

# MORBIDITY AND MORTALITY WEEKLY REPORT

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## *Epidemiologic Notes and Reports*

### Non-A, Non-B Hepatitis Infection Transmitted via a Needle — Washington

On November 27, 1978, the Epidemiology Section of the Washington Department of Social and Health Services was notified of a case of hepatitis in a nurse, possibly acquired by accidental inoculation of the virus by a needle. Laboratory studies on the nurse were consistent with non-A, non-B (NANB) hepatitis.

The patient whom the nurse was attending at the time of the accident was a 57-year-old woman, who was hospitalized because of terminal pancreatic carcinoma with biliary obstruction. During a surgical procedure on October 26, she received 5 units of whole blood obtained from 5 volunteers. She was markedly jaundiced throughout her hospitalization and had had liver enzyme elevations consistent with obstructive jaundice. Tests for the hepatitis B surface antigen (HBsAg) were negative.

On October 31, 5 days after the patient received her transfusions, the nurse attending her pushed the needle of an albumin infusion setup through the soft rubber infusion site on the intravenous (IV) bottle and into the palm of her hand, causing bleeding from the puncture site. In retrospect, the nurse noted that blood would frequently back up into the IV tubing when the patient moved. This had happened earlier during the shift when the patient was being transferred from a bed to a chair. The nurse did not report the accidental prick from the needle to her supervisor, nor did she receive immune globulin.

In mid-November the nurse, who was 41 years old, had onset of an influenza-like illness with fatigue, nausea, vomiting, and malaise. On November 18, her urine was noted to be turning darker, and on November 20 her sclerae were yellow. She was seen in a local emergency room and admitted to the hospital. Admission laboratory studies revealed an SGOT of 130 IU/L, alkaline phosphatase of 310 IU/L, and total bilirubin of 2.6 mg/dl. A test for hepatitis B surface antigen was negative. By December 7, her enzymes and bilirubin had returned to normal. She returned to work on December 8. There were no secondary cases in the hospital or in the nurse's family.

The nurse had no known history of hepatitis and was not taking any known hepatotoxic drugs. In the preceding 6 months she had not cared for any other jaundiced patients, nor had she been exposed to anyone subsequently diagnosed as having hepatitis. Follow-up tests on the nurse continue.

Serum from the nurse was sent to the Hepatitis Laboratories Division in Phoenix for antibody testing. The serum was negative for HBsAg and for antibody to HBsAg. The test for antibody to hepatitis A virus (anti-HAV) was positive, but the differential test for immunoglobulin class showed the anti-HAV activity to be IgG-mediated, which is consistent with a previous, but not current, HAV infection (7-3). NANB hepatitis, a diagnosis of exclusion, was thus made. The most probable source of the nurse's infection was the inadvertent, percutaneous inoculation of the patient's blood.

The donors of the suspect blood were contacted through the local blood bank. None

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*Hepatitis — Continued*

had had clinical hepatitis, or had donated blood to other persons.

*Reported by W Herron, MD, MPH, E Peterson, RN, Tacoma-Pierce County Health Dept; JW Taylor, MD, MPH, State Epidemiologist, Washington Dept of Social and Health Services; Hepatitis Laboratories Div, Field Services Div, Bur of Epidemiology, CDC.*

**Editorial Note:** Based on these data, it appears that the nurse's infection was NANB hepatitis with an incubation period of 2 weeks. A similar case has been reported with onset 6 weeks after accidental, percutaneous exposure (4). NANB hepatitis, the major cause of post-transfusion hepatitis in the United States (5), resembles hepatitis B epidemiologically. As with hepatitis B, the agent (or agents) apparently causes a chronic viremia (1,2,5) from which virus can be transmitted to susceptible individuals through transfusion or other percutaneous routes.

*References*

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4. Tabor E, Gerety RJ, Drucker JA, *et al*: Transmission of non-A, non-B hepatitis from man to chimpanzee. *Lancet* 1:465-466, 1978
5. Seeff LB, Zimmerman JH, Wright EC, *et al*: A randomized, double blind controlled trial of the efficacy of immune serum globulin for the prevention of post-transfusion hepatitis. *Gastroenterol* 72:111-121, 1977

**Follow-up on Canine Rabies — U.S.-Mexican Border**

Through April 5, 1979, 27 cases of canine rabies have been reported from the area of El Paso County, Texas; Dona Ana County, New Mexico; and Cd. Juarez, Chihuahua, Mexico.

Ten of the cases were reported from El Paso County, Texas. The first rabid dog was captured on February 25, within the El Paso City limits near the Rio Grande River (7). Subsequent cases have been found east of the city as far as 30 miles from the first case. Initial cases in these areas were in close proximity to the Rio Grande River and interconnecting canals. Seven of the dogs were found in Ysleta, Texas, and 1 each in Clint and Fabens, Texas. Thirty-seven persons were reported to have been exposed to the infected animals, and 20 have begun antirabies treatment.

The 2 canine rabies cases reported from New Mexico (1 in early and 1 in late March) were from the Sunland Park area near the boundary between Texas, New Mexico, and Mexico. No human exposures have been reported.

Cd. Juarez has reported 15 cases of canine rabies since January 1. Although cases have been found in outlying areas surrounding Cd. Juarez, most cases have occurred southeast of the city. Over 45 persons have been exposed to these animals and are undergoing antirabies treatment.

Intensive immunization and programs to capture stray animals are being conducted in the area. A meeting of health and animal control personnel from Mexico, New Mexico, and Texas was held in El Paso on March 21 to discuss the problem and to plan for improved communication and cooperative activities.

*Reported by B Velimirovic, MD, El Paso Field Office, Pan American Health Organization; Boletín Epidemiológico de Zoonoses de Cd. Juarez, February 1979; LR Hutchinson, VMD, BF Rosenblum, MD, El Paso City-County Health Unit; WR Bilderback, DVM, Texas State Dept of Health; JM Mann, MD, State Epidemiologist, Health Services Div, New Mexico State Health and Environment Dept; Respiratory and Special Pathogens Br, Viral Diseases Div, Bur of Epidemiology, CDC.*

*Reference*

1. MMWR 28:111, 1979

## Outbreak of Influenza in Nursing Students – Pennsylvania

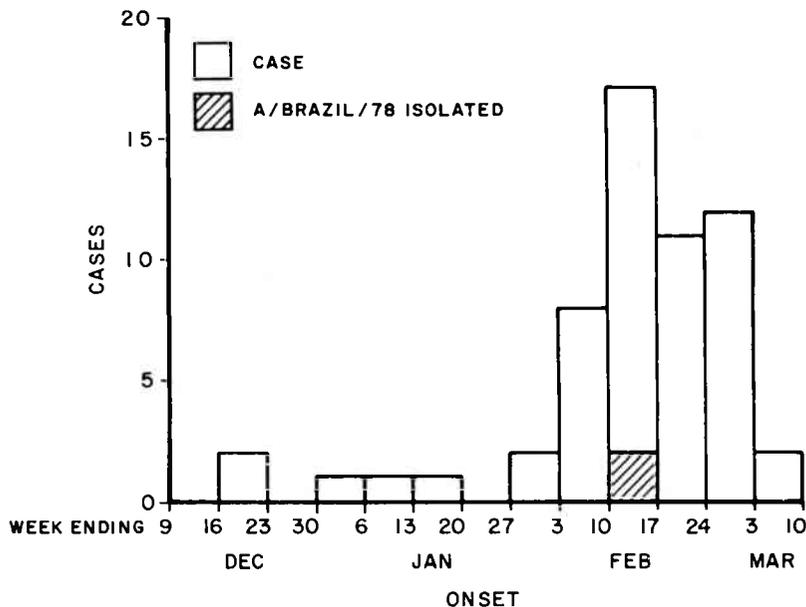
An outbreak of influenza-like illness among 156 nursing students in a Pennsylvania community occurred during February. Two of 3 throat washings obtained on February 14 from students with febrile, upper respiratory tract infections were positive for A/Brazil/78-like influenza. Specimens from 5 other persons in the community (ages ranging from 9 to 25) were positive for the same strain.

A questionnaire was administered to 136 nursing students, who lived in a residence hall adjacent to the 323-bed hospital. Fifty-eight (43%) had experienced onset of an influenza-like illness (defined as fever and 2 additional symptoms: cough, chills, headache, rhinorrhea, sore throat, and myalgia) in the period December 18-March 12 (Figure 1). Patients ranged in age from 18 to 23. Symptoms included fever (100%), chills (88%), cough (86%), sore throat (84%), rhinorrhea and myalgia (79%), headache (78%), nausea (57%), eye pain (31%), diarrhea (29%), and vomiting (16%). Temperatures were recorded by 54 students and ranged from 99-104 F (37.2-40.0 C); the mean was 101.6 F (38.6 C). The mean number of days of confinement to bed was 3, and illness accounted for 120 days (2 days per person) of missed class time or hospital work. Forty-eight students made a total of 85 visits to physicians, clinics, or emergency rooms. Vaccination histories were not obtained, but immunization had not been offered by the nursing school this year.

One case of presumed nosocomially acquired influenza was confirmed in a patient at the hospital. The patient, a 25-year-old woman, experienced an abrupt rise in temperature on February 23, 21 days following admission for a diagnostic evaluation. Throat swabs taken from her grew A/Brazil/78-like influenza.

*Reported by ES Balkovic, MS, FB Rose, MD, Robert Packer Hospital/Guthrie Clinic, Sayre, Pennsylvania; B Kieger, DrPH, Pennsylvania Dept of Health; Immunization Div, Bur of State Services, Field Services Div, CDC.*

**FIGURE 1.** Influenza cases at a nursing school, Sayre, Pennsylvania, by date of onset, December 9, 1978-March 10, 1979



## Anthrax in Humans — United States, 1978

Six cases of anthrax in humans were reported to CDC in 1978. All 6 cases were occupationally acquired: 4 in industrial settings, 2 in agricultural ones. In each case the patient had cutaneous anthrax. All 6 have recovered.

Of the 4 industrial anthrax cases, 2 were associated with a North Carolina textile mill and 2 with a New Hampshire felt mill. The 2 North Carolina cases occurred in January and February 1978 in unvaccinated employees of a textile mill, where imported goat hair is processed into fabrics. The first case was in a 67-year-old man whose duties involved general maintenance of the carding machines. After working in the mill for 7 days, he noticed a painless, nonpruritic postule on the right side of his chin, associated with slight swelling. Two days later he was seen by a physician, who placed him on tetracycline therapy. A 1-cm ulcer with a black eschar at its base subsequently developed at the postule site. Cultures taken after antibiotic therapy was initiated were negative for *Bacillus anthracis*; a blood specimen obtained 58 days after onset and 37 days after he received 1 dose of anthrax vaccine revealed a microscopic indirect hemagglutination titer of 1:640 for *B. anthracis*. The second patient was a 59-year-old man who had hauled waste material from the mill for the past year. He noticed a small pruritic pimple on the

(Continued on page 165)

**TABLE I. Summary — cases of specified notifiable diseases, United States**  
(Cumulative totals include revised and delayed reports through previous weeks.)

DISEASE	14th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 14 WEEKS		
	April 7, 1978	April 8, 1978*		April 7, 1979	April 8, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	25	24	33	667	485	493
Brucellosis	—	—	1	19	39	39
Chickenpox	7,899	5,422	5,422	88,811	57,351	57,408
Diphtheria	—	4	3	51	25	53
Encephalitis: Primary (arthropod-borne & unsp.)	3	17	17	124	149	214
Post-infectious	4	4	4	50	40	52
Hepatitis, Viral: Type B	250	274	274	3,581	4,003	3,953
Type A	549	557	690	7,817	7,361	9,696
Type unspecified	216	142	155	2,988	2,142	2,247
Malaria	3	12	6	100	131	86
Measles (rubeola)	458	862	862	4,084	7,751	7,961
Meningococcal infections: Total	51	73	35	906	772	542
Civilian	51	72	35	903	764	537
Military	—	1	1	3	8	8
Mumps	796	470	1,482	5,629	5,977	17,998
Pertussis	22	24	20	378	595	310
Rubella (German measles)	376	478	478	3,688	3,804	4,937
Tetanus	1	—	—	10	10	12
Tuberculosis	515	556	634	7,283	7,108	7,734
Tularemia	1	—	—	27	16	21
Typhoid fever	4	12	5	103	145	93
Typhus fever, tick-borne (Rky. Mt. spotted)	—	3	1	23	14	14
Veneral diseases:						
Gonorrhea: Civilian	19,517	19,433	18,791	257,145	244,681	248,697
Military	529	756	480	7,419	6,489	7,093
Syphilis, primary & secondary: Civilian	462	396	396	6,541	5,419	5,789
Military	4	3	9	85	81	82
Rabies in animals	109	76	71	921	694	668

**TABLE II. Notifiable diseases of low frequency, United States**

	CUM. 1978		CUM. 1979
Anthrax	—	Poliomyelitis: Total	2
Botulism †	4	Paralytic	2
Congenital rubella syndrome	8	Psittacosis (La. 1)	32
Leprosy (Calif. 2)	47	Rabies in man	1
Leptospirosis † (La. 2)	15	Trichinosis	25
Plague	1	Typhus fever, flea-borne (endemic, murine) (Md. 1)	4

\* Delayed reports received for calendar year 1978 are used to update last year's weekly and cumulative totals.

\*\* Medians for gonorrhea and syphilis are based on data for 1976-1978.

† Delayed reports: Botulism: Ga. +2 (1978); Leptospirosis: La. +4 (1978)

TABLE III. Cases of specified notifiable diseases, United States, weeks ending April 7, 1979, and April 8, 1978 (14th week)

REPORTING AREA	ASEPTIC MENINGITIS			BRUCELLOSIS			CHICKENPOX			DIPHTHERIA			ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
	Primary			Post-infections			B	A	Unspecified											
	1978	1979	1978	1978	1979	CDM. 1979	1978	1979*	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	CUM. 1978	
UNITED STATES	25	-	7,899	-	-	51	3	17	4	250	549	216	3	100						
NEW ENGLAND	2	-	1,063	-	-	-	1	1	-	2	16	9	-	5						
Maine	-	-	185	-	-	-	-	-	-	4	1	-	-							
N.H. †	-	-	69	-	-	-	-	-	-	1	-	-	-							
Vt.	-	-	2	-	-	-	-	-	-	4	-	-	-							
Mass.	-	-	259	-	-	-	1	1	-	1	7	8	1							
R.I.	1	-	107	-	-	-	-	-	-	1	-	-	3							
Conn.	1	-	437	-	-	-	-	-	-	NA	NA	NA	1							
MID. ATLANTIC	7	-	1,218	-	-	-	-	6	-	58	58	22	1	14						
Upstate N.Y.	2	-	897	-	-	-	-	-	-	9	29	5	-	2						
N.Y. City	3	-	114	-	-	-	-	3	-	10	3	9	-	9						
N.J.	2	-	NN	-	-	-	-	-	-	25	20	8	-	1						
Pa. †	-	-	207	-	-	-	-	3	-	14	6	-	1	2						
E.N. CENTRAL	4	-	3,379	-	-	-	2	1	-	30	65	12	-	6						
Ohio †	-	-	347	-	-	-	1	-	-	9	19	-	-	3						
Ind.	-	-	218	-	-	-	-	1	-	4	6	1	-	-						
Ill.	-	-	572	-	-	-	-	-	-	7	16	4	-	1						
Mich.	4	-	1,571	-	-	-	1	-	-	9	19	7	-	2						
Wis.	-	-	671	-	-	-	-	-	-	1	5	-	-	-						
W.N. CENTRAL	-	-	647	-	-	-	-	2	-	8	40	6	-	3						
Minn.	-	-	-	-	-	-	-	-	-	2	10	1	-	2						
Iowa	-	-	291	-	-	-	-	-	-	1	-	-	-	-						
Mo.	-	-	158	-	-	-	-	2	-	5	4	4	-	1						
N. Dak. †	-	-	8	-	-	-	-	-	-	-	-	-	-	-						
S. Dak.	-	-	25	-	-	-	-	-	-	-	17	-	-	-						
Nebr.	-	-	30	-	-	-	-	-	-	-	3	1	-	-						
Kans.	-	-	135	-	-	-	-	-	-	-	6	-	-	-						
S. ATLANTIC	4	-	398	-	-	-	-	1	2	42	50	36	1	25						
Del.	-	-	2	-	-	-	-	-	1	1	-	-	-	1						
Md.	1	-	89	-	-	-	-	-	-	15	10	17	-	3						
D.C.	-	-	6	-	-	-	-	-	-	1	-	-	-	4						
Va. †	-	-	19	-	-	-	-	1	-	7	7	6	-	6						
W. Va.	1	-	146	-	-	-	-	-	-	1	3	-	-	1						
N.C.	2	-	NN	-	-	-	-	-	-	4	5	2	-	1						
S.C.	-	-	10	-	-	-	-	-	-	1	4	1	-	1						
Ga.	-	-	-	-	-	-	-	-	-	-	-	-	-	1						
Fla.	-	-	126	-	-	-	-	-	1	12	21	10	1	7						
E.S. CENTRAL	-	-	286	-	-	-	-	-	-	16	27	1	-	-						
Ky.	-	-	257	-	-	-	-	-	-	-	-	-	-	-						
Tenn.	-	-	NN	-	-	-	-	-	-	5	17	1	-	-						
Ala.	-	-	28	-	-	-	-	-	-	5	2	-	-	-						
Miss.	-	-	1	-	-	-	-	-	-	6	8	-	-	-						
W.S. CENTRAL	2	-	334	-	-	-	2	1	1	11	75	23	-	8						
Ark.	-	-	12	-	-	-	1	-	-	2	4	5	-	1						
La.	-	-	NN	-	-	-	-	-	-	1	1	2	-	-						
Okla.	1	-	-	-	-	-	-	-	-	4	5	1	-	-						
Tex.	1	-	322	-	-	-	1	1	1	4	65	15	-	7						
MOUNTAIN	1	-	126	-	1	-	-	-	-	12	84	61	-	2						
Mont.	-	-	6	-	-	-	-	-	-	-	6	2	-	-						
Idaho	-	-	6	-	-	-	-	-	-	1	1	-	-	1						
Wyo.	-	-	-	-	-	-	-	-	-	9	13	21	-	1						
Colo.	-	-	101	-	-	-	-	-	-	-	8	7	-	-						
N. Mex.	-	-	3	-	-	-	-	-	-	-	4	4	26	-						
Ariz.	-	-	NN	-	1	-	-	-	-	-	8	4	-	-						
Utah	1	-	7	-	-	-	-	-	-	2	4	1	-	-						
Nev.	-	-	3	-	-	-	-	-	-	-	-	-	-	-						
PACIFIC	5	-	448	-	50	-	4	1	1	71	134	46	1	37						
Wash.	-	-	390	-	49	-	-	-	-	14	55	8	-	2						
Oreg.	-	-	2	-	-	-	-	-	-	5	10	3	-	2						
Calif. †	5	-	-	-	1	-	4	1	1	51	67	32	1	32						
Alaska	-	-	2	-	-	-	-	-	-	1	1	-	-	-						
Hawaii	-	-	54	-	-	-	-	-	-	-	1	3	-	1						
Guam	NA	NA	NA	NA	-	-	NA	-	-	NA	NA	NA	NA	-						
P.R.	1	-	27	-	-	-	-	-	-	3	2	7	-	-						
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pac. Trust Terr.	NA	NA	NA	NA	-	-	NA	-	-	NA	NA	NA	NA	-						

NN: Not notifiable.

NA: Not available.

\* Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

† The following delayed reports will be reflected in next week's cumulative totals: Aseptic meningitis: Pa. +1, Ohio +1; Chickenpox: Pa. +157, Calif. 1292; Hepatitis B: N.H. +1, Pa. +12, Ohio +1; Hepatitis A: N.H. -1, Pa. +13, Ohio -1, N. Dak. +2; Hepatitis unsp.: Pa. +3, Va. -1; Malaria: Ohio -1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending April 7, 1979, and April 8, 1978 (14th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUM. 1979	CUM. 1978*	1978	CUM. 1978	CUM. 1978*	1978	CUM. 1979	1978	1979	CUM. 1979	CUM. 1979
UNITED STATES	458	4,084	7,751	51	906	772	796	5,629	22	376	3,688	10
NEW ENGLAND	11	124	689	3	28	46	16	235	-	71	472	-
Maine	-	4	443	-	1	3	4	93	-	4	15	-
N.H.†	-	3	11	1	5	5	-	2	-	2	29	-
Vt.	11	17	5	-	2	1	-	4	-	27	166	-
Mass.	-	-	85	-	6	17	3	19	-	24	166	-
R.I.	-	100	4	-	1	8	2	11	-	3	11	-
Conn.	-	-	139	2	13	12	7	106	-	11	85	-
MID. ATLANTIC	108	380	577	7	124	102	46	397	2	75	489	2
Upstate N.Y.	81	214	405	3	45	33	12	60	2	52	180	1
N.Y. City	26	134	85	-	34	26	10	52	-	14	60	1
N.J.†	1	24	8	-	31	18	18	217	-	7	177	-
Pa.†	-	8	79	4	14	25	6	68	-	2	72	-
E.N. CENTRAL	61	845	2,884	3	77	74	253	2,338	10	88	892	1
Ohio	-	4	173	2	24	15	115	815	2	-	24	-
Ind.†	5	82	51	-	17	12	8	138	5	43	259	-
Ill. †	10	194	390	-	3	11	33	365	1	-	55	-
Mich.	32	358	1,824	-	25	30	59	465	2	40	464	1
Wis.	14	207	446	1	8	6	38	555	-	5	90	-
W.N. CENTRAL	70	454	84	1	32	29	35	368	1	6	183	-
Minn.	29	201	14	-	6	4	-	3	-	1	14	-
Iowa	1	3	8	-	4	5	27	137	-	1	42	-
Mo.	39	238	6	1	17	13	1	109	-	3	18	-
N. Dak.	-	2	24	-	-	-	-	1	-	-	8	-
S. Dak.	-	1	-	-	2	2	-	2	-	-	-	-
Nebr. †	-	-	3	-	-	-	-	3	-	-	58	-
Kans.	1	9	29	-	3	5	7	113	1	1	43	-
S. ATLANTIC	41	540	2,046	11	214	209	15	199	2	40	303	2
Del.	-	-	4	-	2	-	-	2	-	-	1	-
Md.	-	5	1	2	17	8	1	87	-	-	-	-
D.C.	-	-	47	-	-	-	1	-	-	-	-	-
Va.†	13	75	1,386	3	37	30	2	41	-	3	18	-
W. Va.	-	34	343	-	3	5	9	52	2	8	61	-
N.C.	7	75	40	2	36	45	2	22	-	16	97	2
S.C.	4	34	126	2	32	15	-	2	-	10	38	-
Ga.	-	35	5	-	37	27	-	3	-	-	2	-
Fla.	17	282	94	2	50	78	1	42	-	3	96	-
E.S. CENTRAL	1	60	601	6	75	64	43	538	-	1	119	2
Ky.	1	14	56	-	13	11	38	455	-	1	37	-
Tenn.	-	11	426	3	24	20	4	54	-	-	51	-
Ala.	-	28	25	1	18	17	-	9	-	-	14	2
Miss.	-	7	94	2	20	16	1	20	-	-	17	-
W.S. CENTRAL	51	486	473	14	175	108	338	1,045	-	8	106	3
Ark.	-	7	4	1	14	12	300	564	-	-	-	2
La.	-	144	206	9	85	34	-	23	-	-	15	-
Okla.	-	3	7	-	16	9	-	-	-	-	16	-
Tex.	51	332	256	4	60	53	38	458	-	8	77	1
MOUNTAIN	14	84	87	1	43	13	10	159	2	14	157	-
Mont.†	7	30	62	-	2	1	-	5	-	-	29	-
Idaho	-	2	1	-	3	1	1	3	-	9	93	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	2	8	11	-	1	2	2	50	-	-	14	-
N. Mex.	-	9	-	-	2	2	-	4	-	-	-	-
Ariz.	5	20	7	1	28	3	2	13	2	5	16	-
Utah	-	13	1	-	3	3	5	76	-	-	5	-
Nev.	-	2	5	-	4	1	-	8	-	-	-	-
PACIFIC	101	1,111	310	5	138	127	40	350	5	73	965	-
Wash.†	85	514	32	2	20	20	2	132	-	7	88	-
Oreg.	-	19	80	-	9	4	4	33	-	-	40	-
Calif.	14	513	197	3	103	98	11	142	5	66	830	-
Alaska	-	14	-	-	2	4	-	5	-	-	1	-
Hawaii	2	51	1	-	4	1	23	38	-	-	6	-
Guam	NA	-	1	-	-	-	NA	-	NA	NA	1	-
P.R.	12	132	75	-	-	-	18	266	-	-	17	3
V.I.	-	1	6	-	-	-	-	1	-	-	-	-
Pac. Trust Terr.	NA	5	257	-	1	2	NA	11	NA	NA	-	-

NA: Not available.

\*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Measles: Pa. +2, Ind. -2, Ill. +167, Va. -5, Mont. -1; Men. inf.: N.J. +2, Pa. +2, Ind. +1; Mumps: Pa. +13, Ill. +1, Va. +2; Pertussis: Ill. +1; Rubella: N.H. +9, N.J. -13, Pa. +3, Ill. +18, Nev. +1, Wash. +3.

TABLE III (Cont'd). Cases of specified notifiable diseases, United States, weeks ending April 7, 1979, and April 8, 1978 (14th week)

REPORTING AREA	TUBERCULOSIS		TULA-REMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1978	CUM. 1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	CUM. 1979
UNITED STATES	515	7,283	27	4	103	-	23	19,517	257,145	244,681	462	6,541	5,419	921
NEW ENGLAND	17	210	1	-	8	-	-	694	6,955	6,132	6	113	177	14
Maine	-	13	-	-	1	-	-	27	447	440	-	1	3	13
N.H.	1	4	-	-	-	-	-	19	218	294	-	2	1	1
Vt.	-	6	-	-	-	-	-	17	119	156	-	-	-	-
Mass.	14	133	1	-	4	-	-	371	2,856	2,705	3	77	118	-
R.I.	1	13	-	-	1	-	-	25	556	409	-	3	6	-
Conn.	1	41	-	-	2	-	-	235	2,759	2,124	3	30	49	-
MID. ATLANTIC	87	1,178	1	1	16	-	3	2,667	28,069	26,926	36	1,039	725	6
Upstate N.Y.	16	210	1	-	3	-	3	271	5,085	4,150	3	85	55	6
N.Y. City†	34	454	-	-	6	-	-	900	10,417	10,791	48	701	503	-
D.C.	19	213	-	-	5	-	-	929	5,582	4,928	8	136	82	-
Pa.†	16	301	-	1	2	-	-	567	6,985	7,057	7	117	85	-
E.N. CENTRAL	66	1,033	-	1	8	-	2	3,140	39,755	34,607	103	857	539	54
Ohio†	11	196	-	-	-	-	2	962	11,109	9,051	22	179	105	4
Ind.	4	151	-	-	-	-	-	330	3,254	3,737	5	48	32	13
Ill.	24	376	-	-	4	-	-	1,091	12,660	10,265	63	496	334	24
Mich.	22	267	-	1	4	-	-	524	9,159	8,257	10	103	52	-
Wis.†	5	43	-	-	-	-	-	233	3,573	3,297	3	31	16	13
W.N. CENTRAL	18	242	9	-	3	-	1	986	12,346	12,037	11	95	122	185
Minn.	-	26	-	-	2	-	-	145	2,131	2,272	4	29	53	51
Iowa	2	25	-	-	-	-	-	87	1,637	1,444	3	10	11	44
Mo.	13	134	7	-	1	-	-	430	5,156	4,634	4	40	29	45
N. Dak.	1	10	-	-	-	-	-	13	211	276	-	-	2	11
S. Dak.†	-	13	1	-	-	-	-	33	412	455	-	-	1	10
Nbr.	-	3	1	-	-	-	-	82	861	912	-	-	3	-
Kans.	2	31	-	-	-	-	1	196	1,958	2,044	-	15	23	24
S. ATLANTIC	107	1,688	1	-	11	-	9	4,389	61,201	58,884	96	1,636	1,473	119
Del.†	5	17	-	-	-	-	-	71	990	947	1	10	3	-
Md.	13	231	-	-	5	-	4	521	7,471	7,854	11	115	111	-
D.C.	-	71	-	-	1	-	-	287	3,821	3,799	11	120	122	-
Va.	16	206	-	-	1	-	-	368	5,793	5,314	6	165	128	3
W. Va.	5	61	-	-	-	-	-	74	903	899	1	22	4	-
N.C.†	16	281	-	-	-	-	4	592	9,348	7,856	9	147	127	-
S.C.	4	65	1	-	1	-	1	410	5,215	5,661	1	86	65	42
Ga.	16	255	-	-	-	-	-	784	11,684	11,044	26	434	358	73
Fla.†	32	501	-	-	3	-	-	1,282	15,976	15,530	30	537	555	1
E.S. CENTRAL	30	648	4	-	6	-	5	1,429	22,046	20,921	26	454	243	44
Ky.	-	135	2	-	2	-	-	155	2,425	2,336	2	46	27	15
Tenn.	16	194	2	-	1	-	1	691	7,862	7,740	7	184	83	15
Ala.†	6	137	-	-	3	-	4	228	6,447	6,222	6	94	37	14
Miss.	8	182	-	-	-	-	-	355	4,812	4,623	11	130	96	-
W.S. CENTRAL	72	873	4	1	7	-	2	2,548	33,815	34,476	84	1,128	819	394
Ark.	7	63	2	-	-	-	1	216	2,611	2,740	5	37	30	88
La.	2	201	1	-	-	-	-	550	5,951	5,648	9	246	165	3
Okla.	8	112	-	-	-	-	-	273	3,037	3,039	-	21	28	66
Tex.	55	497	1	1	7	-	1	1,509	22,216	23,049	70	824	596	237
MOUNTAIN	33	226	6	-	6	-	1	735	9,652	9,111	4	89	107	9
Mont.†	5	10	-	-	-	-	-	44	483	573	-	4	6	-
Idaho	-	4	-	-	1	-	-	23	430	311	-	7	-	-
Wyo.†	-	3	-	-	-	-	-	24	262	219	-	3	3	-
Calo.	12	25	1	-	1	-	-	167	2,605	2,535	4	32	34	-
N. Mex.	5	38	1	-	1	-	-	106	1,287	1,264	-	10	30	5
Ariz.	9	120	-	-	2	-	-	263	2,043	2,280	-	19	20	4
Utah	1	6	4	-	-	-	-	22	479	504	-	2	3	-
Nev.	1	20	-	-	1	-	1	86	1,403	1,375	-	12	11	-
PACIFIC	85	1,185	1	1	38	-	-	2,929	43,306	41,587	66	1,130	1,214	96
Wash.†	11	45	-	-	1	-	-	459	3,835	2,976	NA	40	52	-
Oreg.	2	59	-	-	-	-	-	220	2,851	2,932	7	54	35	-
Calif.	54	972	1	1	30	-	-	2,139	34,566	33,576	55	1,007	1,110	94
Alaska	-	24	-	-	-	-	-	70	1,372	1,298	-	5	5	2
Hawaii	18	85	-	-	7	-	-	41	682	805	4	24	12	-
Guam	NA	9	-	NA	-	NA	-	NA	16	37	NA	-	-	-
P.R.	10	95	-	-	1	-	-	40	520	707	3	145	119	7
V.I.	1	2	-	-	-	-	-	5	45	54	-	-	4	-
Pc. Trust Terr.	NA	8	-	NA	-	NA	-	NA	47	137	NA	-	-	-

NA: Not available.

†Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

The following delayed reports will be reflected in next week's cumulative totals: TB: NYC -9, Pa. +40, Ohio +1, Del. -1, N.C. -1, Ala. +10, Fla. -3; GC: Pa. +305 civ., Wis. -1 civ., Wyo. +16 mil., Wash. +81 mil.; Syphilis: Pa. +3, Mont. +2, Wash. +24; An. rabies: S. Dak. +3.

TABLE IV. Deaths in 121 U.S. cities,\* week ending  
April 7, 1979 (14th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1			ALL AGES	>65	45-64	25-44	<1	
<b>NEW ENGLAND</b>	621	422	134	25	26	31	<b>S. ATLANTIC</b>	1,268	772	338	74	32	58
Boston, Mass.	166	94	44	12	11	6	Atlanta, Ga.	108	67	27	7	2	-
Bridgport, Conn.	46	35	7	3	1	4	Baltimore, Md.	232	144	63	12	5	2
Cambridge, Mass.	23	18	5	-	-	1	Charlotte, N.C.	56	32	13	5	1	3
Fall River, Mass.	32	20	12	-	-	1	Jacksonville, Fla.	128	78	28	9	5	7
Hartford, Conn.	38	28	6	2	-	3	Miami, Fla.	121	76	28	8	5	3
Lowell, Mass.	19	17	2	-	-	1	Norfolk, Va.	55	34	15	-	2	8
Lynn, Mass.	25	23	2	-	-	1	Richmond, Va.	65	39	20	2	1	4
New Bedford, Mass.	25	18	4	1	1	-	Savannah, Ga.	51	26	20	2	1	9
New Haven, Conn.	48	28	13	3	2	-	St. Petersburg, Fla.	103	89	10	2	1	7
Providence, R.I.	65	38	16	2	8	5	Tampa, Fla.	67	41	17	4	2	6
Somerville, Mass.	12	11	1	-	-	2	Washington, D.C.	231	116	81	22	5	5
Springfield, Mass.	35	32	5	-	1	3	Wilmington, Del.	51	30	16	1	2	4
Waterbury, Conn.	35	22	9	2	1	-							
Worcester, Mass.	48	38	8	-	1	4							
							<b>E.S. CENTRAL</b>	700	426	177	41	28	26
<b>MID. ATLANTIC</b>	2,236	1,431	544	140	61	84	Birmingham, Ala.	93	52	22	8	4	-
Albany, N.Y.	69	51	12	-	5	4	Chattanooga, Tenn.	67	40	23	3	-	6
Allentown, Pa.	28	18	8	2	4	-	Knoxville, Tenn.	25	17	5	-	-	-
Buffalo, N.Y.	136	93	33	5	4	12	Louisville, Ky.	101	65	28	4	2	8
Camden, N.J.	29	17	7	3	-	-	Memphis, Tenn.	196	122	50	9	8	2
Elizabeth, N.J.	28	17	9	-	1	2	Mobile, Ala.	59	38	12	3	4	4
Erie, Pa.†	33	29	4	-	-	2	Montgomery, Ala.	59	31	12	10	6	2
Jersey City, N.J.	61	31	17	6	2	2	Nashville, Tenn.	100	61	25	4	4	4
Newark, N.J.	76	34	22	10	5	7							
N.Y. City, N.Y.	1,442	921	348	97	40	45	<b>W.S. CENTRAL</b>	1,198	652	336	85	59	44
Patterson, N.J.	26	18	8	-	-	2	Austin, Tex.	54	37	10	5	1	7
Philadelphia, Pa.†	285	160	85	21	13	12	Baton Rouge, La.	37	26	5	3	1	2
Pittsburgh, Pa.†	54	30	20	3	-	2	Corpus Christi, Tex.	31	19	3	3	3	1
Reading, Pa.†	38	21	13	2	1	1	Dallas, Tex.	175	97	53	6	8	4
Rochester, N.Y.	98	71	21	-	2	3	El Paso, Tex.	45	26	13	5	1	6
Schenectady, N.Y.	23	20	2	1	-	1	Fort Worth, Tex.	69	34	28	2	1	6
Scranton, Pa.†	25	15	10	-	-	1	Houston, Tex.	271	131	77	29	11	6
Syracuse, N.Y.	110	67	30	9	1	3	Little Rock, Ark.	73	46	19	2	5	4
Trenton, N.J.	26	19	6	1	-	1	New Orleans, La.	179	89	55	14	12	5
Utica, N.Y.	22	17	3	2	-	1	San Antonio, Tex.	143	75	42	11	9	-
Yonkers, N.Y.	24	16	5	2	-	1	Shreveport, La.	42	20	11	2	5	-
							Tulsa, Okla.	79	52	20	3	2	3
<b>E.N. CENTRAL</b>	2,411	1,459	626	157	88	70	<b>MOUNTAIN</b>	577	346	131	43	28	24
Akron, Ohio	54	32	15	1	3	-	Albuquerque, N. Mex.	69	37	17	9	4	4
Canton, Ohio	39	25	13	-	-	2	Colo. Springs, Colo.	27	19	4	2	-	4
Chicago, Ill.	586	347	166	41	16	9	Denver, Colo.	133	82	32	5	3	4
Cincinnati, Ohio	163	107	42	4	5	7	Las Vegas, Nev.	50	20	15	5	2	3
Cleveland, Ohio	171	50	47	17	7	2	Ogden, Utah	17	14	1	-	1	-
Columbus, Ohio	174	99	41	13	11	4	Phoenix, Ariz.	124	71	30	10	11	3
Dayton, Ohio	199	103	58	29	4	3	Pueblo, Colo.	24	17	3	2	2	5
Detroit, Mich.	266	151	69	21	14	9	Salt Lake City, Utah	39	21	9	2	5	1
Evansville, Ind.	46	35	6	-	3	4	Tucson, Ariz.	94	65	20	4	-	-
Fort Wayne, Ind.	59	39	16	2	-	5							
Gary, Ind.	19	11	4	2	1	2							
Grand Rapids, Mich.	53	40	9	-	3	8							
Indianapolis, Ind.	153	93	41	9	6	1	<b>PACIFIC</b>	1,668	1,082	383	88	63	46
Madison, Wis.	21	14	2	2	2	2	Berkeley, Calif.	15	13	2	-	-	-
Milwaukee, Wis.	121	84	25	5	4	1	Fresno, Calif.	54	31	14	2	3	3
Peoria, Ill.	49	31	11	2	2	4	Glendale, Calif.	22	18	3	-	1	2
Rockford, Ill.	44	32	7	2	2	1	Honolulu, Hawaii	61	35	18	3	3	5
South Bend, Ind.	34	18	13	2	1	5	Long Beach, Calif.	85	59	22	2	2	2
Toledo, Ohio	107	73	27	2	3	-	Los Angeles, Calif.	467	295	114	25	20	16
Youngstown, Ohio	53	35	14	3	1	1	Oakland, Calif.	66	40	15	5	2	1
							Pasadena, Calif.	30	26	3	-	1	1
							Portland, Ore.	126	78	31	8	6	3
<b>W.N. CENTRAL</b>	731	463	164	40	33	23	Sacramento, Calif.	51	31	12	2	4	-
Des Moines, Iowa	59	39	14	2	1	-	San Diego, Calif.	152	105	33	6	2	5
Duluth, Minn.	29	24	4	1	-	2	San Francisco, Calif.	151	102	36	5	4	-
Kansas City, Kans.	42	31	4	3	1	2	San Jose, Calif.	171	104	41	10	7	1
Kansas City, Mo.	124	79	29	6	8	6	Seattle, Wash.	126	86	22	8	2	2
Lincoln, Nebr.	13	9	3	-	-	3	Spokane, Wash.	53	31	11	6	4	4
Minneapolis, Minn.	91	59	18	3	7	1	Tacoma, Wash.	38	28	0	2	2	1
Omaha, Nebr.	71	43	21	1	5	4							
St. Louis, Mo.	181	102	46	16	5	2							
St. Paul, Minn.	64	44	11	3	3	-							
Wichita, Kans.	57	33	14	5	3	3							
							<b>TOTAL</b>	11,410	7,053	2,833	693	418	406
							Expected Number	10,913	6,836	2,737	655	400	426

\*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, there will now be 117 cities involved in the generation of the expected values used to monitor pneumonia and influenza activity in the United States. Data from these 4 cities will appear in the tables but will not be included in the totals for the United States and the Middle Atlantic Region.

*Anthrax — Continued*

left side of his chin. He was seen by his physician and placed on penicillin and ampicillin therapy. Cultures of the lesion yielded *B. anthracis*. Ninety-four (62%) of 151 environmental swab samples and 29 (76%) of 38 bulk waste samples collected during an environmental culture survey of the mill also yielded *B. anthracis*.

The 2 cases of anthrax in the New Hampshire felt mill also occurred in unvaccinated employees who were exposed to imported goat hair. Both had onset in May and had worked in the carding area during the week before their onset. In the first instance a 20-year-old man, who had worked at the mill for 1 year, lanced a small pustule on the right lower quadrant of his abdomen at the belt line on May 1. On May 5, he sought medical attention, complaining of a painful, swollen skin lesion on his abdomen, fever, headache, sore neck, anorexia, and malaise. On physical examination, his physician noted a well-developed eschar surrounded by edema and erythema, right inguinal adenopathy, and fever of 100.9 F (38.3 C). A wound culture obtained at the time of the initial diagnostic workup on May 5 yielded *B. anthracis*. The second case was in a 19-year-old man; an eschar developed on the biceps area of his left arm. Anthrax in this patient was also culture confirmed.

The 2 agricultural anthrax cases occurred in North Dakota and Idaho in August and September and were associated with anthrax in cattle. The North Dakota patient was a 45-year-old veterinarian, who performed a postmortem examination on 1 of 5 cattle that had died suddenly on a ranch in the southeastern part of the state. On August 20, 6 days after the postmortem examination, a 1- to 2-mm vesicle developed on the dorsum of the middle finger of his left hand near the knuckle. At the time of his admission to the local hospital on August 24, he had a purple, pruritic, moderately painful, pustular lesion 10-15 mm in diameter on his finger, axillary adenopathy, and a temperature of 99.8 F (37.6 C). He was treated with tetracycline and penicillin and was discharged on August 27. *B. anthracis* was cultured from specimens from 1 of the cows and from a blood culture obtained from the patient when he was admitted to the hospital. The Idaho patient was a ranchhand, who noted a lesion on his hand a few days after he had assisted the ranch owner and a veterinarian in the postmortem examination of cattle that had died suddenly. *B. anthracis* was positively identified by culture of clinical specimens from the ranchhand and 2 of the dead steers.

*Reported by JA Mather, MD, State Epidemiologist, J Westervelt, Southeastern District, Idaho State Dept of Health and Welfare; JI Freeman, State Public Health Veterinarian, MP Hines, DVM, State Epidemiologist, North Carolina State Dept of Human Resources; G Eash, MD, Fargo, North Dakota; K Mcsser, State Epidemiologist, HD Neugebauer, North Dakota State Dept of Health; M Hilgameier, MH Mires, MD, New Hampshire State Dept of Health and Welfare; and Bacterial Zoonoses Br, Bacterial Diseases Div, Bur of Epidemiology, CDC, in CDC's Veterinary Public Health Notes, January 1979.*

**Editorial Note:** Before anthrax vaccination programs were initiated for persons exposed to industrial anthrax, textile and felt mills were frequent sources of anthrax morbidity in the United States. The widespread use of the vaccine has markedly reduced morbidity in mill employees; however, there is no method of completely eliminating potential exposure except not using imported goat hair and other infective animal materials or instituting expensive decontamination procedures.

An effective vaccine for anthrax in cattle is available; however, the sporadic occurrence of bovine anthrax fails to provide ranchers with incentive to vaccinate their livestock routinely.

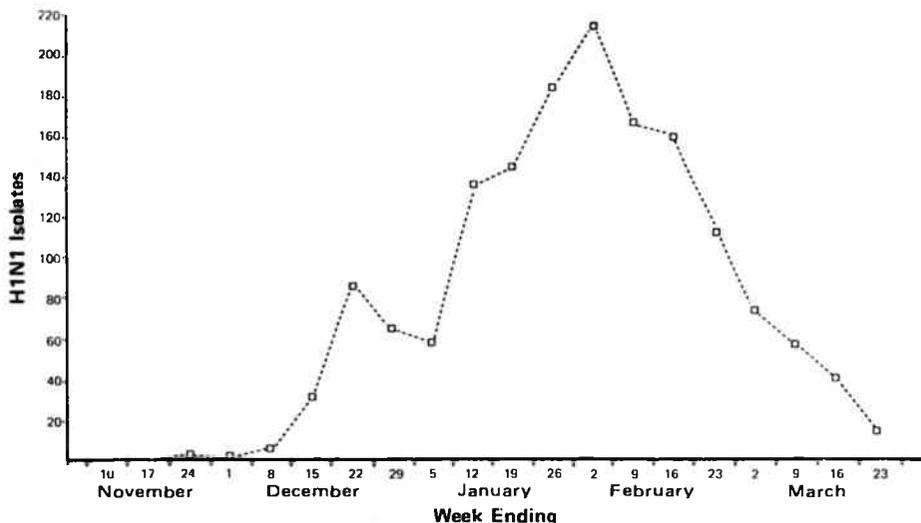
The number of cases (6) reported in 1978 is more than double the average annual number (2.4) of cases reported to CDC in the preceding 10 years and is the largest number of cases reported in any 1 year since 7 cases were reported in 1965.

## Current Trends

### Laboratory-Based Surveillance of Influenza — United States, Worldwide

**United States:** Reported influenza activity due to influenza A(H1N1) strains peaked during the end of January and beginning of February and subsided by the end of March, according to reports of virus isolations received by the World Health Organization (WHO) Collaborating Center for Influenza, CDC. These reports are from participating laboratories of state, county, or city health departments and U.S. military bases (Figure 2).

**FIGURE 2. Influenza A(H1N1) isolations by WHO collaborating laboratories,\* United States, November 3, 1978-March 23, 1979**



\*including military sources

For the period November 3, 1978-March 23, 1979, specimens were tested by these laboratories from 6,692 patients  $\leq 26$  years of age, from 1,335 persons  $\geq 26$  years of age, and from 6,342 persons whose ages were not reported. Influenza A(H1N1) viruses were isolated from 15% of individuals  $\leq 26$  years and from 4.6% of those aged  $\geq 26$  years. Only 5.9% of the 1,059 influenza A(H1N1) isolates obtained from individuals whose ages are known were from persons  $\geq 26$  years old.

Isolates of influenza A(H1N1) virus were reported from 49 states and territories in the United States, including Puerto Rico and the U.S. Virgin Islands. Representative viruses from nearly all these locations were submitted to CDC for confirmation of strains, and more than 98% of the approximately 600 isolates tested resembled the A/Brazil/11/78 virus, which shows modest antigenic drift from A/USSR/90/77. Of the remaining isolates one resembled A/USSR/90/77, and the others were additional variants. No influenza A(H3N2) isolates have been confirmed during the winter. About 20 influenza B viruses have been isolated from sporadic cases in California, Ohio, Texas, Utah, Washington, and Wisconsin. Influenza C virus was isolated in California and in Kansas.

*Reported by laboratories collaborating with influenza surveillance activities coordinated by National Institutes of Health, U.S. Air Force, U.S. Army, and CDC.*

**Worldwide:** The most frequently isolated influenza viruses worldwide have been those of the H1N1 subgroup of influenza A (Table 1). Both A/USSR/90/77-like and A/Brazil/11/78-like strains have been identified. Influenza B viruses also caused local or regional outbreaks

*Influenza — Continued*

in many countries in Europe this season. Isolations of influenza A(H3N2) strains have been reported infrequently.

Reported by WHO Collaborating Center for Influenza, Bur of Laboratories, CDC.

TABLE 1. Reported isolation of influenza viruses, worldwide, July 1978 — March 1979

Month of first report	Virus type (subtype) isolates		
	A(H1N1)	A(H3N2)	B
July	Hong Kong New Zealand		
August			Australia Canada*
September	Australia		New Zealand United States
October	Malaysia United States		Hong Kong
November	France Jamaica Pakistan Singapore Spain Thailand United Kingdom	Hungary Israel	USSR
December	Algeria Austria Bulgaria Canada Canal Zone Egypt Germany Netherlands Philippines USSR	Bulgaria USSR	
January	Czechoslovakia Finland Greece Israel Italy Japan Romania Sweden Switzerland	Canada Italy United Kingdom	Bulgaria Canada Germany Spain
February	Denmark Korea New Zealand		France Norway Sweden United Kingdom
March		India	Denmark Switzerland

\*Imported

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

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