CENTER FOR DISEASE CONTROL

MMWR

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Epidemiologic Notes and Reports

An Outbreak of Penicillinase-Producing *Neisseria gonorrhoeae* — Shreveport, Louisiana

From January 22-April 29, 1980, 28 cases of gonococcal infection caused by penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were reported in Shreveport, Louisiana.

On January 21, an isolate of *N. gonorrhoeae* was confirmed as PPNG by the State Health Department Regional Laboratory, Shreveport (SHDRLS). This isolate was from a urethral culture obtained on January 15 from a 34-year-old man with gonococcal urethritis; this patient was first diagnosed on November 27, 1979. He received repeated treatment for persistent urethritis: ampicillin 3.5 g and probenecid 1 g p.o. (November 27), 4.8 million units of aqueous procaine penicillin G IM with probenecid 1 g p.o. (December 17) and tetracycline hydrochloride 500 mg 4 times daily for 7 days (January 15). On January 22, the patient was recultured, interviewed, and treated with spectinomycin 2 g IM. Cultures taken on January 22 and on February 4 were negative.

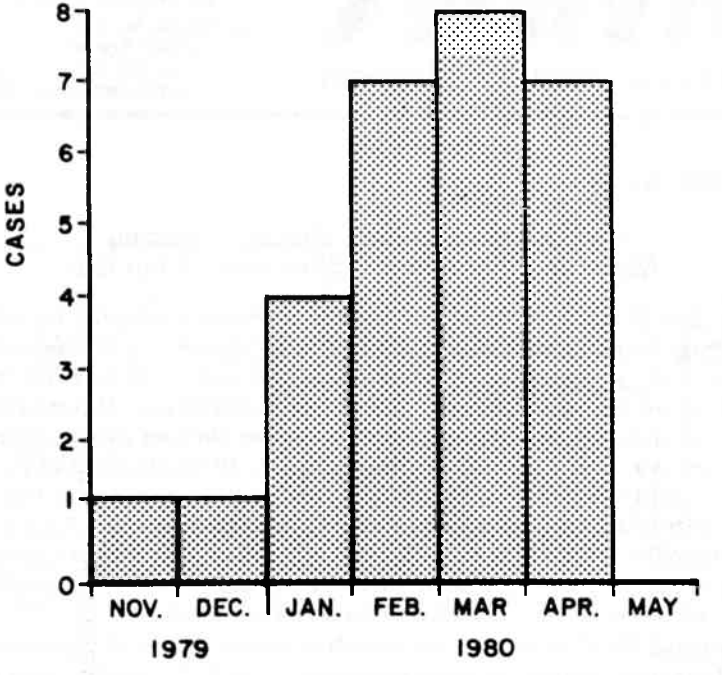
Two additional PPNG patients were identified among the sexual partners of the index patient, and intensive control measures were implemented. All patients were assigned top priority for interview and referral of their sexual partners. The SHDRLS began to screen all gonococcal isolates for penicillin resistance with disk tests; all resistant isolates were subsequently tested for beta-lactamase production. All positive PPNG findings were subsequently confirmed by the State Health Department Central Laboratory in New Orleans.

Figure 1 shows the occurrence of PPNG cases by the month in which individual patients first sought care. The average age of the 12 men was 25.7; the 16 women averaged 20.5 years of age. All patients resided within the Shreveport-Bossier metropolitan area. Of the 16 infected women, 2 had pelvic inflammatory disease (PID), one had suspected PID symptoms, and one had a Bartholin's gland abscess. The 28 patients were distributed in 8, apparently unrelated, chains of infection; no direct evidence of importation was obtained.

Screening approximately 400 gonococcal isolates for penicillinase production assisted in the early identification of 9 of the PPNG cases. Five patients (4 men and 1 woman) sought care in the Shreveport Venereal Disease Clinic because they had symptomatic disease. A total of 56 sexual partners, including 14 who were subsequently shown by culture to be infected with PPNG, were examined and treated. An additional 4 out-of-state contacts were examined, and 2 (1 PPNG, 1 non-PPNG) were found to be infected. The intervals between the patients' initial visits and identification and treatment of PPNG were shortened from an average of 2 weeks at the beginning of the outbreak to approximately 3 days when the outbreak stopped. No additional patients have been identified since April 29.

Neisseria gonorrhoeae – Continued

FIGURE 1. Distribution of cases of PPNG, by month of first visit to Shreveport Venereal Disease Clinic, November 1, 1979-May 22, 1980



The Bureau of Laboratories, CDC, tested the antimicrobial susceptibility of 20 of the Shreveport PPNG isolates, including at least 1 isolate from each chain of infection. The pattern of susceptibility to 12 different antimicrobial agents was virtually identical for each isolate and very similar to that of PPNG isolates examined from the Far East.

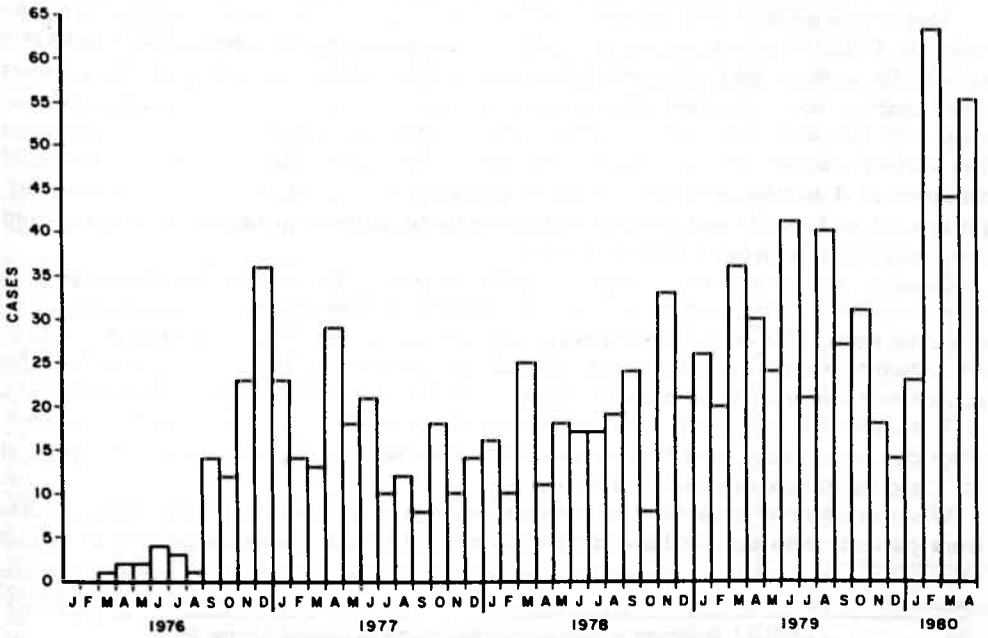
Reported by C Caraway, DVM, State Epidemiologist, L Hightower, Louisiana State Dept of Health and Human Resources; H Bradford, PhD, Director, Louisiana State Laboratory; Bur of Laboratories, and Bur of State Services, CDC.

Editorial Note: From March 1976, when the first PPNG isolate was identified, through April 1980, a total of 1,022 cases of PPNG in the United States were reported to CDC (Figure 2). Although the incidence of PPNG remains low, 186 cases were reported in the period January-April 1980, reflecting a 66.1% increase in cases compared to the same period in 1979. Given this increase and continued PPNG importation from abroad, some areas of the United States may experience sustained transmission of PPNG similar to the outbreak in Shreveport. Although epidemiologic investigation of the Shreveport outbreak could not link the chains of infection directly to military cases or importation from abroad, anecdotal and bacteriologic information suggests such importation.

Delays in identifying early cases of persistent infection contribute to PPNG transmission. CDC continues to stress the need for post-treatment cultures 3-7 days following therapy for all gonorrhea patients. Even patients who return after 7 days should be recultured, as treatment failure is still possible; all positive isolates should be tested for penicillinase production. Spectinomycin 2 g IM should be administered to all patients who continue to be infected. The use of spectinomycin, however, should be restricted to patients who fail primary therapy (with penicillin, tetracycline or ampicillin); spectinomycin is not recommended as primary therapy for gonococcal infection.

Neisseria gonorrhoeae — Continued

FIGURE 2. Cases of PPNG, by month, United States,* March 1976-April 1980



*Includes Commonwealth of Northern Mariana Islands, Federated States of Micronesia, Guam, Puerto Rico, and Virgin Islands.

Nosocomial Pseudobacteremia

Nine blood cultures became positive with *Aerococcus viridans* in a northeastern hospital in the period December 21, 1979-February 2, 1980. This microorganism had not previously been isolated from blood cultures in this hospital. A hospital-initiated investigation found that the positive cultures resulted from inadvertent introduction into the blood-culture media of *A. viridans* that contaminated the outer surface of the blood-culture bottles' permanent rubber ("integral") stoppers.

The 9 cultures were obtained from 6 patients and 1 postmortem examination. These patients did not have clinical illness compatible with infection by this organism. Patients did not share common hospital locations or subspecialty services and their periods of hospitalization did not overlap. Each blood culture was drawn by a different hospital employee. Because of these factors pseudobacteremia was considered.

Microbiologic laboratory equipment and techniques were examined to identify a possible cause of pseudobacteremia. The hospital used blood-culture media supplied by Scott Laboratories. The medium was in a glass container with an integral diaphragm stopper that could be punctured by a needle to inject blood for culture. The stopper was covered with a plastic dust cap. Hospital personnel routinely removed the dust cap, swabbed the stopper with iodophor followed by alcohol, and then injected the blood sample into the bottle. After removal of the dust caps, 64 randomly selected blood-culture integral stoppers (obtained from 4 lots of blood-culture bottles containing brain heart infusion and Columbia broth) were cultured; 21 were found to be positive for *A. viridans*. In addition, stoppers which were free of *A. viridans* were found to be contaminated with

Nosocomial Pseudobacteremia — Continued

fungi, gram-negative bacilli, *Staphylococcus* sp., and *Bacillus* sp. Intrinsic contamination of the media was excluded because unopened bottles did not have growth of *A. viridans*.

This led to an evaluation of the adequacy of disinfection techniques employed by the hospital. Cultures of the integral stoppers were obtained after disinfection with iodophor for 10-15 seconds and iodophor followed by 70% alcohol. Cultures of the stoppers were positive for *A. viridans* after disinfection with iodophor alone; even after disinfection with iodophor followed by alcohol, the organism was present in the crevice between the rubber stopper and the plastic ring. As an experiment, the contaminated integral stoppers of 4 bottles were disinfected with iodophor and alcohol, and the rubber diaphragm of each bottle was entered with a needle to attempt to recover *A. viridans* from the medium; each medium remained sterile.

Reported by ML Spivack, MD, R Shannon, MSPH, G Natsios, BS, J Wood, RN, Boston Veterans Administration Hospital; Hospital Infections Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: This report identified a cluster of pseudobacteremia* caused by *A. viridans*, an organism rarely associated with clinical disease (*1*). *A. viridans* is a gram-positive coccus resembling *Streptococcus* on blood agar; however, on Gram stain it forms tetrads. It is capable of growth on eosin-methylene-blue agar, bile eschulin, and 6.5% sodium chloride, but it can be differentiated from *Enterococcus* by its inability to grow at 45 C and by its lack of group D antigens.

When uncommon organisms or common pathogens are identified from blood cultures from patients who do not have compatible clinical illness, pseudobacteremia should be

*The isolation of bacteria not present in a patient's blood from a blood culture obtained from the patient.

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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	21st WEEK ENDING		MEDIAN 1975-1979	CUMULATIVE, FIRST 21 WEEKS		
	May 24, 1980	May 26, 1979		May 24, 1980	May 26, 1979	MEDIAN 1975-1979
Aseptic meningitis	42	58	54	1,218	1,024	801
Brucellosis	3	2	5	69	43	74
Chickenpox	5,614	7,896	6,070	120,777	142,511	124,026
Diphtheria	–	–	3	2	3	44
Encephalitis: Primary (arthropod-borne & unspec.)	8	12	11	233	199	245
Post-infectious	1	6	6	72	91	91
Hepatitis, Viral: Type B	218	286	377	6,444	5,595	5,958
Type A	304	561	574	10,476	11,894	12,949
Type unspecified	162	204	168	4,620	4,071	3,408
Malaria	35	20	10	610	198	159
Measles (rubeola)	421	657	1,396	8,907	8,548	16,021
Meningococcal infections: Total	49	51	32	1,336	1,333	911
Civilian	49	51	32	1,330	1,325	906
Military	–	–	1	6	8	9
Mumps	215	595	644	5,622	8,369	12,427
Pertussis	30	11	16	431	503	496
Rubella (German measles)	78	647	647	2,212	8,173	11,228
Tetanus	3	2	2	20	19	19
Tuberculosis	430	566	625	10,567	10,837	12,090
Tularemia	8	5	5	36	57	46
Typhoid fever	15	14	7	137	160	134
Typhus fever, tick-borne (Rky. Mt. spotted)	47	32	32	127	114	114
Venereal diseases:						
Gonorrhea: Civilian	14,231	19,038	19,038	375,674	381,507	377,442
Military	313	240	451	10,543	11,046	11,046
Syphilis, primary & secondary: Civilian	321	519	458	10,400	9,739	9,713
Military	2	9	7	135	121	128
Rabies in animals	121	120	67	2,515	1,883	1,167

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1980		CUM. 1980
Anthrax	–	Poliomyelitis: Total	4
Botulism	19	Paralytic	2
Cholera	3	Psittacosis (Va. 1)	29
Congenital rubella syndrome	34	Rabies in man	–
Leprosy (La. 1, Tex. 2, Idaho 1)	71	Trichinosis (Mass. 1, N.J. 2, Tex. 2)	46
Leptospirosis	23	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	20
Plague	–		

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending May 24, 1980, and May 26, 1979 (21st week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN-POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1980	1980	1980	1980	CUM. 1980	1980	1979	1980	1980	1980	1980	1980	CUM. 1980
UNITED STATES	42	3	5,614	–	2	8	12	1	218	304	162	35	610
NEW ENGLAND	2	–	894	–	–	1	1	–	14	19	18	–	42
Maine	–	–	210	–	–	–	–	–	–	–	–	–	12
N.H.	–	–	100	–	–	–	–	–	–	–	1	–	3
Vt.	–	–	2	–	–	–	–	–	2	1	–	–	–
Mass.	2	–	295	–	–	–	1	–	3	10	10	–	18
R.I.	–	–	39	–	–	–	–	–	2	3	–	–	3
Conn.	–	–	248	–	–	1	–	–	7	5	7	–	6
MID. ATLANTIC	11	–	440	–	1	2	–	1	37	29	18	4	80
Upstate N.Y.	1	–	210	–	–	1	–	1	5	9	6	–	12
N.Y. City	–	–	91	–	1	–	–	–	10	2	2	–	26
N.J.	9	–	NN	–	–	1	–	–	22	18	10	4	24
Pa.	1	–	139	–	–	–	–	–	NA	NA	NA	–	18
E.N. CENTRAL	3	–	2,479	–	1	3	2	–	32	38	19	1	27
Ohio	–	–	189	–	–	–	–	–	6	7	8	–	5
Ind.	1	–	161	–	–	–	1	–	4	7	1	–	3
Ill.	–	–	465	–	–	–	–	–	7	8	1	–	5
Mich.	2	–	866	–	1	3	1	–	13	14	9	1	10
Wis.	–	–	798	–	–	–	–	–	4	2	–	–	4
W.N. CENTRAL	3	–	696	–	–	–	1	–	7	28	4	2	26
Minn.	–	–	–	–	–	–	–	–	1	11	–	2	11
Iowa	2	–	278	–	–	–	1	–	1	1	–	–	2
Mo.	–	–	47	–	–	–	–	–	3	3	4	–	7
N. Dak.	–	–	17	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	17	–	–	–	–	–	–	3	–	–	1
Nebr.	–	–	–	–	–	–	–	–	1	5	–	–	3
Kans.	1	–	337	–	–	–	–	–	1	5	–	–	2
S. ATLANTIC	6	1	574	–	–	1	2	–	72	58	25	10	68
Del.	–	–	28	–	–	–	–	–	2	1	–	–	–
Md.	1	–	202	–	–	–	–	–	15	7	3	–	15
D.C.	–	–	5	–	–	–	–	–	–	–	–	–	1
Va.	–	–	33	–	–	–	–	–	13	4	3	3	21
W. Va.	–	–	152	–	–	–	–	–	–	–	–	–	2
N.C.	2	1	NN	–	–	1	2	–	8	5	8	–	4
S.C.	–	–	9	–	–	–	–	–	3	1	7	–	3
Ga.	–	–	–	–	–	–	–	–	17	13	–	6	10
Fla.	3	–	145	–	–	–	–	–	14	27	4	1	12
E.S. CENTRAL	4	–	85	–	–	1	1	–	17	24	8	–	6
Ky.	1	–	21	–	–	–	–	–	9	6	5	–	2
Tenn.	1	–	NN	–	–	1	–	–	4	7	1	–	–
Ala.	2	–	61	–	–	–	1	–	2	5	2	–	4
Miss.	–	–	3	–	–	–	–	–	2	6	–	–	–
W.S. CENTRAL	5	2	287	–	–	–	2	–	22	63	48	16	73
Ark.	–	–	9	–	–	–	1	–	2	4	3	1	4
La.	3	1	NN	–	–	–	–	–	4	7	1	2	29
Okla.	1	–	–	–	–	–	1	–	4	4	5	1	8
Tex.	1	1	278	–	–	–	–	–	12	48	39	12	32
MOUNTAIN	1	–	56	–	–	–	–	–	5	35	19	1	23
Mont.	–	–	26	–	–	–	–	–	–	–	–	–	–
Idaho	–	–	2	–	–	–	–	–	–	7	–	–	–
Wyo.	–	–	–	–	–	–	–	–	–	–	–	–	2
Colo.	1	–	28	–	–	–	–	–	3	11	1	–	11
N. Mex.	–	–	–	–	–	–	–	–	1	2	–	–	1
Ariz.	–	–	NN	–	–	–	–	–	1	10	15	1	8
Utah	–	–	–	–	–	–	–	–	–	2	1	–	–
Nev.	–	–	–	–	–	–	–	–	–	3	2	–	1
PACIFIC	7	–	103	–	–	–	3	–	12	10	3	1	265
Wash.	–	–	71	–	–	–	–	–	–	5	2	1	28
Oreg.	5	–	–	–	–	–	2	–	8	5	1	–	15
Calif.	NA	NA	NA	NA	–	NA	1	–	NA	NA	NA	NA	212
Alaska	–	–	14	–	–	–	–	–	3	–	–	–	3
Hawaii	2	–	18	–	–	–	–	–	1	–	–	–	7
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	1
P.R.	1	–	23	–	–	–	–	–	–	8	6	–	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.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending May 24, 1980, and May 26, 1979 (21st week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	1980	1980	CUM. 1980	CUM. 1980
UNITED STATES	421	8,907	8,548	49	1,336	1,333	215	5,622	30	78	2,212	20
NEW ENGLAND	31	544	232	2	79	59	6	490	–	8	163	–
Maine	–	25	10	–	3	1	5	257	–	–	63	–
N.H.	21	256	23	1	6	6	–	12	–	–	26	–
Vt.	4	214	86	1	9	3	–	5	–	1	1	–
Mass.	6	37	11	–	28	19	–	111	–	7	54	–
R.I.	–	2	102	–	6	4	–	16	–	–	7	–
Conn.	–	10	–	–	27	26	1	89	–	–	12	–
MID. ATLANTIC	151	2,802	855	14	240	189	16	649	15	12	303	2
Upstate N.Y.	27	531	421	3	83	68	4	75	15	11	140	1
N.Y. City	64	747	379	2	70	49	–	47	–	–	62	–
N.J.	49	596	34	3	43	51	10	78	–	–	60	–
Pa.	11	928	21	6	44	21	2	449	–	1	41	1
E.N. CENTRAL	108	1,319	2,126	4	143	135	89	2,190	7	45	567	–
Ohio	2	154	77	–	51	48	51	956	–	–	2	–
Ind.	6	77	145	1	27	31	2	82	6	16	221	–
Ill.	14	208	1,049	1	19	3	5	250	1	14	131	–
Mich.	1	184	502	2	38	38	23	673	–	2	109	–
Wis.	85	696	353	–	8	15	8	229	–	13	104	–
W.N. CENTRAL	35	1,019	1,011	–	50	45	11	192	2	4	154	2
Minn.	34	834	633	–	15	8	–	9	1	–	23	1
Iowa	–	–	14	–	5	5	3	33	–	–	3	–
Mo.	1	61	345	–	18	24	–	66	1	2	37	–
N. Dak.	–	–	6	–	1	1	–	3	–	–	5	–
S. Dak.	–	–	1	–	4	2	–	1	–	–	–	–
Nebr.	–	59	–	–	–	–	–	9	–	–	–	–
Kans.	–	65	12	–	7	5	8	71	–	2	86	1
S. ATLANTIC	42	1,469	1,346	10	329	346	7	716	4	3	236	5
Del.	–	1	1	–	2	5	1	34	–	–	–	–
Md.	7	39	7	1	32	25	2	208	–	–	49	–
D.C.	–	–	–	–	1	–	–	2	–	–	–	–
Va.	–	240	164	1	27	45	–	45	–	2	34	1
W. Va.	–	16	47	–	11	6	–	58	–	–	14	1
N.C.	8	105	102	3	65	49	2	73	–	–	40	–
S.C.	1	132	115	1	48	46	1	194	–	–	49	2
Ga.	18	641	332	1	62	54	–	1	4	–	–	–
Fla.	8	295	578	3	81	116	1	101	–	1	50	1
E.S. CENTRAL	12	241	127	3	127	100	62	717	–	2	71	3
Ky.	3	42	20	1	44	18	54	645	–	1	33	1
Tenn.	9	121	45	2	30	31	2	21	–	1	33	1
Ala.	–	17	46	–	32	23	1	11	–	–	4	1
Miss.	–	61	16	–	21	28	5	40	–	–	1	–
W.S. CENTRAL	22	774	785	5	146	218	10	189	1	2	83	3
Ark.	–	7	6	–	10	19	–	14	–	–	1	1
La.	–	9	205	2	50	86	6	57	–	–	8	1
Okla.	22	643	22	1	13	19	–	–	–	–	1	–
Tex.	–	115	552	2	73	94	4	118	1	2	73	1
MOUNTAIN	18	191	227	4	42	56	7	134	1	2	74	–
Mont.	–	1	48	1	2	4	–	41	–	–	22	–
Idaho	–	–	4	–	3	4	–	11	–	1	12	–
Wyo.	–	–	35	–	2	–	–	–	–	–	–	–
Colo.	–	8	31	–	11	3	2	28	–	1	3	–
N. Mex.	–	2	32	–	6	4	–	–	–	–	5	–
Ariz.	18	138	54	1	6	29	2	20	1	–	10	–
Utah	–	39	15	–	2	6	3	26	–	–	19	–
Nev.	–	3	8	2	10	6	–	8	–	–	3	–
PACIFIC	2	548	1,839	7	180	185	7	345	–	–	561	5
Wash.	–	142	1,004	2	33	28	–	103	–	–	52	–
Oreg.	–	–	48	5	37	14	1	43	–	–	37	–
Calif.	NA	396	714	–	108	132	NA	184	NA	NA	468	5
Alaska	–	5	15	–	2	3	6	10	–	–	2	–
Hawaii	2	5	58	–	–	8	–	5	–	–	2	–
Guam	NA	3	3	–	1	–	NA	3	NA	NA	–	–
P.R.	2	59	217	–	7	–	1	100	2	–	9	4
V.I.	NA	4	2	–	1	3	NA	1	NA	NA	–	–
Pac. Trust Terr.	NA	3	6	–	–	1	NA	1	NA	NA	1	–

NA: Not available.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending May 24, 1980, and May 26, 1979 (21st week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1980	CUM. 1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	CUM. 1980
UNITED STATES	430	10,567	36	15	137	47	127	14,231	375,674	381,507	321	10,400	9,739	2,515
NEW ENGLAND	13	294	–	–	5	–	1	409	9,758	9,808	13	279	173	18
Maine	3	23	–	–	–	–	–	23	574	685	–	4	5	15
N.H.	–	6	–	–	–	–	–	5	317	337	–	–	12	1
Vt.	–	9	–	–	–	–	–	5	239	211	–	3	–	–
Mass.	8	151	–	–	3	–	1	201	4,017	3,978	8	183	104	1
R.I.	–	33	–	–	1	–	–	21	570	792	–	11	6	–
Conn.	2	72	–	–	1	–	–	154	4,041	3,805	5	78	46	1
MID. ATLANTIC	79	1,822	1	1	34	1	4	1,349	40,999	40,328	74	1,511	1,476	6
Upstate N.Y.	26	354	–	–	5	–	1	411	7,649	6,388	12	124	108	3
N.Y. City	25	656	1	1	14	–	–	750	16,237	16,016	55	990	1,001	–
N.J.	9	376	–	–	6	1	2	188	7,458	7,556	7	197	198	2
Pa.	19	436	–	–	9	–	1	NA	9,655	10,368	NA	200	169	1
E.N. CENTRAL	93	1,530	1	–	10	–	–	2,367	59,347	58,529	34	1,005	1,313	333
Ohio	8	253	–	–	3	–	–	516	16,029	15,952	4	163	240	18
Ind.	5	167	–	–	–	–	–	97	5,835	5,056	–	86	74	39
Ill.	38	565	–	–	3	–	–	880	18,645	18,700	25	557	809	189
Mich.	34	457	1	–	3	–	–	616	13,031	13,589	4	155	147	–
Wis.	8	88	–	–	1	–	–	258	5,807	5,232	1	44	43	87
W.N. CENTRAL	10	352	6	–	2	–	2	946	17,077	18,622	5	122	123	803
Minn.	–	48	1	–	1	–	–	143	2,931	3,241	–	41	39	75
Iowa	–	32	1	–	–	–	–	70	1,845	2,338	–	8	20	156
Mo.	6	171	3	–	–	–	2	450	7,318	7,892	4	63	45	220
N. Dak.	1	20	–	–	–	–	–	5	244	321	–	–	–	79
S. Dak.	–	20	–	–	1	–	–	21	505	641	–	1	–	157
Nebr.	–	12	1	–	–	–	–	62	1,388	1,230	–	4	2	37
Kans.	3	49	–	–	–	–	–	195	2,846	2,959	1	5	17	79
S. ATLANTIC	133	2,435	7	2	20	36	89	3,820	91,653	91,346	82	2,468	2,320	163
Del.	–	31	–	–	1	–	–	57	1,257	1,489	–	6	13	–
Md.	22	319	1	1	2	–	8	649	9,782	10,999	10	175	161	–
D.C.	10	132	–	–	3	–	–	298	6,213	5,817	2	159	182	–
Va.	NA	266	–	–	3	6	13	481	7,950	8,820	5	219	230	4
W. Va.	10	102	–	–	1	–	1	35	1,157	1,314	1	10	32	3
N.C.	19	420	2	–	1	17	43	750	13,758	13,572	7	183	193	2
S.C.	20	218	–	1	3	10	19	409	8,846	8,211	8	126	110	28
Ga.	NA	308	4	–	–	3	3	723	17,444	17,677	30	754	611	91
Fla.	52	639	–	–	6	–	2	418	25,246	23,447	19	836	788	35
E.S. CENTRAL	44	982	4	1	5	1	10	1,351	30,836	32,900	25	815	636	145
Ky.	10	212	–	1	2	–	–	272	4,482	4,312	2	62	65	62
Tenn.	28	333	4	–	–	1	7	520	10,861	11,544	12	332	262	69
Ala.	6	276	–	–	1	–	2	360	9,155	9,833	11	173	127	14
Miss.	–	161	–	–	2	–	1	199	6,338	7,211	–	248	182	–
W.S. CENTRAL	36	1,037	12	11	16	9	20	2,581	49,094	50,102	83	2,028	1,694	756
Ark.	4	102	11	–	–	–	4	144	3,559	3,955	3	67	51	96
La.	–	195	–	–	–	–	–	423	8,687	8,853	17	483	397	6
Okla.	–	103	–	–	1	5	8	294	4,880	4,573	4	33	30	125
Tex.	32	637	1	11	15	4	8	1,720	31,968	32,721	59	1,445	1,216	529
MOUNTAIN	16	290	3	–	7	–	1	795	14,701	14,691	4	229	188	66
Mont.	–	11	1	–	1	–	–	27	539	767	–	1	6	3
Idaho	–	10	1	–	–	–	–	15	671	607	–	16	14	–
Wyo.	–	13	–	–	–	–	–	5	408	367	–	7	5	–
Colo.	2	32	–	–	2	–	–	130	3,833	3,975	–	59	44	–
N. Mex.	8	66	–	–	1	–	–	105	1,854	1,950	1	44	34	20
Ariz.	3	124	1	–	2	–	–	300	4,151	3,907	–	62	57	43
Utah	3	19	–	–	1	–	1	33	683	771	–	5	3	–
Nev.	–	15	–	–	–	–	–	180	2,562	2,367	3	35	25	–
PACIFIC	6	1,825	2	–	38	–	–	613	62,209	65,181	1	1,943	1,816	225
Wash.	4	141	–	–	–	–	–	274	5,109	5,523	–	91	110	–
Oreg.	–	78	–	–	4	–	–	230	4,534	4,068	1	44	79	–
Calif.	NA	1,565	2	NA	34	NA	–	NA	50,143	52,378	NA	1,733	1,573	182
Alaska	–	24	–	–	–	–	–	66	1,534	2,131	–	3	12	43
Hawaii	2	17	–	–	–	–	–	43	889	1,081	–	72	42	–
Guam	NA	15	–	NA	–	NA	–	NA	31	40	NA	–	–	–
P.R.	1	58	–	1	1	–	–	40	1,053	828	7	215	201	18
V.I.	NA	–	–	NA	–	NA	–	NA	74	71	NA	8	3	–
Pac. Trust Terr.	NA	7	–	NA	–	NA	–	NA	94	207	NA	–	–	–

NA: Not available.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE IV. Deaths in 121 U.S. cities,* week ending May 24, 1980 (21st week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	651	410	176	38	11	40
Boston, Mass.	185	102	61	12	4	16
Bridgeport, Conn.	32	20	8	3	–	1
Cambridge, Mass.	22	13	7	2	–	3
Fall River, Mass.	22	18	2	2	–	–
Hartford, Conn.	67	40	20	4	2	–
Lowell, Mass.	22	16	6	–	–	–
Lynn, Mass.	18	14	3	–	–	1
New Bedford, Mass.	22	16	6	–	–	3
New Haven, Conn.	41	26	10	3	1	1
Providence, R.I.	68	43	16	5	2	6
Somerville, Mass.	12	9	1	2	–	–
Springfield, Mass.	49	28	17	1	1	1
Waterbury, Conn.	34	23	9	2	–	3
Worcester, Mass.	57	42	10	2	1	5
MID. ATLANTIC	2,318	1,475	566	145	68	100
Albany, N.Y.	47	31	9	2	2	–
Allentown, Pa.	24	19	5	–	–	–
Buffalo, N.Y.	106	68	31	4	1	6
Camden, N.J.	27	19	5	2	1	1
Elizabeth, N.J.	24	18	6	–	–	3
Erie, Pa.†	28	19	6	–	3	2
Jersey City, N.J.	39	24	12	1	1	–
Newark, N.J.	72	33	28	4	5	5
N.Y. City, N.Y.	1,253	785	312	93	30	49
Paterson, N.J.	22	15	3	1	3	2
Philadelphia, Pa.†	281	169	67	21	11	19
Pittsburgh, Pa.†	36	24	9	–	–	–
Reading, Pa.	27	23	3	1	–	1
Rochester, N.Y.	103	81	13	3	3	6
Schenectady, N.Y.	23	13	7	2	–	1
Scranton, Pa.†	28	18	7	3	–	–
Syracuse, N.Y.	94	59	22	5	5	1
Trenton, N.J.	32	19	10	1	2	1
Utica, N.Y.	25	19	5	1	–	2
Yonkers, N.Y.	27	19	6	1	1	1
E.N. CENTRAL	2,284	1,374	563	143	114	68
Akron, Ohio	67	36	19	4	3	–
Canton, Ohio	48	30	12	4	1	2
Chicago, Ill.	505	305	106	28	48	12
Cincinnati, Ohio	181	123	36	11	6	16
Cleveland, Ohio	173	92	55	10	9	9
Columbus, Ohio	140	82	36	6	7	2
Dayton, Ohio	109	57	30	11	7	2
Detroit, Mich.	256	144	69	23	8	6
Evansville, Ind.	58	41	12	3	1	5
Fort Wayne, Ind.	46	24	15	5	–	2
Gary, Ind.	25	7	8	4	3	–
Grand Rapids, Mich.	36	24	7	1	3	–
Indianapolis, Ind.	159	93	40	12	7	4
Madison, Wis.	28	16	7	1	–	2
Milwaukee, Wis.	132	84	40	4	2	1
Peoria, Ill.	52	34	11	5	1	2
Rockford, Ill.	42	25	11	1	5	1
South Bend, Ind.	48	32	9	4	–	1
Toledo, Ohio	122	87	24	4	3	1
Youngstown, Ohio	57	38	16	2	–	–
W.N. CENTRAL	731	449	168	39	44	13
Des Moines, Iowa	78	53	16	4	2	1
Duluth, Minn.	16	11	3	–	–	–
Kansas City, Kans.	30	23	4	1	–	1
Kansas City, Mo.	126	66	36	8	13	2
Lincoln, Nebr.	35	30	1	1	–	1
Minneapolis, Minn.	72	44	16	3	6	1
Omaha, Nebr.	97	49	27	8	9	1
St. Louis, Mo.	157	95	40	8	9	4
St. Paul, Minn.	81	56	17	5	1	–
Wichita, Kans.	39	22	8	1	4	2

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
S. ATLANTIC	1,192	700	321	84	44	35
Atlanta, Ga.	123	63	45	5	5	3
Baltimore, Md.	251	133	78	24	8	3
Charlotte, N.C.	74	39	26	4	3	5
Jacksonville, Fla.	92	56	27	5	–	4
Miami, Fla.	102	57	21	10	8	–
Norfolk, Va.	57	29	15	2	5	4
Richmond, Va.	63	45	16	1	–	3
Savannah, Ga.	38	24	9	2	2	2
St. Petersburg, Fla.	89	74	6	4	4	2
Tampa, Fla.	65	45	13	3	1	1
Washington, D.C.	202	112	55	22	7	7
Wilmington, Del.	36	23	10	2	1	1
E.S. CENTRAL	641	392	173	38	14	37
Birmingham, Ala.	103	54	35	5	2	1
Chattanooga, Tenn.	73	49	17	3	2	8
Knoxville, Tenn.	36	24	9	2	1	–
Louisville, Ky.	124	70	36	7	7	16
Memphis, Tenn.	94	68	20	5	–	6
Mobile, Ala.	78	49	19	7	–	2
Montgomery, Ala.	40	27	12	1	–	1
Nashville, Tenn.	93	51	25	8	2	3
W.S. CENTRAL	1,276	720	335	105	61	44
Austin, Tex.	61	35	18	5	–	5
Baton Rouge, La.	33	18	10	5	–	–
Corpus Christi, Tex.	45	27	8	1	8	–
Dallas, Tex.	175	105	42	12	8	2
El Paso, Tex.	59	29	21	2	2	–
Fort Worth, Tex.	96	54	23	8	7	1
Houston, Tex.	284	141	79	32	16	5
Little Rock, Ark.	75	54	13	5	3	4
New Orleans, La.	133	66	36	18	7	–
San Antonio, Tex.	168	101	48	7	6	13
Shreveport, La.	69	45	17	4	1	8
Tulsa, Okla.	78	45	20	6	3	6
MOUNTAIN	594	350	137	50	29	16
Albuquerque, N.Mex.	62	42	12	6	–	4
Colo. Springs, Colo.	32	16	8	4	1	2
Denver, Colo.	96	48	22	10	10	3
Las Vegas, Nev.	76	42	20	7	2	4
Ogden, Utah	16	6	6	–	4	2
Phoenix, Ariz.	147	98	30	11	5	1
Pueblo, Colo.	28	19	5	3	1	–
Salt Lake City, Utah	48	35	6	2	5	–
Tucson, Ariz.	89	44	28	7	1	–
PACIFIC	1,592	1,062	323	104	54	48
Berkeley, Calif.	22	14	5	2	–	1
Fresno, Calif.	62	40	10	6	4	2
Glendale, Calif.	13	10	3	–	–	1
Honolulu, Hawaii	55	24	23	–	1	3
Long Beach, Calif.	92	62	17	7	5	3
Los Angeles, Calif.	487	322	107	35	10	10
Oakland, Calif.	61	42	11	2	3	4
Pasadena, Calif.	28	23	2	–	3	2
Portland, Oreg.	103	71	14	6	10	–
Sacramento, Calif.	65	47	9	4	4	6
San Diego, Calif.	107	63	25	11	4	–
San Francisco, Calif.	133	84	33	9	1	1
San Jose, Calif.	150	106	27	10	2	4
Seattle, Wash.	151	105	28	10	5	6
Spokane, Wash.	20	17	2	–	–	2
Tacoma, Wash.	43	32	7	2	2	3
TOTAL	11,279	6,932	2,762	746	439	401

*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.

Nosocomial pseudobacteremia – Continued

considered. CDC investigated 181 nosocomial epidemics from 1956 to 1975; 20 (11%) of these were outbreaks of pseudobacteremia (*2*). Eleven (55%) of these pseudo-outbreaks were caused by contamination during specimen collection, handling, and processing.

Previously identified causes of pseudobacteremia include 1) nonsterile blood collection tubes; 2) cross-contamination by obtaining blood culture and other specimens from the same venipuncture; 3) contaminated skin preparation material; 4) contaminated blood-culture tube holders; 5) commercial culture media; 6) contaminated commercial radiometric analyzer (Bactec) used for detection of $^{14}CO_2$ liberated by microorganisms in blood-culture medium; and 7) contaminated tincture of thimerosal used to sterilize blood-culture bottle tops (*3-9*).

This report illustrates that inadequately sterilized integral stoppers can be a potential source of pseudobacteremia. The external-surface integral stoppers of culture media and medications are not usually guaranteed by the manufacturer to be sterile. Thus, hospital personnel should disinfect the integral stoppers with a rapidly bacteriocidal agent before invading the system. Scott Laboratories has developed a new dust cap which tolerates steam sterilization. This new design permits autoclaving of the entire system and thus decreases both the possibility of contamination and the quantity of organisms, should contamination occur. However, to prevent pseudobacteremia or contamination of medication, CDC recommends that the integral stopper be properly disinfected by hospital personnel before inserting a needle.

References

1. Colman G. *Aerococcus*-like organism isolated from human infections. J Clin Pathol 1967;20:294-7.
2. Weinstein RA, Stamm WE. Pseudoepidemics in hospitals. Lancet 1977;2:862-4.
3. Hoffman PC, Arnow PM, Goldman DA, et al. False-positive blood cultures, association with nonsterile blood collection tubes. JAMA 1976;236:2073-5.
4. Snydman DR, Maloy MF, Brock SM, Rubin SJ. Pseudobacteremia. false-positive blood culture from mist tent contamination. Am J Epidemiol 1977;106:154-9.
5. Semel JD, Trenholme GM, Harris AA, James EJ, Levin S. *Pseudomonas maltophilia* pseudosepticemia. Am J Med 1979;64:403-6.
6. Kaslow RA, Mackel DC, Mallison GF. Nosocomial pseudobacteremia: positive blood cultures due to contaminated benzalkonium antiseptic. JAMA 1976;236:2407-9.
7. DuClos TW, Hodges GR, Killian JE. Bacterial contamination of blood-drawing equipment. a cause of false positive blood cultures. Am J Med Sci 1973;266:459-63.
8. Noble RC, Reeves SA. *Bacillus* species pseudosepsis caused by contaminated commercial blood culture media. JAMA 1974;230:1002-4.
9. Lynch JM, Anderson A, Comacho FR, et al. Pseudobacteremia caused by *Clostridium sordellii*. Arch Intern Med 1980;140:65-8.

Current Trends

Urban Rat Control – United States, October-December 1979

During the first quarter of fiscal year 1980, Urban Rat Control Programs in 64 communities achieved maintenance status* in 1,693 blocks. These programs also identified 893 environmentally improved blocks (EIB)† (Table 1). As a result of these accomplishments, an additional 200,000 people now live in areas that are environmentally improved and essentially rat free.

As existing programs designate EIB, they are encouraged to identify additional areas within the community in need of comprehensive rat-control services. This is an ongoing

*An indication that they have become essentially rat free.

†Ones so designated are rat free, have remained so for 1 year, and are being sustained by local resources.

Urban Rat Control – Continued

process. During the quarter, programs in Washington, D.C., Philadelphia, and Akron incorporated 650 such subtarget-area blocks.

The goal of the Urban Rat Control Program is to achieve locally sustained, rat-free and environmentally improved status in the residential areas of cities. To date, the goal has been reached in 29 communities, including one this quarter. In these communities federal grant support has been discontinued, and rat-control-program improvements are being sustained exclusively with local resources.

Reported by Environmental Health Services Div, Bur of State Services, CDC.

TABLE 1. Status of target-area blocks in Urban Rat Control Programs, first quarter fiscal year 1980 (October 1-December 31)

Program community	Target-area blocks				Environmentally improved blocks*	
	Total	In attack phase	In maintenance phase		New this quarter	Cumulative
			<12 months	≥12 months		
REGION I	772	410	276	86	0	995
Hartford	249	105	79	65	0	277
Boston	422	274	127	21	0	0
Worcester	101	31	70	0	0	718
Previously funded programs	. . . . .					.0
REGION II	3,796	1,392	1,094	1,310	220	3,651
Camden	254	148	90	16	16	97
Jersey City	233	26	116	91	0	93
Newark	220	150	58	12	0	0
New York City	1,532	655	270	607	0	727
Newburgh	47	7	14	26	0	39
Rochester	287	68	112	107	0	285
Yonkers	91	14	19	58	30	58
Aquadilla, P.R.	175	52	78	45	0	90
Arecibo, P.R.	160	37	71	52	24	155
Mayaguez, P.R.	212	118	71	23	64	180
Ponce, P.R.	171	1	20	150	41	213
San Juan, P.R.	414	116	175	123	45	141
Previously funded programs	. . . . .					1,573
REGION III	4,168	1,268	1,390	927	161	6,125
"War on Rats," D.C.	909	339	243	327	0	968
Baltimore	414	118	108	76	0	262
Chester	120	32	36	52	0	55
Harrisburg	367	72	207	88	0	0
N.E. Pa. V.C. Assn.†	512	156	274	0	0	958
Philadelphia	1,228	312	374	153	90	1,348
Pittsburgh	387	149	48	190	23	1,144
Chesapeake	9	9	0	0	17	69
Norfolk	190	59	90	41	8	1,260
Portsmouth	32	22	10	0	23	61
Previously funded programs	. . . . .					.0
REGION IV	5,199	1,853	1,992	686	175	5,234
Mobile	507	169	229	109	0	233
Tuscaloosa	344	148	50	0	0	0
Ft. Lauderdale	334	17	200	117	0	543
Miami	737	321	347	69	123	763
Pensacola	464	180	154	0	0	0
Tampa	86	16	70	0	52	897
Atlanta, Ga.‡	721	276	207	0	0	0
DeKalb Co., Ga.	740	176	391	173	0	0
Lexington	317	54	109	0	0	0
Louisville	524	191	155	178	0	408
Memphis	425	305	80	40	0	392
Previously funded programs	. . . . .					1,998

Urban Rat Control — Continued

TABLE 1. Status of target-area blocks in Urban Rat Control Programs, first quarter fiscal year 1980 (October 1-December 31) — *Continued*

Program community	Target-area blocks				Environmentally improved blocks*	
	Total	In attack phase	In maintenance phase		New this quarter	Cumulative
			≥12 months	<12 months		
REGION V	4,750	2,261	1,566	219	119	3,314
Chicago	399	352	47	0	0	0
Peoria	324	166	62	0	0	0
Gary	381	261	71	49	0	0
Indianapolis	309	34	275	0	0	108
Benton Harbor	190	55	87	0	0	0
Detroit	416	150	234	32	0	306
Highland Park	220	194	23	3	0	0
Saginaw	333	157	82	0	0	0
Akron	354	75	136	5	88	393
Barberton	119	73	42	4	0	58
Cincinnati	118	33	30	29	7	87
Cleveland	461	217	242	2	24	579
Columbus	449	207	147	95	0	116
Toledo	322	60	68	0	0	136
Youngstown	220	103	9	0	0	0
Milwaukee	135	124	11	0	0	0
Previously funded programs	. . . . .					1,531
REGION VI	2,052	380	777	789	0	5,730
Little Rock	403	174	123	0	0	0
Pine Bluff	276	25	68	183	0	0
New Orleans	508	102	172	234	0	2,817
Houston	865	79	414	372	0	1,655
Previously funded programs	. . . . .					1,258
REGION VII	1,437	326	555	556	218	3,056
Kansas City, Kan.	288	12	106	170	130	953
Kansas City, Mo.	177	66	56	55	0	594
St. Louis	487	134	158	195	30	769
Omaha	485	114	235	136	58	344
Previously funded programs	. . . . .					396
REGION IX	1,117	281	450	199	0	1,028
Los Angeles	462	33	138	104	0	103
Oakland	291	158	121	12	0	180
San Bernardino	193	24	107	62	0	0
San Francisco	171	66	84	21	0	263
Previously funded programs	. . . . .					482
REGION X						830
Previously funded programs	. . . . .					830
TOTAL	23,291	8,171	8,100	4,772	893	29,963

*Contiguous blocks where maintenance has been achieved and sustained for a minimum of 12 months. These blocks are no longer part of the approved project target area.
†Northeastern Pennsylvania Vector Control Association. Serves Lackawanna and Luzerne counties and the cities of Nanticoke, Wilkes-Barre, and Hazleton.
‡Target-area blocks are confined to public housing projects.

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

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Epidemiologic Notes and Reports

Surveillance for Respiratory Disease Following the Eruption of Mt. St. Helens

On May 18, 1980, Mt. St. Helens (elevation 9,677 feet), a long-dormant volcano, erupted violently and deposited several inches of ash on portions of Washington, Idaho, and Montana. A second, smaller eruption on May 25 deposited additional ash in western Washington and Oregon.

At the invitation of the Washington State Department of Social and Health Services, CDC personnel (Bureau of Epidemiology and National Institute for Occupational Safety and Health/Morgantown) have been in Washington since May 21 to assist in an epidemiologic evaluation. A hospital-based surveillance network has been established in affected areas of the 4 states to document acute respiratory and other disorders related to the ash. Initial reports suggest instances of mucous membrane and upper respiratory irritation but no evidence of increased severe respiratory illness related to the dust.

Detailed analyses of the volcanic ash are being performed by a number of government agencies and university laboratories. The major components of the ash appear to be silicon-containing materials, aluminum, and other oxides. Because the industrial disease silicosis can be seen after long-term occupational exposure to certain crystalline forms of free silica, the silicon-containing material is being analyzed to determine any potential for long-term hazards.

Individuals engaged in the cleanup effort and other workers exposed to high levels of ash have been advised to use approved, protective respiratory equipment, to work in well-ventilated areas, and, when working outdoors, to wet down the ash, whenever possible. Other persons, particularly those with respiratory disorders, have been advised to avoid unnecessary exposure to the dust.

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