

M M W R

MORBIDITY AND MORTALITY WEEKLY REPORT

- Epidemiologic Notes and Reports**
 221 Spectinomycin-Resistant Penicillinase-Producing *Neisseria gonorrhoeae* — Cal.
 226 Trichloroethylene Exposure — Penn.
 236 Clarification: Multiply Resistant Pneumococcus — Colo.
Surveillance Summary
 222 Abortion Surveillance — United States, 1978
International Notes
 233 Quarantine Measures

Epidemiologic Notes and Reports

Spectinomycin-Resistant Penicillinase-Producing *Neisseria gonorrhoeae* — California

The David Grant U.S. Air Force (USAF) Medical Center at Travis Air Force Base (AFB), California, has reported the first known infection caused by spectinomycin-resistant penicillinase-producing *Neisseria gonorrhoeae* (PPNG). Spectinomycin is the antibiotic of choice for the treatment of most PPNG infections.

The patient, a 20-year-old man, had been stationed at Clark AFB, Republic of the Philippines. From April 24-30, 1981, he was seen 3 times at the Clark AFB Clinic for treatment of persistent gonococcal urethritis. During each visit he was given an intramuscular injection of spectinomycin, 2.0 g the first time and 4.0 g each of the next 2 times, but he remained symptomatic. Although he had had sexual contact with 3 women in the Philippines from March 6 through April 19, he denied being re-exposed after he began treatment. Cultures of the urethral discharge grew PPNG.

He returned to the United States, and on May 3 he was seen at the David Grant USAF Medical Center because of a persistent urethral discharge. Gram-stain examination was consistent with gonorrhea; he received tetracycline hydrochloride, 500 mg orally every 6 hours for 5 days. Culture of the urethral discharge that had been taken before treatment was begun grew PPNG. The growth of this isolate was not inhibited by a disc containing 100 µg of spectinomycin. The patient's symptoms resolved completely, and cultures of posttreatment urethral specimens were negative. He denied having had any sexual contact in the United States since his return.

CDC has confirmed that a subculture of the gonococcal isolate is PPNG, resistant to more than 2,048 µg/ml of spectinomycin. Minimal inhibitory concentrations of other antimicrobials for this isolate included tetracycline, 1 µg/ml; cefoxitin, 1.0 µg/ml; gentamicin, 2.0 µg/ml; and sulfamethoxazole/trimethoprim (SMX/TMP), 9.5 µg/ml of SMX and 0.5 µg/ml of TMP, when the combination was tested in a 19:1 ratio. Studies to characterize the mechanism of spectinomycin resistance in this isolate are in progress.

Surveillance for PPNG strains is ongoing at Clark AFB and will be extended to include testing for spectinomycin resistance.

Reported by H Adams, W Ashford, DW Potts, Lt Col, USAF, MC, A San Diego, Col, USAF, MC, V Chong, Col, USAF, MC, David Grant, USAF Medical Center; Center for Infectious Diseases, Center for Prevention Services, CDC.

Editorial Note: Although 4 isolates of spectinomycin-resistant *N. gonorrhoeae* have been reported previously—2 from Denmark, 1 from Holland, and 1 from the United States—none was penicillinase producing (1-3). Of more than 1,000 PPNG isolates tested at the CDC since 1976, this is the first to be resistant to spectinomycin.

Spectinomycin-Resistant PPNG

CDC recommends that all PPNG isolates be tested for spectinomycin resistance using a provisional disc-diffusion method (4). Such testing should assist in the early detection and treatment of cases and in determining the prevalence of spectinomycin resistance among PPNG isolates. A protocol for the provisional disc-diffusion method is available from either state health department laboratories or CDC. If it is not possible for a laboratory to use this method, PPNG isolates should be forwarded to state health department laboratories for testing or for referral to CDC. In order to develop more information on the use of this test, CDC recommends that all spectinomycin-resistant PPNG isolates be sent to state health department laboratories and CDC for confirmatory testing. Confirmed cases should be reported to state health departments and CDC.

Patients who have uncomplicated anogenital infections caused by spectinomycin-resistant PPNG should be treated with cefoxitin, 2.0 g in a single intramuscular injection, and with probenecid, 1.0 g orally. Another regimen which can be used is SMX/TMP, 9 tablets (400 mg SMX and 80 mg TMP/tablet) taken orally in single daily doses for 3 days (total: 27 tablets). This latter regimen can be used for 5 days to treat pharyngeal infections. (SMX/TMP should not be prescribed for pregnant women or those with nursing infants.) Although a tetracycline regimen was used successfully for the reported case, overall cure rates with tetracycline therapy for PPNG infections have been relatively low.

References

1. Reyn A, Schmidt H, Trier M, Bentzon MW. Spectinomycin hydrochloride (Trobicin) in the treatment of gonorrhoea. Observation of resistant strains of *Neisseria gonorrhoeae*. Br J Vener Dis 1973;49:54-9.
2. Stolz E, Zwart HGF, Michel MF. Activity of eight antimicrobial agents *in vitro* against *N. gonorrhoeae*. Br J Vener Dis 1975;51:257-64.
3. Thornsberry C, Jaffee H, Brown ST, Edwards T, Biddle JW, Thompson SE. Spectinomycin resistant *Neisseria gonorrhoeae*. JAMA 1977;237:2405-6.
4. Biddle JW, Swenson JM, Thornsberry C. Disc agar diffusion antimicrobial susceptibility tests with beta-lactamase producing *Neisseria gonorrhoeae*. J Antibiot (Tokyo) 1978;31:352-8.

Surveillance Summary

Abortion Surveillance — United States, 1978

In 1978, the 50 states and the District of Columbia reported 1,157,776 legally induced abortions to CDC. While the number of abortions reported in 1978 increased 7% over the 1977 total, the national abortion rate (abortions per 1,000 women ages 15-44) only increased 4%. The national abortion ratio (abortions per 1,000 live births) increased by 7%, indicating more than 1 abortion for every 3 live births in 1978 (Table 1).

As in previous years, women who obtained abortions in 1978 were most often young, white, unmarried, and of low parity. Overall, 65% were <25 years of age, 67% were white, 74% were unmarried, and 57% had had no live births (Table 2).

Curettage continued to be the most widely used procedure for reported legal abortions, accounting for 95% of the abortions performed in 1978. Most curettage procedures (95%) were performed at ≤12 weeks' gestation. After 12 weeks' gestation, dilatation and

Abortion - Continued

evacuation procedures (D&E) increased to 51% of the midtrimester abortions for the first time since these data were initially collected in 1974. The greatest increase in midtrimester D&E was for the 13- to 15-week interval. After 15 weeks' gestation, instillation procedures remained the most commonly used methods (77%). Saline instillation procedures decreased to 47% of the ≥ 16 -week gestation procedures for the first time since 1974, while D&E increased from 16% in 1977 to 22% in 1978, and instillation of prostaglandin and other agents remained at the same level.

Women continued to seek abortions earlier in gestation; over half (52%) of all abortions were performed at ≤ 8 menstrual weeks' gestation, and 91% of the abortions were performed within the first 12 weeks' gestation. Younger women obtained abortions later in gestation than older women. Approximately 46% of the abortions performed at ≥ 16 weeks' gestation were for women 19 years of age or younger. A woman's race had relatively little impact on the gestational age at which she obtained an abortion.

Reported by the Abortion Surveillance Br and the Statistical Services Br, Family Planning Evaluation Div, Center for Health Promotion and Education, CDC.

Editorial Note: Although there were increases in legal abortions in 1978 (7%) and in the abortion rate (4%), these increases were smaller than in previous years (e.g., in 1977, these figures were 9% and 8%, respectively). These smaller increases may reflect the following: increased use of tubal sterilization since 1970 (especially for women >24 years of age) (1), resulting in fewer women being at risk of an unwanted pregnancy; increased use of temporary methods of contraception by previously married women (2); the nearly complete replacement of illegal procedures by legal procedures as shown by a relatively low number of deaths due to illegal abortion since 1974; changes in public funding policy for abortion services; or decreased reporting.

In contrast to the abortion rate, the abortion ratio (1 measure of unwanted pregnancies) increased more in 1978 than in 1977 (7% vs. 4%, respectively). This increase remained even after corrections were made for different reporting sources in 1976-1978 for live births and abortions. The increase in the abortion ratio may reflect in part a de-

TABLE 1. Abortions—number, ratio, and rate for 1972-1978, with yearly percent change, United States

Year and change	Number	Ratio	Rate
1972	586,760	180.1	13.2
Percent change from 1971	+20.8	+31.8	+17.9
1973	615,831	196.3	13.6
Percent change from 1972	+5.0	+9.0	+3.0
1974	763,476	241.6	16.5
Percent change from 1973	+24.0	+23.1	+21.3
1975	854,853	271.9	18.1
Percent change from 1974	+12.0	+12.5	+9.7
1976	988,267	312.0	20.5
Percent change from 1975	+15.6	+14.7	+13.3
1977	1,079,430	324.5	22.2
Percent change from 1976	+9.2	+4.0	+8.3
1978	1,157,776	347.3	23.1
Percent change from 1977	+7.3	+7.0	+4.1

Abortion - Continued

crease from 1976 to 1979 in the use of the most effective methods of temporary contraception (oral contraceptives and IUDs) by teenagers (3); this group had the greatest age-specific increase in their abortion ratio from 1977 to 1978.

The general availability of abortion services since 1973 has allowed more women to obtain abortions within their state of residence. Obtaining abortions close to one's residence has 2 advantages: the procedure is usually performed at an earlier gestational age, and the patient can benefit from the abortion facility's follow-up services. Since 1975, the proportion of in-state abortions has remained approximately the same, with only a small decline in 1978. Restrictions on public funding would be expected to affect in-state more than out-of-state abortions, since the latter never qualified for state-based Medicaid funding. In 1978, states subsidized 193,800 abortions, approximately one-third fewer than in 1977 (4). Restrictions placed on the use of federal funds for abortion did not completely eliminate subsidized procedures since some states continued to fund medically necessary abortions.

TABLE 2. Characteristics of women receiving abortions, United States, 1972-1978

Characteristics	Percent distribution*						
	1972	1973	1974	1975	1976	1977	1978
Received abortion							
In state of residence	56.2	74.8	86.6	89.2	90.0	90.0	89.3
Outside state of residence	43.8	25.2	13.4	10.8	10.0	10.0	10.7
Age							
<19	32.6	32.7	32.7	33.1	32.1	30.8	30.0
20-24	32.5	32.0	31.8	31.9	33.3	34.5	35.0
≥25	34.9	35.3	35.6	35.0	34.6	34.7	34.9
Race							
White	77.0	72.5	69.7	67.8	66.6	66.4	67.0
Black and others	23.0	27.5	30.3	32.2	33.4	33.6	33.0
Marital status							
Married	29.7	27.4	27.4	26.1	24.6	24.3	26.4
Unmarried	70.3	72.6	72.6	73.9	75.4	75.7	73.6
Number of live births†							
0	49.4	48.6	47.8	47.1	47.7	53.4	56.6
1	18.2	18.8	19.6	20.2	20.7	19.1	19.2
2	13.3	14.2	14.8	15.5	15.4	14.4	14.1
3	8.7	8.7	8.7	8.7	8.3	7.0	5.9
≥4	10.4	9.7	9.0	8.6	7.9	6.2	4.2
Type of procedure							
Curettage	88.6	88.4	89.7	90.9	92.8	93.8	94.6
Intrauterine instillation	10.4	10.4	7.8	6.2	6.0	5.4	3.9
Hysterotomy/hysterectomy	0.6	0.7	0.6	0.4	0.2	0.2	0.1
Other	0.5	0.6	1.9	2.4	0.9	0.7	1.4
Weeks of gestation							
≤8	34.0	36.1	42.6	44.6	47.0	51.2	52.2
9-10	30.7	29.4	28.7	28.4	28.0	27.2	26.9
11-12	17.5	17.9	15.4	14.9	14.4	13.1	12.3
13-15	8.4	6.9	5.5	5.0	4.5	3.4	4.0
16-20	8.2	8.0	6.5	6.1	5.1	4.3	3.7
≥21	1.3	1.7	1.2	1.0	0.9	0.9	0.9

*Excludes reported abortions for which no data were available.

†For years 1972-1977 data are number of living children.

Abortion - Continued

Age and parity trends observed in earlier years continued in 1978. Since 1975, the age distribution of women obtaining abortions has shown a gradual shift from the <19-year-old group to the 20- to 24-year-old group, resulting largely from a similar national shift in the age structure (5). In 1978, as in earlier years, women at each end of the reproductive-age distribution (≤ 19 and ≥ 40) had the highest abortion-to-live-birth ratio. Women in the 25- to 29-year-old group continued to have the lowest legal abortion ratio, indicating that pregnancies in this age group were more likely to be planned and therefore carried to term. Abortion ratios continued to decline for women who had had 3 or more live births. Increasing use of surgical sterilization may result in fewer unwanted pregnancies at these higher birth orders (7).

In 1978, the proportion of abortions obtained by unmarried women and by women of minority races declined for the first time since 1972. Although women of minority races continued to have a higher abortion ratio (497) than white women (297), the ratio for the former has increased by a smaller percentage since 1977 (1.4% for minority women versus 10.8% for white women). Several possible explanations exist: restricted funding may affect the unmarried or minority woman to a greater extent (6); decreased use of the most effective temporary methods of contraception by teenagers (3) may be offset by increased use of surgical sterilization by the older, previously married woman (2); and reporting artifact. Yet, when corrections are made for differences in reporting states for 1976-1978, the decline in the proportion of abortions by unmarried women in 1978 remains the same; however, the decline in the proportion of abortions obtained by minority women began in 1977 and was greater in 1978 (the 0.6% decline shown in Table 2, when corrected, equals 1.3%).

The proportion of midtrimester abortions after 12 weeks' gestation performed in the earliest interval (13 to 15 weeks) increased from 40% in 1977 to 48% in 1978. This change was primarily associated with a shift from instillation procedures at ≥ 16 weeks' gestation to D&E in the earlier midtrimester interval. Since D&E procedures at 13 to 15 weeks' gestation have lower complication and death-to-case rates than saline instillation (7), this increased utilization of D&E and the decline in the use of saline instillation should produce a favorable public health impact on reproductive-age women.

References

1. CDC. Surgical sterilization surveillance; tubal sterilization 1976-1978. Atlanta, CDC (in press).
2. National Center for Health Statistics. Contraceptive utilization among widowed, divorced, and separated women in the United States: 1973-1976. Advance Data. No. 40, 1978 Sept 22.
3. Zelnick M, Kantner JF. Sexual activity, contraceptive use and pregnancy among metropolitan-area teenagers: 1971-1979. *Fam Plann Perspect* 1980;12:230-7.
4. Gold RB. After the Hyde Amendment: public funding for abortion in FY 1978. *Fam Plann Perspect* 1980;12:131-4.
5. U.S. Bureau of the Census. Estimates of the population of the United States by age, race, and sex: 1976-1979. Washington, DC: Department of Commerce, 1980. (Current population reports. Series P-25, No. 870).
6. Selik RM, Cates W, Jr, Tyler CW. Effects of restricted public funding for legal abortions: a second look. *Am J Public Health* 1981; 71:77-81.
7. Grimes DA, Schulz KF, Cates W, Jr, et al. Midtrimester abortion by dilation and evacuation. A safe and practical alternative. *N Engl J Med* 1977;296:1141-5.

[^]A copy of the report from which these data were derived is available on request: Attention: Chief, Abortion Surveillance Branch, Family Planning Evaluation Division, Center for Health Promotion and Education, Centers for Disease Control, Atlanta, Georgia 30333.

Epidemiologic Notes and Reports

Trichloroethylene Exposure — Pennsylvania

On July 17, 1979, a pipe leading to an outdoor storage tank at a metal-tube manufacturing plant in Montgomery County, Pennsylvania, ruptured and released 1,900 gallons of trichloroethylene (TCE), a solvent commonly used in industry for removing grease. The TCE drained through the soil into ground water and flowed over the surface into Perkiomen Creek, killing many fish. Several subsequent investigations by CDC illustrate the problems resulting when industrial toxins cross factory boundaries, causing environmental contamination, and show that responsible action by workers and plant management can sharply reduce toxic chemical exposure at its source.

The Pennsylvania Department of Environmental Resources found TCE in 70 of 100 well-water samples in Montgomery County. Ten of these samples contained TCE in concentrations of >500 parts per billion (ppb), and 5 contained >1,000 ppb; the Environmental Protection Agency (EPA)-suggested no-adverse-response level* for chronic exposure to TCE in drinking water is 4.5 ppb. The widespread contamination of ground water in the area suggested that TCE had been spilled or dumped on previous occasions.

*The so-called "SNARL" level—a calculated limit for exposure over various time periods.

(Continued on page 231)

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

DISEASE	19th WEEK ENDING		MEDIAN 1976-1980	CUMULATIVE, FIRST 19 WEEKS		
	May 16 1981	May 10 1980		May 16 1981	May 10 1980	MEDIAN 1976-1980
Aseptic meningitis	86	60	53	1,220	1,156	74
Brucellosis	5	2	6	51	54	50
Chickenpox	8,826	7,289	7,221	122,540	109,313	112,473
Diphtheria	-	-	-	3	2	29
Encephalitis: Primary (arthropod-borne & unspec.)	13	10	11	255	219	213
Post-infectious	1	7	5	32	67	67
Hepatitis, Viral: Type B	370	306	306	7,023	5,902	5,568
Type A	433	576	596	9,106	9,884	10,752
Type unspecified	218	215	166	4,059	4,008	3,229
Malaria	29	38	8	475	550	161
Measles (rubeola)	150	809	975	1,397	7,691	13,288
Meningococcal infections: Total	69	83	46	1,696	1,243	1,049
Civilian	69	82	45	1,692	1,233	1,039
Military	-	1	-	4	10	8
Mumps	92	323	485	1,968	5,081	8,626
Pertussis	15	21	20	366	387	387
Rubella (German measles)	89	163	617	1,110	2,002	7,343
Tetanus	2	-	-	17	16	17
Tuberculosis	600	561	598	9,489	9,354	10,129
Tularemia	7	3	3	51	40	40
Typhoid fever	8	16	8	163	117	130
Typhus fever, tick-borne (Rky. Mt. spotted)	35	20	24	112	55	59
Venereal diseases:						
Gonorrhea: Civilian	17,345	20,241	18,061	350,265	344,317	344,317
Military	667	623	616	10,410	9,882	9,882
Syphilis, primary & secondary: Civilian	528	500	457	10,770	9,562	8,804
Military	8	4	4	126	129	112
Rabies in animals	140	189	80	2,563	2,279	1,060

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	-	Poliomyelitis: Total	-
Botulism (Md. 1, Calif. 1)	21	Paralytic	-
Cholera	-	Psittacosis (Minn. 1, Ga. 1, Calif. 2)	34
Congenital rubella syndrome	4	Rabies in man	-
Leprosy (Md. 2, Tex. 1, Calif. 1)	78	Trichinosis (Mass. 1)	73
Leptospirosis (Calif. 1)	15	Typhus fever, flea-borne (endemic, murine)	6
Plague (Ariz. 1)	3		

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 16, 1981 and May 10, 1980 (19th week)

REPORTING AREA	ASEPTIC MENIN- GITIS	BRU- CEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-in- fectious	B	A	Unspecified		
						1981	1980	1981	1981	1981	1981		
UNITED STATES	86	5	8,826	-	3	13	10	1	370	433	218	29	475
NEW ENGLAND	1	-	1,112	-	-	1	1	-	15	11	12	1	24
Maine	-	-	225	-	-	-	-	-	1	-	1	-	1
N.H.	1	-	82	-	-	-	-	-	1	1	-	-	3
Vt.	-	-	100	-	-	-	-	-	1	-	-	-	2
Mass.	-	-	283	-	-	-	-	-	8	4	11	-	11
R.I.	-	-	215	-	-	1	-	-	2	2	-	-	1
Conn.	-	-	207	-	-	-	1	-	2	4	-	1	6
MID. ATLANTIC	12	-	396	-	-	3	4	-	20	8	5	5	46
Upstate N.Y.	9	-	303	-	-	2	2	-	15	8	4	-	11
N.Y. City	3	-	93	-	-	1	2	-	5	-	1	4	19
N.J.	-	-	NN	-	-	-	-	-	NA	NA	NA	1	11
Pa.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	5
E.N. CENTRAL	5	-	4,264	-	-	5	1	-	63	50	25	3	17
Ohio	-	-	305	-	-	3	-	-	13	9	5	1	4
Ind.	1	-	521	-	-	1	1	-	17	19	7	1	6
Ill.	3	-	731	-	-	1	-	-	14	10	4	1	3
Mich.	1	-	1,959	-	-	-	-	-	14	9	9	-	4
Wis.	-	-	748	-	-	-	-	-	5	3	-	-	-
W.N. CENTRAL	1	1	1,176	-	-	1	-	-	13	15	7	1	13
Minn.	-	-	6	-	-	-	-	-	3	3	-	1	4
Iowa	-	-	214	-	-	1	-	-	1	2	1	-	2
Mo.	1	-	12	-	-	-	-	-	8	3	4	-	1
N. Dak.	-	-	93	-	-	-	-	-	-	-	-	-	1
S. Dak.	-	-	17	-	-	-	-	-	-	1	-	-	1
Nebr.	-	-	73	-	-	-	-	-	1	2	-	-	-
Kans.	-	1	761	-	-	-	-	-	-	4	2	-	4
S. ATLANTIC	18	2	944	-	1	-	1	1	83	70	41	4	53
Del.	-	-	2	-	-	-	-	-	5	8	3	-	-
Md.	6	-	200	-	-	-	-	-	16	4	10	1	7
D.C.	-	-	1	-	-	-	-	-	-	-	-	-	1
Va.	2	-	27	-	-	-	-	-	9	1	4	-	10
W. Va.	-	-	214	-	-	-	-	-	1	2	1	1	3
N.C.	1	-	NN	-	-	-	-	-	5	7	5	1	4
S.C.	-	-	28	-	-	-	1	-	4	2	2	-	1
Ga.	-	-	15	-	-	-	-	-	13	15	-	-	7
Fla.	9	2	457	-	1	-	-	1	30	31	16	1	20
E.S. CENTRAL	7	-	122	-	-	-	-	-	32	46	13	-	2
Ky.	-	-	60	-	-	-	-	-	3	20	3	-	-
Tenn.	4	-	NN	-	-	-	-	-	21	14	6	-	-
Ala.	3	-	62	-	-	-	-	-	7	6	4	-	1
Miss.	-	-	-	-	-	-	-	-	1	6	6	-	1
W.S. CENTRAL	21	2	369	-	-	1	1	-	24	69	42	1	33
Ark.	1	1	4	-	-	-	-	-	2	4	4	-	1
La.	2	-	NN	-	-	-	-	-	1	4	6	-	2
Okla.	-	-	-	-	-	-	1	-	3	4	1	-	3
Tex.	18	1	365	-	-	1	-	-	20	57	31	1	27
MOUNTAIN	2	-	34	-	1	2	1	-	16	32	22	1	14
Mont.	-	-	-	-	1	-	-	-	-	7	-	-	-
Idaho	-	-	-	-	-	-	-	-	1	3	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	1	1	-	-
Colo.	1	-	-	-	-	-	1	-	4	7	-	-	4
N. Mex.	-	-	-	-	-	-	-	-	4	4	-	1	1
Ariz.	1	-	NN	-	-	2	-	-	5	5	10	-	4
Utah	-	-	30	-	-	-	-	-	2	4	8	-	2
Nev.	-	-	4	-	-	-	-	-	-	1	3	-	3
PACIFIC	19	-	409	-	1	-	1	-	102	132	51	13	273
Wash.	1	-	375	-	-	-	-	-	6	10	2	-	16
Oreg.	-	-	1	-	-	-	1	-	4	6	1	-	8
Calif.	16	-	20	-	-	-	-	-	89	113	48	13	246
Alaska	-	-	3	-	1	-	-	-	2	3	-	-	1
Hawaii	2	-	10	-	-	-	-	-	1	-	-	-	2
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
P.R.	-	-	22	-	-	-	-	-	-	10	2	1	4
V.I.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	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 16, 1981 and May 10, 1980 (19th 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	150	1,397	7,691	69	1,696	1,243	92	1,968	15	89	1,110	17
NEW ENGLAND	12	50	515	3	115	74	4	97	1	7	83	1
Maine	1	4	24	-	18	3	2	19	-	1	32	-
N.H.	-	4	235	-	11	5	1	10	-	1	18	-
Vt.	-	1	210	-	5	8	-	4	-	-	-	-
Mass.	11	35	23	1	27	25	1	27	-	2	24	-
R.I.	-	-	2	1	10	6	-	17	1	-	-	-
Conn.	-	6	15	1	44	27	-	20	-	3	9	1
MID. ATLANTIC	8	378	2,297	7	206	216	7	242	3	4	131	1
Upstate N.Y.	3	183	461	4	79	77	4	56	3	1	55	-
N.Y. City	1	30	624	-	29	62	2	35	-	1	31	1
N.J.	4	42	440	3	49	43	1	64	-	2	41	-
Pa.	NA	123	772	-	49	34	NA	87	NA	NA	4	-
E.N. CENTRAL	8	67	1,110	10	190	137	24	587	2	20	239	2
Ohio	-	15	152	2	64	52	3	87	-	-	-	-
Ind.	3	6	64	4	31	24	2	72	-	12	73	-
Ill.	5	20	191	1	46	17	6	100	2	3	61	-
Mich.	-	25	177	3	45	36	10	238	-	-	29	2
Wis.	-	1	526	-	4	8	3	90	-	5	76	-
W.N. CENTRAL	1	6	933	5	73	51	17	159	-	14	69	2
Minn.	1	3	741	-	27	14	-	5	-	-	6	1
Iowa	-	1	19	1	14	5	-	36	-	1	1	-
Mo.	-	-	59	-	18	22	4	26	-	-	3	1
N. Dak.	-	-	-	-	1	1	-	-	-	-	-	-
S. Dak.	-	-	-	-	2	4	-	1	-	-	-	-
Nebr.	-	1	59	-	-	-	-	3	-	-	1	-
Kans.	-	1	55	4	11	5	13	88	-	13	58	-
S. ATLANTIC	14	278	1,373	13	420	297	9	259	1	13	108	2
Del.	-	-	1	-	4	2	2	5	-	-	-	-
Md.	-	1	32	1	25	30	1	49	-	-	1	-
D.C.	1	1	-	-	1	1	-	-	-	-	-	-
Va.	-	3	226	5	52	22	1	61	-	1	5	-
W. Va.	-	7	7	-	17	9	1	50	-	-	16	-
N.C.	-	4	95	-	63	59	-	5	1	-	4	-
S.C.	-	-	125	-	53	40	-	6	-	-	6	1
Ga.	7	91	610	4	71	59	-	25	-	3	29	-
Fla.	6	171	277	3	134	75	4	58	-	9	47	1
E.S. CENTRAL	-	-	214	1	130	121	1	55	-	1	22	1
Ky.	-	-	34	-	41	42	1	24	-	-	12	-
Tenn.	-	-	102	-	38	27	-	18	-	1	10	-
Ala.	-	-	17	1	38	32	-	12	-	-	-	1
Miss.	-	-	61	-	13	20	-	1	-	-	-	-
W.S. CENTRAL	95	405	587	11	298	135	8	123	4	5	81	3
Ark.	-	-	11	-	20	9	-	-	-	-	-	1
La.	-	-	7	4	70	48	-	3	-	-	9	-
Okla.	-	6	466	1	25	12	-	-	-	-	-	1
Tex.	95	399	103	6	183	66	8	120	4	5	72	1
MOUNTAIN	2	21	168	1	57	45	2	79	-	3	52	1
Mont.	-	-	1	1	5	1	1	5	-	2	3	-
Idaho	-	-	-	-	3	3	-	4	-	-	2	-
Wyo.	-	-	-	-	-	2	-	1	-	-	1	-
Colo.	-	5	9	-	27	13	1	37	-	1	25	-
N. Mex.	1	4	7	-	4	6	-	-	-	-	2	-
Ariz.	-	2	109	-	12	7	-	12	-	-	11	1
Utah	-	-	39	-	4	1	-	9	-	-	3	-
Nev.	1	10	3	-	2	12	-	11	-	-	5	-
PACIFIC	10	192	494	18	207	167	20	367	4	22	325	4
Wash.	-	1	135	1	38	27	8	111	1	1	52	-
Oreg.	-	1	-	2	27	33	-	43	1	-	19	-
Calif.	10	188	350	15	134	105	12	200	2	21	250	4
Alaska	-	-	5	-	4	2	-	4	-	-	-	-
Hawaii	-	2	4	-	4	-	-	9	-	-	4	-
Guam	NA	1	3	-	-	1	NA	1	NA	NA	-	-
P.R.	9	152	52	1	5	7	9	65	-	-	3	-
V.I.	NA	4	5	-	-	1	NA	4	NA	NA	-	-
Pac. Trust Terr.	NA	-	4	-	-	-	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 16, 1981 and May 10, 1980 (19th week)

REPORTING AREA	TUBERCULOSIS		TULA REMIA	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	
UNITED STATES	600	9,489	51	8	163	35	112	17,345	350,265	344,317	528	10,770	9,562	2,563
NEW ENGLAND	21	267	-	-	8	-	1	506	8,580	8,917	11	235	205	9
Maine	-	20	-	-	-	-	-	31	440	533	-	1	3	6
N.H.	-	2	-	-	-	-	-	17	315	300	-	7	1	1
Vt.	1	9	-	-	-	-	-	7	145	224	-	13	3	-
Mass.	15	150	-	-	6	-	1	193	3,484	3,630	10	150	112	-
R.I.	1	17	-	-	-	-	-	25	435	520	-	16	13	-
Conn.	4	69	-	-	2	-	-	233	3,761	3,710	1	52	73	2
MID. ATLANTIC	91	1,578	10	2	29	-	3	1,746	41,121	37,844	81	1,679	1,367	9
Upstate N.Y.	25	274	10	1	5	-	1	503	6,856	6,724	-	145	105	8
N.Y. City	42	635	-	1	18	-	2	1,150	17,252	14,937	66	1,057	892	-
N.J.	24	327	-	-	2	-	-	93	8,026	7,072	15	212	181	-
Pa.	NA	342	-	NA	4	NA	-	NA	8,987	9,111	NA	265	189	1
E.N. CENTRAL	90	1,245	1	-	10	-	1	1,865	51,858	54,390	19	641	925	316
Ohio	10	227	-	-	-	-	1	652	19,121	14,680	10	100	150	24
Ind.	10	77	-	-	-	-	-	180	4,729	5,382	2	67	83	16
Ill.	57	537	-	-	4	-	-	266	12,114	17,129	-	298	503	250
Mich.	9	341	1	-	4	-	-	536	11,328	11,873	5	138	149	1
Wis.	4	63	-	-	2	-	-	231	4,566	5,326	2	38	40	25
W.N. CENTRAL	13	325	4	1	5	-	5	821	16,614	14,861	10	191	110	1,098
Minn.	3	47	-	-	1	-	-	102	2,596	2,638	3	72	38	199
Iowa	-	38	-	1	2	-	-	78	1,713	1,685	-	9	8	351
Mo.	8	145	3	-	1	-	2	347	7,569	6,090	5	91	57	92
N. Dak.	-	16	-	-	-	-	-	11	224	221	-	3	-	168
S. Dak.	-	24	-	-	1	-	-	41	487	457	-	2	1	136
Nebr.	1	9	1	-	-	-	-	75	1,305	1,287	-	3	3	72
Kans.	1	46	-	-	-	-	3	167	2,720	2,483	2	11	3	80
S. ATLANTIC	143	2,124	6	-	23	20	48	4,011	86,882	83,800	172	2,897	2,279	142
Del.	7	30	1	-	-	-	-	78	1,284	1,139	-	7	5	-
Md.	20	209	-	-	7	1	6	461	9,511	8,874	12	226	158	1
D.C.	NA	121	-	-	1	-	-	199	5,519	5,915	14	255	157	-
Va.	18	221	-	-	1	4	5	359	7,949	7,095	23	288	198	21
W. Va.	4	72	-	-	3	-	-	54	1,311	1,120	-	7	8	6
N.C.	22	376	1	-	1	5	10	732	13,546	12,376	9	214	173	1
S.C.	12	188	2	-	-	8	20	346	8,318	7,971	8	199	113	11
Ga.	23	346	2	-	1	2	6	849	17,314	15,552	42	730	686	70
Fla.	37	561	-	-	5	-	-	933	22,130	23,758	64	971	781	32
E.S. CENTRAL	24	809	2	1	5	2	14	1,547	29,346	27,882	44	726	765	171
Ky.	12	220	2	-	-	-	2	175	3,763	4,070	4	33	59	52
Tenn.	7	264	-	-	1	1	6	784	10,943	9,789	17	291	302	98
Ala.	5	225	-	-	2	-	1	330	9,239	8,166	13	193	156	21
Miss.	-	100	-	1	2	1	5	258	5,401	5,857	10	209	248	-
W.S. CENTRAL	122	1,007	18	-	14	13	38	2,269	47,158	44,114	90	2,566	1,793	501
Ark.	7	95	9	-	-	3	9	102	3,274	3,223	-	50	61	75
La.	19	201	2	-	-	-	-	296	7,412	7,642	-	553	432	15
Okla.	17	120	5	-	3	9	22	213	4,815	4,381	3	69	29	81
Tex.	79	591	2	-	11	1	7	1,568	31,657	28,868	87	1,894	1,271	330
MOUNTAIN	20	260	8	1	10	-	2	786	14,100	13,278	19	277	210	58
Mont.	-	20	2	-	4	-	-	15	510	494	-	8	1	42
Idaho	-	5	2	-	-	-	-	43	577	631	-	2	7	-
Wyo.	-	2	1	-	-	-	-	21	314	388	1	4	7	2
Colo.	3	22	2	-	3	-	-	244	3,748	3,484	11	90	58	1
N. Mex.	6	54	-	-	-	-	-	72	1,521	1,687	7	60	38	10
Ariz.	5	117	-	1	3	-	-	194	4,410	3,689	-	51	62	3
Utah	2	16	1	-	-	-	-	39	662	628	-	7	5	-
Nev.	-	24	-	-	-	-	-	158	2,358	2,277	-	55	32	-
PACIFIC	76	1,874	2	3	59	-	-	3,794	54,606	59,231	82	1,554	1,908	259
Wash.	7	160	1	-	3	-	-	344	4,482	4,833	-	37	98	-
Oreg.	-	64	-	-	3	-	-	181	3,679	4,151	2	37	43	2
Calif.	69	1,577	1	3	53	-	-	3,141	43,954	47,553	80	1,445	1,698	244
Alaska	-	15	-	-	-	-	-	84	1,417	1,393	-	4	2	13
Hawaii	-	58	-	-	-	-	-	44	1,074	1,301	-	31	67	-
Guam	NA	-	-	NA	-	NA	-	NA	14	50	NA	-	-	-
P.R.	NA	105	-	-	3	-	-	83	1,199	953	3	258	202	27
V.I.	NA	1	-	NA	1	NA	-	NA	45	66	NA	3	7	-
Pac. Trust Terr.	NA	21	-	NA	-	NA	-	NA	113	161	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 16, 1981 (19th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P & I** TOTAL
	ALL AGES	>65	45-64	25-44	1-24	<1			ALL AGES	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	637	418	157	35	13	14	36	S. ATLANTIC	1,245	744	296	112	42	51	37
Boston, Mass.	174	111	43	12	5	3	20	Atlanta, Ga.	106	64	18	13	9	2	4
Bridgeport, Conn.	40	22	13	2	2	1	2	Baltimore, Md.	183	113	48	12	4	6	2
Cambridge, Mass.	25	17	6	1	1	—	1	Charlotte, N.C.	62	45	8	4	3	2	2
Fall River, Mass.	27	22	5	—	—	—	—	Jacksonville, Fla.	92	53	20	8	5	6	4
Hartford, Conn.	61	33	17	6	1	4	3	Miami, Fla.	194	106	55	18	6	9	3
Lowell, Mass.	21	12	7	1	1	—	—	Norfolk, Va.	57	30	19	2	3	3	3
Lynn, Mass.	17	13	4	—	—	—	—	Richmond, Va.	61	29	27	3	—	2	6
New Bedford, Mass.	25	17	7	—	—	1	1	Savannah, Ga.	35	24	8	1	—	2	1
New Haven, Conn.	50	35	8	5	1	1	3	St. Petersburg, Fla.	84	75	6	2	1	—	2
Providence, R.I.	71	45	22	3	—	1	2	Tampa, Fla.	72	49	14	5	—	4	8
Somerville, Mass.	11	10	1	—	—	—	—	Washington, D.C.	247	132	56	40	7	12	5
Springfield, Mass.	39	19	14	2	1	3	—	Wilmington, Del.	52	24	17	4	4	3	—
Waterbury, Conn.	29	27	2	—	—	—	—								
Worcester, Mass.	47	35	8	3	1	—	3								
								E.S. CENTRAL	641	411	156	39	15	20	31
MID. ATLANTIC	2,706	1,788	611	158	79	70	116	Birmingham, Ala.	91	58	21	8	1	3	2
Albany, N.Y.	39	27	6	4	1	1	1	Chattanooga, Tenn.	51	32	12	4	2	1	2
Allentown, Pa.	22	16	6	—	—	—	—	Knoxville, Tenn.	52	40	10	—	2	—	1
Buffalo, N.Y.	150	90	46	6	4	4	15	Louisville, Ky.	97	58	28	6	1	4	11
Camden, N.J.	49	28	16	1	—	4	1	Memphis, Tenn.	145	94	36	8	3	4	8
Elizabeth, N.J.	34	18	12	1	2	1	1	Mobile, Ala.	84	56	22	5	1	—	1
Erie, Pa.†	47	32	12	2	—	1	1	Montgomery, Ala.	36	19	7	4	1	5	—
Jersey City, N.J.	44	32	5	4	—	3	1	Nashville, Tenn.	85	54	20	4	4	3	5
N.Y. City, N.Y.	1,304	890	265	87	41	21	43								
Newark, N.J.	43	20	13	7	2	1	4	W.S. CENTRAL	1,318	751	328	113	71	54	52
Paterson, N.J.	31	23	5	3	—	—	—	Austin, Tex.	52	32	11	3	6	—	2
Philadelphia, Pa.	510	304	135	27	16	28	22	Baton Rouge, La.	43	25	12	1	3	2	4
Pittsburgh, Pa.†	72	48	20	1	2	1	2	Corpus Christi, Tex.	35	21	4	4	2	4	—
Reading, Pa.	35	24	9	—	2	—	—	Dallas, Tex.	194	119	42	18	7	8	2
Rochester, N.Y.	117	91	15	6	3	2	10	El Paso, Tex.	50	35	8	3	2	2	3
Schenectady, N.Y.	19	14	3	1	1	—	—	Fort Worth, Tex.	95	55	27	4	3	6	10
Scranton, Pa.†	30	21	7	2	—	—	6	Houston, Tex.	362	185	99	48	22	8	7
Syracuse, N.Y.	92	60	22	5	3	2	2	Little Rock, Ark.	72	42	18	4	3	5	1
Trenton, N.J.	25	19	4	—	1	1	1	New Orleans, La.	129	73	32	11	5	8	6
Utica, N.Y.	25	17	8	—	1	—	—	San Antonio, Tex.	153	88	45	9	6	5	6
Yonkers, N.Y.	18	14	2	1	1	—	1	Shreveport, La.	44	25	12	1	4	2	1
								Tulsa, Okla.	89	51	18	7	8	4	8
E.N. CENTRAL	2,330	1,406	571	159	88	106	64	MOUNTAIN	605	373	135	48	29	20	30
Akron, Ohio	55	38	10	3	1	3	2	Albuquerque, N. Mex.	83	42	23	11	7	—	3
Canton, Ohio	37	24	10	2	1	—	4	Colo. Springs, Colo.	23	16	5	2	—	—	0
Chicago, Ill.	559	310	150	46	20	33	6	Denver, Colo.	133	83	33	10	4	3	3
Cincinnati, Ohio	144	89	32	6	6	11	14	Las Vegas, Nev.	65	35	14	5	7	4	3
Cleveland, Ohio	163	99	42	12	6	4	2	Ogden, Utah	28	18	5	3	—	—	—
Columbus, Ohio	133	72	48	7	3	3	1	Phoenix, Ariz.	114	78	19	10	4	3	3
Dayton, Ohio	102	68	19	10	3	2	2	Pueblo, Colo.	21	16	5	—	—	—	—
Detroit, Mich.	304	166	82	29	9	18	6	Salt Lake City, Utah	47	25	10	3	4	5	1
Evansville, Ind.	49	32	8	3	4	2	4	Tucson, Ariz.	91	60	21	4	3	3	5
Fort Wayne, Ind.	50	31	11	3	2	4	—								
Gary, Ind.	16	11	4	—	1	—	—	PACIFIC	1,738	1,108	401	119	53	57	54
Grand Rapids, Mich.	62	43	10	1	6	2	4	Berkeley, Calif.	20	10	6	2	—	—	1
Indianapolis, Ind.	180	92	59	10	8	11	2	Fresno, Calif.	53	40	5	6	—	—	1
Madison, Wis.	39	27	6	1	2	3	6	Glendale, Calif.	29	17	10	1	—	—	1
Milwaukee, Wis.	138	95	27	11	4	1	5	Honolulu, Hawaii	61	40	13	4	—	—	4
Peoria, Ill.	39	27	8	1	2	1	5	Long Beach, Calif.	96	59	24	7	2	4	3
Rockford, Ill.	33	22	6	2	2	1	1	Los Angeles, Calif.	470	299	102	40	20	9	12
South Bend, Ind.	48	37	5	2	2	2	4	Oakland, Calif.	82	50	18	5	6	4	1
Toledo, Ohio	115	83	20	6	4	2	4	Pasadena, Calif.	33	23	7	2	—	—	2
Youngstown, Ohio	64	40	14	4	1	5	1	Portland, Ore.	121	73	29	9	4	6	1
								Sacramento, Calif.	84	57	19	—	3	5	2
W.N. CENTRAL	727	469	157	50	23	28	36	San Diego, Calif.	122	77	45	11	7	3	2
Des Moines, Iowa	60	41	13	5	1	—	1	San Francisco, Calif.	151	92	45	11	2	1	5
Duluth, Minn.	19	14	3	—	2	—	2	San Jose, Calif.	162	105	31	13	8	5	8
Kansas City, Kans.	42	24	11	5	1	1	3	Seattle, Wash.	150	95	40	7	—	—	2
Kansas City, Mo.††	1,019	73	27	5	1	3	3	Spokane, Wash.	50	33	12	2	1	2	7
Lincoln, Neb.	30	18	8	2	2	—	—	Tacoma, Wash.	54	38	13	2	—	—	1
Minneapolis, Minn.	93	62	16	3	2	10	3								
Omaha, Neb.	97	63	21	6	4	3	6								
St. Louis, Mo.	156	96	32	18	2	8	14								
St. Paul, Minn.	69	50	9	5	2	2	1								
Wichita, Kans.	53	28	17	1	6	1	5	TOTAL	11,947	7,468	2,812	833	413	420	456

*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.

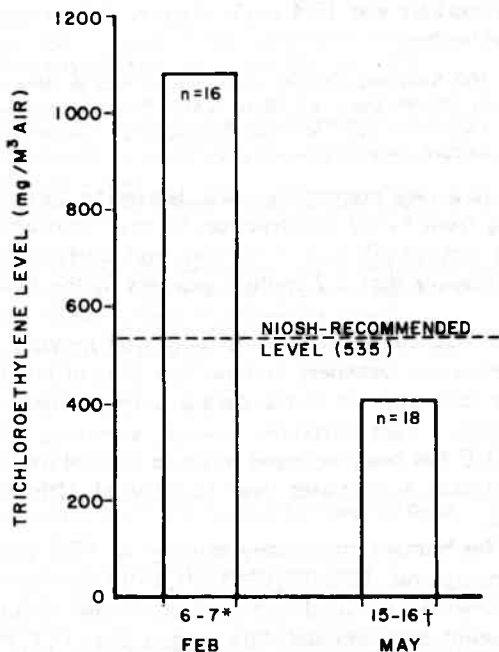
††Data not available this week. Figures are estimates based on average percent of regional totals.

Trichloroethylene Exposure – Continued

In November 1979, to assess community exposure to TCE, investigators from CDC screened 13 residents of Montgomery County and, later, 117 residents of neighboring Bucks County for urinary metabolites of TCE. Although TCE metabolites were detected in the urine samples of 2 (15.4%) of the 13 Montgomery County residents and in samples of 7 (6.0%) of the 117 persons surveyed from Bucks County, levels were generally low. These low levels may reflect the residents' use of alternate water sources and the long period of time between the TCE spill and the survey; most TCE ingested after the spill would already have been excreted. The highest urinary concentration (615 milligrams/liter [mg/l]) of TCE metabolites was that of a man who worked at a grease-removing (degreasing) station in the plant at which TCE had been spilled in July. That finding prompted further investigation of the tube plant.

Investigators from the National Institute for Occupational Safety and Health (NIOSH) evaluated the exposure at the plant on February 5-7, 1980. They obtained personal (breathing-zone) and area air samples in order to measure TCE vapor (Figure 1), reviewed work practices, conducted medical interviews with workers, and obtained urine samples at the beginning and end of each work shift in order to measure TCE metabolites. NIOSH found that the time-weighted-average (TWA) exposure to TCE vapor for the operator at 1 degreasing station was 205 milligrams per cubic meter (mg/M^3) of air; measured values at that site ranged from 117-357 mg/M^3 . NIOSH recommends that TWA exposure

FIGURE 1. Average results of analyzing 5- to 15-minute breathing-zone air samples for trichloroethylene, Pennsylvania, February 6-7 and May 15-16, 1980



n = number tested.

*Range 413-2000.

†Range 56-1520.

Trichlorethylene Exposure — Continued

to TCE not exceed 134 mg/M³. Short-term peak exposures at the same degreasing station ranged as high as 2,000 mg/M³; NIOSH recommends a short-term exposure limit of 535 mg/M³. TWA and peak exposures to TCE of other workers tested were within recommended limits.

Measured exposures of workers to other solvents used were also within recommended limits. Seven of the 9 workers exposed to TCE reported symptoms of sleepiness, lightheadedness, nausea, cough, and eye irritation. None of the 9 unexposed workers had had any of those symptoms. The concentration of total TCE metabolites in the urine of the 9 exposed workers rose from 297.5 mg/l pre-shift to 479.9 mg/l post-shift, indicating that TCE had been absorbed by workers during work hours.

As a result of those findings, NIOSH made recommendations to plant management in late February and again in April for improving work practices and ventilation. As a secondary measure, NIOSH made recommendations regarding the proper use of personal respiratory protective equipment.

In May 1980, after most of those recommendations had been implemented, NIOSH re-evaluated TCE exposures. All TWA exposures to TCE had fallen to within recommended limits (range: 37-114 mg/M³). However, TCE vapor concentrations in 4 of 18 short-term samples still exceeded the recommended short-term exposure limit. Seven of 11 workers exposed to TCE reported persistent fatigue and respiratory irritation, as did 2 of 9 controls. However, symptoms were less severe, and the average number of symptoms per degreasing-station worker had declined from 4.2 in February to 1.5 in May. The level of urinary excretion of TCE metabolites had declined to 69.2 mg/l pre-shift and to 94.9 mg/l post-shift for exposed workers. The post-shift excretion level of TCE metabolites for unexposed workers was 16.4 mg/l. Results of liver and kidney-function tests were all within normal limits.

Reported by L. Pearson, MD, Southeast District State Dept of Health (Montgomery County), E Lindemuth, MD, Bucks County Health Dept, E J Witte, VMD, State Epidemiologist, Pennsylvania State Dept of Health; Hazard Evaluation and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, Chronic Diseases Div, Center for Environmental Health, CDC.

Editorial Note: TCE is a very commonly used degreasing agent in American industry. In operations ranging from heavy construction to the manufacture of microcomputer circuits, it is used to remove oils and impurities from surfaces to be soldered, welded, or coated. NIOSH estimates that 2.7 million workers in the United States may be exposed to TCE (1).

Acute exposure to TCE causes symptoms of central nervous system depression, including drowsiness, dizziness, weakness, tremor, loss of coordination, and mental confusion. Severe exposure can result in coma, cardiac arrhythmias, and death. Other toxic effects include respiratory-tract irritation, nausea, vomiting, abdominal cramps, and liver abnormalities. TCE has been reported to cause alcohol intolerance, which leads to flushed skin. Also, alcohol potentiates liver toxicity of TCE in mice and alters TCE metabolism in humans.

The toxic effects for humans chronically exposed to TCE, particularly at low levels, are not adequately understood. TCE (Cl₂C=CHCl) is structurally similar to vinyl chloride (H₂C=CHCl) and to other halogenated hydrocarbons known or presumed to be carcinogens (2). However, recent experimental data suggest that TCE may be a much weaker carcinogen than vinyl chloride (3); the only carcinogenicity tests that have been positive are those done with mice (4). A recent cohort mortality study of workers exposed to

Trichloroethylene Exposure – Continued

TCE revealed no excess cancer mortality, although, because of the small number of deaths, that study cannot be considered definitive (5).

References

1. National Institute for Occupational Safety and Health. National occupational hazard survey. Vol. 3. Survey analysis and supplemental tables. Cincinnati: National Institute for Occupational Safety and Health, 1977. (DHEW publication no. [NIOSH] 78-114).
2. Infante PF, Marlow PB. Evidence for the carcinogenicity of selected halogenated hydrocarbons including ethylene dichloride. In: Ames B, Infante PF, Reitz R, eds. Banbury report #5—ethylene dichloride: a potential health risk? New York: Cold Spring Harbor Laboratory, 1980:287-308.
3. Laid RJ, Stockle G, Bolt HM, Kunz W. Vinyl chloride and trichloroethylene: comparison of alkylating effects of metabolites and induction of preneoplastic enzyme deficiencies in rat liver. *J Cancer Res Clin Oncol* 1979;94:139-47.
4. National Cancer Institute. Carcinogenesis bioassay of trichloroethylene. Bethesda, Md.: National Cancer Institute, 1976. (Technical report series; NCI-CG-TR no. 2) (DHEW publication no. [NIH] 76-802).
5. Axelson O, Andersson K, Hogstedt C, Holmberg B, Molina G, de Verdier A. A cohort study on trichloroethylene exposure and cancer mortality. *J Occup Med* 1978;20:194-6.

*International Notes***Quarantine Measures**

The following changes should be made in the "Supplement-Health Information for International Travel," *Morbidity and Mortality Weekly Report*, Vol. 28, July 1979:

AMERICAN SAMOA

Yellow fever - Delete: None. Insert code II > 1 yr. ALSO on page 10 delete: None. Insert code II.

AUSTRALIA

Yellow fever - Under code insert > 1 yr.

Smallpox - Delete all information. Insert: None. ALSO on page 10 delete code. Insert: None.

BANGLADESH

Yellow fever - Africa: Delete: Central African Empire. Insert: Central African Republic.

Smallpox - Delete all information. Insert: A certificate is required ONLY from travelers (except tourists) leaving Bangladesh. ALSO on page 10 delete code. Insert*.

INSERT: BHUTAN. ALSO insert on page 10.

Cholera - None.

Yellow fever - None.

Smallpox - None.

BOTSWANA

Yellow fever - Under code insert > 1 yr.

Smallpox - Delete all information. Insert: None. ALSO on page 10 delete code. Insert: None.

BURUNDI

Yellow fever - Delete note. ALSO on page 11 delete*.

Smallpox - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.

CENTRAL AFRICAN EMPIRE

Change name to CENTRAL AFRICAN REPUBLIC. ALSO on page 11 change name to Central African Republic.

Smallpox - Delete code. Insert: None. ALSO on page 11 delete code. Insert: None.

*Quarantine Measures — Continued***CHINA, PEOPLE'S REPUBLIC OF***Cholera* - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.*Yellow fever* - Delete note. ALSO on page 11 delete * by code.*Smallpox* - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.**CHINA, REPUBLIC OF (TAIWAN)**

Insert note: No official information has been received. These recommendations are made.

Cholera - ALSO on page 11 insert * by code.*Yellow fever* - ALSO on page 11 insert * after None.*Smallpox* - Delete code. Insert: None. ALSO on page 11 delete code. Insert: None *.**CHRISTMAS ISLAND (Indian Ocean)***Yellow fever* - Under code insert > 1 yr.*Smallpox* - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.**COOK ISLANDS***Cholera* - Delete: None. Insert code II. ALSO on page 11 delete: None. Insert code II.*Smallpox* - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.**CUBA***Yellow fever* - Africa: Delete Central African Empire. Insert: Central African Republic.*Smallpox* - Delete all information. Insert: None. ALSO on page 11 delete code. Insert: None.**EQUADOR***Smallpox* - Delete code. Insert: A certificate is required ONLY from travelers arriving from:

Africa: Ethiopia, Somalia (isolated areas)

ALSO on page 12 delete code. Insert *.

EGYPT*Yellow fever* - Africa: Delete Central African Empire. Insert Central African Republic.*Smallpox* - Delete all information. Insert: None. ALSO on page 12 delete code. Insert: None.**FIJI***Cholera* - Delete code. Insert: None. ALSO on page 12 delete code. Insert: None.*Smallpox* - Delete all information. ALSO on page 12 delete code. Insert: None.**GABON***Yellow fever* - Change code to II. ALSO on page 12 change code to II.*Smallpox* - Delete all information. Insert: None. ALSO on page 12 delete code. Insert: None.**GAMBIA***Yellow fever* - Delete all information. Insert code I. ALSO on page 12 change code to I.*Smallpox* - Delete all information. Insert: None. ALSO on page 12 delete code. Insert: None.**GUINEA-BISSAU***Yellow fever* - Africa: Delete Central African Empire. Insert Central African Republic.*Smallpox* - Delete all information. Change note to: A certificate is required ONLY from travelers arriving from:

Africa: Ethiopia, Somalia

Asia: Bangladesh, India, Pakistan

ALSO on page 13 delete code. Insert *.

GUYANA*Yellow fever* - Africa: Delete Central African Empire. Insert Central African Republic.*Smallpox* - Delete all information. Insert: None. ALSO on page 13 delete code. Insert: None.**INDIA***Yellow fever* - Change first sentence of the note to: A certificate is required ALSO from travelers arriving from or transiting:

Africa: Delete Central African Empire. Insert Central African Republic.

Smallpox - Delete code. Insert: None. ALSO on page 13 delete code. Insert: None.**INSERT: KIRIBATI.** ALSO insert on page 14.*Cholera* - None.

*Quarantine Measures — Continued**Yellow fever* - II > 1 yr.*Smallpox* - None.

INSERT: KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF (NORTH). ALSO insert on page 14.

Cholera - None.*Yellow fever* - None.*Smallpox* - None.**KOREA, REPUBLIC OF (SOUTH)***Cholera* - Delete: None. Insert code II > 1 yr. ALSO on page 14 delete: None. Insert code II.*Smallpox* - Delete all information. Insert: None. ALSO on page 14 delete code. Insert: None.**KUWAIT***Cholera* - Delete note. Insert: None. ALSO on page 14 delete *. Insert: None.*Smallpox* - Delete all information. Insert: A certificate is required ONLY from travelers arriving from:Africa: Djibouti, Ethiopia, Somalia
ALSO on page 14 delete code. Insert *.**MALTA***Yellow fever* - Delete note. Insert: Children under 6 months of age arriving from an infected area may be subject to isolation or surveillance.*Smallpox* - Delete all information. Insert: None. ALSO on page 15 delete code. Insert: None.**NAURU***Cholera* - Delete all information. Insert: None. ALSO on page 15 delete code. Insert: None.*Smallpox* - Delete all information. Insert: None. ALSO on page 15 delete code. Insert: None.**NEW HEBRIDES***Yellow fever* - Delete all information. Insert: None. ALSO on page 15 delete code. Insert: None.*Smallpox* - Delete all information. Insert: None. ALSO on page 15 delete code. Insert: None.**PANAMA***Smallpox* - Delete all information. Insert: A certificate is required ONLY from travelers who within the preceding 30 days have been in or transited:

Africa: Ethiopia

ALSO on page 16 delete code. Insert *.

PITCAIRN ISLAND*Cholera* - Delete code. Insert: None. ALSO on page 16 delete code. Insert: None.*Smallpox* - Delete all information. Insert: None. ALSO on page 16 delete code. Insert: None.**POLAND***Smallpox* - Delete all information. Insert: A certificate is required ONLY from travelers who within the preceding 14 days have been in:

Africa: Ethiopia, Kenya, Somalia, Sudan

ALSO on page 16 delete code. Insert *.

QATAR*Cholera* - Delete code. Insert: None. ALSO on page 16 delete code. Insert: None.*Yellow fever* - Under code insert > 1 yr.*Smallpox* - Delete code. Insert: None. ALSO on page 16 delete code. Insert: None.

The Morbidity and Mortality Weekly Report, circulation 118,223, is published by the Centers for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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

Send mailing list additions, deletions and address changes to: Attn: Distribution Services, Management Analysis and Services Office, 1-SB-419, Centers for Disease Control, Atlanta, Georgia 30333. When requesting changes be sure to give your former address, including zip code and mailing list code number, or send an old address label.

Clarification, Vol. 30, No. 17

p198. In the article, "Multiply Resistant Pneumococcus — Colorado," the Field Services Division, Epidemiology Program Office, was inadvertently omitted from the credits. In addition, the last sentence in the final paragraph of the Editorial Note needs clarification. Please delete that sentence, replacing it with the following: "The currently available pneumococcal vaccine contains 50 µg of 6A capsular polysaccharide antigen. Antibody to 6B polysaccharide has been found when polyvalent vaccine containing 6A polysaccharide has been administered to volunteers. (6).

Reference

6. Robbins JB, Lee CJ, Rastogi SC, Henricksen J. Comparative immunogenicity of group 6 pneumococcal type 6A (6) and type 6B (26) capsular polysaccharides. *Infect Immun* 1979;26:1116-22.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE / CENTERS FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333 **OFFICIAL BUSINESS**

Director, Centers for Disease Control
William H. Foege, M.D.
Director, Epidemiology Program Office
Philip S. Brachman, M.D.
Editor
Michael B. Gregg, M.D.
Managing Editor
Anne D. Mather, M.A.
Mathematical Statistician
Keewhan Choi, Ph.D.

Postage and Fees Paid
U.S. Department of HHS
HHS 396

