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Epidemiologic Notes and Reports

Nosocomial *Pseudomonas cepacia* Infection

In January and February 1979, 3 patients in a large university hospital [illegible] serious nosocomial infection with *Pseudomonas cepacia* attributed to the receipt of cryoprecipitate, possibly contaminated when separate units of this substance were combined for administration to patients.

P. cepacia organisms were isolated from blood cultures from 2 patients with septicemia and from 1 mediastinal wound infection of the other patient. The patient with the wound infection and 1 of the septicemic patients had undergone elective cardiac surgery procedures, received cryoprecipitate during their operations, and developed evidence of infection on the fifth and tenth postoperative days, respectively. The other patient, who had liver failure attributed to cytomegalovirus hepatitis, was given cryoprecipitate because of acquired blood-coagulation abnormalities.

An epidemiologic investigation revealed that the 3 cases of infection had few common exposures. Receipt of cryoprecipitate intravenously before onset of infection was significantly associated with disease, however, when cases were compared with 76 procedure-matched controls ($p = 0.007$).

About 100 courses of cryoprecipitate are given each month in the hospital. Single units of cryoprecipitate are supplied in Fenwall Transfer Packs* at −20 C by a central blood bank. For administration to patients up to 20 units of cryoprecipitate are combined in the hospital's blood bank. To prepare the combined pools, the frozen packs are placed in a 37 C water bath to be gently thawed. They are blotted dry, and the protective tabs covering the administration ports are dried with a clean gauze. Cryoprecipitate pools are generally administered within 2 hours after they have been prepared.

A sample of the cryoprecipitate pool received by the last patient was obtained and cultured, and it grew *P. cepacia*. Moreover, cultures of water in the warming bath used to thaw the frozen packs were found to contain 1.8×10^8 *P. cepacia* per ml, although each day these water baths were cleaned with povodine-iodine, and fresh water was added. The *Pseudomonas* isolates from the 3 patients, the cryoprecipitate pool, and the water bath had the same antimicrobial susceptibility patterns. Studies are underway to attempt to determine the exact mechanism of contamination.

Reported by FS Rhame, MD, J McCullough, MD, and the Hospital Infections Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Infections due to *P. cepacia* are almost exclusively limited to drug addicts (1), patients with cystic fibrosis, and hospitalized patients. In the last context, they arise

*Use of trade names is for identification only and does not constitute endorsement by the Public Health Service, U.S. Department of Health, Education, and Welfare.

Pseudomonas cepacia — Continued

because of the organism's ability to proliferate in relatively pure water (*2*) and in certain dilute aqueous quaternary ammonium disinfectants (*3-5*). This outbreak and others emphasize the importance of thorough investigation of all nosocomial *P. cepacia* infections for the possibility of a contaminated common source.

These 3 cases of *P. cepacia* infection were traced to contaminated pooled cryoprecipitate. The contamination probably occurred during the pooling process after removal of the packs from the contaminated water bath. Even though the packs had been blotted dry, they and the hands of the technician performing the pooling were presumably heavily contaminated with *P. cepacia*.

Thawing frozen blood products in water baths is widely practiced in blood banks. Preventing further infections of this sort should involve adopting procedures for cleaning water baths to reduce contamination levels and exercising great care to avoid contamination by touch during pooling procedures. A plastic overwrap may be used to protect the packs while in the water bath. Microwave technology is being developed which may allow heating of such items and, in the future, make use of water baths unnecessary.

References

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Current Trends

Results of Culture Testing for Gonorrhea — United States, 1978

In the 12-month period ending December 31, 1978, a total of 8,641,188 culture specimens were taken from women as part of gonorrhea-control programs; 403,098 (4.7%) were positive (Table 1). Although the positivity rates were highest (19.5%) in venereal disease (VD) clinics, 89% of all tests were performed in other settings. In these settings, culture-positivity rates in women ranged from 1.4% in student health centers to 4.9% for women in correctional or detention centers. Among 1,866,306 women tested by private physicians, 35,573 (1.9%) cultures were positive.

Provisional data indicate that an additional 2,160,529 women were tested at all types of facilities in January, February, and March 1979, or about 720,176 per month. For this period, the overall positivity rate of cultures from all sources was 4.3%.

Reported by Venereal Disease Control Div, Bur of State Services, CDC.

Editorial Note: Total reported gonorrhea morbidity in the United States increased by 1.1% in 1978 compared to 1977. The overall positivity rate among women tested for gonorrhea was 4.7% for both 1977 and 1978. However, the number of women tested and the number and percentage with positive tests within different health facilities changed in 1978 for several reasons: more testing of high-risk groups, more emphasis on hospital and health-center testing, and changes in the actual disease incidence or prevalence.

Gonorrhea — Continued

In VD clinics, testing was less frequent in 1978 than 1977 (the number of women tested decreased by 0.9%), but the number of infections detected increased by 5.1%. Rescreening women who had been previously treated for gonorrhea in these clinics might have accounted for these changes.

Testing in health-care facilities other than VD clinics increased by 2.6% from 1977 to 1978. The greatest increases in testing were within hospital inpatient wards, manpower training centers, community health centers, and group health centers; 152,144 more tests were performed in these facilities, and 3,069 more infections were detected in 1978 compared to 1977.

By contrast, testing in private physicians' offices decreased by 0.8% and was associated with a 6.2% reduction in the number of positive tests. Although several factors might have caused these changes, the most likely explanation is that there was an actual decrease in the incidence and prevalence of gonococcal infection among women seen in private medical practice. It is possible that there has been a shift of higher-risk populations from the private to the public sector of the health-care delivery system. Less likely is that the changes were caused by the selection of lower-risk persons to be tested or by lowered quality control of the culture system.

TABLE 1. Results of gonorrhea culture tests on females, United States,* 1977 and 1978

Reporting source	Number tested 1978	Number tested 1977	Percent change	Number positive 1978	Number positive 1977	Percent change	Percent positive 1978	Percent positive 1977	Percent change
Health-care providers (excluding VD clinics)	7694114	7501076	+ 2.6	218110	217212	+ 0.4	2.8	2.9	− 3.4
Health dept.									
Non-VD clinics	1852081	1815976	+ 2.0	61417	59254	+ 3.7	3.3	3.3	0.0
Family Planning	1310478	1280159	+ 2.4	42722	40802	+ 4.7	3.3	3.2	+ 3.1
Prenatal, ob-gyn	200444	184904	+ 8.4	6288	5582	+ 12.6	3.1	3.0	+ 3.3
Cancer detection	20108	22268	− 9.7	385	396	− 2.8	1.9	1.8	+ 5.6
Combination or other	321051	328645	− 2.3	12022	12474	− 3.6	3.7	3.8	− 2.6
Public/private hospital									
Outpatient	1381656	1365615	+ 1.2	62983	61013	+ 3.2	4.6	4.5	+ 2.2
Family planning	210269	247957	− 15.2	6542	8153	− 19.8	3.1	3.3	− 6.1
Prenatal ob-gyn	322731	323954	− 0.4	10203	10445	− 2.3	3.2	3.2	0.0
Cancer detection	11434	18334	− 37.6	448	540	− 17.0	3.9	2.9	+ 34.5
Combination or other	837222	775370	+ 8.0	45790	41875	+ 9.3	5.5	5.4	+ 1.9
Inpatient	67993	57792	+ 17.7	1628	1400	+ 16.3	2.4	2.4	0.0
Obstetric	3825	2803	+ 36.5	37	51	− 27.5	1.0	1.8	−44.4
Gynecologic	2942	812	+ 262.3	120	27	+ 344.4	4.1	3.5	+ 24.2
Combination or other	61226	54177	+ 13.0	1471	1322	+ 11.3	2.4	2.4	0.0
Community health centers	792411	706968	+ 12.1	22667	20776	+ 9.1	2.9	2.9	0.0
Family planning	245095	195498	+ 25.4	4845	3910	+ 23.9	2.0	2.0	0.0
Prenatal ob-gyn	79589	56595	+ 40.6	2055	1475	+ 39.3	2.6	2.6	0.0
Cancer detection	8967	7275	+ 23.3	92	45	+ 104.4	1.0	0.6	+ 66.7
Combination or other	458760	447600	+ 2.5	15675	15346	+ 2.1	3.4	3.4	0.0
Private physicians	1866306	1880855	− 0.8	35573	37943	− 6.2	1.9	2.0	− 5.0
Private family-planning groups	1077229	1032220	+ 4.4	17445	16966	+ 2.8	1.6	1.6	0.0
Group health clinics	194437	152942	+ 27.1	4101	3392	+ 20.9	2.1	2.2	− 4.5
Student health centers	204734	206377	− 0.8	2892	3496	− 17.3	1.4	1.7	−17.6
Manpower training agencies	28935	13930	+ 107.7	997	756	+ 31.9	3.4	5.4	−37.0
Industrial screening	1621	3423	− 52.6	55	75	− 26.7	3.4	2.2	+ 54.5
Military/dependents	77815	76710	+ 1.4	2357	2164	+ 8.9	3.0	2.8	+ 7.1
Correctional detention centers	57312	64230	− 10.8	2823	3354	− 15.8	4.9	5.2	− 5.8
Not specified	91584	124038	− 26.2	3172	6623	− 52.1	3.5	5.3	−34.0
Venereal disease clinics	947074	955334	− 0.9	184988	176093	+ 5.1	19.5	18.4	+ 6.0
Total all clinics	9641188	8456410	+ 2.2	403098	393305	+ 2.5	4.7	4.7	0.0

*Trust Territory of the Pacific Islands did not report data for January-December 1977.

Epidemiologic Notes and Reports

Two Suspected Cases of Human Rabies — Texas, Washington

Two unrelated cases of suspected rabies have recently been reported to CDC. As of June 26, both patients are comatose and receiving supportive care.

Case 1. An 8-year-old boy from Piedras Negras, Mexico, was exposed to, but not bitten by, an ill dog on April 20, 1979, and then was bitten on his right hand on May 11 by another dog in Piedras Negras; that dog later disappeared. The boy was healthy until the end of May, when he developed pain in his right shoulder. Several days later the pain worsened, and he developed a sore throat, fever, and dysphagia and was treated with an antibiotic for possible streptococcal pharyngitis by a physician in Piedras Negras. Over the next few days the fever, pain, and sore throat persisted, and he had intermittent episodes of confusion with hallucinations. On June 5 he became acutely agitated, combative, and more confused, developed paralysis of his right arm and generalized weakness, and was hospitalized in Piedras Negras. Two days later the family transferred him to a hospital in San Antonio, Texas. There he was confused, agitated, and aphasic with a right hemiparesis. Over the next few days he became comatose, required intubation and artificial respiration, and developed generalized paralysis. Cerebral angiography, computerized axial tomography, and cerebral spinal fluid (CSF) studies performed on June 8 were normal. On June 9, because rabies was suspected, he was given human rabies immune globulin (HRIG)

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

[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	25th WEEK ENDING June 23, 1979	25th WEEK ENDING June 24, 1978*	MEDIAN 1974-1978**	CUMULATIVE, FIRST 25 WEEKS June 23, 1979	CUMULATIVE, FIRST 25 WEEKS June 24, 1978*	CUMULATIVE, FIRST 25 WEEKS MEDIAN 1974-1978**
Aseptic meningitis	113	112	71	1,401	1,126	985
Brucellosis	10	4	6	55	76	93
Chickenpox	4,427	3,307	3,252	161,373	114,256	114,256
Diphtheria	–	–	3	58	35	112
Encephalitis: Primary (arthropod-borne & unspec.)	11	18	19	247	287	324
Post-infectious	4	4	6	115	101	128
Hepatitis, Viral: Type B	310	317	253	6,690	7,262	7,095
Type A	582	634	625	13,892	13,809	16,952
Type unspecified	235	178	156	5,060	3,952	4,128
Malaria	20	25	8	260	283	173
Measles (rubeola)	319	924	924	10,368	20,679	20,679
Meningococcal infections: Total	55	40	26	1,538	1,357	895
Civilian	54	39	26	1,530	1,338	883
Military	1	1	–	8	19	17
Mumps	304	422	571	10,035	11,698	29,788
Pertussis	47	34	32	584	935	608
Rubella (German measles)	364	866	290	9,514	14,811	13,726
Tetanus	–	1	1	26	33	29
Tuberculosis	669	702	689	13,470	13,778	14,560
Tularemia	8	6	4	65	47	56
Typhoid fever	9	8	6	204	235	160
Typhus fever, tick-borne (Rky. Mt. spotted)	47	62	39	282	299	262
Venereal diseases:						
Gonorrhea: Civilian	21,171	18,858	19,498	456,126	447,531	451,180
Military	479	579	495	12,899	12,081	12,844
Syphilis, primary & secondary: Civilian	513	415	415	11,534	9,908	9,908
Military	1	6	6	139	146	146
Rabies in animals	88	73	58	2,244	1,509	1,411

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1979		CUM. 1979
Anthrax	–	Poliomyelitis: Total	19
Botulism (Nebr. 1)	10	Paralytic (Pa. 1, Iowa 1)	16
Congenital rubella syndrome	28	Psittacosis (Ups. NY 1)	59
Leprosy (Calif. 1)	81	Rabies in man	1
Leptospirosis	14	Trichinosis	65
Plague (N.Mex. 1)	7	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	19

*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.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending June 23, 1979, and June 24, 1978 (25th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1979	1979	1979	1979	CUM. 1979	1979	1978*	1979	1979	1979	1979	1979	CUM. 1979
UNITED STATES	113	10	4,427	–	58	11	18	4	310	582	235	20	260
NEW ENGLAND	2	1	664	–	–	1	–	1	12	7	14	1	16
Maine	–	–	6	–	–	–	–	–	1	–	–	–	1
N.H.†	–	–	30	–	–	–	–	–	–	–	–	–	–
Vt.†	–	1	6	–	–	–	–	–	1	–	–	–	–
Mass.	1	–	197	–	–	–	–	–	3	3	12	–	4
R.I.	1	–	40	–	–	–	–	–	2	–	–	–	4
Conn.†	–	–	385	–	–	1	–	1	5	4	2	1	7
MID. ATLANTIC	7	–	329	–	–	2	2	–	50	76	22	5	35
Upstate N.Y.	3	–	207	–	–	2	–	–	10	46	10	2	8
N.Y. City	2	–	106	–	–	–	–	–	9	6	3	2	17
N.J.	1	–	NN	–	–	–	1	–	16	14	8	–	4
Pa.	1	–	16	–	–	–	1	–	15	10	1	1	6
E.N. CENTRAL	7	–	2,387	–	1	–	4	1	27	70	16	1	16
Ohio	–	–	248	–	–	–	–	1	5	17	–	–	5
Ind.†	2	–	70	–	–	–	3	–	2	–	2	–	1
Ill.	4	–	782	–	–	–	–	–	2	19	2	–	4
Mich.	1	–	946	–	–	–	1	–	10	28	10	1	6
Wis.	–	–	341	–	1	–	–	–	8	6	2	–	–
W.N. CENTRAL	–	–	226	–	–	3	1	–	12	36	9	1	11
Minn.	–	–	–	–	–	–	–	–	2	8	1	–	3
Iowa	–	–	43	–	–	3	–	–	2	4	1	1	1
Mo.†	–	–	87	–	–	–	1	–	6	12	2	–	3
N. Dak.	–	–	5	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	9	–	–	–	–	–	1	3	–	–	–
Nebr.	–	–	80	–	–	–	–	–	–	–	–	–	2
Kans.	–	–	2	–	–	–	–	–	1	9	5	–	2
S. ATLANTIC	7	2	295	–	–	1	1	2	48	60	39	2	37
Del.	–	–	6	–	–	–	–	–	–	–	1	–	1
Md.†	–	–	136	–	–	–	–	–	6	1	3	–	5
D.C.	–	–	–	–	–	–	–	–	–	–	–	–	5
Va.	–	2	23	–	–	–	–	2	13	4	8	–	10
W. Va.	–	–	61	–	–	–	–	–	3	1	–	–	1
N.C.	4	–	NN	–	–	1	1	–	6	6	3	1	3
S.C.†	1	–	2	–	–	–	–	–	2	1	1	–	1
Ga.	–	–	5	–	–	–	–	–	6	11	–	–	2
Fla.	2	–	62	–	–	–	–	–	12	36	23	1	9
E.S. CENTRAL	6	2	32	–	–	–	2	–	39	19	6	1	6
Ky.	3	–	20	–	–	–	–	–	7	2	–	–	–
Tenn.	2	2	NN	–	–	–	–	–	21	11	2	–	–
Ala.	1	–	1	–	–	–	–	–	3	–	4	–	2
Miss.	–	–	11	–	–	–	2	–	8	6	–	1	4
W.S. CENTRAL	50	4	140	–	–	1	4	–	34	88	42	3	18
Ark.	1	1	1	–	–	–	–	–	1	3	4	–	–
La.	–	–	NN	–	–	–	–	–	6	4	4	–	2
Okla.	1	1	–	–	–	1	1	–	1	8	5	–	2
Tex.	48	2	139	–	–	–	3	–	26	73	29	3	14
MOUNTAIN	3	1	79	–	1	1	–	–	9	68	37	–	7
Mont.	–	–	4	–	–	1	–	–	1	3	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	4	–	–	–
Wyo.†	–	–	1	–	–	–	–	–	–	1	–	–	1
Colo.	1	–	70	–	–	–	–	–	1	3	6	–	3
N. Mex.	–	–	–	–	–	–	–	–	4	9	–	–	–
Ariz.	–	–	NN	–	1	–	–	–	–	43	27	–	3
Utah	–	–	1	–	–	–	–	–	2	4	4	–	–
Nev.	2	1	3	–	–	–	–	–	1	1	–	–	–
PACIFIC	31	–	275	–	56	2	4	–	79	158	50	6	114
Wash.†	1	–	237	–	55	–	–	–	1	14	1	–	4
Oreg.	2	–	2	–	–	1	–	–	6	11	5	–	4
Calif.†	27	–	–	–	1	1	4	–	71	130	44	6	105
Alaska	1	–	22	–	–	–	–	–	–	1	–	–	–
Hawaii	–	–	14	–	–	–	–	–	1	2	–	–	1
Guam†	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
P.R.	–	–	24	–	–	–	–	–	–	1	1	–	1
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
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: Asep. meng: Mo. +3, Wash. +5, Pac.Tr.Terr. +1; Chickenpox: N.H. +29, Mo. +264, Calif. +46, Guam +4; Enceph.: Ind. +1; Hep.B: Conn. –1, Mo. –8, Md. +2, Guam +2; Hep.A: N.H. +1, Conn. –2, Mo. –6, Md. +1, Wyo. –1, Guam +4; Hep. unsp.: N.H. +2, Vt. –1, Mo. –5, Md. +2, S.C. –1, Guam +1, Pac.Tr.Terr. +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending June 23, 1979, and June 24, 1978 (25th 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	319	10,368	20,679	55	1,538	1,357	304	10,035	47	364	9,514	26
NEW ENGLAND	12	282	1,875	3	74	73	1	352	-	24	1,311	3
Maine	4	15	1,291	-	3	5	-	128	-	-	61	-
N.H.†	-	38	44	-	8	6	-	4	-	1	111	-
Vt.	7	112	24	-	5	2	-	6	-	4	389	-
Mass.	1	12	192	2	20	27	1	28	-	11	430	2
R.I.	-	103	7	-	5	13	-	23	-	5	81	-
Conn.	-	2	317	1	33	20	-	163	-	3	239	1
MID. ATLANTIC	103	1,209	1,741	10	221	218	25	877	3	92	1,703	5
Upstate N.Y.	60	578	1,167	5	79	66	10	132	2	77	917	1
N.Y. City	42	559	196	2	59	53	3	93	-	9	217	3
N.J.†	-	50	63	1	54	45	11	453	-	6	307	-
Pa.†	1	22	315	2	29	54	1	199	1	-	262	1
E.N. CENTRAL	46	2,669	9,374	8	147	131	159	4,421	36	130	2,242	2
Ohio	11	183	430	4	54	26	79	1,604	-	14	99	1
Ind.	2	161	159	-	32	23	2	238	-	18	689	-
Ill.	3	1,206	976	-	3	27	22	804	-	-	145	-
Mich.	20	703	6,470	3	44	44	27	849	36	94	1,102	1
Wis.†	10	416	1,339	1	14	11	29	926	-	4	207	-
W.N. CENTRAL	56	1,401	345	-	39	54	6	605	-	13	380	-
Minn.	33	909	34	-	9	10	-	6	-	-	34	-
Iowa	-	15	51	-	5	9	3	219	-	1	51	-
Mo.†	13	409	7	-	17	23	1	168	-	3	31	-
N. Dak.	-	10	180	-	1	3	-	1	-	-	8	-
S. Dak.	-	1	-	-	2	2	1	4	-	-	2	-
Nebr.	-	-	5	-	-	-	1	6	-	5	172	-
Kans.	10	57	68	-	5	7	-	201	-	4	82	-
S. ATLANTIC	37	1,501	4,355	10	388	333	16	383	1	32	1,075	6
Del.	-	1	5	-	3	1	1	22	-	1	3	-
Md.	-	7	30	2	34	15	7	67	-	1	23	-
D.C.	-	-	47	-	2	1	-	1	-	-	1	-
Va.	8	212	2,575	1	55	42	4	73	-	5	166	1
W. Va.†	-	49	961	-	7	8	-	80	-	-	98	-
N.C.	-	104	92	2	54	69	3	57	-	21	484	3
S.C.†	3	138	188	1	48	21	-	2	-	-	59	-
Ga.	1	344	14	3	62	42	-	3	-	1	7	-
Fla.	25	646	443	1	123	134	1	78	1	3	234	2
E.S. CENTRAL	18	156	1,287	1	116	112	35	1,037	1	4	239	4
Ky.	-	23	103	-	22	20	29	822	-	1	56	-
Tenn.	-	47	864	-	35	28	6	85	-	-	77	-
Ala.	18	67	101	1	28	35	-	16	-	3	36	4
Miss.	-	19	219	-	31	29	-	114	1	-	70	-
W.S. CENTRAL	10	868	877	9	268	207	41	1,547	2	6	191	6
Ark.	-	6	14	1	24	17	5	755	-	-	5	1
La.	4	234	307	2	111	80	1	35	-	-	25	1
Okla.	-	22	11	1	21	16	-	-	-	-	22	-
Tex.	6	606	545	5	112	94	35	757	2	6	139	4
MOUNTAIN	-	216	207	1	65	31	1	233	-	4	430	-
Mont.	-	55	103	-	5	2	-	5	-	-	62	-
Idaho	-	4	1	-	5	2	-	8	-	1	186	-
Wyo.†	-	-	-	-	1	-	-	-	-	-	-	-
Colo.	-	32	27	-	4	2	-	66	-	-	27	-
N. Mex.†	-	30	-	-	4	7	-	7	-	-	6	-
Ariz.	-	69	18	-	30	11	-	47	-	2	121	-
Utah	-	15	44	1	8	4	1	89	-	1	27	-
Nev.	-	11	14	-	8	3	-	11	-	-	1	-
PACIFIC	37	2,066	618	13	220	198	20	580	4	59	1,943	-
Wash.†	12	1,093	61	4	35	34	2	178	-	-	161	-
Oreg.	3	55	136	1	13	12	1	55	-	6	76	-
Calif.	20	840	418	8	159	144	16	266	4	50	1,690	-
Alaska	1	17	-	-	5	5	-	8	-	-	2	-
Hawaii	1	61	3	-	8	3	1	73	-	3	14	-
Guam	NA	2	25	-	-	-	NA	6	NA	NA	3	-
P.R.	2	252	162	1	1	2	13	461	-	-	30	3
V.I.	NA	4	6	-	2	1	NA	4	NA	NA	-	-
Pac. Trust Terr.†	NA	5	542	-	1	2	NA	16	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: Mo. −2, Wyo. +36, Wash. −4, Pac.Tr.Terr. +1; Men. inf.: Mo. −4, S.C. −1, Wash. +2; Mumps: Pa. −1, Mo. +17; Pertussis: Mo. +5; Rubella: N.H. +2, N.J. +2, Wis. −4, Mo. +8, W.Va. −2, N.Mex. +1, Pac.Tr.Terr. +1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending June 23, 1979, and June 24, 1978 (25th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1979	CUM. 1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	CUM. 1979
UNITED STATES	669	13,470	65	9	204	47	282	21,171	456,126	447,531	513	11,534	9,908	2,244
NEW ENGLAND	14	369	1	–	14	–	2	529	11,747	11,636	10	217	295	23
Maine	1	26	–	–	1	–	–	43	805	872	–	5	7	17
N.H.	–	8	–	–	–	–	–	23	417	531	–	12	4	1
Vt.	1	19	–	–	–	–	–	10	267	287	–	1	3	–
Mass.	6	201	1	–	9	–	2	171	4,693	5,106	4	128	186	4
R.I.	2	35	–	–	2	–	–	52	960	837	1	7	11	–
Conn.	4	80	–	–	2	–	–	230	4,605	4,003	5	64	84	1
MID. ATLANTIC	108	2,161	1	2	30	–	12	1,718	48,334	48,580	23	1,719	1,348	20
Upstate N.Y.	19	380	1	–	6	–	10	381	7,834	7,729	6	127	95	16
N.Y. City	48	797	–	1	15	–	1	NA	18,297	19,160	NA	1,154	964	–
N.J.	15	394	–	1	7	–	1	675	9,264	8,779	9	234	147	4
Pa.	26	590	–	–	2	–	–	662	12,939	12,912	8	204	142	–
E.N. CENTRAL	83	1,876	–	1	15	–	8	4,065	71,828	64,882	51	1,576	1,050	189
Ohio†	9	364	–	–	2	–	2	663	19,382	16,772	7	291	207	13
Ind.	4	243	–	–	–	–	2	882	6,948	6,582	7	105	55	44
Ill.	37	699	–	–	5	–	3	1,353	22,661	20,071	26	953	649	100
Mich.†	29	487	–	1	7	–	1	844	16,400	15,433	10	180	105	1
Wis.	4	83	–	–	1	–	–	323	6,437	6,024	1	47	34	31
W.N. CENTRAL	19	430	9	1	7	3	19	1,068	21,940	22,475	6	159	223	463
Minn.†	–	62	–	–	2	–	–	160	3,794	3,959	2	46	100	92
Iowa	1	38	–	–	2	1	10	146	2,688	2,509	1	22	22	88
Mo.†	18	235	7	–	1	1	4	550	9,339	9,478	2	65	56	149
N. Dak.	–	12	–	–	–	–	–	11	361	418	–	1	2	20
S. Dak.	–	28	1	–	–	–	–	37	757	823	–	1	1	41
Nebr.	–	3	1	1	1	–	–	64	1,523	1,620	–	1	7	–
Kans.	–	52	–	–	1	1	5	100	3,478	3,668	1	23	35	73
S. ATLANTIC	178	3,133	2	2	26	26	142	4,537	108,857	108,597	124	2,775	2,651	294
Del.	–	29	–	–	–	–	2	69	1,769	1,528	1	17	5	–
Md.	20	409	–	–	6	5	18	686	13,196	13,897	7	191	208	9
D.C.	8	160	–	–	1	–	1	275	6,996	7,235	18	220	209	–
Va.	26	361	–	1	3	6	37	390	10,434	10,070	10	257	234	5
W. Va.	4	121	–	–	2	1	3	46	1,537	1,594	–	38	8	–
N.C.	27	489	–	–	–	5	44	732	16,029	15,092	10	227	242	3
S.C.†	38	230	1	–	3	4	18	511	10,195	10,643	10	132	129	96
Ga.	–	445	1	–	–	5	19	1,107	21,219	20,841	39	756	649	160
Fla.†	55	885	–	1	11	–	–	721	27,482	27,697	29	937	967	21
E.S. CENTRAL	50	1,262	12	–	10	6	44	1,382	39,101	38,636	36	742	492	136
Ky.†	–	333	2	–	4	1	7	331	5,156	4,682	3	76	63	59
Tenn.	16	345	10	–	1	5	29	336	13,838	13,957	25	324	172	48
Ala.	18	288	–	–	5	–	7	331	11,670	11,338	2	143	76	28
Miss.	16	296	–	–	–	–	1	384	8,437	8,659	6	199	181	1
W.S. CENTRAL	68	1,622	28	–	24	12	53	2,697	59,602	62,756	125	2,057	1,523	916
Ark.	2	116	17	–	–	2	17	111	4,426	4,646	2	63	40	211
La.	7	361	2	–	3	–	1	376	10,582	10,417	21	480	304	16
Okla.	13	174	5	–	–	10	27	262	5,440	5,819	–	35	43	143
Tex.	46	971	4	–	21	–	8	1,948	39,154	41,874	102	1,479	1,136	546
MOUNTAIN	16	402	8	–	20	–	2	727	17,902	16,436	9	208	183	39
Mont.†	–	15	1	–	–	–	1	25	832	1,021	–	6	7	–
Idaho	1	6	–	–	1	–	–	44	763	614	–	15	5	–
Wyo.	–	3	–	–	1	–	–	10	410	366	–	5	4	–
Colo.	3	66	1	–	12	–	–	247	4,817	4,652	2	50	53	6
N. Mex.	4	72	1	–	1	–	–	49	2,245	2,370	6	39	52	23
Ariz.	8	192	–	–	3	–	–	208	4,999	4,057	–	60	34	9
Utah	–	13	5	–	–	–	–	27	946	928	–	3	9	1
Nev.	–	35	–	–	2	–	1	117	2,890	2,428	1	30	19	–
PACIFIC	133	2,215	4	3	58	–	–	4,448	76,815	73,533	129	2,081	2,143	164
Wash.†	4	118	3	–	1	–	–	195	6,610	5,573	NA	111	100	–
Oreg.	5	106	–	–	–	–	–	163	4,933	5,151	5	91	75	1
Calif.	112	1,788	1	3	45	–	–	3,904	61,487	59,055	118	1,816	1,940	161
Alaska	–	44	–	–	1	–	–	94	2,495	2,346	–	12	7	2
Hawaii	12	159	–	–	7	–	–	92	1,290	1,408	6	51	21	–
Guam†	NA	18	–	NA	–	NA	–	NA	30	61	NA	–	–	–
P.R.	1	123	–	–	3	–	–	42	986	1,156	14	236	219	9
V.I.	NA	3	–	NA	1	NA	–	NA	86	104	NA	5	8	–
Pac. Trust Terr.†	NA	10	–	NA	–	NA	–	NA	112	236	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. –2, Mo. –2, S.C. –1, Fla. –4, Guam +3, Pac.Tr.Terr. +3; T. Fever: Ohio +1, Mo. +3; GG: Mo. –65 civ., Wash. –2 civ., Guam +4 civ., +7 mil., Pac.Tr.Terr. +59 civ.; Syphilis: Minn. –1, Mo. –6; An. rabies: Ohio +1, Ky. +1, Mont. +4.

TABLE IV. Deaths in 121 U.S. cities,* week ending June 23, 1979 (25th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	666	449	154	33	17	40
Boston, Mass.	173	107	51	6	4	15
Bridgeport, Conn.	44	24	13	3	4	1
Cambridge, Mass.	28	21	6	1	–	5
Fall River, Mass.	33	26	4	2	–	–
Hartford, Conn.	49	33	11	3	–	1
Lowell, Mass.	32	22	9	1	–	2
Lynn, Mass.	21	15	4	1	–	–
New Bedford, Mass.	34	25	7	1	1	2
New Haven, Conn.	45	31	10	2	–	2
Providence, R.I.	70	50	12	4	4	4
Somerville, Mass.	7	7	–	–	–	1
Springfield, Mass.	45	26	13	4	1	4
Waterbury, Conn.	35	26	5	4	–	2
Worcester, Mass.	50	36	9	1	3	1
MID. ATLANTIC	2,503	1,619	580	162	84	103
Albany, N.Y.	43	31	7	1	2	–
Allentown, Pa.	20	18	2	–	–	–
Buffalo, N.Y.	114	71	30	7	5	6
Camden, N.J.	39	25	6	2	5	1
Elizabeth, N.J.	32	23	7	2	–	–
Erie, Pa.†	24	17	6	–	–	1
Jersey City, N.J.	61	37	16	3	2	1
Newark, N.J.	52	22	18	4	5	7
N.Y. City, N.Y.	1,410	907	314	108	46	54
Paterson, N.J.	23	16	5	2	–	2
Philadelphia, Pa.†	238	150	67	10	7	10
Pittsburgh, Pa.†	76	45	21	6	3	5
Reading, Pa.	33	21	9	1	1	1
Rochester, N.Y.	113	69	26	10	4	9
Schenectady, N.Y.	25	19	5	1	–	1
Scranton, Pa.†	30	25	5	–	–	1
Syracuse, N.Y.	84	59	21	–	3	–
Trenton, N.J.	42	28	8	4	1	2
Utica, N.Y.	25	20	4	1	–	–
Yonkers, N.Y.	19	16	3	–	–	2
E.N. CENTRAL	2,297	1,408	572	135	98	48
Akron, Ohio	50	34	8	4	3	–
Canton, Ohio	31	24	5	–	1	1
Chicago, Ill.	556	317	148	40	33	10
Cincinnati, Ohio	137	86	29	5	8	1
Cleveland, Ohio	170	88	53	13	9	1
Columbus, Ohio	135	84	27	10	9	2
Dayton, Ohio	81	45	24	6	3	2
Detroit, Mich.	293	185	82	15	7	6
Evansville, Ind.	67	39	21	3	–	1
Fort Wayne, Ind.	28	16	8	4	–	–
Gary, Ind.	34	18	9	4	1	1
Grand Rapids, Mich.	71	48	17	1	4	4
Indianapolis, Ind.	154	87	43	8	8	3
Madison, Wis.	36	22	7	3	3	3
Milwaukee, Wis.	132	87	36	4	1	6
Peoria, Ill.	55	32	15	2	1	2
Rockford, Ill.	53	35	6	3	3	3
South Bend, Ind.	35	27	6	1	1	1
Toledo, Ohio	105	82	12	6	2	1
Youngstown, Ohio	74	52	16	3	1	–
W.N. CENTRAL	716	470	142	39	40	24
Des Moines, Iowa	64	41	17	1	2	2
Duluth, Minn.	32	20	8	2	2	2
Kansas City, Kans.	25	13	5	2	3	–
Kansas City, Mo.	135	87	33	5	4	3
Lincoln, Nebr.	26	15	8	1	1	2
Minneapolis, Minn.	95	67	17	6	4	2
Omaha, Nebr.	82	63	9	5	2	2
St. Louis, Mo.	150	92	24	14	15	7
St. Paul, Minn.	75	52	15	1	4	2
Wichita, Kans.	32	20	6	2	3	2

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
S. ATLANTIC	1,098	616	311	76	65	37
Atlanta, Ga.	109	54	30	7	17	1
Baltimore, Md.	205	122	51	20	5	6
Charlotte, N.C.	65	34	18	5	6	4
Jacksonville, Fla.	90	43	29	10	6	1
Miami, Fla.	97	54	31	3	6	5
Norfolk, Va.	62	32	14	5	6	4
Richmond, Va.	73	28	38	6	1	5
Savannah, Ga.	44	26	11	4	2	4
St. Petersburg, Fla.	75	64	10	1	3	3
Tampa, Fla.	69	49	15	1	4	3
Washington, D.C.	145	75	49	13	6	–
Wilmington, Del.	60	35	15	1	3	1
E.S. CENTRAL	673	397	191	34	17	28
Birmingham, Ala.	116	62	39	6	4	1
Chattanooga, Tenn.	47	29	9	4	2	3
Knoxville, Tenn.	43	27	11	1	–	–
Louisville, Ky.	140	76	41	7	8	9
Memphis, Tenn.	132	85	37	3	–	3
Mobile, Ala.	60	39	14	2	1	6
Montgomery, Ala.	55	33	17	4	1	2
Nashville, Tenn.	80	46	23	7	1	4
W.S. CENTRAL	1,217	657	325	103	63	29
Austin, Tex.	61	44	10	2	–	6
Baton Rouge, La.	28	16	6	1	1	1
Corpus Christi, Tex.	28	18	7	1	1	–
Dallas, Tex.	184	92	58	15	6	–
El Paso, Tex.	51	27	17	3	1	–
Fort Worth, Tex.	87	56	14	11	3	4
Houston, Tex.	331	170	88	29	22	4
Little Rock, Ark.	71	35	18	10	6	2
New Orleans, La.	120	60	38	9	9	–
San Antonio, Tex.	147	68	49	16	7	3
Shreveport, La.	33	23	6	2	2	2
Tulsa, Okla.	76	48	14	4	5	7
MOUNTAIN	499	321	112	28	20	17
Albuquerque, N.Mex.	44	25	8	7	2	2
Colo. Springs, Colo.	42	29	8	2	1	7
Denver, Colo.	111	66	26	6	8	4
Las Vegas, Nev.	47	32	11	3	1	–
Ogden, Utah	14	11	3	–	–	2
Phoenix, Ariz.	84	53	24	1	1	–
Pueblo, Colo.	14	9	4	1	–	1
Salt Lake City, Utah	63	40	12	3	6	1
Tucson, Ariz.	80	56	16	5	1	–
PACIFIC	1,796	1,157	387	116	68	54
Berkeley, Calif.	13	10	3	–	–	2
Fresno, Calif.	78	52	11	5	5	7
Glendale, Calif.	37	29	5	2	–	2
Honolulu, Hawaii	59	37	19	1	–	5
Long Beach, Calif.	76	38	24	5	4	3
Los Angeles, Calif.	583	368	125	46	13	15
Oakland, Calif.	54	34	16	4	–	6
Pasadena, Calif.	27	23	1	2	1	1
Portland, Oreg.	127	100	16	4	6	–
Sacramento, Calif.	70	40	16	4	7	2
San Diego, Calif.	139	84	35	10	5	–
San Francisco, Calif.	146	97	31	8	6	2
San Jose, Calif.	149	88	38	10	9	–
Seattle, Wash.	140	91	29	10	8	3
Spokane, Wash.	62	38	14	3	4	5
Tacoma, Wash.	36	28	4	2	–	1
TOTAL	11,465	7,094	2,774	726	472	380

*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.

Rabies – Continued

and was started on daily doses of duck embryo vaccine (DEV). On June 11 and June 15, corneal impression, serum, CSF, and neck biopsy specimens were obtained for rabies testing. The first set of specimens was negative except for the serum, which had a rabies antibody titer of 1:7. The corneal impressions collected on June 15 were positive by fluorescent antibody (FA) staining, and the serum had a rabies antibody titer of 1:145. CSF tests for rabies antibody and neck biopsy specimens for virus were negative. Thirty-one contacts of the patient were started on rabies postexposure prophylaxis.

Case 2. An 18-year-old male from Vancouver, Washington, developed a stiff neck, headache, myalgia, and fever of 101 F (38.3C) on June 8, 1979. The next day he was seen at a local hospital emergency room and treated for possible influenza as an outpatient. Over the next few days he became confused and irritable and was seen and admitted to a hospital in Vancouver. That evening he was transferred to another hospital, where he was noted to have a right hemiparesis; computerized axial tomography revealed temporal lobe edema. Two days later, because herpes simplex was suspected, he had a temporal lobe biopsy. The following day an FA test of the biopsy material was read as positive for rabies. The patient subsequently has become progressively obtunded, required intubation, and developed quadraplegia. Examination of CSF obtained on June 12 revealed 200 lymphocytes, 30 red cells, a protein level of 70 mg/dl, and a glucose level of 84 mg/dl. CSF, serum, corneal impression specimens, and skin tissue biopsy specimens from the neck were obtained on June 15 for diagnostic tests for rabies. The corneal impression test was positive for rabies by FA; CSF, serum, and the neck biopsy specimens were negative. Seventeen contacts of the patient have been started on post-exposure prophylaxis.

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Editorial Note: The presumptive diagnosis in both cases is based in part on a corneal impression test. Animal studies and other studies in humans indicate it is a specific test but positive in only about 50% of documented cases (*1,2*). In the first case described here, the diagnosis is further supported by a rabies antibody titer higher than would be expected 7 days after HRIG had been given and DEV initiated. In the second case the diagnosis is also based on a brain biopsy, read as positive for rabies by FA. In both cases, the diagnosis must be confirmed by further studies, such as virus isolation from saliva, FA staining of neck biopsy specimens or brain tissue, or demonstration of high rabies antibody titers in CSF or serum.

In the first case, the patient was bitten by a dog and also lives in an area currently having an epizootic of canine rabies (*3*). In the Washington case, however, no definite exposure history could be identified, and the region from which the patient comes has little documented rabies. In the past 5 years, no animals have been documented to be rabid in the patient's county of residence; the only animals documented to be rabid in the surrounding counties have been bats. The second case, coupled with 3 other recent cases (*4,5*), again highlights the need to consider rabies in a diagnosis of progressive severe encephalitis.

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Rabies – Continued

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Death from Measles, Possibly Atypical – Michigan

A 13-year-old girl died on February 18, 1978, after being hospitalized at University Hospital, Ann Arbor, Michigan, with a diagnosis of measles encephalitis and pneumonia. The patient had been vaccinated in 1966 or 1967 with 3 injections of killed measles vaccine.

One week before admission, and 10 days after a known measles exposure, she developed fever, headache, chills, cough, rhinorrhea, and severe vomiting. A fine rash appeared on her arms and spread to her trunk and face. She was seen by her physician, who diagnosed atypical measles. A week later, on January 23, her fever increased, and she had her first seizure. She was seen in the emergency room of a community hospital and treated with intravenous diazepam, but seizures persisted, and she required intubation. Because of the character of the rash, a diagnosis of meningococcal meningitis was considered, and the patient was transferred to University Hospital in Ann Arbor.

Upon arrival, she was treated with intravenous penicillin and hydrocortisone. Despite anticonvulsant therapy, she continued to have focal and then generalized seizures. Examination was remarkable for rales throughout both lung fields, a petechial rash over the face, and a fine, blanching, maculopapular rash over the entire body. A pustular component was also noted. Admission laboratory findings included a white blood cell count (WBC) of 14,500/mm^3 and a normal platelet count. Lumbar puncture (LP) revealed 2 red and 9 white blood cells/mm^3. The total protein level was 104 mg/dl, and the glucose level was 50 mg/dl. Chest X ray showed left lower lobe and perihilar infiltrates. Repeat LP 1 day after admission was essentially unchanged. A final LP on the 14th hospital day showed normal chemistries and cellular elements.

On January 23 and again on February 9, 1978, measles antibody titer in the patient's serum, determined by immunofluorescent antibody testing (IFA), was 1:4,096. Measles antibody titer from her cerebral spinal fluid, also determined by IFA, was 1:32 on January 23 and February 4. Attempts to isolate virus from throat washings, urine, and from unstimulated lymphocytes were unsuccessful. Over the next several days, the rash began to fade, but the patient remained comatose. She died on the 21st hospital day.

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Editorial Note: A large number of cases of what has come to be called atypical measles have been reported since its first description in 1965 (*1*). Most cases have occurred in persons who had previously received inactivated (killed) measles vaccine, 1.8 million doses of which were distributed in 1963-1967 (*2*). Killed vaccine was usually given in a series of 2 to 4 doses at monthly intervals; the final dose was often live (Edmonston B) measles vaccine (for example, killed-killed-live sequence).

Atypical measles characteristically consists of a prodrome of high fever, usually without cough or coryza, followed by development of a polymorphic rash, which begins on the distal extremities and spreads centrally (*1,3*). Pneumonia is common, as is abdom-

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inal pain (*1,3*). Although these patients have appeared ill, association with encephalitis or with fatal outcome has not previously been reported.

Inactivated (killed) measles vaccine was withdrawn from use in part because of reports of atypical measles but also because immunity after this vaccine series was found to wane rapidly (*4*). Waning immunity has not been noted in persons who received only the live Edmonston B measles vaccine (with or without simultaneous immune serum globulin), which also became available in 1963, or in those persons who have received the more recent, further attenuated virus vaccines. These persons do not need reimmunization provided they were immunized at or after 12 months of age (*5,6*). Persons who received only the killed vaccine series should be reimmunized unless they have already received a dose of live measles vaccine *at least 3 months after their last dose of killed vaccine* (*5,6*). This recommendation is made, despite the occasional occurrence of marked local reactions in revaccinees, because of the potential severity of atypical measles (*7*). This teenager had not been reimmunized.

Physicians and clinics should continue efforts to ensure that their pediatric and adult patients have proof of adequate immunization against measles. None of 6 children previously reported to have fatal measles in 1978 (*8*) had been immunized according to current recommendations.

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