	2	3
E.S. CENTRAL	-	-	-	-	2	-	15	1	7	-	2	-	-	-	1
Ky.	-	-	-	-	-	-	3	-	3	-	1	-	-	-	1
Tenn.	-	-	-	-	2	-	5	-	-	-	1	-	-	-	-
Ala.	-	-	-	-	-	-	5	-	2	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	2	1	2	-	-	-	-	-	-
W.S. CENTRAL	-	23	30	-	-	-	23	1	8	1	10	10	2	8	11
Ark.	-	-	-	-	-	-	1	-	-	1	9	1	-	1	-
La.	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-
Okla.	-	-	-	-	-	-	3	N	N	-	1	2	-	-	-
Tex.	-	23	30	-	-	-	16	1	8	-	-	6	2	7	11
MOUNTAIN	1	1	18	-	-	1	11	3	42	20	32	10	-	3	3
Mont.	-	-	-	-	-	-	-	-	1	16	17	1	-	-	-
Idaho	-	-	-	-	-	-	1	2	3	-	1	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Colo.	-	-	-	-	-	1	6	-	-	2	11	4	-	-	-
N. Mex.	-	-	-	-	-	-	1	N	N	1	2	4	-	-	-
Ariz.	1	-	-	-	-	-	1	1	37	-	-	-	-	-	1
Utah	-	1	18	-	-	-	2	-	1	1	1	1	-	2	1
Nev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	28	-	9	-	5	25	35	-	61	-	14	4	1	20	39
Wash.	2	-	2	-	-	-	2	-	12	-	6	-	-	-	-
Oreg.	1	-	-	-	-	1	8	N	N	-	4	-	-	-	2
Calif.	23	U	7	U	3	23	23	U	45	U	4	4	U	19	37
Alaska	-	-	-	-	-	-	2	-	3	-	-	-	-	-	-
Hawaii	2	-	-	-	2	1	-	-	1	-	-	-	1	1	-
Guam	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
P.R.	2	-	-	-	-	11	-	4	19	-	-	1	-	1	-
V.I.	-	-	-	-	-	5	-	-	-	-	-	-	-	-	1
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 11, 1984 and February 12, 1983 (6th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1984
UNITED STATES	3,095	4,019	2	1,920	2,180	8	21	6	398
NEW ENGLAND	81	101	-	60	40	-	-	-	2
Maine	1	-	-	4	4	-	-	-	2
N.H.	-	1	-	5	3	-	-	-	-
Vt.	-	1	-	1	-	-	-	-	-
Mass.	48	70	-	24	14	-	-	-	-
R.I.	4	2	-	10	5	-	-	-	-
Conn.	28	27	-	16	14	-	-	-	-
MID ATLANTIC	404	436	-	388	421	-	2	-	31
Upstate N.Y.	27	27	-	55	79	-	1	-	1
N.Y. City	240	263	-	153	159	-	-	-	-
N.J.	85	84	-	87	94	-	1	-	-
Pa.	52	62	-	93	89	-	-	-	30
E.N. CENTRAL	118	222	-	266	349	-	4	1	17
Ohio	31	54	-	64	58	-	2	1	2
Ind.	29	26	-	26	44	-	1	-	3
Ill.	17	98	-	101	172	-	-	-	5
Mich.	29	30	-	61	60	-	-	-	-
Wis.	12	14	-	14	15	-	1	-	7
W.N. CENTRAL	59	46	1	51	67	4	1	2	55
Minn.	12	24	1	8	5	-	1	-	7
Iowa	4	2	-	9	14	-	-	-	12
Mo.	34	16	-	21	39	4	-	2	5
N. Dak.	-	-	-	2	-	-	-	-	12
S. Dak.	-	-	-	1	2	-	-	-	11
Nebr.	4	1	-	5	2	-	-	-	4
Kans.	5	3	-	5	5	-	-	-	4
S. ATLANTIC	985	1,029	1	451	424	-	2	-	130
Del.	-	9	-	4	1	-	-	-	-
Md.	45	61	-	68	29	-	-	-	89
D.C.	31	47	-	9	15	-	-	-	-
Va.	55	74	1	33	25	-	1	-	25
W. Va.	5	2	-	17	20	-	-	-	3
N.C.	93	103	-	69	30	-	-	-	-
S.C.	93	83	-	64	49	-	-	-	-
Ga.	175	170	-	54	87	-	-	-	12
Fla.	488	480	-	133	168	-	1	-	1
E.S. CENTRAL	224	274	-	179	232	-	2	2	14
Ky.	10	17	-	40	69	-	-	-	3
Tenn.	52	70	-	57	70	-	2	1	4
Ala.	76	124	-	70	61	-	-	1	7
Miss.	86	63	-	12	32	-	-	-	-
W.S. CENTRAL	750	1,011	-	147	177	1	1	1	96
Ark.	25	13	-	6	7	-	-	1	10
La.	177	190	-	26	50	-	1	-	-
Okla.	22	31	-	12	32	1	-	-	10
Tex.	526	777	-	103	88	-	-	-	76
MOUNTAIN	70	86	-	31	72	3	2	-	14
Mont.	-	2	-	1	6	-	1	-	9
Idaho	3	1	-	1	5	-	-	-	-
Wyo.	1	2	-	-	2	-	-	-	-
Colo.	10	20	-	-	5	-	-	-	-
N. Mex.	8	28	-	9	14	-	1	-	1
Ariz.	27	18	-	17	36	1	-	-	4
Utah	3	5	-	2	-	2	-	-	-
Nev.	18	10	-	1	4	-	-	-	-
PACIFIC	404	814	-	347	398	-	7	-	39
Wash.	12	31	-	11	22	-	-	-	-
Oreg.	13	9	-	17	19	-	-	-	-
Calif.	366	761	U	282	325	-	7	-	38
Alaska	-	5	-	8	4	-	-	-	1
Hawaii	13	8	-	29	28	-	-	-	-
Guam	-	-	U	-	1	-	-	-	-
P.R.	126	84	-	27	70	-	1	-	5
V.I.	2	1	-	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending February 11, 1984 (6th week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	737	531	135	37	13	21	71
Boston, Mass.	173	112	40	11	3	7	21
Bridgeport, Conn.	59	37	14	3	2	3	9
Cambridge, Mass.	31	27	2	1	1	-	3
Fall River, Mass.	37	27	10	-	-	-	2
Hartford, Conn.	64	45	9	9	-	1	3
Lowell, Mass.	31	22	5	2	-	2	4
Lynn, Mass.	27	20	5	1	1	-	-
New Bedford, Mass.	27	22	4	-	1	-	2
New Haven, Conn.	48	38	6	3	1	-	-
Providence, R.I.	93	71	17	1	1	3	10
Somerville, Mass.	10	5	4	1	-	-	-
Springfield, Mass.	49	38	6	-	-	5	5
Waterbury, Conn.	41	31	7	3	-	-	2
Worcester, Mass.	47	36	6	2	3	-	10
MID. ATLANTIC	2,617	1,780	543	184	56	52	119
Albany, N.Y.	61	41	15	2	1	2	2
Allentown, Pa.	21	16	4	1	-	-	-
Buffalo, N.Y.	127	82	30	10	2	3	9
Camden, N.J.	42	27	9	2	2	2	5
Elizabeth, N.J.	38	23	8	3	4	-	3
Erie, Pa.†	31	24	5	1	1	-	2
Jersey City, N.J.	56	37	13	3	1	2	-
N.Y. City, N.Y.	1,569	1,071	310	130	30	28	61
Newark, N.J.	80	42	19	8	6	3	6
Paterson, N.J.	31	24	5	1	-	1	6
Philadelphia, Pa.†	110	67	33	3	2	5	6
Pittsburgh, Pa.†	61	40	17	1	2	1	3
Reading, Pa.	35	30	4	1	-	-	2
Rochester, N.Y.	129	87	26	11	3	2	7
Schenectady, N.Y.	27	17	6	2	1	1	-
Scranton, Pa.†	30	23	7	-	-	-	4
Syracuse, N.Y.	79	59	18	1	-	1	-
Trenton, N.J.	29	18	7	2	1	1	-
Utica, N.Y.	30	26	3	1	-	-	1
Yonkers, N.Y.	31	26	4	1	-	-	2
E.N. CENTRAL	2,404	1,706	417	114	75	80	100
Akron, Ohio	66	48	11	3	1	3	-
Canton, Ohio	28	17	8	3	-	-	1
Chicago, Ill §	610	527	12	13	21	25	14
Cincinnati, Ohio	148	99	35	6	3	5	15
Cleveland, Ohio	199	120	52	15	6	6	8
Columbus, Ohio	137	85	36	7	6	3	5
Dayton, Ohio	110	72	27	5	4	2	2
Detroit, Mich.	270	168	53	28	11	10	7
Evansville, Ind.	41	31	9	1	-	-	5
Fort Wayne, Ind.	51	32	13	2	1	3	2
Gary, Ind.	13	4	4	2	2	1	-
Grand Rapids, Mich.	48	36	10	-	1	1	6
Indianapolis, Ind.	178	112	45	7	6	8	3
Madison, Wis.	41	20	12	2	4	3	5
Milwaukee, Wis.	160	113	32	9	4	2	8
Peoria, Ill.	36	24	10	-	1	1	6
Rockford, Ill.	37	25	9	2	-	1	3
South Bend, Ind.	55	42	8	2	1	2	4
Toledo, Ohio	106	79	18	3	2	4	6
Youngstown, Ohio	70	52	13	4	1	-	-
W.N. CENTRAL	756	506	144	49	24	31	32
Des Moines, Iowa	51	39	6	4	1	1	4
Duluth, Minn.	24	18	5	1	-	-	-
Kansas City, Kans.	33	20	7	1	2	3	2
Kansas City, Mo.	128	75	27	10	7	7	7
Lincoln, Nebr.	23	17	4	1	1	-	1
Minneapolis, Minn.	92	55	21	7	5	4	3
Omaha, Nebr.	84	60	14	6	2	2	3
St. Louis, Mo.	156	107	30	10	4	5	-
St. Paul, Minn.	81	55	13	6	2	5	3
Wichita, Kans.	84	60	17	3	-	4	9
S. ATLANTIC	1,425	870	347	111	46	51	64
Atlanta, Ga.	145	85	35	10	7	8	7
Baltimore, Md.	314	185	93	22	6	8	9
Charlotte, N.C.	81	53	14	10	1	3	5
Jacksonville, Fla.	81	56	13	7	4	1	3
Miami, Fla.	121	66	31	15	4	5	4
Norfolk, Va.	62	37	18	3	3	1	6
Richmond, Va.	66	41	12	7	3	3	4
Savannah, Ga.	48	28	13	4	2	1	3
St. Petersburg, Fla.	103	88	13	-	-	2	6
Tampa, Fla.	65	37	14	6	3	5	6
Washington, D.C.	289	160	79	25	11	14	10
Wilmington, Del.	50	34	12	2	2	-	1
E.S. CENTRAL	802	521	179	50	25	26	42
Birmingham, Ala.	117	82	25	4	4	2	1
Chattanooga, Tenn.	53	37	12	2	2	-	7
Knoxville, Tenn.	79	55	13	4	3	4	2
Louisville, Ky.	101	69	24	3	1	4	5
Memphis, Tenn.	202	127	49	16	5	4	10
Mobile, Ala.	95	63	17	8	5	2	5
Montgomery, Ala.	37	19	8	5	1	4	3
Nashville, Tenn.	118	69	31	8	4	6	9
W.S. CENTRAL	1,674	1,027	404	121	54	68	60
Austin, Tex.	28	18	4	3	1	2	-
Baton Rouge, La.	36	18	9	5	2	2	4
Corpus Christi, Tex.	36	24	9	2	-	1	-
Dallas, Tex.	240	142	61	16	10	11	4
El Paso, Tex.	70	39	17	6	2	6	6
Fort Worth, Tex.	90	52	22	6	4	6	1
Houston, Tex.	646	380	180	39	26	21	23
Little Rock, Ark.	63	40	15	5	-	3	3
New Orleans, La.	125	80	26	12	3	4	-
San Antonio, Tex.	202	140	33	18	6	5	11
Shreveport, La.	46	32	8	3	-	3	1
Tulsa, Okla.	92	62	20	6	-	4	7
MOUNTAIN	682	447	141	41	24	29	43
Albuquerque, N.Mex.	74	53	12	2	2	5	14
Colo. Springs, Colo.	38	21	12	3	1	1	3
Denver, Colo.	142	90	26	9	4	13	6
Las Vegas, Nev.	78	50	24	3	1	-	1
Ogden, Utah	13	12	1	-	-	-	1
Phoenix, Ariz.	172	112	35	13	7	5	6
Pueblo, Colo.	25	18	6	1	-	-	2
Salt Lake City, Utah	40	25	9	3	2	1	2
Tucson, Ariz.	100	66	16	7	7	4	8
PACIFIC	1,827	1,222	403	101	46	53	95
Berkeley, Calif.	16	13	1	1	1	-	2
Fresno, Calif.	66	47	11	6	2	-	5
Glendale, Calif.	22	18	1	2	1	-	-
Honolulu, Hawaii	74	47	22	1	1	3	7
Long Beach, Calif.	85	54	19	9	2	1	4
Los Angeles, Calif.	489	338	101	29	8	13	16
Oakland, Calif.	71	43	21	4	-	3	6
Pasadena, Calif.	35	29	6	-	-	-	3
Portland, Oreg.	126	84	34	5	1	2	6
Sacramento, Calif.	65	38	17	6	2	2	3
San Diego, Calif.	142	86	38	6	6	4	11
San Francisco, Calif.	167	106	32	12	7	10	6
San Jose, Calif.	156	109	35	6	4	2	10
Seattle, Wash.	149	93	38	6	2	10	6
Spokane, Wash.	68	51	9	4	4	-	6
Tacoma, Wash.	96	66	18	4	5	3	4
TOTAL	12,924††	8,610	2,713	808	363	411	626

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

TABLE V. Years of potential life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Years of potential life lost before age 65 by persons dying in 1982*	Estimated mortality September 1983		Estimated number of physician contacts September 1983*§
		Number*†	Annual Rate/100,000*†	
ALL CAUSES (TOTAL)	9,429,000	157,500	818.6	102,500,000
Accidents and adverse effects (E800-E949)	2,367,000	8,120	42.2	5,700,000
Malignant neoplasms (140-208)	1,809,000	37,020	192.3	2,200,000
Diseases of heart (390-398, 402, 404-429)	1,566,000	56,500	293.5	5,600,000
Suicides, homicides (E950-E978)	1,314,000	4,230	22.0	—
Cerebrovascular diseases (430-438)	256,000	12,200	63.4	800,000
Chronic liver disease and cirrhosis (571)	252,000	2,140	11.1	100,000
Pneumonia and influenza (480-487)	118,000	3,210	16.7	600,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	114,000	4,410	22.9	1,200,000
Diabetes mellitus (250)	106,000	2,950	15.3	2,700,000
Prenatal care*				2,900,000
Infant mortality*§		3,200	10.4 /1,000 live births	

*For details of calculation, see footnotes for Table V, *MMWR* 1984;33:2.

†National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSR), Vol. 32, No. 10, January 24, 1983, pp. 8-9.

§IMS America *National Disease and Therapeutic Index* (NDTI), Monthly Report, September 1983, Section III.

¶MVSR Vol. 32, No. 9, December 28, 1983, p. 1.

Fulminant Hepatitis — Continued

In Kentucky, 17 outbreak-related cases occurred between January and September 1983. Twelve patients were male, and all 17 were white, non-Hispanic. Ages ranged from 18 to 30 years (median 22 years). Two of the 17 patients (one male, one female) had fulminant disease that resulted in death, for a CFR of 11.8%. Fifteen patients had needle exposures; two were sexual contacts of patients.

In California, 19 HB cases were identified between June and December 1983. Seventeen patients were male; 17 were Hispanic; one, an American Indian; and one, white, non-Hispanic. Ages ranged from 18 to 34 years (median 20.5). Three patients, all male (including two brothers), had fulminant HB that resulted in death, for a CFR of 15.8%. Eighteen patients had needle exposures; one was a sexual contact of a patient.

The combined outbreak-related CFR was 13.9%, as compared with a combined CFR of 4.5% in 22 concurrent nonoutbreak-related cases and a CFR of 1% expected for hospitalized HB patients.

In both outbreaks, the only hepatotoxin identified was alcohol; however, the alcohol intake of patients with fulminant HB did not differ significantly from that of patients with nonfulminant disease. Anti-Delta antibody was detected in one of three patients with fulminant HB from whom serum was still available and in none of 32 patients with nonfulminant HB. This patient had strongly positive IgM-anti-Delta and a biphasic clinical course indicating co-infection with the Delta agent. In addition, at least two hepatitis non-A, non-B (NANB) cases and several previous NANB cases were identified among intravenous-drug users in both outbreaks.

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Editorial Note: Hepatitis B is generally a mild disease with a CFR of only 1% in patients ill enough to require hospitalization. In one large, drug-related military outbreak, no deaths occurred among several thousand patients with clinical HB (*1*). The severity of the current outbreaks might be explained by any of several factors, including an unusually virulent strain of HB, simultaneous infection with other hepatotrophic viruses (NANB virus or the Delta agent) or the action of hepatotoxic chemicals. Although the existence of virulent strains of HB virus have not been clearly documented, each of the other factors has been implicated as a cause of at least one severe hepatitis outbreak.

One previously reported cluster of fulminant HB deaths among parenteral drug users, in which six of nine patients died, occurred in New Bern, North Carolina, in 1979 (*2*). An extensive investigation implicated the injection of 3,4 methylene diamphetamine (MDA) as a possible co-factor to account for the severity of the outbreak. Follow-up studies in chimpanzees exposed to MDA and HB virus were inconclusive. Two cases of NANB hepatitis in drug users were also associated with the outbreak.

There was no MDA use in either of the two current outbreaks. Although "crank," a locally-produced, amphetamine-like substance, was available in California, it was used to a far lesser extent than heroin, and none of the patients with fulminant HB were known to have used it.

As in the New Bern outbreak, a few cases of NANB hepatitis were associated with both recent outbreaks. NANB hepatitis virus has been implicated, along with HB, in an exceptionally virulent outbreak of hepatitis (11 deaths/42 patients) among hemodialysis patients and staff in Edinburgh, Scotland, in 1969-1970, when stored sera were recently retested using modern serodiagnostic techniques for hepatitis A and B (*3*). However, until a reliable serologic

Fulminant Hepatitis — Continued

test for NANB virus(es) is developed, the role of concurrent NANB hepatitis infection in outbreaks of severe HB cannot be clearly defined.

Infection with the Delta agent was recently implicated as the cause of an exceptionally severe hepatitis epidemic among Venezuelan Indians (in which 34 of 149 patients died) (*4*). The Delta agent is an HB-dependent virus composed of a protein antigen (Delta antigen) and a ribonucleic acid (RNA) of low molecular weight, coated with hepatitis B surface antigen. It is transmissible as an independent infectious agent but may only replicate in the presence of active hepatitis B virus infection (*5*). Coprimary infection with HB/Delta, or Delta virus superinfection of an HB carrier may cause acute and/or chronic hepatitis; both types of infection have been associated with fulminant hepatitis B in Europe (*6*). Delta agent infection is endemic in southern Italy and in certain parts of South America and western Africa, but has been limited to hemophilia patients and drug-addict populations in the rest of Western Europe, North America, and Australia (*7,8*).

Evidence of infection with the Delta agent was found in one of three patients with fulminant HB in whom serum was available for testing (1/1 from California, 0/2 from Kentucky). Although Delta was not clearly defined as the cause of these outbreaks, testing for markers of Delta infection is indicated in any outbreak of fulminant hepatitis.

Control of hepatitis B outbreaks in parenteral-drug-using populations is difficult. Efforts in these outbreaks were focused on physician education with respect to diagnosis of HB by appropriate serotesting and prophylaxis of needle and sexual contacts of patients. Seronegative needle contacts should be offered HB vaccine in addition to standard passive prophylaxis. The Delta agent is transmitted similarly to HB and requires no special precautions other than those recommended for HB.

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Current Trends

Tuberculosis — United States, 1983

In 1983, a provisional total of 23,532 tuberculosis cases was reported to CDC, a 7.8% decrease from the 1982 final total of 25,520 cases. In 1968-1978, the average annual decrease in U.S. tuberculosis cases was 5.6%. However, in 1979-1981, when there was a large influx of Indochinese refugees, the average annual decline was 1.4%. From 1981 to 1982, the number of cases decreased by 6.8%.

Deaths from tuberculosis continue to occur. For 1982, the provisional estimate of tuberculosis deaths was 1,980, based on a 10% sample of death certificates by the National

Tuberculosis — Continued

Center for Health Statistics. This was similar to the final totals of 2,012 and 1,978 deaths in 1979 and 1980, respectively, but was higher than the 1981 provisional estimate of 1,780 deaths.

Reported by Div of Tuberculosis Control, Center for Prevention Svcs, CDC.

Editorial Note: Three factors may have contributed to the decreased number of tuberculosis cases reported in 1983: (1) a larger number of states began using the new national individual case reporting system, which requires more accurate verification of cases before they are counted; (2) the number of refugees arriving with tuberculosis in the United States from around the world declined, as did tuberculosis among Indochinese refugees, all of whom were screened for tuberculosis overseas. Indochinese refugees with tuberculosis have been completing supervised, directly observed chemotherapy before immigrating to the United States; and (3) the number of indigenous tuberculosis cases may have actually declined.

In 1979-1982, the average annual number of tuberculosis deaths was nearly 2,000. Tuberculosis was the leading cause of death among 38 communicable diseases for which mortality data were reported to CDC in 1979 (*1*). In fact, the number of tuberculosis deaths in 1979 exceeded the combined total for the other 37 communicable diseases. The number of tuberculosis deaths has shown essentially no decline in 1979-1982. Further analysis of tuberculosis mortality is under way.

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Update: Influenza Activity — United States

Influenza type A(H1N1) virus has now been reported from sporadic cases or outbreaks in all regions of the country except the northwest Pacific states (Figure 3). In contrast, influenza B virus has been isolated primarily in the western half of the country, as well as in parts of the northeast (Figure 4). As previously indicated (*1*), in those regions where circulation of both viruses is occurring, mixed outbreaks have now been confirmed. In Texas, types A(H1N1) and B viruses have been isolated from students at four colleges where outbreaks have been occurring, and similar results have been reported from at least one school outbreak each in Illinois and Wyoming. Other locations where approximately equivalent numbers of influenza types A(H1N1) and B viruses have been isolated from recent community activity include Honolulu, Hawaii, and Houston, Texas.

The elderly have been infrequently reported in this season's influenza outbreaks. In Utah County, Utah, a single influenza type B virus was isolated from an outbreak affecting eight of 79 residents in one nursing home late in January. Further laboratory studies are pending. In addition, no consistent elevation of deaths attributed to pneumonia and influenza in the 121 reporting cities has been seen through the end of January. Influenza A(H3N2) virus remains generally dormant; however, during January, sporadic isolates were reported in Alaska, Arizona, Massachusetts, Minnesota, New Mexico, Pennsylvania, Tennessee, and Texas.

Reported by P Glezen, MD, Baylor University School of Medicine, Houston, J Taylor, MPH, Texas Dept of Health; J Miner, MD, Utah County Health Dept, B Haslam, CR Nichols, Utah Dept of Health; State Epidemiologists and Laboratory Directors; Statistical Svcs Activity, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Reference

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Influenza – Continued

FIGURE 3. States with outbreaks or sporadic cases of influenza type A(H1N1) virus — United States, through February 10, 1984

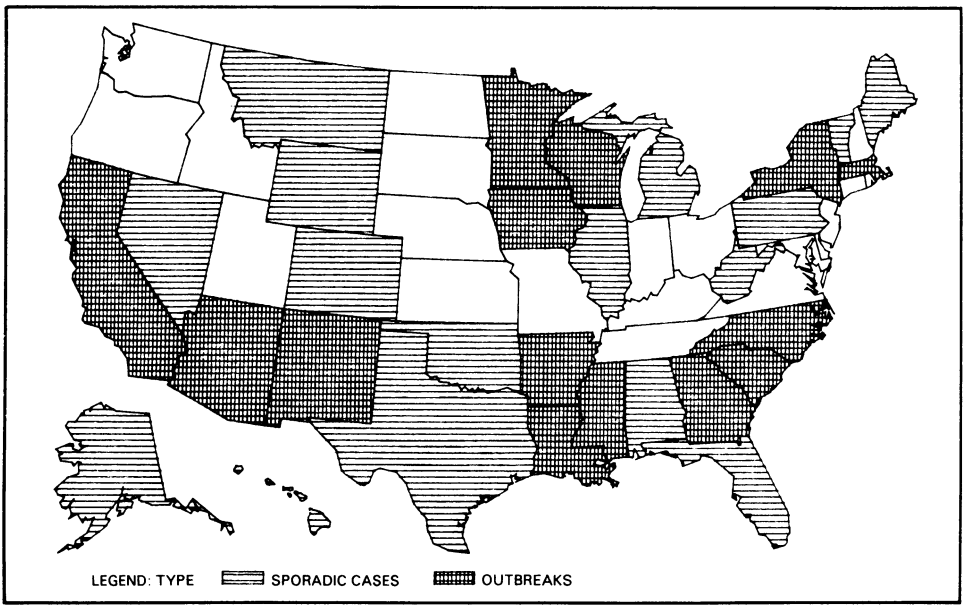
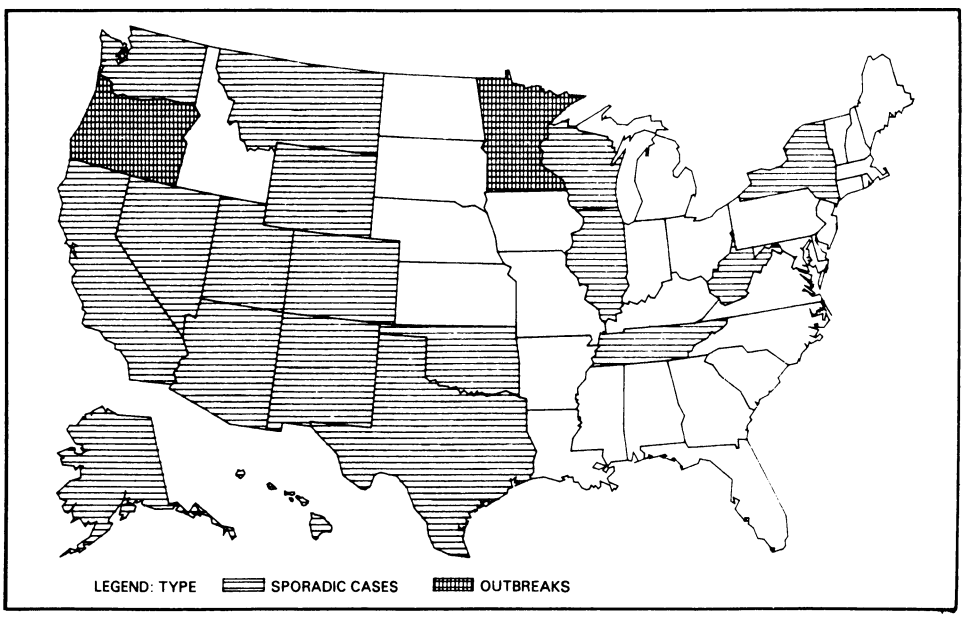


FIGURE 4. States with outbreaks or sporadic cases of influenza type B virus — United States, through February 10, 1984



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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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