CENTERS FOR DISEASE CONTROL

March 5, 1982 / Vol. 31 / No. 8

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

International Notes

Follow-Up on Epidemic Pneumonia with Progression to Neuromuscular Illness — Spain

In May and June 1981, an extensive outbreak of severe respiratory illness occurred in Spain, primarily in Madrid and the northwest regions of the country (*1,2*). Patients initially had the clinical and radiographic findings of atypical pneumonia, but other common findings were fever, rash, myalgia, and marked eosinophilia. About 1% of patients died. Autopsies showed interstitial pneumonitis and widespread vasculitis (*3*). Convalescence was prolonged in many cases and was characterized by diffuse myalgia, non-pitting edema of the limbs, liver-enzyme abnormalities, and sustained eosinophilia (*4*).

Beginning in August, it was recognized that substantial numbers of previously ill patients were developing neuromuscular problems. Clinical manifestations included muscle atrophy, weight loss, weakness, symmetrical sensory loss, and hyporeflexia. Many patients developed keratoconjunctivitis sicca (decreased tearing and salivation) and scleroderma-like changes of the skin. By that time, chest X rays had become normal. Eosinophilia continued, but at somewhat diminished levels. Moderate elevations of liver enzymes persisted (*5*). Electromyograms showed terminal axonal death, with denervation atrophy on muscle biopsy. Some patients had severe muscle weakness that led to failure of respiratory muscles. Most deaths among patients with neuromuscular illness have largely resulted from complications associated with prolonged maintenance on mechanical ventilation. It is estimated that the epidemic to date has affected about 17,000 persons (about 70% in Madrid). As of December 24, 1981, 13,222 patients had been hospitalized (Figure 1), and 246 had died. Morbidity and case-fatality ratios have been somewhat higher for females than for males, especially among persons between the ages of 10 and 50 years (*6*).

Thus far, extensive microbiologic testing has failed to implicate any infectious agent known to cause atypical pneumonia, eosinophilia, or neuromuscular disease. However, epidemiologic studies have uniformly shown a strong association between illness and ingestion of an illegally marketed cooking oil. This product contained rapeseed oil, denatured by the addition of 2% aniline and imported into Spain for industrial use. After the oil was processed in Spain to remove the aniline, it was sold from house to house and in itinerant markets, primarily in Madrid and nearby provinces. As marketed, the product appears to have been a variable mixture of rapeseed oil, other seed oils, and liquefied pork fat (*2*). Small quantities of aniline and fatty acid anilides have been detected in oil samples.

The discovery of an association between illness and consumption of this oil resulted in vigorous efforts by the Spanish government in late June 1981 to remove all implicated oil from the market. At about the time this action was taken, the epidemic occurrence of acute

Epidemic Pneumonia — Continued

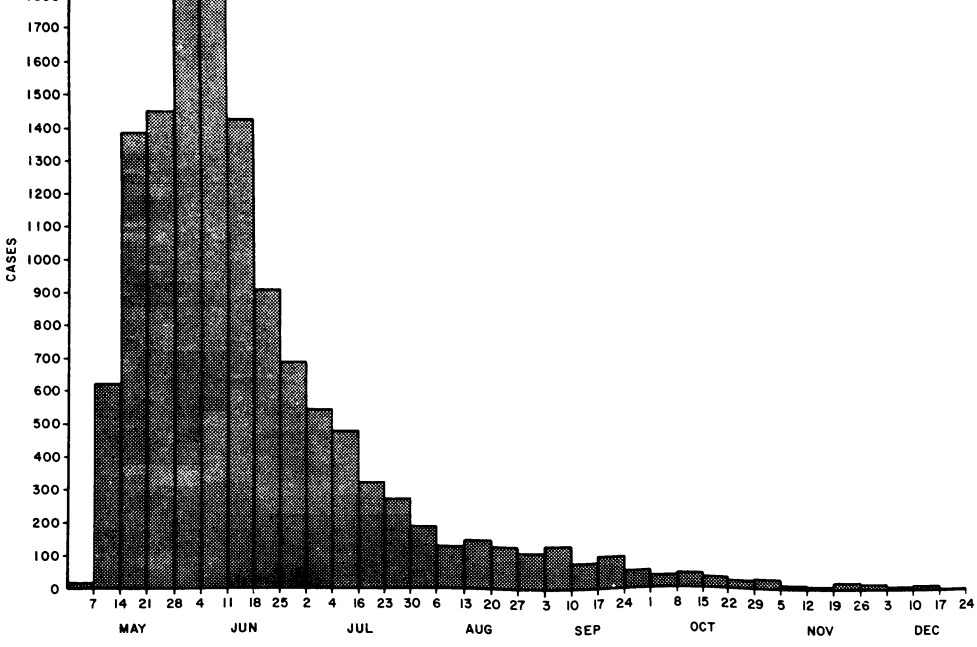
pneumonia fell dramatically (Figure 1). The last reported new case of epidemic illness occurred in September. However, patients with neuromuscular disease, representing about 20% of all cases in the epidemic, constitute a major continuing health problem in Spain.

Reported by Ministerio de Sanidad y Consumo, Madrid, Spain; Field Services Div, Epidemiology Program Office, Chronic Diseases Div, Center for Environmental Health, CDC.

Editorial Note: The unusual collection of clinical features associated with this syndrome (interstitial pneumonitis followed by neuromuscular degeneration and associated with marked eosinophilia and various immunologic abnormalities) clearly represents a new disease. The negative results of extensive testing for known infectious pathogens and the history of chemical denaturation of the implicated oil have suggested that the causative agent may be a chemical toxin.

The search for toxins, however, has been difficult and not yet productive. Because legal action is pending against the distributors of the illicit oil, there is little information regarding the method of processing the oil and the manner in which it might have been contaminated. No known toxic agents have yet been found in any case-associated oils tested thus far, at least not at levels high enough to produce illness. Animal toxicity testing has in general yielded negative results. The clinical picture is not that of toxicity caused by aniline, the chemical denaturant. Much investigative attention has been directed at fatty-acid anilides found in relatively high concentrations in some case-associated oils. The significance of these compounds is uncertain, however, since they are generally considered non-toxic (*3, 7*). Although new

FIGURE 1. Patients with initial admission to hospital for epidemic pneumonia and/or neuromuscular illness, by week, Spain, May-December, 1981



Epidemic Pneumonia — Continued

cases of the neuromuscular syndrome continued to occur through September, the acute pneumonic phase of the epidemic ended in June. This suggests that exposure to whatever produced the disease may have ceased in early or mid-June, although its delayed sequelae are still being seen in Spanish hospitals.

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Epidemiologic Notes and Reports

Asthma-Like Illness among Crab-Processing Workers — Alaska

At the request of the Alaska Department of Labor, the National Institute for Occupational Safety and Health (NIOSH) is investigating the incidence of newly developed asthma-like symptoms (marked dyspnea and wheezing) among crab-processing workers in the Dutch Harbor area on the Aleutian island of Unalaska.

Data were collected between March 13 and May 13, 1981, when 46 crab-processing workers with marked dyspnea and wheezing visited the Iliuliuk Family Health Service Clinic, the sole provider of medical care in Dutch Harbor. Of the 46, 10 were from neighboring islands or offshore processing ships; 3 had a history of having had similar symptoms before.

The other 33 workers (mean age 23 years, range 18-30), who were employed in 4 seafood-processing plants in the immediate Dutch Harbor area, gave no history of previously experiencing such symptoms. The combined employment of these 4 plants was approximately 825 crab-processing workers, giving an approximate rate for development of dyspnea with wheeze ("crab asthma") of 2 cases/100 workers/month for the crab-processing season. This is at least 80 times the monthly incidence of new cases of asthma and 8 times the incidence of new cases of bronchitis with wheeze reported for groups of Americans of similar age (*1*).

Many workers reported that symptoms began with an upper respiratory infection that resolved except for a residual, nocturnal cough that became progressively stronger until it severely disturbed sleep. The cough worsened on evenings after the processors had worked near high concentrations of steam from crab-cooking pots and improved when the workers had been away from the crab-processing area for 1 or more days. After experiencing the severe cough at night for 1-4 weeks, the affected individuals became markedly short of breath and sought medical attention.

Asthma-Like Illness – Continued

Several conditions may predispose crab-processing workers to have respiratory infections: the Aleutian weather; the generally cold, damp working conditions; the long working hours (up to 10-16 hours/day for 7 days each week); and the close living quarters (2-5 persons/room). Some workers may also have been suffering from acute asthmatic bronchitis. However, it is unlikely that the high incidence of dyspnea with wheeze was due solely to a high rate of respiratory infection, since few persons other than crab processors were seen at the clinic with asthma-like symptoms, and few were seen during the salmon season when crab was not being processed. Furthermore, the reported worsening of symptoms following exposure to concentrations of steam from the crab-cooking vats suggests that symptoms were secondary to an asthma-like reaction to crab constituents. The common premonitory symptom of severe cough at night is especially interesting since cough may be the sole presenting symptom of asthma.

Reported by the Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, CDC.

Editorial Note: Several studies, conducted with small groups of workers who reported respiratory symptoms when processing Alaskan crab (*2*), have shown that some workers have positive scratch skin tests, and/or positive radioallergosorbent tests (RAST), and/or positive serum precipitin tests to crab constituents. Several workers have also experienced significant decreases in pulmonary function after bronchial challenge to nebulized juice from crab-cooking vats.

Similar asthma-like reactions among oyster shuckers in Japan were thought to be secondary to an allergic reaction to sea squirts on the clams (*3*), and in Britain, asthma-like reactions among prawn processors were thought to be secondary to an allergic reaction to prawn constituents (*4*). The British workers began having symptoms about 6 weeks after they stopped hand-peeling the prawns and began using air jets to blow meat from the tail. The air jets probably increased the number of airborne prawn particles in the processing area. A British health survey conducted 8 months after the air jets were introduced showed that 18 of 50 workers complained of asthma-like symptoms; 20 other workers with similar respiratory symptoms had reportedly left the factory since the air jets were introduced. Positive RAST to prawn constituents demonstrated the presence of prawn-specific IGE antibodies for 50% of the symptomatic British workers. After the concentration of airborne meat fragments was reduced by a factor of 10 by substituting water jets for air jets, only 3 workers continued to have symptoms.

The crab-processing industry employs approximately 4,000-5,000 people in the Alaska area during the king crab season (September-December), and half that number during the Tanner and Opilio crab season (March-June). Although further investigation is needed to confirm the cause of the respiratory symptoms occurring among crab-processing workers, modifications to the current processing methods, work practices, and environmental controls may be as successful in reducing the incidence of respiratory symptoms among crab-processing workers as were the modifications made in the British prawn-processing plant.

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Vaccine-Associated Poliomyelitis — United States, 1981

A 27-year-old resident of King County, Washington, was recently reported to have vaccine-associated poliomyelitis. On June 3, 1981, the man developed mild rhinorrhea, and over the next 2 days he experienced pain in his left leg, a sensation of pressure in his lower back, and fever and headache. He also complained of difficulty in urinating. He was hospitalized on June 6. On examination, nasal phonation was noted, and the gag reflex was diminished. There was marked weakness of muscle groups in the left leg, including foot drop, and the deep-tendon reflexes were absent in that leg. Cerebrospinal fluid contained 9 red blood cells/μL and 335 white blood cells/μL, with 5% polymorphonucleocytes, 80% lymphocytes, and 15% monocytes. The glucose level was 81 mg/dL, and the protein, 38 mg/dL.

Poliomyelitis was immediately considered by attending physicians, and poliovirus type II was cultured from a stool specimen obtained the day of admission. This isolate was determined to be vaccine-like by the oligonucleotide-mapping technique at CDC. Serologic studies of acute- and convalescent-phase serum specimens showed a neutralizing antibody titer of 160 to poliovirus type II in both specimens. Neither specimen contained detectable antibodies to poliovirus types I or III. No further neurologic deficits developed, and the patient was discharged after 1 week. Sixty days later, he still had a left-foot drop and marked weakness of muscles in his left leg, necessitating crutches and a foot brace.

The patient had no chronic health problems, no history of travel to any area with endemic poliomyelitis, and no exposure to known cases. Because of his family's religious convictions, he had not been vaccinated for poliomyelitis. Eleven days before onset of symptoms, he had spent a day with relatives, including an 8-week-old infant who had received her first oral poliovirus vaccine 8 days before the visit. Active surveillance did not detect any other cases.

Reported by CM Nolan, MD, Seattle-King County Health Dept, RM Laughery, MD, HB Miller, MD, P Tretheway, PA, Renton, DM Perry, MD, Seattle, HL Cahn, MD, Benton-Franklin Health District, Richland, J Mills, J Allard, PhD, State Epidemiologist, Washington State Dept of Health and Social Svcs; Immunization Div, Center for Prevention Svcs, Viral Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: This case satisfies the definition of endemic, vaccine-associated, household-contact paralytic poliomyelitis according to epidemiologic criteria used by CDC (*1*). The characteristics of the infecting virus as vaccine-like in the laboratory confirms the epidemiologic classification.

Although inactivated polio vaccine (IPV) and oral polio vaccine (OPV) are both effective in preventing poliomyelitis, the Immunization Practices Advisory Committee (ACIP) of the Public Health Service (*2*) and other advisory groups (*3,4*) have considered the benefits and risks of each vaccine to the entire population and have recommended OPV as the vaccine of choice for primary vaccination of children in the United States.

Vaccine-associated poliomyelitis is a predictable complication of the widespread use of OPV. In the period 1969-1980, 291.4 million doses of OPV were distributed in the United States, and 93 cases of vaccine-associated poliomyelitis were reported. Of the 93 cases, 36 occurred among vaccine recipients (1 case/8.1 million doses of vaccine distributed) and 57 among household or community contacts of vaccinees (1 case/5.1 million doses distributed). Most vaccinees (92%) who acquired poliomyelitis were $\leq$4 years of age, whereas most persons (73%) who acquired poliomyelitis after contact with vaccinees were $\geq$20 years of age. Vaccine-related poliomyelitis is most frequently associated with poliovirus types II or III.

Ideally, poliomyelitis among contacts of vaccinees could be prevented if all persons were immune to all 3 poliovirus types before having contact with a vaccinee. Most adults in the United States do possess such immunity, even with no record of having been vaccinated

Vaccine-Associated Poliomyelitis — Continued

against poliomyelitis; however, some do not possess such immunity and are therefore at risk of acquiring vaccine-associated poliomyelitis. Because of the overriding importance of ensuring prompt and complete immunity of children and because of the rarity of OPV-associated disease, the ACIP recommends that responsible adults be informed of the small risk of vaccine-associated poliomyelitis and that OPV be administered to a child regardless of the vaccination status of immunocompetent adult household contacts (*2*). Alternatively, unvaccinated adult contacts can be vaccinated with IPV first, if strong assurance is obtained that immediately following the vaccination of the adult contacts, the child will begin and complete an OPV series.

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

DISEASE		8th WEEK ENDING			CUMULATIVE, FIRST 8 WEEKS		
		February 27 1982	February 28 1981	MEDIAN 1977-1981	February 27 1982	February 28 1981	MEDIAN 1977-1981
Aseptic meningitis		78	66	42	601	506	388
Brucellosis		1	1	3	11	11	22
Encephalitis:	Primary (arthropod-borne & unspec.)	16	16	13	104	107	94
	Post-infectious	–	1	4	4	12	20
Gonorrhea:	Civilian	17,862	17,043	16,901	142,466	148,339	145,699
	Military	282	554	480	4,114	4,573	4,281
Hepatitis:	Type A	588	530	530	3,309	3,641	4,034
	Type B	381	403	272	2,621	2,641	2,249
	Non A, Non B	38	N	N	219	N	N
	Unspecified	210	264	195	1,316	1,558	1,458
Legionellosis		3	N	N	35	N	N
Leprosy		1	4	1	18	34	23
Malaria		21	27	12	98	183	69
Measles (rubeola)		10	82	305	82	319	1,737
Meningococcal infections:	Total	80	130	73	460	804	463
	Civilian	79	130	72	457	803	458
	Military	1	–	–	3	1	1
Mumps		177	99	373	730	810	2,425
Pertussis		33	39	37	139	155	172
Rubella(German measles)		264	49	165	482	351	1,284
Syphilis (Primary & Secondary):	Civilian	655	669	457	5,088	4,662	3,671
	Military	8	12	9	71	64	51
Tuberculosis		537	502	494	3,525	3,433	3,618
Tularemia		2	1	1	12	14	13
Typhoid fever		2	8	8	56	62	52
Typhus fever, tick-borne (RMSF)		1	1	–	15	9	9
Rabies, animal		107	113	74	636	796	418

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1982		CUM. 1982
Anthrax	–	Poliomyelitis: Total	1
Botulism (Calif. 2)	12	Paralytic	1
Cholera	1	Psittacosis (Idaho 1)	10
Congenital rubella syndrome	–	Rabies, human	–
Diphtheria	–	Tetanus	6
Leptospirosis (Hawaii 1)	10	Trichinosis (R.I. 32, Upstate N.Y. 1, N.J. 6)	52
Plague (Tex. 1)	2	Typhus fever, flea-borne (endemic, murine) (Tex. 1)	2

N: Not notifiable

TABLE III. Cases of specified notifiable diseases, United States, weeks ending February 27, 1982 and February 28, 1981 (8th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	ENCEPHALITIS		GONORRHEA (Civilian)		HEPATITIS (Viral), by type				LEGIONELLOSIS	LEPROSY
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1981	1982	1982	1982	1982	1982	CUM. 1982
UNITED STATES	78	11	104	4	142,466	148,339	588	381	38	210	3	18
NEW ENGLAND	2	–	1	1	3,239	3,858	9	14	4	13	1	1
Maine	–	–	–	–	173	181	1	3	1	–	1	–
N.H.	–	–	–	–	122	142	–	1	–	1	–	–
Vt.	–	–	–	–	79	55	–	1	–	–	–	–
Mass.	–	–	1	–	1,439	1,561	3	5	2	12	–	–
R.I.	1	–	–	–	231	168	3	3	–	–	–	–
Conn.	1	–	–	1	1,195	1,751	2	1	1	–	–	1
MID. ATLANTIC	8	–	16	–	17,018	16,432	68	71	3	13	–	1
Upstate N.Y.	2	–	7	–	2,703	2,398	17	19	1	2	–	–
N.Y. City	–	–	4	–	7,278	6,375	13	15	–	1	–	–
N.J.	2	–	2	–	3,034	3,690	38	37	2	10	–	–
Pa.	4	–	3	–	4,003	3,969	U	U	U	U	–	1
E.N. CENTRAL	5	–	22	1	18,080	23,526	57	21	2	14	–	–
Ohio	–	–	3	–	6,048	8,956	14	4	–	4	–	–
Ind.	4	–	9	1	2,703	1,870	27	12	1	8	–	–
Ill.	–	–	–	–	2,554	5,401	5	1	1	–	–	–
Mich.	1	–	8	–	4,917	5,198	9	2	–	2	–	–
Wis.	–	–	2	–	1,858	2,101	2	2	–	–	–	–
W.N. CENTRAL	2	1	6	–	6,806	7,273	16	5	1	3	–	–
Minn.	–	–	–	–	1,003	1,171	11	1	–	–	–	–
Iowa	–	–	2	–	726	703	3	1	1	3	–	–
Mo.	2	1	3	–	3,039	3,257	1	2	–	–	–	–
N. Dak.	–	–	–	–	89	75	–	–	–	–	–	–
S. Dak.	–	–	–	–	197	199	1	–	–	–	–	–
Nebr.	–	–	–	–	402	552	–	–	–	–	–	–
Kans.	–	–	1	–	1,350	1,316	–	1	–	–	–	–
S. ATLANTIC	14	4	15	1	37,231	37,753	72	106	8	22	1	–
Del.	–	–	–	–	577	579	2	–	–	–	–	–
Md.	–	–	7	–	5,063	3,937	12	16	2	3	–	–
D.C.	–	–	–	–	1,798	2,563	–	3	–	–	–	–
Va.	1	2	4	–	3,074	3,527	5	7	1	1	1	–
W. Va.	–	–	–	–	423	498	–	3	–	1	–	–
N.C.	2	–	1	–	6,006	6,304	3	5	–	2	–	–
S.C.	–	1	–	–	3,399	3,279	2	6	2	–	–	–
Ga.	1	–	–	–	6,227	7,604	9	29	3	6	–	–
Fla.	10	1	3	1	10,664	9,462	39	37	–	9	–	–
E.S. CENTRAL	4	1	5	–	11,862	11,939	16	31	2	1	–	–
Ky.	–	–	–	–	1,565	1,500	5	4	–	–	–	–
Tenn.	1	–	4	–	4,517	4,522	9	16	2	1	–	–
Ala.	3	1	1	–	3,605	3,787	1	7	–	–	–	–
Miss.	–	–	–	–	2,175	2,130	1	4	–	–	–	–
W.S. CENTRAL	12	2	10	–	20,503	21,614	184	41	5	94	–	–
Ark.	2	1	–	–	1,648	1,321	5	3	1	1	–	–
La.	2	–	1	–	3,400	3,273	28	9	3	16	–	–
Okla.	1	1	5	–	2,134	2,082	20	6	1	16	–	–
Tex.	7	–	4	–	13,321	14,938	131	23	–	61	–	–
MOUNTAIN	1	–	6	1	5,287	5,933	33	18	3	26	–	–
Mont.	–	–	–	–	248	215	–	–	–	–	–	–
Idaho	–	–	–	–	218	236	1	1	–	–	–	–
Wyo.	–	–	–	–	152	127	–	–	–	–	–	–
Colo.	–	–	1	1	1,472	1,550	5	1	–	2	–	–
N. Mex.	–	–	–	–	695	709	8	3	1	2	–	–
Ariz.	1	–	2	–	1,399	1,967	9	7	1	11	–	–
Utah	–	–	–	–	192	276	5	2	–	4	–	–
Nev.	–	–	3	–	911	853	5	4	1	7	–	–
PACIFIC	30	3	23	–	22,440	20,011	133	74	10	24	1	16
Wash.	4	–	2	–	1,908	2,020	35	7	–	1	1	1
Oreg.	3	–	–	–	1,303	1,694	11	6	2	1	–	–
Calif.	9	3	21	–	18,274	15,313	85	57	8	22	–	12
Alaska	1	–	–	–	572	510	1	3	–	–	–	–
Hawaii	13	–	–	–	393	474	1	1	–	–	–	3
Guam	U	–	–	–	–	31	U	U	U	U	U	–
P.R.	–	–	1	–	470	490	3	1	–	–	–	–
V.I.	–	–	–	–	32	7	–	1	–	–	–	–
Pac. Trust Terr.	U	–	–	–	36	82	U	U	U	U	U	1

N: Not notifiable U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 27, 1982 and February 28, 1981 (8th week)

REPORTING AREA	MALARIA		MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS (Total)		MUMPS		PERTUSSIS	RUBELLA		
	1982	CUM. 1982	1982	CUM. 1982	CUM. 1981	1982	CUM. 1982	1982	CUM. 1982	1982	1982	CUM. 1982	CUM. 1981
UNITED STATES	21	98	10	82	319	80	460	177	730	33	264	482	351
NEW ENGLAND	–	5	–	2	7	2	19	3	51	6	–	11	49
Maine	–	–	–	–	–	–	2	1	14	–	–	–	30
N.H.	–	–	–	–	2	–	5	1	6	4	–	9	17
Vt.	–	–	–	2	1	–	1	–	3	–	–	–	–
Mass.	–	3	–	–	–	–	1	–	18	–	–	2	2
R.I.	–	1	–	–	–	1	2	–	5	2	–	–	–
Conn.	–	1	–	–	4	1	8	1	5	–	–	–	–
MID. ATLANTIC	3	9	1	20	111	16	76	9	48	5	4	15	48
Upstate N.Y.	–	2	–	13	85	7	21	1	17	4	4	11	22
N.Y. City	–	4	–	5	9	2	16	2	8	–	–	4	9
N.J.	1	1	–	–	7	4	22	5	9	1	–	–	15
Pa.	2	2	1	2	10	3	17	1	14	–	–	–	2
E.N. CENTRAL	–	8	–	3	22	8	40	112	343	10	2	30	77
Ohio	–	1	–	–	7	1	13	96	219	–	–	–	–
Ind.	–	1	–	1	1	1	2	2	13	1	–	3	28
Ill.	–	–	–	1	3	2	8	2	23	7	–	9	18
Mich.	–	5	–	1	11	4	17	10	62	–	2	8	9
Wis.	–	1	–	–	–	–	–	2	26	2	–	10	22
W.N. CENTRAL	1	2	–	–	2	2	20	3	29	–	1	10	18
Minn.	–	–	–	–	1	1	5	–	3	–	–	1	6
Iowa	–	–	–	–	–	–	3	2	10	–	–	–	–
Mo.	–	1	–	–	–	1	9	–	3	–	–	6	–
N. Dak.	–	–	–	–	–	–	2	–	–	–	–	–	–
S. Dak.	–	–	–	–	–	–	–	–	–	–	–	–	–
Nebr.	–	–	–	–	1	–	–	–	–	–	–	–	–
Kans.	1	1	–	–	–	–	1	1	13	–	1	3	12
S. ATLANTIC	7	18	2	11	84	17	104	4	74	1	1	11	32
Del.	–	–	–	–	–	–	–	–	–	–	–	–	–
Md.	1	5	–	–	–	2	6	–	6	–	1	1	–
D.C.	–	1	–	–	1	–	–	–	–	–	–	–	–
Va.	4	6	–	8	3	4	9	1	10	–	–	7	–
W. Va.	–	–	–	1	4	1	3	2	35	–	–	1	9
N.C.	–	–	–	–	–	–	20	–	4	–	–	–	2
S.C.	–	2	–	–	–	–	11	–	2	–	–	–	4
Ga.	1	2	–	–	40	5	31	–	2	–	–	1	8
Fla.	1	2	2	2	36	5	24	1	15	1	–	1	9
E.S. CENTRAL	–	–	–	4	–	3	29	3	11	–	1	6	6
Ky.	–	–	–	1	–	1	2	3	4	–	1	6	5
Tenn.	–	–	–	3	–	1	12	–	4	–	–	–	1
Ala.	–	–	–	–	–	–	14	–	1	–	–	–	–
Miss.	–	–	–	–	–	1	1	–	2	–	–	–	–
W.S. CENTRAL	2	5	2	10	15	12	61	18	41	3	5	22	25
Ark.	1	1	–	–	–	–	4	1	3	–	–	–	–
La.	–	–	–	–	–	1	4	–	–	–	–	–	2
Okla.	–	–	–	–	2	1	6	–	–	1	–	1	–
Tex.	1	4	2	10	13	10	47	17	38	2	5	21	23
MOUNTAIN	–	3	–	–	7	4	28	6	21	3	2	8	15
Mont.	–	–	–	–	–	–	3	–	1	–	–	–	1
Idaho	–	–	–	–	–	–	2	–	2	–	–	–	1
Wyo.	–	–	–	–	–	2	2	–	1	–	2	3	1
Colo.	–	2	–	–	–	2	12	2	3	3	–	–	9
N. Mex.	–	–	–	–	–	–	1	–	–	–	–	–	–
Ariz.	–	1	–	–	–	–	4	4	7	–	–	1	1
Utah	–	–	–	–	–	–	1	–	5	–	–	3	2
Nev.	–	–	–	–	7	–	3	–	2	–	–	1	–
PACIFIC	8	48	5	32	71	16	83	19	112	5	248	369	81
Wash.	–	2	5	14	1	2	9	–	17	1	2	6	16
Oreg.	–	2	–	–	–	2	16	–	–	–	1	1	3
Calif.	8	43	–	17	70	11	53	17	92	4	245	361	62
Alaska	–	–	–	–	–	–	4	2	3	–	–	–	–
Hawaii	–	1	–	1	–	1	1	–	–	–	–	1	–
Guam	U	–	U	–	3	U	–	U	–	U	U	–	–
P.R.	–	1	2	14	36	–	1	–	4	–	–	2	–
V.I.	–	–	–	–	2	–	–	–	–	–	–	–	–
Pac. Trust Terr.	U	–	U	–	–	U	–	U	–	U	U	–	1

U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 27, 1982 and February 28, 1981 (8th week)

REPORTING AREA	SYPHILIS (Civilian) (Primary & Secondary)		TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		RABIES, Animal
	CUM. 1982	CUM. 1981	1982	CUM. 1982	CUM. 1982	1982	CUM. 1982	1982	CUM. 1982	CUM. 1982
UNITED STATES	5,088	4,662	537	3,525	12	2	56	1	15	636
NEW ENGLAND	93	106	18	91	–	1	5	–	–	4
Maine	–	1	1	8	–	–	–	–	–	4
N.H.	–	6	–	6	–	–	–	–	–	–
Vt.	–	2	1	4	–	–	2	–	–	–
Mass.	67	60	11	56	–	1	3	–	–	–
R.I.	7	10	4	11	–	–	–	–	–	–
Conn.	19	27	1	6	–	–	–	–	–	–
MID. ATLANTIC	677	710	74	562	1	–	5	–	–	6
Upstate N.Y.	55	60	11	98	1	–	1	–	–	3
N.Y. City	440	448	24	193	–	–	4	–	–	–
N.J.	74	86	17	124	–	–	–	–	–	1
Pa.	108	116	22	147	–	–	–	–	–	2
E.N. CENTRAL	183	281	88	567	–	–	3	–	–	67
Ohio	48	50	11	116	–	–	1	–	–	4
Ind.	41	19	13	81	–	–	–	–	–	6
Ill.	41	157	37	221	–	–	–	–	–	24
Mich.	38	37	24	116	–	–	2	–	–	–
Wis.	15	18	3	33	–	–	–	–	–	33
W.N. CENTRAL	97	83	17	82	5	–	2	–	1	185
Minn.	18	20	4	14	–	–	–	–	–	46
Iowa	3	4	3	14	–	–	1	–	–	66
Mo.	60	51	6	31	4	–	1	–	1	19
N. Dak.	2	–	–	2	–	–	–	–	–	20
S. Dak.	–	–	–	3	–	–	–	–	–	7
Nebr.	2	3	1	3	–	–	–	–	–	16
Kans.	12	5	3	15	1	–	–	–	–	11
S. ATLANTIC	1,410	1,205	105	741	4	–	4	1	10	107
Del.	2	1	2	8	–	–	–	–	–	–
Md.	86	93	10	106	1	–	2	1	7	5
D.C.	93	102	3	24	–	–	–	–	–	–
Va.	93	122	20	63	1	–	1	–	–	53
W. Va.	5	2	2	15	–	–	1	–	–	5
N.C.	107	80	10	127	–	–	–	–	3	–
S.C.	77	86	10	65	2	–	–	–	–	7
Ga.	301	310	12	115	–	–	–	–	–	30
Fla.	646	409	36	218	–	–	–	–	–	7
E.S. CENTRAL	395	344	53	329	–	–	7	–	3	50
Ky.	20	16	14	92	–	–	–	–	–	10
Tenn.	96	132	21	116	–	–	2	–	–	28
Ala.	132	100	11	102	–	–	5	–	3	12
Miss.	147	96	7	19	–	–	–	–	–	–
W.S. CENTRAL	1,408	1,136	82	337	1	1	4	–	–	102
Ark.	38	19	9	21	1	–	–	–	–	18
La.	255	241	19	80	–	–	–	–	–	2
Okla.	26	23	13	66	–	–	3	–	–	24
Tex.	1,089	853	41	170	–	1	1	–	–	58
MOUNTAIN	153	126	14	105	1	–	2	–	–	7
Mont.	1	3	1	10	–	–	–	–	–	4
Idaho	12	2	1	4	–	–	–	–	–	–
Wyo.	7	1	–	3	–	–	–	–	–	1
Colo.	41	37	1	13	–	–	–	–	–	–
N. Mex.	34	28	3	17	–	–	–	–	–	1
Ariz.	27	33	7	38	–	–	2	–	–	1
Utah	4	1	–	5	1	–	–	–	–	–
Nev.	27	23	1	15	–	–	–	–	–	–
PACIFIC	672	669	86	711	–	–	24	–	1	108
Wash.	11	23	6	34	–	–	–	–	–	–
Oreg.	29	12	4	23	–	–	1	–	–	–
Calif.	609	617	74	639	–	–	22	–	1	86
Alaska	5	1	–	8	–	–	–	–	–	22
Hawaii	18	16	2	37	–	–	1	–	–	–
Guam	–	–	U	–	–	U	–	U	–	–
P.R.	31	112	–	30	–	–	–	–	–	2
V.I.	–	–	–	1	–	–	–	–	–	–
Pac. Trust Terr.	–	–	U	19	–	U	–	U	–	–

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending February 27, 1982 (8th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	690	493	134	29	17	17	49
Boston, Mass.	173	115	35	13	1	9	18
Bridgeport, Conn.	52	36	12	–	3	1	2
Cambridge, Mass.	26	18	7	1	–	–	4
Fall River, Mass.	22	15	6	1	–	–	–
Hartford, Conn.	49	30	12	4	1	2	4
Lowell, Mass.	41	29	9	1	2	–	–
Lynn, Mass.	19	16	2	–	–	1	–
New Bedford, Mass.	22	18	3	–	1	–	3
New Haven, Conn.	90	67	14	3	4	2	2
Providence, R.I.	55	43	7	2	3	–	5
Somerville, Mass.	13	11	2	–	–	–	2
Springfield, Mass.	42	29	9	3	–	1	4
Waterbury, Conn.	28	20	7	–	1	–	1
Worcester, Mass.	58	46	9	1	1	1	4
MID. ATLANTIC	2,731	1,785	626	167	69	84	128
Albany, N.Y.	53	39	6	4	1	3	2
Allentown, Pa.	25	16	7	2	–	–	–
Buffalo, N.Y.	150	86	48	10	3	3	13
Camden, N.J.	47	29	12	4	2	–	1
Elizabeth, N.J.	29	24	5	–	–	–	–
Erie, Pa.†	36	27	6	2	–	1	2
Jersey City, N.J.	61	45	10	2	–	4	2
N.Y. City, N.Y.	1,444	941	321	98	44	40	54
Newark, N.J.	54	24	19	5	2	4	7
Paterson, N.J.	26	14	7	2	–	3	2
Philadelphia, Pa.†	318	185	91	18	8	16	19
Pittsburgh, Pa.†	97	64	26	3	1	3	1
Reading, Pa.	35	28	3	2	–	2	3
Rochester, N.Y.	130	98	23	6	1	2	8
Schenectady, N.Y.	31	24	4	2	1	–	1
Scranton, Pa.†	25	18	6	1	–	–	1
Syracuse, N.Y.	84	59	17	2	4	2	2
Trenton, N.J.	30	22	8	–	–	–	–
Utica, N.Y.	19	14	4	1	–	–	3
Yonkers, N.Y.	37	28	3	3	2	1	7
E.N. CENTRAL	2,273	1,466	529	131	67	80	62
Akron, Ohio	77	47	20	7	–	3	–
Canton, Ohio	29	18	9	1	–	1	–
Chicago, Ill.	541	349	110	40	20	22	17
Cincinnati, Ohio	131	83	36	6	2	4	2
Cleveland, Ohio	137	83	34	6	4	10	3
Columbus, Ohio	123	67	34	10	7	5	9
Dayton, Ohio	114	78	26	5	3	2	3
Detroit, Mich.	257	153	73	22	5	4	1
Evansville, Ind.	46	37	6	1	1	1	1
Fort Wayne, Ind.	35	22	11	1	–	1	1
Gary, Ind.	20	6	8	–	4	2	–
Grand Rapids, Mich.	60	41	12	1	3	3	4
Indianapolis, Ind.	177	116	40	7	5	9	2
Madison, Wis.	33	20	9	1	2	1	1
Milwaukee, Wis.	131	89	31	7	2	2	1
Peoria, Ill.	51	35	10	2	2	2	5
Rockford, Ill.	43	31	7	2	1	2	4
South Bend, Ind.	56	45	6	3	1	1	3
Toledo, Ohio	124	88	27	2	2	5	4
Youngstown, Ohio	88	58	20	7	3	–	1
W.N. CENTRAL	884	571	191	45	35	42	35
Des Moines, Iowa	55	43	9	2	–	1	–
Duluth, Minn.	27	17	8	–	2	–	2
Kansas City, Kans.	49	31	12	1	3	2	2
Kansas City, Mo.	148	85	36	9	8	10	5
Lincoln, Nebr.	33	27	4	–	–	2	3
Minneapolis, Minn.	112	72	22	9	6	3	5
Omaha, Nebr.	101	61	26	7	2	5	1
St. Louis, Mo.	221	132	52	14	11	12	9
St. Paul, Minn.	67	52	9	2	1	3	3
Wichita, Kans.	71	51	13	1	2	4	5
S. ATLANTIC	1,388	842	351	98	43	53	40
Atlanta, Ga.	190	103	56	14	5	12	2
Baltimore, Md.	259	159	63	22	9	6	6
Charlotte, N.C.	87	50	21	9	4	2	2
Jacksonville, Fla.	117	72	34	1	6	4	5
Miami, Fla.	78	47	16	8	3	4	–
Norfolk, Va.	60	37	14	5	3	1	3
Richmond, Va.	84	51	28	4	1	–	4
Savannah, Ga.	47	27	12	3	1	4	3
St. Petersburg, Fla.	91	77	13	–	1	–	7
Tampa, Fla.	75	44	14	7	2	8	2
Washington, D.C.	223	118	67	22	6	10	3
Wilmington, Del.	77	57	13	3	2	2	3
E.S. CENTRAL	797	487	185	65	23	37	25
Birmingham, Ala.	120	66	31	8	2	13	2
Chattanooga, Tenn.	66	45	11	7	2	1	2
Knoxville, Tenn.	53	34	11	7	1	–	1
Louisville, Ky.	110	59	30	9	2	10	4
Memphis, Tenn.	212	131	55	16	6	4	8
Mobile, Ala.	57	40	10	2	4	1	1
Montgomery, Ala.	49	36	5	5	2	1	2
Nashville, Tenn.	130	76	32	11	4	7	5
W.S. CENTRAL	1,567	908	381	133	83	61	48
Austin, Tex.§	55	51	1	–	1	1	3
Baton Rouge, La.	48	30	12	3	2	1	2
Corpus Christi, Tex.	58	36	13	6	3	–	2
Dallas, Tex.	193	113	46	14	11	9	5
El Paso, Tex.	70	49	13	3	2	3	4
Fort Worth, Tex.	112	67	26	7	3	9	9
Houston, Tex.	485	226	138	62	35	24	12
Little Rock, Ark.	61	39	13	4	3	2	2
New Orleans, La.	153	87	46	12	5	3	–
San Antonio, Tex.	183	120	37	13	9	4	5
Shreveport, La.	58	30	19	5	2	2	–
Tulsa, Okla.	91	60	17	4	7	3	4
MOUNTAIN	774	457	177	67	48	24	32
Albuquerque, N.Mex.	102	38	20	22	20	1	4
Colo. Springs, Colo.	40	22	9	3	4	2	3
Denver, Colo.	146	96	35	8	2	5	6
Las Vegas, Nev.	97	47	36	5	7	2	3
Ogden, Utah	12	7	5	–	–	–	–
Phoenix, Ariz.	190	134	29	13	6	8	4
Pueblo, Colo.	30	19	7	2	2	–	1
Salt Lake City, Utah	51	23	15	6	3	4	–
Tucson, Ariz.	106	71	21	8	4	2	11
PACIFIC	1,907	1,246	424	107	62	66	105
Berkeley, Calif.	16	12	4	–	–	–	–
Fresno, Calif.	81	53	14	3	6	5	4
Glendale, Calif.	21	13	6	2	–	–	2
Honolulu, Hawaii	61	39	12	6	1	3	7
Long Beach, Calif.	107	69	28	5	1	4	2
Los Angeles, Calif.	548	352	118	41	19	17	13
Oakland, Calif.	101	73	24	2	1	1	3
Pasadena, Calif.	27	20	5	–	–	2	1
Portland, Oreg.	132	99	20	5	5	3	4
Sacramento, Calif.	55	31	15	4	3	2	2
San Diego, Calif.	187	127	35	8	5	11	20
San Francisco, Calif.	147	90	41	8	5	3	8
San Jose, Calif.	166	95	44	12	10	5	16
Seattle, Wash.	150	98	35	6	4	7	9
Spokane, Wash.	58	37	13	3	2	3	10
Tacoma, Wash.	50	38	10	2	–	–	4
TOTAL	13,011††	9,255	2,998	842	447	464	524

*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.

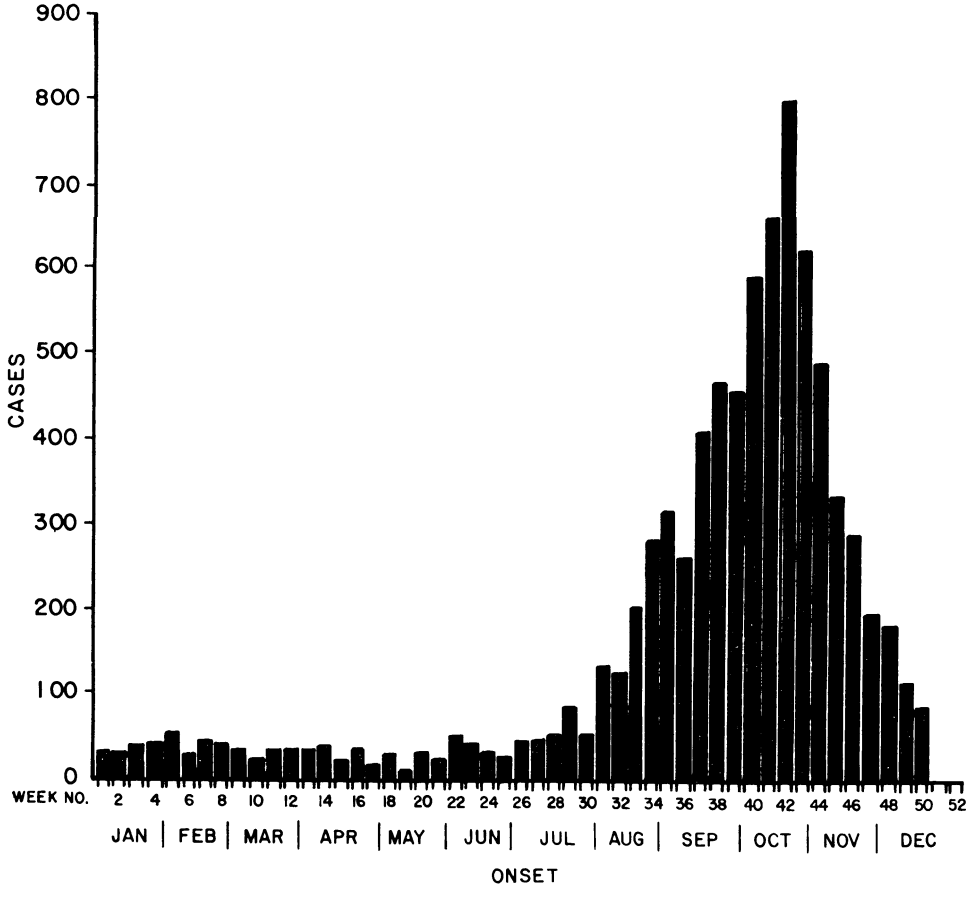
§Data not available. Figures are estimates based on average of past 4 weeks.

Dengue Fever in Puerto Rico — 1981

An outbreak of dengue fever took place in Puerto Rico in the late summer and fall of 1981. In this period, almost 7,000 cases of dengue-like illness were reported to the Puerto Rico Health Department. Numbers of cases of dengue-like illness began increasing in August, reached a peak in mid-October, and declined steadily thereafter (Figure 2). Generally, throughout this period, >50% of the paired serum specimens tested at CDC were positive for dengue. Cases were reported from all parts of the island, but the areas reporting the highest proportion of cases were districts outside the San Juan metropolitan area. No deaths or illnesses meeting World Health Organization criteria for dengue hemorrhagic fever were documented during the outbreak. However, sporadic hemorrhagic manifestations occurred among patients with confirmed dengue infection for whom the clinical and laboratory data were incomplete.

The Puerto Rico Health Department, in association with other government agencies, organized an extensive island-wide source-reduction and educational campaign in the early

FIGURE 2. Reported Dengue cases, by week of onset, Puerto Rico, 1981



Dengue Fever — Continued

phases of the outbreak. By December 2, CDC had isolated 114 dengue type 1 viruses and 1 dengue type 4 virus. However, by late December, dengue type 4 was the predominant virus being isolated, and by mid-January 1982, more than 40 such isolates had been obtained.

Reported by A Hernandez-Torres, MD, Environmental Health, Puerto Rico Dept of Health; Dengue Br, Vector-Borne Viral Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: The last major outbreak of dengue in Puerto Rico was in 1978 when type 1 was the prevailing virus; apparently, a large susceptible population remained after that outbreak. Outbreaks of dengue occurred in Puerto Rico in 1963-1964 (type 3), 1968-1969 (type 2), 1975 (type 2), and 1977 (types 2 and 3).

Dengue type 4 was reported for the first time in the Caribbean in the spring of 1981 from St. Barthelemy and St. Martin (*1*). Subsequently, dengue type 4 was confirmed in Dominica, Guadaloupe, St. Thomas, Curacao, Belize, Haiti, and Jamaica, as well as Puerto Rico. The possibility exists that an outbreak of dengue type 4 could occur in Puerto Rico in 1982.

Reference

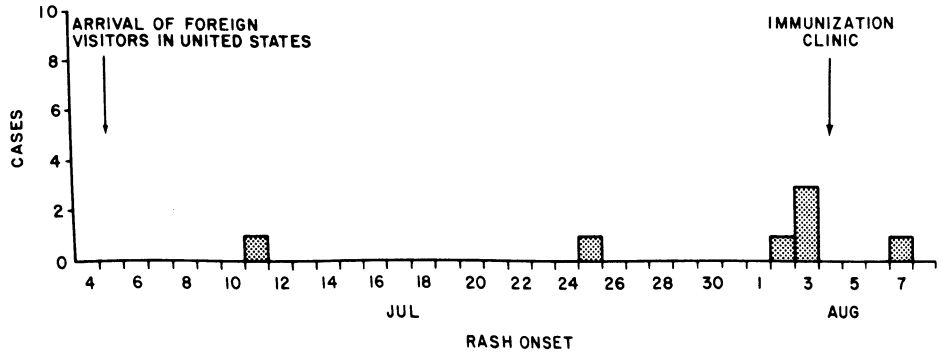
1. CDC. Dengue type 4 infections in U.S. travelers to the Caribbean. MMWR 1981;30:249-50.

Rubella Outbreak among Foreign-Exchange Students — Tennessee

On August 3, 1981, the University of Tennessee at Martin reported that 7 Japanese exchange students had been hospitalized with a preliminary diagnosis of rubella. These students were part of a group of approximately 200 Japanese students and professors who had arrived in Tennessee on July 5, 1981, for the 10-week summer session. They all stayed in the same dormitory and attended classes that were separate from other summer-session meetings, but they mingled with students and the general public outside of class. The 200 Japanese visitors represented 7.4% of the 2,700 summer students then in attendance at this section of the university.

All 7 patients had a maculo-papular rash, low-grade fever (temperature of <102 F, 38.9 C), and either arthralgia or posterior auricular or occipital adenopathy. The initial patient had rash onset on July 11 (Figure 3), 6 days after leaving Japan; was hospitalized with a prelimi-

FIGURE 3. Cases of rubella, University of Tennessee at Martin, July-August 1981



Rubella – Continued

nary diagnosis of Rocky Mountain spotted fever; and was treated with chloramphenicol. The second patient had rash onset on July 25 and was hospitalized with a preliminary diagnosis of measles. Neither case was reported to the health department at the time of illness, and no serum specimens were available for rubella testing. Five tertiary cases occurred the first week of August; all these patients were kept in the university infirmary for at least 1 day each. By the end of the first week in August, all 7 cases were suspected to be rubella and were subsequently reported to the Tennessee Department of Public Health. The diagnosis was confirmed for 4 of the 5 tertiary cases on the basis of a ≥4-fold rise in rubella hemagglutination inhibition titer between the acute- and convalescent-phase serum specimens.

An investigation on campus revealed that 21 Japanese students (10%) had previously received rubella vaccine. In contrast, a review of 200 health records chosen at random from records of the 2,500 American summer students in residence showed that 67% had documentation of having received rubella vaccine. On August 4, 188 Japanese students and faculty were vaccinated with combined measles and rubella (MR) vaccine. The MR vaccine was also offered to other summer students and staff. No other clinical cases of rubella occurred among the Japanese students, and there was no known spread to hospital employees or to other students on campus.

Reported by IF Porter, MD, H Westmoreland, RN, University of Tennessee-Martin; P Duncan, RN, RH Hutcheson, Jr, MD, MPH, State Epidemiologist, Tennessee Dept of Public Health; Immunization Div, Center for Prevention Svcs, CDC.

Editorial Note: College-age adults form a large part of the population that remains susceptible to rubella in the United States (*1*). Like measles, rubella will probably be introduced periodically from foreign countries, often by college-age foreign-exchange students. The lack of disease spread in this instance is attributed to the separate dormitory and classes that the Japanese students attended, as well as to the higher rates of rubella vaccination among other summer students on that campus.

Universities should be encouraged to develop programs to ensure rubella vaccination at the time of entry for all students, staff, and faculty, including foreign-exchange and other visiting students and professors. Before vaccination, female students, staff, and faculty should be asked if there is any possibility that they are pregnant. Pregnant women should not be given rubella vaccine, and all other women should be informed of the risks of vaccination and advised not to become pregnant for 3 months after vaccination (*2*). Programs are most likely to be successful if proof of rubella immunity* is required.

In the example cited here, 3 generations of cases occurred before the diagnosis of rubella was considered. Since the incidence of rubella has declined to record low levels (*3*), clinicians and public health workers should be reminded to consider rubella in the differential diagnosis of rash illness and to collect appropriately timed blood specimens for serologic study. Only if rubella is diagnosed early in an outbreak can appropriate measures be instituted to control spread in the community and in institutions such as universities.

References

1. Schiff GM, Linnemann CC, Jr, Shea L, Trimble S. Rubella surveillance and immunization among college women. Obstet Gynecol 1974;43:143-7.
2. ACIP. Rubella prevention. MMWR 1981;30:37-42, 47.
3. CDC. Rubella—United States, 1978-1981. MMWR 1981;30:513-5.

*Documented history of rubella vaccination on or after the first birthday or presence of antibody to rubella. Clinical diagnosis of rubella should not be accepted as proof of immunity.

Current Trends

Influenza Update — United States

Although no extensive outbreaks of influenza have been reported in the United States this season, states continue to report additional isolations in association with local influenza outbreaks, and other states have now reported their first isolations of influenza virus.

The first isolates of influenza virus (all type B) in Connecticut, Florida, Illinois, South Carolina, and Vermont were associated with sporadic cases in these states in early February. In Georgia, the first isolates of influenza (type B) viruses were collected during the first 2 weeks of February from 2 adult patients in Calhoun and from an 11-year-old boy in the metropolitan Atlanta area. These isolations occurred at the same time increased school absenteeism was noted among students with influenza-like illness in schools in northwest Georgia and the Atlanta area. The first influenza viruses identified in Utah this season were 4 isolates of influenza type B obtained from patients with onset of illness in late January and early February. Three of the isolates were from young-adult residents at a church institution in Utah County, where a small cluster of influenza cases was occurring.

During February, the first influenza type A isolates (all H1N1) reported in New York state and Nevada were from 2 young adults in New York City and 1 in Las Vegas.

Influenza outbreaks reported this season have most frequently been associated with influenza B virus isolates in schools. The following examples from states where influenza isolates have previously been reported include a typical school outbreak, prolonged activity involving influenza type B virus without evidence of major community impact, and an outbreak with both type A and B virus isolations.

An outbreak of influenza in a parochial elementary school located in Cadillac, Michigan, resulted in absenteeism that peaked at 38 of 161 students (24%) on February 9. Influenza type B viruses were isolated from samples taken on February 8 or 9 from 6 of 9 ill students and their family members.

In Houston, Texas, influenza type B virus was first isolated in October 1981, but the frequency of obtaining sporadic isolates through physicians and clinics participating in the active viral surveillance of the Influenza Research Center began to increase in late December (*1,2*). Through February 25, a total of 321 influenza type B and 43 type A(H1N1) isolates had been identified for the 1981-1982 season. Although some increase in school absenteeism has been observed, little evidence of other effects has been reported. Further efforts are being made to determine the effect of infection in the community.

In the period January 21-February 17, 26 specimens for virus isolation were collected from students reporting to the infirmary at the University of Texas in Austin. Influenza type A virus (H1N1) was isolated from 5 specimens, influenza type B from 12, and adenovirus from 1. Since the beginning of classes in late January, student health officials have reported an increase from <5 to >40 in the number of patients seen daily with influenza-like illness.

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International Notes

Influenza — Worldwide

In Asia, influenza type B viruses were associated with increased morbidity in some regions of the Union of Soviet Socialist Republics (USSR) in November and December 1981 and caused widespread illness in schoolchildren in Japan in February 1982 (*1*). Elsewhere, influenza type B activity has been mainly sporadic, with cases reported in Canada, Israel, and Sweden in addition to those reported earlier in France and Switzerland (*2*). However, in the United Kingdom, where outbreaks of influenza type B first occurred in December among schoolchildren in northwest Scotland, virus activity increased considerably in January and February. Infections have been diagnosed throughout the United Kingdom, and outbreaks have been confirmed among such groups as children in boarding schools, patients in geriatric wards, and personnel at a military base.

Influenza type A(H1N1) viruses, reported infrequently, have been isolated from sporadic cases or during small outbreaks in November and December in Bulgaria, Canada, Egypt, Italy, and the USSR, in addition to Japan (*1*). Influenza type A(H3N2) viruses have been isolated only occasionally in Europe this winter, including those from sporadic cases in Scotland beginning in December, in addition to those reported earlier in Italy and Japan (*1,2*). In Trinidad and Tobago, however, an island-wide outbreak that affected persons of all ages occurred in the period October-December.

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The Morbidity and Mortality Weekly Report, circulation 102,700, is published by the Centers for Disease Control, Atlanta, Georgia. 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.

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

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HHS Publication No. (CDC) 82-8017