

MORBIDITY AND MORTALITY WEEKLY REPORT

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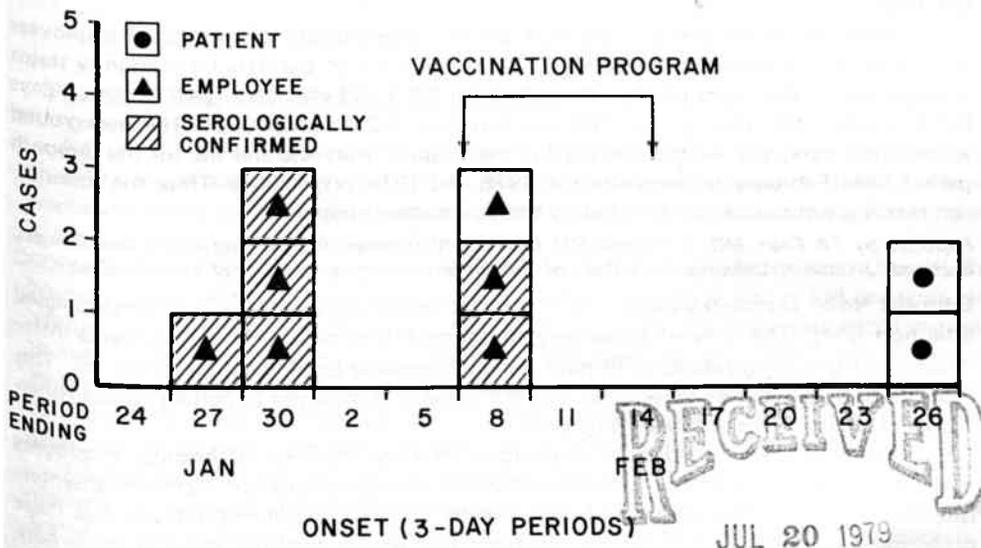
MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Rubella in Hospital Personnel and Patients — Colorado

In the period January 27-February 26, 1979, 9 clinical cases of rubella were reported in employees and patients of a hospital and adjacent rehabilitation center in the Denver area (Figure 1) (7). The first 7 cases were in female employees, who ranged in age from 26 to 52 years and worked in various areas of the hospital. There was no known rubella activity in the community. Six of the 7 employees were confirmed as having rubella infection either by a ≥ 4 -fold rise in rubella hemagglutination-inhibition (HI) titers or by the presence of rubella-specific IgM antibodies at a titer of $\geq 1:4$. Two of these 6 individuals had previously been serologically tested for rubella immunity and found to be susceptible, but they had not been vaccinated. The last 2 reported cases, neither of which was serologically confirmed, were in male patients (aged 22 and 26 years) in the rehabilitation center.

FIGURE 1. Rubella in a Denver-area hospital, by date of onset of rash, January 27-February 26, 1979



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Rubella — Continued

On February 6, the Colorado State Department of Health and the hospital administration began a week-long rubella immunization program for all employees of both institutions (1,350 in the 318-bed hospital and 450 in the 80-bed rehabilitation center). Patients were not included, but their physicians were notified that an outbreak of rubella was occurring.

Rubella vaccine (HPV-77:DE-5) was administered to all employees except those with previous rubella serologic immunity, those with documentation of previous rubella vaccination, or those who were known to be pregnant. Rubella HI tests were run at the state health department laboratory, when requested by employees. Each female employee of childbearing age was asked if she was pregnant or contemplating pregnancy in the next 3 months. Those with affirmative responses were not vaccinated but did have a blood specimen drawn, held, and, if requested, processed. All other females of childbearing age were vaccinated immediately after a blood specimen was obtained; all remaining females and all males were simply vaccinated. A total of 1,211 vaccinations were given.

All vaccinees were asked about adverse reactions in the 3 weeks after vaccination. The 37 (3.1%) employees who reported reactions had mild symptoms of short duration. Twenty-seven reported that they had experienced joint involvement (17 with arthralgia, 10 with arthritis), 11 had noted rash, and 9 had had low-grade fever.

Prevaccination serum from 10 of the 37 persons who had reported reactions was available for serologic testing; 6 of these persons had been susceptible to rubella and 4, immune. Based on these numbers, an estimated 22 of the 37 persons who had reactions were susceptible, and 15 were immune. In an attempt to stratify reaction rates by prevaccination immunity status, 114 blood specimens were randomly selected from those obtained just before vaccination. Since 13 (11.4%) of these were found to lack HI rubella antibodies, 138 of the 1,211 vaccinees are estimated to have been susceptible. The estimated reaction rate for susceptibles (22/138=15.9%) was significantly higher than that for immune individuals (15/1,073=1.4%) (relative risk=11.4, 95% confidence interval, 6.8-19.0).

A total of 41 workdays, over a 4-week period, were missed by 21 of the 37 employees who reported a vaccine-associated reaction. (Breakdown of the data by immunity status is unavailable.) Assuming a 5-day workweek for the 1,211 vaccinees (24,220 person-days for 4 weeks), the absenteeism rate was less than 0.2% (41/24,220). The background absenteeism rates per 4-week period for the hospital were 4% and 5% for the 3-month period from February through April in 1978 and 1979, respectively. Thus, the absenteeism rate was not noticeably affected by the vaccination program.

Reported by TA Edell, MD, C Howard, RN, Denver; SW Ferguson, PhD, Acting State Epidemiologist, B Harrel, J Connor, Colorado State Dept of Health; Immunization Div, Bur of State Services, CDC.

Editorial Note: Outbreaks of rubella in hospital employees have been receiving increased attention (2-4). The only effective way to minimize the possibility of employees introducing and spreading rubella is to have a highly immune employee population (5). This protects both the female employees and the patients. Employee-to-patient spread apparently did occur in this outbreak (Figure 1).

Concern has been raised that vaccination of large numbers of hospital employees might be associated with many vaccine-associated complications and increased absenteeism. The results of this vaccination program for hospital employees indicate that these problems are minimal. The overall reaction rate, which probably includes some non-vaccine-associated complaints, was low. The estimated reaction rate for susceptible vaccinees (15.9%) is within the reported range (6). Even if all 37 persons who reported reactions had been susceptible, the calculated rate would be only 26.8% (37/138). In

Rubella - Continued

large-scale field trials of rubella vaccine, up to 40% of adult vaccinees reported arthralgia alone (7). The estimated rate of joint complaints, rash, or fever for immune persons (1.4%) would be expected to be small and no greater than that among non-vaccinees (8-10). The unchanged absenteeism rate is further evidence that such vaccination programs do not interfere appreciably with work. In contrast, all employees with diagnosed rubella must be kept out of work for the duration of their contagious period (until the fifth or sixth day after onset of rash (11), and, if ill, some may be expected to be bedridden for 3-5 days or even hospitalized (12,13).

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Penicillin-Resistant Viridans Streptococcal Endocarditis - North Carolina

A case of endocarditis due to relatively penicillin-resistant viridans streptococci, probably secondary to a minor dental procedure, has occurred in a North Carolina woman receiving oral penicillin both as long-term prophylaxis for rheumatic fever and as short-term prophylaxis for endocarditis.

In December 1978, the patient, a 24-year-old woman, was admitted to a hospital in Winston-Salem, with a 10-day history of daily fever, rigors, malaise, and anorexia. In addition to having a congenital ventricular septal defect, she had developed mitral stenosis thought to be caused by rheumatic fever. She had been taking long-term oral phenoxymethyl penicillin (250 mg twice daily) for rheumatic fever prophylaxis. One month before admission, her teeth had been cleaned; for the 2 days before, the day of, and the 2 days after the dental work, she had increased her penicillin dosage to 250 mg 4 times daily.

All 6 blood cultures, obtained at different times from the patient, were positive for viridans streptococci, and an echocardiogram demonstrated vegetations on the posterior leaflet of the mitral valve. At CDC, the streptococci were identified as *Streptococcus salivarius* and were shown to have a minimal inhibitory concentration (MIC) to penicillin of 2 µg/ml. Other MICs were erythromycin, ≤0.06 µg/ml; vancomycin, 0.25 µg/ml; gentamicin, 8 µg/ml; and ampicillin, 1 µg/ml.

Endocarditis — Continued

Treatment for bacterial endocarditis was begun with intravenous aqueous penicillin (24 million units/day) and intramuscular streptomycin (1 g/day) until both peak and trough serum bactericidal levels were reported as less than 1:2. Vancomycin was substituted with good response clinically and *in vitro* (trough serum bactericidal level was 1:112); however, an allergic reaction necessitated changing to ampicillin for the completion of 4 weeks of therapy. The patient has had no recurrence of endocarditis in the 6 months since discharge.

Reported by R Marx, MD, S Pegram, MD, Div of Infectious Diseases and Immunology, Dept of Medicine, B Wasilauskas, PhD, Dept of Pathology, Bowman Gray School of Medicine, Winston-Salem; Antimicrobics Investigation Sect, Staphylococcus and Streptococcus Sect, Clinical Bacteriology Br, Bacteriology Div, Bur of Laboratories, CDC.

Editorial Note: Patients continuously receiving oral penicillin as secondary prophylaxis for rheumatic fever often carry, in the oral cavity, viridans streptococci that are relatively resistant to penicillin (1). Because a few cases of endocarditis caused by relatively penicillin-resistant viridans streptococci have been reported in persons taking long-term penicillin prophylaxis (2-4), the American Heart Association (AHA) has indicated that physicians may choose oral erythromycin or a combination of penicillin and streptomycin as endocarditis prophylaxis before dental procedures for persons taking long-term oral penicillin (5).

(Continued on page 333)

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

DISEASE	28th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 28 WEEKS		
	July 14, 1978	July 15, 1978*		July 14, 1978	July 15, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	132	118	116	1,790	1,429	1,247
Brucellosis	5	8	6	65	90	106
Chickenpox	1,204	1,466	1,173	167,005	119,769	119,769
Diphtheria	1	3	1	60	47	117
Encephalitis: Primary (arthropod-borne & unsp.)	22	16	16	291	339	367
Post-infectious	8	2	5	134	118	147
Hepatitis, Viral: Type B	298	265	265	7,475	8,121	7,937
Type A	545	515	603	15,430	15,454	18,792
Type unspecified	184	138	141	5,624	4,398	4,551
Malaria	17	37	15	316	352	211
Measles (rubeola)	171	477	477	11,086	22,160	22,160
Meningococcal infections: Total	37	39	36	1,658	1,470	972
Civilian	37	38	35	1,650	1,449	958
Military	—	1	1	8	21	20
Mumps	139	160	349	10,541	12,402	30,973
Pertussis	21	56	32	672	1,066	694
Rubella (German measles)	142	244	176	10,036	15,725	14,193
Tetanus	4	3	2	31	40	35
Tuberculosis	556	572	601	15,128	15,373	16,333
Tularemia	9	4	3	77	54	71
Typhoid fever	13	8	8	242	263	194
Typhus fever, tick-borne (Rky. Mt. spotted)	45	43	47	411	453	384
Venereal diseases:						
Gonorrhea: Civilian	20,818	20,554	20,554	513,933	505,878	507,834
Military	350	458	458	14,495	13,683	14,594
Syphilis, primary & secondary: Civilian	451	276	368	12,757	10,952	11,027
Military	8	2	6	159	156	166
Rabies in animals	90	60	53	2,529	1,676	1,587

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1978		CUM. 1979
Anthrax	—	Poliomyelitis: Total	21
Botulism	11	Paralytic (Wis. 1)	18
Congenital rubella syndrome † (La. 1)	30	Psittacosis † (R.I. 1, Mich. 2, Calif. 2)	66
Leprosy (La. 1, Calif. 2)	92	Rabies in man	1
Leptospirosis (La. 1, Hawaii 1)	18	Trichinosis † (Md. 1)	66
Plague	7	Typhus fever, flea-borne (endemic, murine) (Tex. 4)	25

* 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: The following delayed reports will be reflected in next week's cumulative totals: Cong. Rubella Syndrome: Wis. +1; Psittacosis: Ind. +1; Trichinosis: La. +10

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 14, 1979, and July 15, 1978 (28th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
						1979	1978*		1979	1979	1979		
UNITED STATES	132	5	1,204	1	60	22	16	8	298	545	184	17	316
NEW ENGLAND	7	-	126	-	-	1	-	-	5	7	7	2	20
Maine	1	-	5	-	-	-	-	-	-	-	-	-	1
N.H. †	-	-	-	-	-	-	-	-	-	-	-	3	-
Vt.	-	-	14	-	-	-	-	-	-	-	-	-	-
Mass.	1	-	49	-	-	1	-	-	5	6	4	-	4
R.I.	1	-	27	-	-	-	-	-	-	1	-	-	5
Conn.	4	-	31	-	-	-	-	-	-	-	-	2	10
MID. ATLANTIC	16	-	198	-	-	5	-	-	36	38	10	4	42
Upstate N.Y.	5	-	131	-	-	-	-	-	18	11	9	-	8
N.Y. City	-	-	64	-	-	-	-	-	9	15	-	4	24
N.J.	7	-	NN	-	-	1	-	-	NA	NA	NA	-	4
Pa. †	4	-	3	-	-	4	-	-	9	12	1	-	6
E.N. CENTRAL	15	-	496	-	1	-	5	-	32	57	18	2	22
Ohio †	-	-	74	-	-	-	1	-	2	14	-	-	5
Ind. †	1	-	42	-	-	-	4	-	5	2	9	-	1
Ill.	2	-	121	-	-	-	-	-	3	19	2	1	6
Mich.	12	-	126	-	-	-	-	-	20	21	5	-	8
Wis. †	-	-	133	-	1	-	-	-	2	1	2	1	2
W.N. CENTRAL	2	-	28	1	1	-	2	2	5	21	9	-	12
Minn.	-	-	4	-	-	-	1	1	1	4	1	-	3
Iowa	-	-	16	-	-	-	1	-	-	6	2	-	2
Mo.	1	-	1	1	1	-	-	1	1	4	4	-	3
N. Dak. †	-	-	1	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	1	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	1	-	-	-	-	-	1	2	1	-	2
Kans.	1	-	4	-	-	-	-	-	2	5	1	-	2
S. ATLANTIC	22	-	142	-	-	2	3	2	70	68	32	1	44
Del.	-	-	5	-	-	-	-	-	-	-	-	-	1
Md.	-	-	37	-	-	-	3	-	16	8	-	-	5
D.C.	-	-	7	-	-	-	-	-	2	2	3	-	5
Va. †	-	-	3	-	-	-	-	-	12	5	1	1	15
W. Va. †	-	-	53	-	-	2	-	-	-	-	1	-	2
N.C.	6	-	NN	-	-	-	-	-	9	11	3	-	3
S.C.	-	-	-	-	-	-	-	-	6	6	7	-	1
Ga.	-	-	-	-	-	-	-	-	4	3	-	-	2
Fla.	10	-	37	-	-	-	-	2	21	33	17	-	10
E.S. CENTRAL	4	1	24	-	-	1	2	2	29	22	3	-	6
Ky.	1	-	21	-	-	-	2	-	4	6	-	-	-
Tenn.	3	-	NN	-	-	-	-	-	18	7	2	-	-
Ala.	-	-	1	-	-	-	-	2	3	2	1	-	2
Miss.	-	1	2	-	-	1	-	-	4	7	-	-	4
W.S. CENTRAL	36	1	51	-	-	6	2	-	28	69	42	-	20
Ark.	-	-	-	-	-	-	1	-	4	3	6	-	-
La.	6	-	NN	-	-	3	1	-	7	11	6	-	2
Okla.	2	-	-	-	-	1	-	-	3	3	9	-	3
Tex.	28	1	51	-	-	2	-	-	14	52	21	-	15
MOUNTAIN	6	1	61	-	1	2	1	-	16	86	24	-	9
Mont. †	-	-	11	-	-	-	-	-	1	4	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	1	1	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	1
Colo.	5	1	30	-	-	2	-	-	5	6	1	-	4
N. Mex. †	1	-	-	-	-	-	1	-	3	8	-	-	-
Ariz.	-	-	-	-	-	-	-	-	3	56	21	-	4
Utah	-	-	NN	-	1	-	-	-	1	7	1	-	-
Nev.	-	-	18	-	-	-	-	-	3	4	-	-	-
PACIFIC	24	2	78	-	57	5	1	2	77	177	39	8	141
Wash.	1	-	61	-	55	-	1	-	4	31	3	1	7
Oreg.	1	-	1	-	-	2	-	-	11	22	1	-	5
Calif. †	22	1	-	-	2	2	-	1	58	111	35	7	128
Alaska	-	1	6	-	-	1	-	-	2	3	-	-	-
Hawaii	-	-	10	-	-	-	-	-	2	10	-	-	1
Guam †	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
P.R.	1	1	26	-	-	-	-	-	3	-	10	-	1
V.I. †	-	-	-	-	-	-	-	-	-	-	-	-	-
Pac. Trust Terr.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-

NA: 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: Chickenpox: N.H. +4, W. Va. +3, Calif. +7, Guam +1, V.I. +14; Diph.: Ind. +1, Hep. B: Pa. +12, Wis. -2, N.Mex.+1; Hep. A: Pa. +19, Ohio -1, Wis. -1, N. Dak. +1, Mont. +1, Guam +2; Hep. unsp.: Pa. +6, Va. -2, Guam +1, V.I. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 14, 1979, and July 15, 1978 (28th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	1979	1979	CUM. 1979	CUM. 1979
UNITED STATES	171	11,086	22,160	37	1,658	1,470	139	10,541	21	142	10,036	31
NEW ENGLAND	2	289	1,927	1	80	79	8	365	1	15	1,369	3
Maine	2	17	1,307	-	4	5	1	130	-	-	61	-
N.H.†	-	38	45	-	8	6	-	4	-	1	114	-
Vt.	-	116	25	-	5	2	-	6	-	3	402	-
Mass.	-	12	225	1	23	31	1	31	-	9	464	2
R.I.†	-	103	7	-	7	14	1	24	1	-	83	-
Conn.	-	3	318	-	33	21	5	170	-	2	245	1
MID. ATLANTIC	29	1,360	1,966	7	242	238	11	1,009	2	22	1,838	6
Upstate N.Y.	4	622	1,291	3	84	70	4	144	2	19	1,019	1
N.Y. City	23	646	271	-	63	59	-	103	-	2	242	3
N.J.	-	53	65	3	58	49	3	508	-	1	314	1
Pa.†	2	35	339	1	37	60	4	254	-	-	263	1
E.N. CENTRAL	76	2,909	9,982	2	156	155	54	4,581	2	27	2,351	2
Ohio †	15	235	460	2	58	47	29	1,655	-	1	118	1
Ind.	6	173	166	-	35	26	4	254	-	3	696	-
Ill.	26	1,306	1,068	-	4	27	5	822	2	6	165	-
Midi.	27	756	6,890	-	45	44	6	869	-	14	1,154	1
Wis.†	2	435	1,398	-	14	11	10	981	-	3	218	-
W.N. CENTRAL	24	1,474	374	1	48	55	2	628	-	4	401	-
Minn.	20	975	36	-	10	10	-	6	-	-	35	-
Iowa	-	15	53	-	7	9	2	23	-	-	51	-
Mo.	1	413	9	1	23	25	-	186	-	-	40	-
N. Dak. †	-	10	189	-	1	3	-	1	-	-	8	-
S. Dak.	-	1	-	-	2	2	-	5	-	1	3	-
Nebr.	-	-	5	-	-	-	-	6	-	3	182	-
Kans.	3	60	82	-	5	8	-	201	-	-	82	-
S. ATLANTIC	18	1,662	4,724	12	412	358	20	425	4	24	1,143	6
Del.	-	1	5	-	3	1	2	26	-	-	4	-
Md.	-	7	38	-	35	17	12	91	-	-	24	-
D.C.	-	1	47	-	2	1	-	1	-	-	1	-
Va.	6	247	2,778	3	61	47	1	77	1	7	191	1
W. Va.	-	50	1,006	-	8	8	3	85	1	1	98	-
N.C.	1	108	109	1	57	75	-	58	-	12	511	3
S.C.	2	145	193	2	50	23	-	2	-	-	59	-
Ga.	3	349	15	2	64	44	-	3	2	-	7	-
Fla.	6	654	533	4	132	142	2	82	-	4	248	2
E.S. CENTRAL	2	164	1,344	3	122	118	10	1,097	1	4	252	6
Ky.	1	24	115	-	25	23	6	876	-	1	64	-
Tenn.	1	48	903	1	37	29	4	89	-	3	82	4
Ala.	-	73	101	-	28	36	-	18	-	-	36	4
Miss.	-	19	225	2	34	30	-	114	1	-	70	2
W.S. CENTRAL	3	867	921	4	288	220	19	1,583	7	8	206	8
Ark.	-	7	14	-	27	19	-	755	-	-	6	2
La.	-	243	314	1	115	84	1	36	3	1	26	1
Okla.	-	22	12	1	22	16	-	-	-	-	22	-
Tex.	3	615	581	2	124	101	18	792	4	7	152	5
MOUNTAIN	2	283	235	-	68	32	1	246	1	2	449	-
Mont.	-	55	103	-	6	2	-	10	-	1	63	-
Idaho	-	16	1	-	5	3	-	8	-	-	196	-
Wyo.	-	36	-	-	1	-	-	-	-	-	-	-
Colo.†	2	48	29	-	4	2	-	68	1	-	27	-
N. Mex.	-	31	-	-	4	7	1	12	-	-	9	-
Ariz.	-	65	46	-	31	11	-	47	-	-	124	-
Utah	-	15	44	-	8	4	-	90	-	1	29	-
Nev.	-	11	14	-	9	3	-	11	-	-	1	-
PACIFIC	15	2,118	687	7	242	215	14	607	3	36	2,027	-
Wash.	6	1,115	98	-	40	39	3	182	-	4	169	-
Orag.	6	61	138	1	14	19	3	62	-	3	79	-
Calif.	3	862	447	6	175	149	5	273	2	29	1,760	-
Alaska	-	17	-	-	5	5	1	9	-	-	2	-
Hawaii	-	63	4	-	8	3	2	81	1	-	17	-
Guam †	NA	3	25	-	1	-	-	7	NA	NA	3	-
P.R.†	13	305	200	-	3	2	7	488	-	-	31	5
V.I.†	-	4	6	-	3	1	-	4	-	-	-	-
Pac. Trust Terr.	NA	6	548	-	1	2	NA	22	NA	NA	1	-

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: N.H. -1, Ohio -1, Wis. -3, N.Dak. +4; Men. inf.: R.I. -1, Pa. -1, P.R. -1; Mumps: N.Dak. +1, Guam +1, V.I. +11; Rubella: N.H. +1, Wis. +2, Colo. +36, P.R. +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 14, 1979, and July 15, 1978 (28th 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. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	CUM. 1978*	1978	CUM. 1978	CUM. 1978*	CUM. 1978
UNITED STATES	556	15,128	77	13	242	45	411	20,818	513,933	505,878	451	12,757	10,952	2,529
NEW ENGLAND	19	400	1	1	16	-	5	493	13,033	13,136	9	243	325	28
Maine	3	31	-	-	1	-	-	31	903	991	2	7	7	20
N.H.	-	8	-	-	-	-	-	16	467	602	-	12	5	2
Vt.	-	20	-	-	-	-	-	14	309	309	-	1	3	-
Mass.	9	210	1	1	10	-	2	208	5,250	5,777	3	141	200	5
R.I.	-	36	-	-	2	-	-	53	1,066	922	1	9	14	-
Conn.	7	95	-	-	3	-	3	171	5,038	4,535	3	73	96	1
MID. ATLANTIC	75	2,417	1	3	39	1	18	1,942	55,384	54,363	76	1,963	1,477	20
Upstate N.Y.†	21	436	1	-	7	1	16	257	8,857	8,913	1	138	104	16
N.Y. City	27	500	-	1	17	-	1	954	21,537	21,379	60	1,345	1,053	-
N.J.	19	444	-	1	11	-	1	173	10,493	10,121	8	261	165	4
Pa.	8	637	-	1	4	-	-	558	14,497	13,950	7	219	155	-
E.N. CENTRAL	122	2,159	-	-	18	5	19	2,926	79,369	75,086	64	1,722	1,194	220
Ohio †	24	402	-	-	3	-	5	1,127	22,047	19,774	15	318	226	14
Ind.	12	283	-	-	-	-	2	189	7,472	7,500	3	122	59	49
Ill.	49	818	-	-	6	5	12	691	24,222	23,447	29	1,007	754	109
Mich. †	33	563	-	-	8	-	1	596	18,557	17,467	16	226	117	5
Wis. †	4	93	-	-	1	-	1	323	7,071	6,898	1	49	38	43
W.N. CENTRAL	8	500	12	-	10	3	23	1,140	24,703	25,450	3	169	252	508
Minn.	3	79	-	-	2	-	-	153	4,128	4,348	-	47	111	97
Iowa	-	42	-	-	2	-	11	256	3,072	2,901	-	23	25	96
Mo.	4	276	10	-	4	2	6	461	10,615	10,870	3	72	64	164
N. Dak.	1	14	-	-	-	-	-	10	420	462	-	2	2	26
S. Dak.	-	31	1	-	-	-	-	23	826	895	-	1	1	50
Nebr.	-	3	1	-	1	-	-	103	1,695	1,905	-	1	7	-
Kans.	-	55	-	-	1	1	6	134	3,947	4,069	-	23	42	75
S. ATLANTIC	125	3,502	3	1	28	26	214	5,740	124,152	122,994	111	3,094	2,906	321
Del.	-	30	-	-	-	-	2	95	2,053	1,693	-	17	5	-
Md.	16	460	-	-	7	-	18	664	15,125	15,599	5	210	231	9
D.C.	10	161	-	-	1	-	1	324	7,982	8,064	8	239	227	-
Va.	16	355	-	-	3	4	52	674	11,838	11,598	10	278	250	5
W. Va.	5	139	-	-	2	1	5	60	1,722	1,764	1	40	8	-
N.C.	20	532	-	-	-	14	78	545	17,778	17,282	9	258	279	3
S.C. †	25	279	1	-	3	7	39	426	11,566	12,082	3	144	147	107
Ge.	19	530	2	-	-	-	19	967	24,047	23,994	34	840	712	173
Fla. †	14	956	-	1	12	-	-	1,985	32,041	31,470	41	1,068	1,047	24
E.S. CENTRAL	38	1,413	12	1	11	6	61	2,267	44,591	43,736	33	816	551	166
Ky.	11	375	2	-	4	-	7	179	5,740	5,404	5	87	69	73
Tenn.	14	400	10	1	2	4	42	1,104	16,029	16,099	9	349	187	55
Ala.	5	320	-	-	5	2	9	663	13,459	12,709	-	156	87	37
Miss.	8	518	-	-	-	-	3	321	9,363	9,524	19	224	208	1
W.S. CENTRAL	59	1,810	33	3	31	4	67	2,252	66,607	70,059	81	2,282	1,700	1,025
Ark.	7	134	20	-	-	-	20	240	5,098	5,178	2	77	45	222
La.	12	393	4	-	3	-	1	479	11,818	11,540	19	518	339	17
Okla.	15	195	5	-	-	2	36	248	6,180	6,637	6	47	51	162
Tex.	25	1,088	4	3	28	2	10	1,285	43,511	46,704	54	1,640	1,265	624
MOUNTAIN	22	451	11	-	21	-	4	779	19,988	18,734	12	249	208	57
Mont.	1	20	4	-	-	-	2	46	938	1,139	-	6	7	5
Idaho	-	6	-	-	1	-	-	33	837	697	3	19	6	2
Wyo.	-	3	-	-	1	-	-	NA	472	423	NA	5	4	-
Colo. †	-	08	1	-	12	-	-	165	5,255	5,227	3	54	58	15
N. Mex. †	5	84	1	-	2	-	-	78	2,578	2,758	-	47	53	25
Ariz.	14	219	-	-	3	-	-	218	5,562	4,688	-	76	45	9
Utah	2	15	5	-	-	-	-	40	1,052	1,032	-	3	11	1
Nev. †	-	36	-	-	2	-	2	159	3,294	2,770	6	39	24	-
PACIFIC	88	2,476	4	4	68	-	-	3,279	86,106	82,368	62	2,219	2,339	184
Wash.	5	136	3	1	2	-	-	342	7,461	6,452	NA	118	110	-
Oreg.	4	110	-	1	1	-	-	235	5,591	5,692	1	98	82	2
Calif.	71	1,997	1	2	57	-	-	2,545	68,740	66,021	58	1,933	2,117	180
Alaska	-	52	-	-	1	-	-	100	2,805	2,666	-	13	7	2
Hawaii	8	181	-	-	7	-	-	57	1,509	1,537	3	57	23	-
Guam †	NA	32	-	NA	-	NA	-	NA	42	62	NA	-	-	-
P.R.	-	174	-	-	3	-	-	47	1,116	1,239	11	257	243	15
V.I.	-	5	-	-	1	-	-	5	94	112	-	6	9	-
Pac. Trust Terr.	NA	17	-	NA	-	NA	-	NA	207	263	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: Mich.-1, S.C.-1, Fla.-5, Guam+2; Tularemia: Colo.+8, Nev.+1; T. fever: Wis.+1; RMSF: Ohio+6, N.Mex.+1; GC: Wis.+218 civ., Guam+2 civ.+2 mil.; Syphilis: Wis.+2; An. rabies: Ups. N.Y.+1.

TABLE IV. Deaths in 121 U.S. cities,* week ending
July 14, 1979 (28th 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		
NEW ENGLAND	626	387	166	31	15	39		S. ATLANTIC	1,144	645	341	80	43	31	-
Boston, Mass.	176	109	49	10	4	16		Atlanta, Ga.	135	69	48	12	3	-	
Bridgport, Conn.	55	21	7	3	-	3		Baltimore, Md.	78	44	27	4	1	2	
Cambridge, Mass.	23	17	6	-	-	1		Charlotte, N.C.	44	24	15	2	2	-	
Fall River, Mass.	27	19	7	-	-	2		Jacksonville, Fla.	89	52	15	10	3	2	
Hartford, Conn.	48	25	15	4	-	-		Miami, Fla.	159	90	40	14	9	3	
Lowell, Mass.	24	10	11	-	1	-		Norfolk, Va.	67	35	19	4	7	5	
Lynn, Mass.	25	16	6	1	-	1		Richmond, Va.	77	41	25	3	6	8	
New Bedford, Mass.	28	23	4	1	-	-		Savannah, Ga.	38	22	13	2	-	3	
New Haven, Conn.	48	30	10	2	1	1		St. Petersburg, Fla.	106	80	19	2	5	4	
Providence, R.I.	62	41	14	4	1	4		Tampa, Fla.	74	42	22	3	2	-	
Somerville, Mass.	8	4	4	-	-	-		Washington, D.C.	228	122	75	20	4	2	
Springfield, Mass.	56	33	13	3	5	8		Wilmington, Del.	49	24	19	4	1	2	
Waterbury, Conn.	29	17	9	2	-	1									
Worcester, Mass.	39	22	11	1	3	2									
MID. ATLANTIC	2,690	1,750	622	171	71	95		E.S. CENTRAL	603	366	149	40	14	23	
Albany, N.Y.	55	27	17	4	6	-		Birmingham, Ala.	76	42	28	-	2	1	
Allentown, Pa.	27	22	2	3	-	-		Chattanooga, Tenn.	51	33	11	4	-	6	
Buffalo, N.Y.	120	75	33	7	2	8		Knoxville, Tenn.	32	18	8	3	1	-	
Camden, N.J.	40	24	11	3	2	4		Louisville, Ky.	101	54	29	10	5	6	
Elizabeth, N.J.	29	22	7	-	-	1		Memphis, Tenn.	164	105	30	16	2	-	
Erie, Pa.†	22	16	5	-	1	1		Mobile, Ala.	56	33	17	1	-	-	
Jersey City, N.J.	38	21	13	1	1	1		Montgomery, Ala.	40	25	10	1	1	1	
Newark, N.J.	41	19	15	2	3	2		Nashville, Tenn.	83	56	16	5	3	9	
N.Y. City, N.Y.	1,413	930	307	108	28	42		W.S. CENTRAL	1,273	687	347	103	62	38	
Paterson, N.J.	21	12	8	1	-	-		Austin, Tex.	47	28	9	3	2	3	
Philadelphia, Pa.†	418	267	99	25	15	15		Baton Rouge, La.	32	24	6	-	-	4	
Pittsburgh, Pa.†	77	52	20	3	2	2		Corpus Christi, Tex.	21	15	2	2	1	1	
Reading, Pa.	33	25	8	-	-	-		Dallas, Tex.	192	101	60	14	9	4	
Rochester, N.Y.	96	65	20	2	3	7		El Paso, Tex.	59	27	14	9	3	3	
Schenectady, N.Y.	30	22	8	-	-	2		Fort Worth, Tex.	114	51	30	16	12	6	
Scranton, Pa.†	27	16	8	1	1	4		Houston, Tex.	253	119	79	23	13	4	
Syracuse, N.Y.	125	73	31	5	7	1		Little Rock, Ark.	67	39	16	4	5	4	
Trenton, N.J.	32	24	4	3	-	1		New Orleans, La.	154	91	40	15	5	-	
Utica, N.Y.	25	19	5	1	-	2		San Antonio, Tex.	178	96	54	6	6	2	
Yonkers, N.Y.	23	19	1	2	-	2		Shreveport, La.	68	45	13	3	2	6	
								Tulsa, Okla.	88	51	24	8	4	1	
E.N. CENTRAL	2,488	1,437	668	171	107	64		MOUNTAIN	584	335	135	48	32	18	
Akron, Ohio	100	64	26	4	4	-		Albuquerque, N. Mex.	62	33	16	3	3	4	
Canton, Ohio	75	40	23	7	2	2		Colo. Springs, Colo.	43	29	5	4	2	4	
Chicago, Ill.	568	320	156	43	21	13		Denver, Colo.	125	70	26	10	11	3	
Cincinnati, Ohio	148	86	42	7	10	7		Las Vegas, Nev.	33	20	10	1	-	1	
Cleveland, Ohio	213	101	70	22	9	6		Ogden, Utah	16	9	1	4	2	2	
Columbus, Ohio	158	72	35	12	9	1		Phoenix, Ariz.	129	78	26	12	7	2	
Dayton, Ohio	90	52	22	10	2	1		Pueblo, Colo.	35	19	10	5	-	2	
Detroit, Mich.	286	163	86	16	7	8		Salt Lake City, Utah	52	25	14	2	7	-	
Evansville, Ind.	50	37	8	1	3	3		Tucson, Ariz.	89	52	27	7	-	2	
Fort Wayne, Ind.	65	35	18	4	2	1									
Gary, Ind.	23	10	6	5	2	1									
Grand Rapids, Mich.	60	43	6	1	7	2									
Indianapolis, Ind.	161	53	41	12	7	3		PACIFIC	1,813	1,135	410	149	58	52	
Madison, Wis.	38	18	11	2	4	3		Berkeley, Calif.	22	17	5	-	-	4	
Milwaukee, Wis.	147	57	39	5	4	4		Fresno, Calif.	92	51	27	7	4	-	
Peoria, Ill.	37	21	7	3	5	1		Glendale, Calif.	24	17	5	1	-	-	
Rockford, Ill.	45	33	9	2	-	6		Honolulu, Hawaii	61	35	15	6	1	3	
South Bend, Ind.	53	37	12	2	2	1		Long Beach, Calif.	88	59	19	7	3	12	
Toledo, Ohio	117	68	31	9	4	1		Los Angeles, Calif.	487	298	108	48	17	3	
Youngstown, Ohio	76	47	20	4	3	-		Oakland, Calif.	119	75	26	11	3	2	
								Pasadena, Calif.	32	25	6	1	-	3	
								Portland, Oreg.	129	83	29	9	5	6	
W.N. CENTRAL	692	434	155	41	35	21		Sacramento, Calif.	67	38	14	9	4	2	
Des Moines, Iowa	61	43	10	4	1	2		San Diego, Calif.	132	67	41	11	6	3	
Duluth, Minn.	19	14	3	2	-	5		San Francisco, Calif.	129	80	30	13	2	2	
Kansas City, Kans.	41	24	13	1	2	2		San Jose, Calif.	153	98	34	11	6	2	
Kansas City, Mo.	105	67	26	5	5	2		Seattle, Wash.	170	114	32	10	3	5	
Lincoln, Nebr.	22	15	2	2	1	-		Spokane, Wash.	64	48	7	4	4	1	
Minneapolis, Minn.	76	48	16	4	3	1		Tacoma, Wash.	44	30	12	1	-	-	
Omaha, Nebr.	95	61	17	4	10	3									
St. Louis, Mo.	173	101	41	15	11	3									
St. Paul, Minn.	57	34	17	2	2	1									
Wichita, Kans.	43	27	10	2	-	2									
TOTAL	11,913	7,176	2,993	834	437	381									

*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.

Endocarditis – Continued

To evaluate the efficacy of regimens intended to prevent endocarditis, the AHA has set up a registry of persons who contract endocarditis despite attempts at prophylaxis. Reports of such events, including the name and birth date of the patient and the name, address, and telephone number of the physician, may be telephoned or mailed to the AHA, Endocarditis Prophylaxis Failure Registry, 7320 Greenville Avenue, Dallas, Texas 75231 (Telephone 214-750-5432). The reporting physician will be contacted for clinical details, which will be kept confidential.

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Q Fever at a University Research Center – California

During the first 3 months of 1979, 11 confirmed and more than 30 presumptive cases of Q fever occurred among researchers and employees of the University of California, San Francisco (UCSF). One person died. Most, if not all, of the infections were introduced by pregnant sheep used in research. In the preceding 15 years, only 4 cases had been recognized at UCSF.

Preliminary results of a serologic survey of 580 employees revealed that 114 (19.6%) had complement-fixing (CF) antibodies ($\geq 1:8$) to *Coxiella burnetii*. This compares with only 4 positives (0.2%) among 2,200 specimens submitted to the Microbiology Laboratory of the San Francisco Department of Public Health (SFDPH) since routine testing of patients with respiratory infections began 2 years ago. At UCSF the highest prevalence of CF antibodies was in animal technicians and cage cleaners, and in those who worked on the floors where sheep were studied. Five of 9 employees who worked with soiled linen in the campus laundry had positive titers. Many other employees with positive titers had no direct contact with the research sheep, but used corridors and elevators where sheep were transported in open carts.

Approximately 600 pregnant ewes are supplied annually to UCSF researchers. In November 1978, 47% of 122 sheep in the supplier's flock were positive for Q fever antibodies. After the outbreak was recognized in April 1979, the sheep were removed to a separate building, which is in the process of being brought up to the National Institutes of Health's third level of containment ("P3") standards through the addition of negative air pressure, air locks, and high-efficiency particulate filters on exhaust ducts.

Editorial Note: Q fever is a rickettsial zoonosis readily transmitted by the airborne route in areas contaminated by tissues, such as the placenta, or by excreta of infected animals. Sheep, goats, and cattle are natural reservoirs; their infections are usually inapparent. In humans, the infection generally produces mild, influenza-like respiratory disease but sometimes pneumonia, hepatitis, or endocarditis, and, rarely, death.

Q Fever – Continued

This outbreak was recognized because the SFDPH routinely tests for Q fever in patients with respiratory infection or obscure hepatitis. Since few laboratories outside California do this (7), the incidence of Q fever in other medical centers remains largely unknown.

Animal vaccines, antibiotics, and improved animal husbandry are being investigated, but no means now exist to produce or maintain a flock free from Q fever and still large enough for research needs. It was therefore recommended that medical research centers using sheep take measures to minimize transmission of Q fever such as 1) monitoring the prevalence of Q fever antibodies in sheep; 2) housing sheep in containment quarters that preclude exposure of persons who do not work with sheep (2); 3) limiting access to persons who must work with sheep or perform essential maintenance services; 4) using acceptable microbiologic techniques to process sheep tissues; 5) sterilizing potentially contaminated fomites; 6) doing periodic serologic surveillance on investigators, animal handlers, and others potentially exposed to sheep; 7) informing persons exposed to sheep of the risks of Q fever and screening them for evidence of valvular heart disease; and 8) considering Q fever as a diagnosis in compatible illnesses.

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Reported by S Dritz, MD, MPH, A Back, DrPH, SFDPH; C Hine, MD, PhD, J Spinelli, DVM, R Morrish, DVM, UCSF; R Wade, PhD, MPH, State of California Occupational Safety and Health Administration; R Roberto, MD, California State Dept of Health Services, in California Morbidity Weekly Report, No. 23, June 15, 1979; Field Services Div, Bur of Epidemiology, CDC.

Measles in Summer Camps – Georgia, Florida

Two recent episodes of measles introduction into summer camps have been reported to CDC.

Georgia: A 9-year-old girl entered a 4-week summer camp for girls in northern Georgia on June 16, 1979. On June 18, fever and other prodromal symptoms characteristic of measles developed. A rash developed 3 days later, at which time a diagnosis of measles was made by the camp nurse and a local physician. The patient's sister had had measles 2 weeks previously, but the patient had been considered immune because of a history of vaccination at 12 months of age.

The Georgia Department of Human Resources was notified on June 22, and health records of the other 54 girls attending the camp were reviewed for history of adequate measles vaccination or disease. Thirty-two girls and camp counselors with an uncertain history or a history of vaccination before 12 months of age were vaccinated. No secondary cases have been reported.

Florida: During the first week of a 3-week summer band camp on a university campus in southern Florida, a 15-year-old girl developed malaise, sore throat, cough, and a rash on her face, which spread to her extremities. She had no history of measles vaccination or disease and was diagnosed as having measles by the camp physician. The patient came from a county in Florida where measles was recently reported.

Available health records of the other 93 teenage campers, who ranged in age from 15 to 18, were reviewed, and 4 persons with no history of disease or vaccination were immunized. However, the exact date of previous vaccination or disease was unknown for

Measles — Continued

several campers. During the first week of July, 2 secondary cases developed among teenagers with undocumented vaccination histories.

Reported by B Yangco, MD, University of South Florida College of Medicine, Tampa; H Hand, RN, Rabun County, Georgia; RM Yeller, MD, State Epidemiologist, Florida State Dept of Health and Rehabilitative Services; J McCroan, PhD, State Epidemiologist, Georgia Dept of Human Resources; Immunization Div, Bur of State Services, CDC.

Editorial Note: Summer camps bring together relatively large numbers of young people, and—as with day-care centers, military bases, and schools—may, therefore, facilitate the spread of measles. In a recent policy statement the American Academy of Pediatrics recommended that immunization records be obtained for every person attending camp (1). A physician-documented history of disease or a dated history of live measles vaccination at or after 12 months of age should be made a requirement for attendance at all summer camps for any child or counselor who does not have medical or religious reasons for exemption. When measles is introduced into a camp, as in these instances, persons without documented records of measles or live measles vaccine at or after 12 months of age should be vaccinated or excluded from camp. The local health department should be notified. Physicians, nurses, and others involved with summer camps, either in setting standards or in examining campers, should ensure that these persons are immunized according to the latest recommendations of the United States Public Health Service Advisory Committee on Immunization Practices (2).

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2. Public Health Service Advisory Committee on Immunization Practices: Measles prevention. MMWR 27:427-430, 435-437, 1978

The Morbidity and Mortality Weekly Report, circulation 90,000, is published by the Center for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegrams 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. Send reports to: Center for Disease Control, Attn: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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