CENTERS FOR DISEASE CONTROL

May 8, 1981 / Vol. 30 / No. 17

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Multiply Resistant Pneumococcus — Colorado

In November 1980, a multiply resistant strain of *Streptococcus pneumoniae*, serotype 6B, was isolated from the cerebrospinal fluid (CSF) of an 11-month-old infant with meningitis. The isolate was found to be resistant to penicillin G, chloramphenicol, and tetracycline; this is the first instance reported in the United States of a pneumococcus resistant to all 3 drugs.

The minimum inhibitory concentration (MIC) for penicillin G was 1 μg/ml; for chloramphenicol, 16 μg/ml; and for tetracycline, 16 μg/ml. The organism was sensitive to rifampin, and the child, who had responded poorly to penicillin (positive CSF culture and Gram stain 4 days into therapy), recovered after treatment with ampicillin, chloramphenicol, and rifampin.

Since the child had regularly attended a day-care center with approximately 55 other children, a survey was conducted at the day-care center to detect carriage of the resistant isolate. Throat cultures from 4 of 14 children (29%) in the toddler room (under age 2 years) were positive for the multiply resistant pneumococcus (MRP); in the preschool area, 4 of 37 children (11%) and 1 of 10 adult employees (10%) were positive. Throat cultures from 6 of 12 household contacts (50%) of MRP carriers and 0 of 19 household contacts of noncarriers were positive for MRP ($p = .0012$, Fisher exact test). In day-care-center contacts of the index patient, a history of antibiotic use in the previous 2 months was significantly associated with the carriage of MRP (78% vs. 29%, $p = .012$, Fisher exact test). One-hundred twenty-five children and staff members in 6 other day-care centers in the metropolitan area had negative throat cultures for MRP. To date, no other cases of invasive disease with this MRP have been recognized.

Prospective studies of MRP transmission in the day-care center are being performed. Attempts to eradicate carriage of this isolate were ruled out by the investigators because data about the risk of invasive disease associated with these isolates are scarce, and because effective regimens for termination of carriage have not been clearly determined.

Reported by M Radetsky, MD, M Glode, MD, T Johansen, MT, A Wiesenthal, MD, S Parmalee, Denver Children's Hospital, B Lauer, MD, University of Colorado Hospital, RS Hopkins, MD, State Epidemiologist, Bacteriology Laboratory and Communicable Disease Sect, Colorado State Dept of Health, in the Colorado Disease Bulletin 1981; IX (1); and Special Pathogens Br, Bacterial Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: The first report of penicillin-resistant pneumococci appeared in 1967 (*1*). Since then, relatively resistant (penicillin MICs of 0.1 to 0.9 μg/ml) and resistant (penicillin MIC ⩾1 μg/ml) strains have been reported from many parts of the world. The prevalence of relative resistance reported in clinical isolates has varied from 1% to as high as 16%, but most studies show a prevalence of approximately 2%.

Pneumococcus – Continued

In 1977, multiply resistant pneumococci appeared in South Africa (*2,3*), and since then have been recognized in the United Kingdom, Australia, New Guinea, and the United States (*4*). This report of penicillin-resistant pneumococci and other reports describing relative penicillin resistance in the United States emphasize the need to screen all clinically significant pneumococcal isolates for penicillin sensitivity using a 1 μg oxacillin disc (*5*). Those isolates having a zone size of ≤19 mm might be associated with infections that could respond poorly to penicillin therapy and should be tested for penicillin resistance using a broth-dilution technique; these isolates should also be screened for resistance to other antibiotics. Isolates found to have high-level resistance (≥1 μg) to penicillin, or multiple antibiotic resistance, should be saved and reported to local and state health departments and CDC.

This is the first description of multiple resistance in a type 6B *S. pneumoniae*; previous isolates have been types 6A, 19A, and 14. A large number of serotypes have been represented in isolates with relative penicillin resistance. The serotype of the MRP reported here (6B) would preclude the use of the present vaccine to attempt to prevent further cases of invasive disease or the spread of the organism because the vaccine contains 6A, instead of 6B, antigen.

References

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International Notes

Follow-Up on Legionellosis – Italy

Legionella pneumophila has been recovered from water in the Adriatic Coast hotel associated with an outbreak of legionellosis previously reported in Italy (*1*).

Water samples were obtained in October 1979 from the shower in a room that had been occupied by a person who later had legionellosis. Fluorescent bacilliform structures were identifed in direct immunofluorescence tests with a polyvalent fluorescent conjugate of antiserum to serogroups 1 through 4 of *L. pneumophila*. Aliquots were inoculated intraperitoneally into guinea pigs; harvested spleens were subcultured in embryonated eggs. *L. pneumophila* was recovered from cultures of yolk sacs of the eggs on charcoal-yeast extract agar. The pattern of methyl esters of the isolates, as determined with gas-liquid chromatography, was substantially identical to that of a reference strain of *L. pneumophila* (Philadelphia 1). The isolates were later confirmed by CDC to be *L. pneumophila*.

Reported by Dr M Castellani-Pastoris, Dr M Fantasia Mazzotti, Laboratory of Bacterial and Viral Diseases, Dr R Dommarco, Laboratory of Toxicology, and the Laboratory of Epidemiology and Biostatistics, Istituto Superiore di Sanità, Rome; Ravenna Social-Health Consortium, Ravenna; Office of the Emilia Romagna Health Assessor, Bologna; Epidemiology Program Office and Special Bacteriology Sect, Clinical Bacteriology Br, Bacteriology Div, Center for Infectious Diseases, CDC.

Legionellosis – Continued

Editorial Note: This is the second report of isolating *L. pneumophila* from potable water in association with community-acquired cases of legionellosis (*2*). Isolation of *L. pneumophila* from showers was reported earlier in association with nosocomial legionellosis (*3,4*).

At present the epidemiologic importance of these isolations remains unclear. Aerosols generated from potable water may cause infection in susceptible individuals, but isolates of *L. pneumophila* have been obtained from many environmental sources, including potable water, which have had no known association with cases of legionellosis (2, 5-6). Careful case-control studies of legionellosis in concert with systematic environmental sampling need to be done. CDC and the Environmental Protection Agency are planning collaborative efforts in this area. Laboratories at CDC continue efforts to improve techniques for large-scale environmental sampling for *L. pneumophila*.

References

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4. Cordes LG, Wiesenthal AM, Gorman GW, et al. Isolation of *Legionella pneumophila* from hospital shower heads. Ann Intern Med 1981;94:195-7.
5. Fliermans CB, Cherry WB, Orrison LH, Thacker L. Isolation of *Legionella pneumophila* from nonepidemic-related aquatic habitats. Appl Environ Microbiol 1979;37:1239-42.
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Epidemiologic Notes and Reports

Reproductive Abnormalities in Male Chemical Workers – Kentucky

The National Institute for Occupational Safety and Health (NIOSH) found in a recent investigation at a chemical plant in Kentucky that workers exposed to toluenediamine (TDA) and dinitrotoluene (DNT) in the production of TDA had lowered sperm counts.

This evaluation was requested by workers at a chemical plant in Brandenburg, Kentucky, following the discovery of abnormal sperm morphology (specifically, the presence of elevated numbers of tapering forms) in a worker in the TDA unit. This worker had sought clinical evaluation because of his concern about the relationship between his chemical exposures and his wife's recent miscarriages. To evaluate this clinical finding, NIOSH investigators administered medical questionnaires concerning reproductive history and workplace exposures; conducted physical examinations of workers, concentrating on reproductive and endocrine systems; obtained blood specimens for renal and liver function tests; and examined semen specimens for ejaculate volume, sperm count, and sperm morphology.

Thirty workers participated: 9 (of 15) currently exposed, 12 (of 18) previously exposed, and 9 (of 14) with no history of exposure to TDA/DNT. The currently exposed workers had significantly reduced sperm counts as compared with the never-exposed group. The mean sperm count in the currently exposed workers was 55.9×10^6, compared with 156.8×10^6 in the never-exposed workers ($p<0.03$ after square root transfor-

Reproductive Abnormalities – Continued

mation). Currently exposed workers also had a significant reduction in the percentage of large morphological forms ($p<0.015$).

The environmental evaluation included personal and area air monitoring for DNT and TDA exposures. Operator exposures to TDA and DNT ranged from 0.038 to 0.39 mg/M^3, and from 0.006 to 0.023 mg/M^3, respectively, with the lower values tending to appear later in the investigation. There is no occupational health exposure standard for TDA; all samples for DNT were below the current Occupational Safety and Health Administration (OSHA) standard of 1.5 mg/M^3 (*1*). However, these measured levels may underestimate past exposures and do not reflect possible additional internal exposures resulting from percutaneous absorption.

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

Editorial Note: Little is known about the potential gonadal or reproductive toxicity of TDA or DNT. DNT exposure has usually been associated with a hazard of anoxia secondary to formation of methemoglobin. TDA, theoretically, can also cause methemoglobinemia, but it has not been reported to do so (*2*). TDA is hepatotoxic (*3*) and has been shown to be absorbed by inhalation as well as through the skin (*4,5*). Chronic animal-exposure studies of TDA and DNT indicate potential carcinogenic effects (*6,7*).

(Continued on page 205)

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

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

DISEASE	17th WEEK ENDING		MEDIAN 1976-1980	CUMULATIVE, FIRST 17 WEEKS		
	May 2 1981	April 26 1980		May 2 1981	April 26 1980	MEDIAN 1976-1980
Aseptic meningitis	67	59	47	1,043	1,035	609
Brucellosis	5	1	2	41	49	49
Chickenpox	6,841	6,812	6,624	107,380	95,739	100,237
Diphtheria	–	–	1	3	1	27
Encephalitis: Primary (arthropod-borne & unspec.)	5	18	12	225	198	186
Post-infectious	4	3	7	28	57	57
Hepatitis, Viral: Type B	399	336	321	6,207	5,262	4,950
Type A	487	544	566	8,172	9,878	9,612
Type unspecified	192	229	177	3,601	3,578	2,922
Malaria	24	52	14	393	496	138
Measles (rubeola)	147	770	1,353	1,062	6,177	11,266
Meningococcal infections: Total	65	49	47	1,546	1,106	943
Civilian	65	49	47	1,543	1,097	934
Military	–	–	–	3	9	6
Mumps	105	191	485	1,787	4,514	7,544
Pertussis	24	20	20	334	326	326
Rubella (German measles)	73	129	452	955	1,699	6,252
Tetanus	1	2	1	14	15	15
Tuberculosis	559	546	662	8,498	8,278	8,902
Tularemia	4	6	2	38	33	33
Typhoid fever	5	13	9	151	96	117
Typhus fever, tick-borne (Rky. Mt. spotted)	20	6	8	47	25	29
Venereal diseases:						
Gonorrhea: Civilian	18,920	18,456	16,696	312,387	306,216	306,216
Military	400	439	439	9,157	8,708	8,746
Syphilis, primary & secondary: Civilian	487	609	435	9,670	8,620	7,893
Military	7	6	6	116	116	100
Rabies in animals	194	190	89	2,233	1,930	917

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	–	Poliomyelitis: Total	–
Botulism	17	Paralytic	–
Cholera	–	Psittacosis (Wash. 1)	25
Congenital rubella syndrome	5	Rabies in man	–
Leprosy (Mich. 1, Ark. 1, Tex. 2, Ariz. 1, Wash. 1, Calif. 1)	72	Trichinosis (N.J. 1)	65
Leptospirosis	14	Typhus fever, flea-borne (endemic, murine)	4
Plague (Colo. 1)	2		

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 2, 1981 and April 26, 1980 (17th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKEN-POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1981	1981	1981	1981	CUM. 1981	1981	1980	1981	1981	1981	1981	1981	CUM. 1981
UNITED STATES	67	5	6,941	–	3	5	18	4	399	487	192	24	393
NEW ENGLAND	2	–	1,071	–	–	–	–	2	18	20	7	2	22
Maine	–	–	301	–	–	–	–	–	1	–	2	–	1
N.H.	–	–	71	–	–	–	–	–	–	3	–	–	3
Vt.	–	–	40	–	–	–	–	–	–	2	–	1	2
Mass.	1	–	265	–	–	–	–	–	2	4	5	–	11
R.I.	–	–	113	–	–	–	–	–	4	8	–	–	1
Conn.	1	–	281	–	–	–	–	2	11	3	–	1	4
MID. ATLANTIC	6	–	370	–	–	–	3	–	62	53	25	4	35
Upstate N.Y.	3	–	125	–	–	–	1	–	5	11	9	1	10
N.Y. City	–	–	186	–	–	–	–	–	29	14	6	1	14
N.J.	NA	–	NN	–	–	–	–	–	28	28	10	2	8
Pa.	3	–	59	–	–	–	2	–	NA	NA	NA	–	3
E.N. CENTRAL	4	–	3,302	–	–	1	4	1	49	63	21	1	11
Ohio	4	–	613	–	–	1	–	–	14	10	8	–	3
Ind.	–	–	313	–	–	–	1	–	10	8	6	–	3
Ill.	–	–	648	–	–	–	–	–	12	28	–	–	1
Mich.	–	–	970	–	–	–	3	1	11	16	7	1	4
Wis.	–	–	758	–	–	–	–	–	2	1	–	–	–
W.N. CENTRAL	4	–	477	–	–	–	–	–	21	21	10	1	11
Minn.	–	–	2	–	–	–	–	–	2	1	2	1	3
Iowa	2	–	221	–	–	–	–	–	3	–	2	–	2
Mo.	2	–	3	–	–	–	–	–	13	9	6	–	1
N. Dak.	–	–	52	–	–	–	–	–	–	–	–	–	1
S. Dak.	–	–	7	–	–	–	–	–	–	1	–	–	1
Nebr.	–	–	12	–	–	–	–	–	–	5	–	–	–
Kans.	–	–	180	–	–	–	–	–	3	5	–	–	3
S. ATLANTIC	16	2	716	–	1	–	2	–	96	41	28	–	40
Del.	–	–	21	–	–	–	–	–	1	1	1	–	–
Md.	1	–	52	–	–	–	–	–	22	1	13	–	6
D.C.	–	–	4	–	–	–	–	–	3	1	–	–	1
Va.	–	–	35	–	–	–	–	–	7	1	2	–	9
W. Va.	–	–	174	–	–	–	–	–	4	–	–	–	–
N.C.	2	–	NN	–	–	–	2	–	7	3	4	–	2
S.C.	–	–	10	–	–	–	–	–	5	2	1	–	–
Ga.	2	–	29	–	–	–	–	–	12	12	–	–	6
Fla.	11	2	391	–	1	–	–	–	35	20	7	–	16
E.S. CENTRAL	8	1	305	–	–	1	–	1	18	24	3	–	2
Ky.	–	–	179	–	–	–	–	–	–	–	–	–	–
Tenn.	2	1	NN	–	–	1	–	–	13	15	1	–	–
Ala.	6	–	109	–	–	–	–	–	4	6	2	–	1
Miss.	–	–	17	–	–	–	–	1	1	3	–	–	1
W.S. CENTRAL	9	2	298	–	–	2	7	–	33	61	35	2	30
Ark.	1	–	1	–	–	–	1	–	5	4	7	–	1
La.	–	–	NN	–	–	–	–	–	9	10	1	–	2
Okla.	3	–	–	–	–	1	–	–	10	5	1	1	3
Tex.	5	2	297	–	–	1	6	–	9	42	26	1	24
MOUNTAIN	3	–	16	–	1	–	–	–	10	38	6	3	12
Mont.	1	–	–	–	1	–	–	–	1	1	–	–	–
Idaho	–	–	–	–	–	–	–	–	–	4	–	–	–
Wyo.	–	–	1	–	–	–	–	–	–	–	–	–	–
Colo.	2	–	–	–	–	–	–	–	2	10	1	–	4
N. Mex.	–	–	–	–	–	–	–	–	–	–	–	–	–
Ariz.	–	–	NN	–	–	–	–	–	4	18	2	1	3
Utah	–	–	6	–	–	–	–	–	1	1	1	2	2
Nev.	–	–	9	–	–	–	–	–	2	4	2	–	3
PACIFIC	15	–	286	–	1	1	2	–	92	166	57	11	230
Wash.	–	–	220	–	–	–	–	–	6	11	3	–	13
Oreg.	1	–	1	–	–	–	–	–	3	9	1	–	8
Calif.	11	–	28	–	–	–	2	–	81	142	51	9	205
Alaska	–	–	17	–	1	1	–	–	1	–	–	–	1
Hawaii	3	–	20	–	–	–	–	–	1	4	2	2	3
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
P.R.	–	–	–	–	–	–	–	–	–	3	–	–	3
V.I.	–	–	39	–	–	–	–	–	–	–	–	–	1
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 2, 1981 and April 26, 1980 (17th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1980	1981	CUM 1981	1981	1981	CUM. 1981	CUM. 1981
UNITED STATES	147	1,062	6,177	65	1,546	1,106	105	1,787	24	73	955	14
NEW ENGLAND	–	29	460	6	105	66	3	90	3	1	77	1
Maine	–	2	21	–	15	2	–	16	–	–	31	–
N.H.	–	4	213	–	10	4	1	9	–	1	16	–
Vt.	–	1	195	–	5	7	–	4	–	–	–	–
Mass.	–	16	22	1	25	22	–	25	3	–	25	–
R.I.	–	–	2	1	9	5	–	17	–	–	–	–
Conn.	–	6	7	4	41	26	2	19	–	–	5	1
MID. ATLANTIC	61	329	1,775	7	187	176	15	220	2	11	117	1
Upstate N.Y.	5	176	362	3	68	60	7	51	2	8	52	–
N.Y. City	1	28	457	3	25	50	1	30	–	3	24	1
N.J.	12	34	359	–	46	38	2	63	–	–	37	–
Pa.	43	91	597	1	48	28	5	76	–	–	4	–
E.N. CENTRAL	2	58	920	7	170	131	46	533	3	24	216	1
Ohio	–	15	148	4	59	49	15	78	1	–	–	–
Ind.	–	3	46	–	22	23	1	70	–	4	61	–
Ill.	–	14	165	–	45	17	10	94	1	3	58	–
Mich.	1	25	168	3	40	34	14	216	1	6	30	1
Wis.	1	1	393	–	4	8	6	75	–	11	67	–
W.N. CENTRAL	–	4	743	8	65	43	3	139	1	1	53	2
Minn.	–	1	563	5	27	11	–	4	1	1	6	1
Iowa	–	1	17	–	12	5	1	35	–	–	–	–
Mo.	–	–	59	1	16	18	–	22	–	–	3	1
N. Dak.	–	–	–	–	1	1	–	–	–	–	–	–
S. Dak.	–	–	–	–	2	3	–	1	–	–	–	–
Nebr.	–	1	59	–	–	–	–	3	–	–	1	–
Kans.	–	1	45	2	7	5	2	74	–	–	43	–
S. ATLANTIC	8	250	1,174	12	392	270	8	241	1	4	91	2
Del.	–	–	1	–	4	2	–	3	–	–	–	–
Md.	–	1	27	1	22	26	1	47	–	–	1	–
D.C.	–	–	–	–	1	1	–	–	–	–	–	–
Va.	–	–	207	–	44	21	2	59	–	–	4	–
W. Va.	–	7	6	1	17	8	3	47	1	1	16	–
N.C.	1	4	76	2	59	51	–	4	–	–	4	–
S.C.	–	–	115	2	52	33	1	6	–	–	6	1
Ga.	–	80	507	1	64	57	1	23	–	1	26	–
Fla.	7	158	235	5	129	71	–	52	–	2	34	1
E.S. CENTRAL	–	–	124	2	122	106	1	53	–	–	20	1
Ky.	–	–	34	–	37	31	–	22	–	–	11	–
Tenn.	–	–	14	1	36	25	–	18	–	–	9	–
Ala.	–	–	16	–	36	31	1	12	–	–	–	1
Miss.	–	–	60	1	13	19	–	1	–	–	–	–
W.S. CENTRAL	63	201	462	10	273	122	6	107	5	9	66	2
Ark.	–	–	9	–	20	7	–	–	–	–	–	1
La.	–	–	7	4	66	46	–	3	–	1	7	–
Okla.	1	6	347	3	24	9	–	–	–	–	–	–
Tex.	62	195	99	3	163	60	6	104	5	8	59	1
MOUNTAIN	2	17	114	3	53	40	9	74	5	1	47	1
Mont.	–	–	1	–	3	1	–	3	1	–	1	–
Idaho	–	–	–	–	3	3	–	4	–	–	2	–
Wyo.	–	–	–	–	–	2	–	–	–	–	1	–
Colo.	–	4	5	2	25	11	3	36	4	–	23	–
N. Mex.	2	2	6	–	4	6	–	–	–	–	1	–
Ariz.	–	2	60	–	12	6	1	11	–	1	11	1
Utah	–	–	39	1	4	1	1	9	–	–	3	–
Nev.	–	9	3	–	2	10	4	11	–	–	5	–
PACIFIC	11	174	405	10	179	152	14	330	4	22	268	3
Wash.	–	1	118	2	34	24	5	98	4	1	45	–
Oreg.	–	–	–	5	22	33	2	41	–	–	15	–
Calif.	9	171	278	2	115	93	7	178	–	17	204	3
Alaska	–	–	5	1	4	2	–	4	–	–	–	–
Hawaii	2	2	4	–	4	–	–	9	–	4	4	–
Guam	NA	1	3	–	–	1	NA	1	NA	NA	–	–
P.R.	1	133	49	–	3	7	1	55	–	–	3	–
V.I.	1	4	5	–	–	1	1	4	–	–	–	–
Pac. Trust Terr.	NA	–	3	–	–	–	NA	4	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 2, 1981 and April 26, 1980 (17th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1981	CUM. 1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1980	CUM. 1981
UNITED STATES	559	8,498	38	5	151	20	47	18,920	312,387	306,216	487	9,670	8,620	2,233
NEW ENGLAND	15	233	–	–	7	–	–	564	7,719	7,930	10	210	185	9
Maine	–	20	–	–	–	–	–	19	395	478	–	1	3	6
N.H.	–	2	–	–	–	–	–	21	280	273	–	7	1	1
Vt.	–	7	–	–	–	–	–	10	131	208	–	11	2	–
Mass.	9	127	–	–	6	–	–	224	3,176	3,164	9	130	102	–
R.I.	1	14	–	–	–	–	–	32	371	472	1	14	13	–
Conn.	5	63	–	–	1	–	–	258	3,366	3,335	–	47	64	2
MID. ATLANTIC	91	1,459	9	1	27	–	3	2,499	36,947	33,353	85	1,521	1,226	5
Upstate N.Y.	10	230	9	–	4	–	1	459	5,909	5,883	19	140	97	4
N.Y. City	29	619	–	–	17	–	2	1,250	15,402	13,337	40	949	794	–
N.J.	28	292	–	–	2	–	–	229	7,064	5,903	15	183	164	–
Pa.	24	318	–	1	4	–	–	561	8,572	8,230	11	249	171	1
E.N. CENTRAL	51	1,087	1	–	8	–	1	1,966	46,329	48,706	8	505	836	295
Ohio	18	207	–	–	–	–	1	577	18,525	13,220	–	86	138	22
Ind.	–	67	–	–	–	–	–	238	3,893	4,776	5	44	72	13
Ill.	15	444	–	–	4	–	–	191	9,300	15,348	–	232	463	234
Mich.	17	315	1	–	3	–	–	614	10,276	10,563	2	111	130	1
Wis.	1	54	–	–	1	–	–	346	4,335	4,799	1	32	33	25
W.N. CENTRAL	30	299	3	–	4	1	2	770	14,836	13,384	7	170	96	950
Minn.	2	44	–	–	1	–	–	93	2,317	2,416	1	63	33	176
Iowa	1	37	–	–	1	–	–	78	1,538	1,507	1	9	8	322
Mo.	13	127	3	–	1	1	2	345	6,809	5,521	5	82	52	82
N. Dak.	6	16	–	–	–	–	–	12	196	193	–	2	–	145
S. Dak.	2	24	–	–	1	–	–	23	413	390	–	2	1	94
Nebr.	1	8	–	–	–	–	–	121	1,123	1,125	–	3	1	59
Kans.	5	43	–	–	–	–	–	98	2,440	2,232	–	9	1	72
S. ATLANTIC	129	1,879	5	1	23	9	15	4,362	77,449	73,354	138	2,586	2,067	116
Del.	1	21	1	–	–	–	–	NA	1,084	1,023	NA	7	5	–
Md.	17	179	–	–	7	–	1	619	8,564	7,661	12	205	148	1
D.C.	5	115	–	–	1	–	–	280	4,994	5,363	9	232	148	–
Va.	18	203	–	–	1	–	1	366	7,220	6,289	13	248	180	19
W. Va.	3	67	–	–	3	1	1	69	1,180	989	–	7	6	3
N.C.	21	342	1	–	1	–	4	519	12,087	11,091	11	195	151	–
S.C.	13	162	2	–	–	8	8	481	7,206	7,112	11	181	102	6
Ga.	15	303	1	1	1	–	–	986	15,341	13,429	27	660	617	63
Fla.	36	487	–	–	9	–	–	1,042	19,773	20,397	55	851	710	24
E.S. CENTRAL	26	731	2	–	4	2	8	1,900	25,985	25,437	21	648	677	152
Ky.	10	191	2	–	–	–	1	215	3,383	3,622	1	24	51	45
Tenn.	8	241	–	–	1	1	2	687	9,636	9,123	5	255	254	91
Ala.	8	205	–	–	2	1	1	650	8,108	7,403	4	173	143	16
Miss.	–	94	–	–	1	–	4	348	4,858	5,289	11	196	229	–
W.S. CENTRAL	71	945	8	1	14	7	16	2,383	42,722	39,289	139	2,339	1,639	433
Ark.	7	83	3	–	–	1	3	216	2,794	2,934	–	44	61	68
La.	13	175	2	–	–	–	–	425	6,746	6,847	71	517	387	14
Okla.	9	103	2	–	3	4	9	212	4,281	3,871	4	66	25	68
Tex.	42	484	1	1	11	2	4	1,530	28,901	25,637	64	1,712	1,166	283
MOUNTAIN	18	227	8	–	8	1	2	650	12,804	11,897	10	243	194	42
Mont.	1	20	2	–	4	–	–	26	467	432	–	8	–	39
Idaho	–	5	2	–	–	–	1	20	521	575	–	2	5	–
Wyo.	–	2	1	–	–	1	1	19	273	345	1	3	7	2
Colo.	2	17	2	–	2	–	–	239	3,382	3,111	3	78	53	–
N. Mex.	2	45	–	–	–	–	–	60	1,383	1,524	1	54	38	–
Ariz.	13	103	–	–	2	–	–	182	4,148	3,296	5	49	62	1
Utah	–	14	1	–	–	–	–	27	587	581	–	5	5	–
Nev.	–	21	–	–	–	–	–	77	2,043	2,033	–	44	24	–
PACIFIC	128	1,738	2	2	56	–	–	3,826	47,596	52,866	69	1,448	1,700	231
Wash.	10	144	1	–	3	–	–	239	3,997	4,393	–	37	91	–
Oreg.	3	63	–	1	3	–	–	122	3,282	3,710	1	35	38	1
Calif.	115	1,463	1	1	49	–	–	3,348	38,104	42,378	66	1,341	1,511	217
Alaska	–	15	–	–	–	–	–	61	1,261	1,228	–	4	2	13
Hawaii	–	53	–	–	1	–	–	56	952	1,157	2	31	58	–
Guam	NA	–	–	NA	–	NA	–	NA	14	40	NA	–	–	–
P.R.	4	38	–	–	3	–	–	40	1,055	875	15	245	184	25
V.I.	–	1	–	–	1	–	–	3	37	54	–	2	7	–
Pac. Trust Terr.	NA	21	–	NA	–	NA	–	NA	117	149	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 2, 1981 (17th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	666	427	168	36	16	42
Boston, Mass.	176	95	47	19	10	16
Bridgeport, Conn.	43	27	10	4	-	1
Cambridge, Mass.	27	20	6	1	-	1
Fall River, Mass.	31	18	10	1	-	2
Hartford, Conn.	48	33	14	-	-	1
Lowell, Mass.	21	15	6	-	-	-
Lynn, Mass.	21	17	3	-	-	-
New Bedford, Mass.	31	23	8	-	-	-
New Haven, Conn.	62	37	18	3	3	5
Providence, R.I.	52	33	15	3	-	1
Somerville, Mass.	9	6	2	-	-	2
Springfield, Mass.	62	39	16	4	1	3
Waterbury, Conn.	32	25	6	-	1	4
Worcester, Mass.	49	39	7	1	1	6
MID. ATLANTIC	2,952	1,921	667	200	85	103
Albany, N.Y.	49	28	12	4	4	1
Allentown, Pa.	22	16	6	-	-	-
Buffalo, N.Y.	100	62	26	5	4	7
Camden, N.J.	31	21	6	2	-	-
Elizabeth, N.J.	27	20	6	1	-	-
Erie, Pa.†	35	25	9	1	-	-
Jersey City, N.J.	41	30	8	2	1	1
Newark, N.J.	54	32	13	5	3	5
N.Y. City, N.Y.	1,445	942	294	121	46	30
Paterson, N.J.	21	10	8	3	-	1
Philadelphia, Pa.	694	423	194	38	21	40
Pittsburgh, Pa.†	50	26	15	3	2	2
Reading, Pa.	30	25	2	1	-	1
Rochester, N.Y.	135	105	21	4	1	3
Schenectady, N.Y.	22	13	8	1	-	3
Scranton, Pa.†	30	23	6	1	-	2
Syracuse, N.Y.	79	57	15	3	3	3
Trenton, N.J.	31	25	4	2	-	-
Utica, N.Y.	30	23	6	-	-	2
Yonkers, N.Y.	26	15	8	3	-	2
E.N. CENTRAL	2,307	1,416	537	155	105	69
Akron, Ohio	87	59	14	4	6	1
Canton, Ohio	33	19	11	-	-	3
Chicago, Ill.	537	301	137	48	31	16
Cincinnati, Ohio	138	95	26	8	8	13
Cleveland, Ohio	202	113	58	13	5	5
Columbus, Ohio	138	77	39	7	10	3
Dayton, Ohio	102	62	26	9	1	1
Detroit, Mich.	266	164	69	22	4	6
Evansville, Ind.	40	28	7	1	1	1
Fort Wayne, Ind.	41	24	13	2	1	2
Gary, Ind.	17	10	7	-	-	-
Grand Rapids, Mich.	63	45	10	1	3	2
Indianapolis, Ind.	165	102	37	11	11	1
Madison, Wis.	35	22	3	3	2	5
Milwaukee, Wis.	128	90	24	6	5	-
Peoria, Ill.	46	22	8	6	6	1
Rockford, Ill.	39	22	7	2	3	-
South Bend, Ind.	40	26	9	2	2	2
Toledo, Ohio	118	80	21	6	4	4
Youngstown, Ohio	72	55	11	4	2	3
W.N. CENTRAL	785	513	176	42	26	28
Des Moines, Iowa	59	42	14	2	1	3
Duluth, Minn.	29	23	5	-	1	3
Kansas City, Kans.	29	15	10	1	1	-
Kansas City, Mo.	107	71	27	5	2	-
Lincoln, Nebr.	40	28	11	1	-	2
Minneapolis, Minn.	100	66	18	5	6	2
Omaha, Nebr.	78	47	21	6	1	2
St. Louis, Mo.	181	113	37	13	7	2
St. Paul, Minn.	71	46	16	3	4	3
Wichita, Kans.	91	62	17	6	3	11

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
S. ATLANTIC	1,336	814	340	91	46	44
Atlanta, Ga.	123	75	29	11	5	3
Baltimore, Md.	436	266	114	25	18	10
Charlotte, N.C.	98	51	21	7	4	3
Jacksonville, Fla.	108	64	29	8	2	2
Miami, Fla.	64	32	25	3	3	5
Norfolk, Va.	38	21	11	2	3	4
Richmond, Va.	71	40	21	5	4	3
Savannah, Ga.	37	27	8	1	-	3
St. Petersburg, Fla.	73	62	7	1	-	3
Tampa, Fla.	79	54	12	7	3	3
Washington, D.C.	168	87	51	18	3	4
Wilmington, Del.	51	35	12	3	1	1
E.S. CENTRAL	797	467	207	56	36	38
Birmingham, Ala.	100	57	26	6	9	2
Chattanooga, Tenn.	72	36	23	9	-	10
Knoxville, Tenn.	44	27	15	-	1	1
Louisville, Ky.	110	70	26	7	2	14
Memphis, Tenn.	167	88	37	14	17	1
Mobile, Ala.††	181	117	44	12	4	5
Montgomery, Ala.	36	23	11	-	1	1
Nashville, Tenn.	87	49	25	8	2	4
W.S. CENTRAL	1,218	700	315	93	41	49
Austin, Tex.	28	19	6	2	-	3
Baton Rouge, La.	40	27	10	1	-	3
Corpus Christi, Tex.	45	25	8	6	4	-
Dallas, Tex.	181	102	45	13	11	5
El Paso, Tex.	59	35	15	5	2	-
Fort Worth, Tex.	92	63	19	3	3	8
Houston, Tex.	251	135	71	25	8	11
Little Rock, Ark.	55	25	21	3	3	3
New Orleans, La.	138	79	40	9	3	1
San Antonio, Tex.	161	82	48	12	4	4
Shreveport, La.	64	46	8	6	3	4
Tulsa, Okla.	104	62	24	8	-	7
MOUNTAIN	597	346	143	35	33	31
Albuquerque, N. Mex.	91	38	27	9	5	4
Colo. Springs, Colo.	37	21	11	2	1	2
Denver, Colo.	106	60	22	4	14	8
Las Vegas, Nev.	70	32	25	4	3	4
Ogden, Utah	20	16	3	1	-	5
Phoenix, Ariz.	124	81	22	10	6	1
Pueblo, Colo.	16	14	1	1	-	1
Salt Lake City, Utah	41	21	12	1	4	1
Tucson, Ariz.	92	63	20	3	-	5
PACIFIC	1,769	1,161	370	120	63	72
Berkeley, Calif.	15	12	2	1	-	1
Fresno, Calif.	85	55	16	8	2	3
Glendale, Calif.	22	18	2	1	1	1
Honolulu, Hawaii	65	42	14	8	1	7
Long Beach, Calif.	98	64	30	-	2	4
Los Angeles, Calif.	494	329	105	35	10	15
Oakland, Calif.	91	55	18	9	7	-
Pasadena, Calif.	33	22	6	1	4	4
Portland, Oreg.	123	84	21	7	8	1
Sacramento, Calif.	64	40	15	2	6	5
San Diego, Calif.	111	76	19	8	2	1
San Francisco, Calif.	161	107	33	10	5	4
San Jose, Calif.	172	102	40	16	9	13
Seattle, Wash.	150	97	33	12	-	6
Spokane, Wash.	47	33	7	1	4	3
Tacoma, Wash.	38	25	9	1	2	4
TOTAL	12,427	7,765	2,923	828	451	476

*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 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Includes delayed reports.

Reproductive Abnormalities – Continued

The findings of this study are suggestive of male reproductive toxicity from exposure to TDA and/or DNT. The population size is small, and a large number of additional individuals must be investigated to corroborate the findings at this plant. At present, NIOSH is planning (1) to further analyze the serum specimens collected in this study for serum testosterone, follicle-stimulating hormone, and luteinizing hormone levels; (2) to identify other plants using TDA to determine if the problems identified in this evaluation exist elsewhere; and (3) to recommend that the National Toxicology Program conduct additional animal studies to assess further the reproductive toxicity of TDA and DNT.

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Current Trends

Urban Rat Control – United States

During the first quarter of fiscal year 1981, 64 urban rat-control programs identified 1,434 environmentally improved blocks (EIBs). An additional 1,431 blocks achieved the improved, rat-free maintenance status (Table 1). Services were provided to 3.2 million people living on 22,000 target-area blocks. As of December 31, 1980, there were 37,543 cumulative EIBs and 10,110 blocks in maintenance. Over 6.9 million people lived in neighborhoods that were improved and made rat free.

Each urban rat-control program is designed to eliminate, on a long-term basis, the environmental conditions that permit rat infestation. The cornerstone of the operation is a one-on-one resident information and educational service to promote neighborhood sanitation and cleanup. Rat baiting is an essential but secondary component.

As one means of assisting communities to implement rat-control measures, the Urban Rat Control Program sponsors surveys to test rats for resistance to anti-coagulant rodenticides, the safest and most common rodenticides used in communities. Under well-defined procedures, selected communities trap and submit rats for evaluation. Since 1977, surveys of rats have been completed for 52 areas in 41 cities. Twenty-five areas have been identified as having a significant resistance problem. When such a problem is identified, communities are assisted in modifying baiting practices and in accelerating efforts to improve their environment.

Reported by Environmental Health Services Div, Center for Environmental Health, CDC.

Urban Rat Control – Continued

TABLE 1. Status of target-area blocks in Urban Rat Control Programs, first quarter fiscal year 1981 (October 1-December 31, 1980)

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	935	705	177	53	0	1,121
Bridgeport	220	215	5	0	0	0
Hartford	314	219	83	12	0	313
Boston	401	271	89	41	0	20
Previously funded programs	. . . . .					788
REGION II	3,612	1,259	938	1,051	146	4,680
Atlantic City	202	0	0	0	0	0
Camden	242	101	50	91	12	109
Jersey City	240	91	60	89	0	203
Newark	219	19	166	34	0	0
New York City	1,376	547	320	453	0	977
Rochester	203	63	36	104	0	367
Yonkers	40	6	14	20	26	109
Aguadilla, P.R.	203	116	63	24	0	166
Arecibo, P.R.	79	15	41	23	0	236
Guayama, P.R.	216	43	67	0	0	0
Mayaguez, P.R.	187	137	31	19	14	207
Ponce, P.R.	155	67	39	49	94	347
San Juan, P.R.	250	54	51	145	0	305
Previously funded programs	. . . . .					1,654
REGION III	3,662	1,347	1,666	468	187	7,274
"War on Rats," D.C.	1,145	496	355	113	20	1,092
Baltimore	368	151	153	64	0	306
Chester	167	47	89	31	0	95
Harrisburg	36	0	36	0	154	331
N.E. Pa. V.C. Assn.†	288	52	151	85	0	1,182
Philadelphia	1,079	392	629	58	0	1,501
Pittsburgh	450	124	220	106	0	1,275
Norfolk	113	69	33	11	8	1,337
Portsmouth	16	16	0	0	5	77
Previously funded programs	. . . . .					78
REGION IV	4,174	1,880	1,717	282	353	6,977
Mobile	340	53	213	74	0	399
Tuscaloosa	344	156	188	0	0	0
Miami	1,378	512	494	77	84	957
Pensacola	503	325	178	0	31	86
Atlanta, Ga.‡	480	297	163	20	0	0
DeKalb Co., Ga.	335	138	178	19	0	405
Lexington	317	47	210	60	0	0
Louisville	194	102	60	32	136	738
Memphis	283	250	33	0	102	534
Previously funded programs	. . . . .					3,858
REGION V	5,326	2,207	1,547	366	298	4,661
Chicago	490	387	94	9	3	10
Peoria	324	64	260	0	0	0
Gary	381	143	94	144	0	0
Indianapolis	351	287	64	0	0	417
Benton Harbor	190	22	97	71	0	0
Detroit	934	0	0	0	168	706
Highland Park	220	107	91	22	0	0
Saginaw	333	132	151	50	0	0
Washtenaw Co.-Ypsilanti	236	90	86	0	0	0
Wayne Co.-Ecorse	193	68	34	0	0	0

Urban Rat Control – Continued

TABLE 1. Status of target-area blocks in Urban Rat Control Programs, first quarter fiscal year 1981 (October 1-December 31, 1980) – *Continued*

Program community	Target-area blocks				Environmentally improved blocks*	
	Total**	In attack phase	In maintenance phase		New this quarter	Cumulative
			<12 months	≥12 months		
Akron	254	38	95	0	35	610
Barberton	198	99	96	3	14	99
Cincinnati	61	14	34	13	13	144
Cleveland	344	256	84	4	21	703
Columbus	282	101	138	43	44	283
Toledo	180	132	41	7	0	158
Youngstown	220	146	74	0	0	0
Milwaukee	135	121	14	0	0	0
Previously funded programs						1,531
REGION VI	1,357	485	506	234	164	6,688
Little Rock	402	232	142	28	0	0
Pine Bluff	218	89	129	0	0	190
New Orleans	355	86	63	206	0	2,970
Houston	382	78	172	0	164	2,270
Previously funded programs						1,258
REGION VII	816	143	359	314	151	3,795
Kansas City, Ka.	54	0	11	43	0	1,187
Kansas City, Mo.	118	19	28	71	0	653
St. Louis	258	7	149	102	81	997
Omaha	386	117	171	98	70	562
Previously funded programs						396
REGION IX	623	191	373	59	135	1,517
Los Angeles	261	15	229	17	46	304
Oakland	205	143	49	13	42	261
San Bernardino	29	4	25	0	34	164
San Francisco	128	29	70	29	13	306
Previously funded programs						482
REGION X						830
Previously funded programs						830
TOTAL	20,505	8,217	7,283	2,827	1,434	37,543

*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.

**Includes blocks in a pre-attack phase.

†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.

The Morbidity and Mortality Weekly Report, circulation 110,000, is published by the Centers for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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PUBLIC HEALTH SERVICE / CENTERS FOR DISEASE CONTROL
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HHS Publication No. (CDC) 81-8017