

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

- 13 Military to Civilian Transmission of Measles — Illinois, Nebraska
- 15 Successful Programs to Prevent Pregnancy in Adolescents
- 21 Measles and Measles Vaccine Reactions Among College Students — Wisconsin
- 23 Asbestos Exposure — Globe, Arizona
- 23 Current Trends
- 23 Influenza — United States

Epidemiologic Notes and Reports

JAN 18 1980

Military to Civilian Transmission of Measles — Illinois, Nebraska

In several states, detailed case investigations of the source and spread associated with each reported case of measles have become an important component of efforts to eliminate the disease. During 1979, cases or outbreaks of measles among civilians and military dependents were traced to exposures to military personnel at bases in Alabama, Georgia, Illinois, Kentucky, and Missouri. Below are details of such outbreaks in 2 states—Illinois and Nebraska.

Illinois: On November 9, a 27-year-old pregnant employee at a day-care center at the Great Lakes Naval Base in Lake County, Illinois, had onset of a measles-like rash. Two weeks before, she had visited a dispensary for ill recruits located on the base, where her husband worked; several measles cases had been seen there. This employee normally worked with older children, but on November 7, during her prodrome, she substituted in the room where children aged 6-18 months are cared for.

By December 31, a total of 16 cases had occurred among enrolled children at the day-care center, which has a regular attendance of 157 (Figure 1A). The outbreak was almost entirely confined to the 13 unimmunized children 6-18 months of age who regularly attended the day-care center: they had an attack rate of 77%. Only 6 cases occurred in the older, regularly enrolled children, and 2 cases in children who attended irregularly. The overall vaccination level among enrolled children older than 15 months exceeded 95%. Subsequently, a second outbreak of 8 cases occurred at a local elementary school (School A, Figure 1A). The apparent source was a 6-year-old girl who attended both the day-care center and the school. She had been vaccinated at 9 months of age.

On October 27, a 5-year-old girl from a different elementary school (School B) was hospitalized for measles at the Navy Regional Medical Center (NRMC) located on the base. On October 11, while visiting NRMC for another medical problem, she was presumably exposed to other measles patients. Ten additional cases occurred in her schoolmates and playmates (Figure 1B).

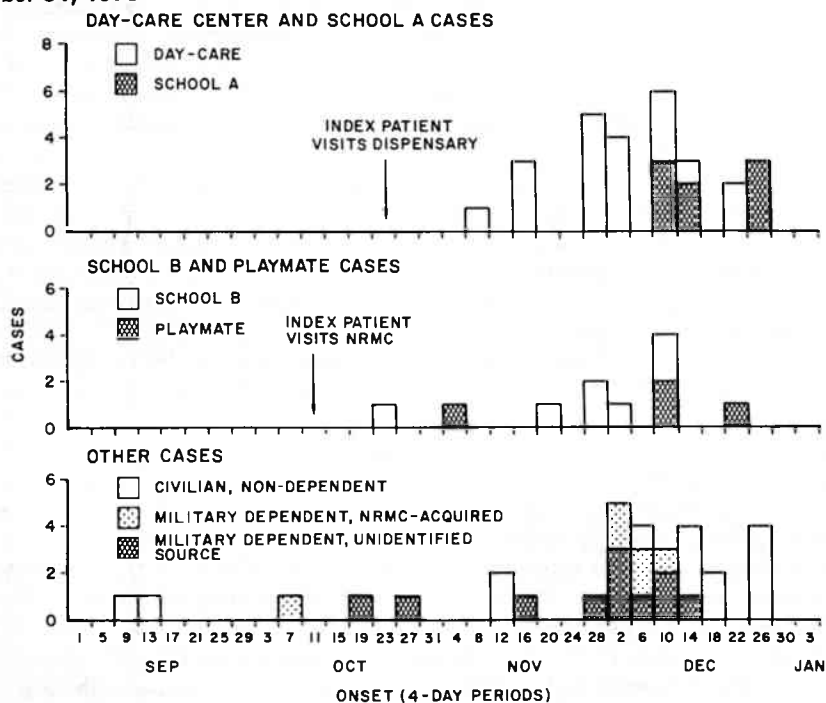
Further investigation revealed that measles was endemic at the base among recruits and other young trainees during 1979. Measles in military personnel accounted for 153 of the 165 cases (93%) reported by Lake County through August 1979. Several additional instances of probable spread from this military focus to the civilian population were uncovered. Six unrelated cases in military dependents are believed to have been acquired at the NRMC. There was no known secondary spread. All 6 were in military dependents (Figure 1C). Four of these—2 hospitalized dependents and 2 young adults who visited hospitalized patients—are thought to have been exposed to recruits hospitalized for measles. The other 2 were children who attended the NRMC outpatient pediatric clinic and presumably were exposed there to children from the day-care center who were being treated for measles.

Transmission of Measles – Continued

Eleven other cases were found among military dependents, but no source or direct link with the cases occurring at the base was established. However, the majority of these cases occurred in late November and early December, when the increase in cases at the day-care center and at Schools A and B was occurring (Figure 1C). Only 14 out of a total of 69 cases (excluding recruits and other trainees) occurring in Lake County since September 1, 1979, did not have a relationship to the base (Figure 1C).

Immediate control measures were instituted. At the day-care center, children as young as 6 months were immunized. At affected schools in Lake County, all unimmunized susceptibles were identified and excluded from school. In addition, the Navy recently began measles vaccination of all new recruits and trainees at this base.

FIGURE 1. Measles cases, Lake County, Illinois, by date of onset of rash, September 9-December 31, 1979



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Nebraska: An 18-year-old man from York County, Nebraska, attended a National Guard summer camp at Fort Leonard Wood, Missouri, from May 29 to August 25. In August there were at least 3 serologically confirmed cases of measles among Army recruits at the Fort, and several cases of rash illness suspected to be measles. The guardsman developed a fever, cough, coryza, and conjunctivitis while en route to his home, and on September 2 had onset of a rash that lasted 5 days. Exactly 2 weeks later, his 15-year-old sister had onset of rash. Three of her close friends at York High School also developed

Transmission of Measles — Continued

a rash illness within the next 2 weeks, and 2 of these cases were serologically confirmed as measles.

Nebraska had been measles-free since June 1978. As a result of this introduction, an outbreak of 38 cases occurred in York County between September 2 and November 7. Nine cases were serologically confirmed, and 28 occurred in the York High School population. Subsequently, measles was reported in at least 3 neighboring counties.

Reported by V Kaeding, RN, York County Public Schools; J Cepure, RN, C Newlon, RN, PA Stoesz, MD, State Epidemiologist, Nebraska State Dept of Health; Immunization Div, Bur of State Services, CDC.

Editorial Note: Military bases have had significant problems with endemic measles and rubella for many years (1-3), with occasional documentation of transmission to the civilian population (4). The Navy day-care center outbreak described in this report is similar to an Air Force child-care center outbreak described earlier this year in Texas (5), and to an outbreak among very young children reported in May from an Army base in Kentucky. Subsequently, the Air Force has successfully controlled measles at Lackland Air Force Base by immunizing all susceptible recruits shortly after they begin training (6).

The Great Lakes Naval Training Center has undertaken a mass vaccination campaign of all new recruits and trainees to contain the current outbreak in Lake County, Illinois. The Department of Defense does not have a service-wide policy mandating routine immunization of susceptible recruits against measles.

References

1. Cooch JW. Measles in U.S. Army recruits. *Am J Dis Child* 1962;103:264-66.
2. Pollard RB, Edwards EA. Epidemiologic survey of rubella in a military recruit population. *Am J Epidemiol* 1975;101:431-37.
3. *MMWR* 1979;28:147.
4. Schaffner W. Clinical epidemiology of sporadic measles in a highly immunized population. *N Engl J Med* 1968;279:783-89.
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6. *MMWR* 1979;28:553.

Successful Programs to Prevent Pregnancy in Adolescents

In an attempt to determine whether or not health agencies can mount a successful program to prevent adolescent pregnancy, CDC contacted a large number of state, local, public, and private agencies which would be expected to have programs of this type. Several programs were visited. Four of them, which either had a demonstrated effect on the pregnancy or childbearing rate of the teenagers in their target areas or were unique in their intensive approach to the problem, are detailed below (1,2).*

The most intensive and effective program is that operated by the St. Paul Maternal and Infant Care (MIC) Project. This group has operated a multi-service health clinic within 1 or more of St. Paul's high schools since 1973.

The clinic is administratively separate from the school, and all records are private. One of the more active services is contraception counseling, screening, and examination. Contraceptives are not dispensed at the school. Teenagers using contraceptives are followed monthly; students who miss appointments are followed up.

Since the program was begun, the rate at which teenagers drop out of school after delivering their babies has fallen from 45% to less than 10%. All young mothers who have remained in school have accepted contraception. There were no repeat pregnancies through 1978. The fertility rate fell significantly: from 79 births per 1,000 female students in the 1972-73 school year to 35 per 1,000 in the 1975-76 school year ($p < 0.01$).

*A more complete description of these and other programs was recently published in *Advances in Planned Parenthood* (2).

Adolescent Pregnancy — Continued

There have been very few induced abortions. The clinic staff is aware of no accidental pregnancies among women using contraception.

Two other communities that have brought programs aimed at preventing pregnancy to the students in their schools are San Bernardino, California, and a small city in western Massachusetts. The San Bernardino County Health Department runs a Youth Counseling and Referral Program, which consists of one-to-one counseling sessions with teenage women who have visited the health department for a pregnancy test or abortion referral. One of 4 full-time social workers visits the teenager within 1 week of the health department visit. Held at the school, the counseling session covers such subjects as rumors about the side effects of contraception and the teenager's fear that her parents will find out she is using contraception. There are an average of 3 to 4 weekly visits and a follow-up visit 6 to 8 months later. Although the program is voluntary, more than 99% of eligible students participate. (In 1976, fewer than 10 of the 2,200 initial contacts declined to participate.)

The Family Planning Council of Western Massachusetts, Inc. operated a sexuality/contraception awareness program during the 1973-74 and 1975-76 school years. Held at a vocational high school, it led to a decline of more than 50% in the pregnancy rate of the female students. The program, consisting of two 2-hour sessions a year, included a film showing, followed by long, small-group discussions with family-planning counselors, who were also available at a nearby office for later consultation. The program was cancelled in 1976. Since then, the pregnancy rate has risen again.

(Continued on page 21)

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

DISEASE	2nd WEEK ENDING		MEDIAN 1975-1979	CUMULATIVE, FIRST 2 WEEKS		
	January 12, 1980	January 13, 1979*		January 12, 1980	January 13, 1979*	MEDIAN 1975-1979
Aseptic meningitis	60	56	42	103	127	87
Brucellosis	—	3	3	2	4	4
Chickenpox	3,209	4,919	4,569	4,691	7,244	7,244
Diphtheria	—	5	5	—	10	10
Encephalitis: Primary (arthropod-borne & unsp.)	12	7	7	15	13	20
Post-infectious	—	1	2	—	1	4
Hepatitis, Viral:						
Type B	232	249	249	362	428	466
Type A	323	495	612	606	867	1,096
Type unspecified	161	155	155	267	294	287
Malaria	12	9	5	15	12	12
Measles (rubeola)	44	81	228	70	199	384
Meningococcal infections: Total	41	57	28	64	87	59
Civilian	41	57	28	64	87	59
Military	—	—	—	—	—	—
Mumps	200	230	495	273	364	894
Pertussis	15	37	30	23	62	59
Rubella (German measles)	38	88	99	60	145	171
Tetanus	—	—	—	—	—	1
Tuberculosis	352	399	451	533	726	726
Tularemia	2	3	2	3	3	4
Typhoid fever	5	3	3	5	7	8
Typhus fever, tick-borne (Rky. Mt. spotted)	—	1	1	—	1	2
Veneral diseases:						
Gonorrhea: Civilian	15,755	17,588	18,675	27,631	34,307	34,985
Military	453	448	613	674	1,153	1,128
Syphilis, primary & secondary: Civilian	488	428	428	807	862	862
Military	3	3	5	16	6	10
Rabies in animals	54	41	41	105	81	81

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1980		CUM. 1980
Anthrax	—	Poliomyelitis: Total	—
Botulism † (N. Mex. 1)	1	Paralytic	—
Congenital rubella syndrome (Mich. 1)	2	Psittacosis	—
Leprosy	2	Rabies in man †	—
Leptospirosis (La. 1)	1	Trichinosis † (R.I. 1)	1
Plague	—	Typhus fever, flea-borne (endemic, murine)	—

* Delayed reports received for calendar year 1979 are used to update last year's weekly and cumulative totals.
† Delayed reports: Botulism: Utah +1; Rabies in Man: Ky. +1; Trichinosis: Wis. +1.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending January 12, 1980, and January 13, 1979 (2nd 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		
						1980	1979*	1980	1980	1980	1980		
UNITED STATES	60	-	3,209	-	-	12	7	-	232	323	161	12	15
NEW ENGLAND	6	-	372	-	-	3	-	-	18	14	13	2	2
Maine	-	-	184	-	-	-	-	-	2	2	-	-	-
N.H.	-	-	15	-	-	-	-	-	1	-	-	-	-
Vt.	-	-	10	-	-	-	-	-	-	-	-	-	-
Mass.	1	-	42	-	-	-	-	-	6	3	11	2	2
R.I.	1	-	16	-	-	-	-	-	1	5	-	-	-
Conn.	4	-	105	-	-	3	-	-	8	4	2	-	-
MID. ATLANTIC	4	-	106	-	-	1	-	-	20	17	5	-	1
Upstate N.Y.	-	-	37	-	-	1	-	-	16	9	3	-	-
N.Y. City	4	-	69	-	-	-	-	-	4	8	2	-	1
N.J.	NA	NA	NN	NA	-	NA	-	-	-	NA	NA	NA	NA
Pa.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
E.N. CENTRAL	3	-	1,563	-	-	1	-	-	13	14	10	-	-
Ohio†	-	-	123	-	-	-	-	-	-	1	1	-	-
Ind.	-	-	470	-	-	-	-	-	-	1	1	-	-
Ill.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
Mich.	3	-	506	-	-	1	-	-	13	12	8	-	-
Wis.	-	-	464	-	-	-	-	-	-	-	-	-	-
W.N. CENTRAL	1	-	405	-	-	2	1	-	9	21	2	1	2
Minn.	-	-	-	-	-	-	-	-	4	4	1	1	1
Iowa	1	-	340	-	-	2	1	-	2	4	-	-	1
Mo.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
N. Dak.	-	-	26	-	-	-	-	-	-	-	-	-	-
S. Dak.†	-	-	8	-	-	-	-	-	-	8	-	-	-
Nebr.	-	-	31	-	-	-	-	-	3	5	1	-	-
Kans.	-	-	-	-	-	-	-	-	-	-	-	-	-
S. ATLANTIC	14	-	310	-	-	-	2	-	52	35	13	-	-
Del.	-	-	6	-	-	-	-	-	-	1	1	-	-
Md.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
D.C.	-	-	2	-	-	-	-	-	2	-	-	-	-
Va.	-	-	6	-	-	-	-	-	-	-	-	-	-
W. Va.†	5	-	6	-	-	-	1	-	26	7	5	-	-
N.C.	-	-	203	-	-	-	-	-	-	3	-	-	-
S.C.	8	-	NN	-	-	-	1	-	6	4	6	-	-
Ge.	-	-	3	-	-	-	-	-	4	3	1	-	-
Fla.	-	-	-	-	-	-	-	-	11	12	-	-	-
	1	-	90	-	-	-	-	-	3	5	-	-	-
E.S. CENTRAL	1	-	79	-	-	1	-	-	19	14	2	-	-
Ky.	-	-	78	-	-	1	-	-	8	6	1	-	-
Tenn.	1	-	NN	-	-	-	-	-	9	4	1	-	-
Ala.	-	-	-	-	-	-	-	-	2	4	-	-	-
Miss.	-	-	1	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	4	-	152	-	-	1	-	-	11	52	40	-	-
Ark.	-	-	-	-	-	-	-	-	-	-	-	-	-
La.	-	-	-	-	-	-	-	-	-	-	-	-	-
Okla.	-	-	NN	-	-	-	-	-	-	-	-	-	-
Tex.	4	-	152	-	-	1	-	-	11	49	39	-	-
MOUNTAIN	3	-	128	-	-	1	-	-	24	44	33	3	4
Mont.†	-	-	88	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	-	-	-	-	-	-	1
N. Mex.	-	-	29	-	-	1	-	-	10	14	4	1	1
Ariz.	2	-	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	NN	-	-	-	-	-	11	19	16	2	2
Nev.	1	-	11	-	-	-	-	-	2	7	9	-	-
	-	-	-	-	-	-	-	-	1	4	4	-	-
PACIFIC	24	-	94	-	-	2	4	-	66	112	43	6	6
Wash.	1	-	87	-	-	-	1	-	4	6	1	-	-
Oreg.	6	-	1	-	-	-	-	-	4	13	-	-	-
Calif.†	17	-	-	-	-	2	3	-	57	90	42	5	5
Alaska	-	-	2	-	-	-	-	-	1	2	-	1	1
Hawaii	-	-	4	-	-	-	-	-	-	1	-	-	-
Guam	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
P.R.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
V.I.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA
Pac. Trust Terr.	NA	NA	NA	NA	-	NA	-	-	-	NA	NA	NA	NA

NN: Not notifiable.

NA: Not available.

*Delayed reports received for 1979 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Chickenpox: Mont. +24, Calif. +2; Hep. B: Ohio +1, S. Dak. +1, W. Va. +1; Hep. A: Ohio -1, S. Dak. -1, W. Va. -1.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending January 12, 1980, and January 13, 1979 (2nd week)

REPORTING AREA	MEASLES (RUBELLA)			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	44	70	199	41	64	87	200	273	15	38	60	-
NEW ENGLAND	4	4	2	1	1	3	13	29	-	3	4	-
Maine	-	-	-	-	-	-	9	22	-	-	-	-
N.H.	-	-	-	-	-	1	-	-	-	2	3	-
Vt.	4	4	2	-	-	-	-	-	-	-	-	-
Mass.	-	-	-	-	-	2	-	-	-	1	1	-
R.I.	-	-	-	-	-	-	1	4	-	-	-	-
Conn.	-	-	-	1	1	-	3	3	-	-	-	-
MID. ATLANTIC	6	7	12	6	9	16	6	8	1	1	2	-
Upstate N.Y.	-	-	3	5	8	7	3	3	-	-	-	-
N.Y. City	6	7	6	1	1	7	3	5	1	1	1	-
N.J.	NA	-	-	-	-	-	NA	-	NA	NA	1	-
Pa.	NA	-	3	-	-	2	NA	-	NA	NA	-	-
E.N. CENTRAL	9	21	86	4	5	6	99	122	3	20	29	-
Ohio	-	-	-	-	-	-	42	42	-	-	-	-
Ind.	-	-	5	1	1	2	1	2	2	8	8	-
Ill.	NA	-	58	-	-	-	NA	4	NA	NA	-	-
Mich.	8	10	18	3	4	4	43	52	1	9	16	-
Wis.	1	11	5	-	-	-	13	22	-	3	5	-
W.N. CENTRAL	-	2	6	-	2	1	3	9	-	-	-	-
Minn.	-	1	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	-	-	2	2	-	-	-	-
Mo.	NA	-	5	-	2	1	NA	1	NA	NA	-	-
N. Dak.	-	-	1	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	1	-	-	-	-	1	6	-	-	-	-
Kans.	-	-	-	-	-	-	-	-	-	-	-	-
S. ATLANTIC	2	2	9	9	18	31	19	21	1	1	3	-
Del.	-	-	-	-	-	1	5	7	-	-	-	-
Md.	NA	-	-	-	6	1	NA	-	NA	NA	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-
Va.	-	-	-	1	2	3	2	2	1	1	1	-
W. Va.	1	1	5	-	1	1	2	2	-	-	1	-
N.C.	-	-	-	4	4	5	5	5	-	-	-	-
S.C.	-	-	-	1	2	6	-	-	-	-	-	-
Ga.	-	-	-	1	1	7	-	-	-	-	-	-
Fla.	1	1	4	2	2	7	5	5	-	-	1	-
E.S. CENTRAL	1	3	-	3	5	3	25	32	-	1	2	-
Ky.	1	3	-	1	3	-	22	24	-	1	1	-
Tenn.	-	-	-	-	-	2	1	2	-	-	1	-
Ala.	-	-	-	2	2	1	-	6	-	-	-	-
Miss.	-	-	-	-	-	-	2	-	-	-	-	-
W.S. CENTRAL	1	2	31	2	3	7	5	6	3	1	2	-
Ark.	-	-	2	-	-	2	-	-	-	-	-	-
La.	-	-	-	-	-	1	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	-	-	-	-	-	-
Tex.	1	2	29	2	3	4	5	6	3	1	2	-
MOUNTAIN	3	4	3	3	6	6	18	22	2	-	1	-
Mont.	-	-	1	-	-	1	1	3	2	-	-	-
Idaho	-	-	-	-	-	-	-	1	-	-	-	-
Wyo.	-	-	-	-	1	-	-	-	-	-	-	-
Colo.	-	-	-	2	4	-	3	4	-	-	-	-
N. Mex.	-	-	-	-	-	1	-	-	-	-	-	-
Ariz.	1	1	-	1	1	3	9	9	-	-	-	-
Utah	-	-	-	-	-	1	5	5	-	-	1	-
Nev.	2	3	2	-	-	-	-	-	-	-	-	-
PACIFIC	18	25	50	13	15	14	12	24	5	11	17	-
Wash.	1	1	36	9	11	2	5	5	3	1	1	-
Oreg.	-	-	-	-	-	1	1	8	-	3	3	-
Calif.	17	22	14	4	4	10	6	10	2	7	13	-
Alaska	-	-	-	-	-	-	-	1	-	-	-	-
Hawaii	-	2	-	-	-	1	-	-	-	-	-	-
Guam	NA	-	-	-	-	-	NA	-	NA	NA	-	-
P.R.	-	-	-	-	-	-	-	-	-	-	-	-
V.I.	NA	-	-	-	-	-	NA	-	NA	NA	-	-
Pac. Trust Terr.	NA	-	2	-	-	-	NA	-	NA	NA	-	-

NA: Not available.

*Delayed reports received for 1979 are not shown below but are used to update last year's weekly and cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending January 12, 1980, and January 13, 1979 (2nd week)

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	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*	
UNITED STATES	352	533	3	5	5	-	-	15,755	27,631	34,307	488	807	862	105
NEW ENGLAND	10	20	-	-	-	-	-	639	1,060	890	12	29	19	-
Maine	-	-	-	-	-	-	-	37	66	80	-	-	-	-
N.H.	1	1	-	-	-	-	-	21	38	34	-	-	-	-
Vt.	-	1	-	-	-	-	-	10	30	11	-	-	-	-
Mass.	2	3	-	-	-	-	-	222	391	372	6	9	15	-
R.I.	1	5	-	-	-	-	-	19	35	75	-	-	-	-
Conn.	6	10	-	-	-	-	-	330	500	318	6	20	4	-
MID. ATLANTIC	21	79	-	-	-	-	-	742	2,399	3,014	41	110	94	-
Upstate N.Y.	15	36	-	-	-	-	-	92	92	101	-	-	-	-
N.Y. City	6	39	-	-	-	-	-	650	1,600	1,268	41	100	76	-
N.J.	NA	8	-	NA	-	NA	-	NA	286	601	NA	5	7	-
Pa.	NA	26	-	NA	-	NA	-	NA	421	1,044	NA	5	11	-
E.N. CENTRAL	33	38	-	2	2	-	-	2,196	3,895	4,887	31	59	163	11
Ohio	19	19	-	-	-	-	-	1,139	1,954	1,091	5	9	36	-
Ind.	10	10	-	-	-	-	-	116	255	142	13	15	3	2
Ill.	NA	5	-	NA	-	NA	-	NA	290	1,888	NA	21	109	3
Mich.	-	-	-	2	2	-	-	596	1,051	1,212	11	12	11	-
Wis.†	4	4	-	-	-	-	-	345	345	554	2	2	4	6
W.N. CENTRAL	18	21	2	-	-	-	-	721	1,108	1,729	-	3	8	23
Minn.	9	9	-	-	-	-	-	233	233	339	-	1	3	1
Iowa	2	2	-	-	-	-	-	124	197	211	-	-	-	16
Mo.	NA	3	1	NA	-	NA	-	NA	244	546	NA	2	2	3
N. Dak.	2	2	-	-	-	-	-	15	24	27	-	-	-	3
S. Dak.	-	-	-	-	-	-	-	19	39	62	-	-	-	-
Nebr.	-	-	1	-	-	-	-	84	125	67	-	-	-	-
Kans.	5	5	-	-	-	-	-	246	246	477	-	-	3	-
S. ATLANTIC	82	110	-	-	-	-	-	4,244	7,539	8,532	97	143	198	7
Del.	2	2	-	-	-	-	-	65	142	162	-	1	2	-
Md.	NA	4	-	NA	-	NA	-	NA	112	1,064	NA	8	14	-
D.C.	2	2	-	-	-	-	-	286	286	638	5	5	19	-
Va.	12	19	-	-	-	-	-	316	530	714	9	13	19	-
W. Va.	6	10	-	-	-	-	-	47	112	106	-	-	1	-
S.C.	19	22	-	-	-	-	-	661	1,126	915	8	12	26	-
Ga.	10	20	-	-	-	-	-	791	1,053	813	2	4	11	3
Fla.	8	8	-	-	-	-	-	614	1,359	1,447	26	44	49	3
	23	23	-	-	-	-	-	1,464	2,819	2,673	47	56	57	1
E.S. CENTRAL	50	65	1	-	-	-	-	1,693	2,163	3,279	72	75	48	6
Ky.	7	7	-	-	-	-	-	233	322	302	5	5	2	3
Tenn.	-	-	1	-	-	-	-	798	955	1,389	29	29	20	3
Ala.	10	25	-	-	-	-	-	316	316	955	7	10	14	-
Miss.	33	33	-	-	-	-	-	346	570	633	31	31	12	-
W.S. CENTRAL	19	25	-	-	-	-	-	2,137	3,913	5,284	89	174	109	45
Ark.	-	-	-	-	-	-	-	240	336	456	1	3	7	8
La.	12	18	-	-	-	-	-	231	231	578	34	34	-	-
Okla.	2	2	-	-	-	-	-	286	378	403	1	1	1	7
Tex.	5	5	-	-	-	-	-	1,380	2,968	3,847	53	136	101	30
MOUNTAIN	24	33	-	1	1	-	-	745	1,241	1,249	13	14	8	1
Mont.	-	-	-	-	-	-	-	21	43	115	-	-	-	-
Idaho	-	-	-	-	-	-	-	54	64	33	-	-	-	-
Wyo.	-	-	-	-	-	-	-	34	34	37	-	1	-	-
Colo.	14	14	-	1	1	-	-	108	252	324	9	9	6	-
N. Mex.	3	9	-	-	-	-	-	131	196	183	2	2	-	-
Ariz.	6	9	-	-	-	-	-	240	352	307	-	-	-	1
Utah†	-	-	-	-	-	-	-	32	66	59	-	-	-	-
Nev.	1	1	-	-	-	-	-	125	234	191	2	2	2	-
PACIFIC	95	142	-	2	2	-	-	2,638	4,313	5,443	133	200	215	12
Wash.	5	6	-	-	-	-	-	294	475	279	-	-	9	-
Oreg.	11	14	-	-	-	-	-	NA	141	430	2	3	9	-
Calif.	78	120	-	2	2	-	-	2,266	3,529	4,494	128	194	195	12
Alaska	-	-	-	-	-	-	-	58	119	152	-	-	-	-
Hawaii	1	2	-	-	-	-	-	20	49	88	3	3	2	-
Guam	NA	-	-	NA	-	NA	-	NA	-	6	NA	-	-	-
P.R.	-	-	-	-	-	-	-	-	-	46	-	-	16	-
V.I.†	NA	-	-	NA	-	NA	-	NA	-	4	NA	-	-	-
Pac. Trust Terr.	NA	-	-	NA	-	NA	-	NA	-	18	NA	-	-	-

NA: Not available.

*Delayed reports received for 1979 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: GC (Civ.): Wis. +283, Utah -1, V.I. +2, Syphilis (Civ.): Wis. +3, V.I. +3.

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 12, 1980 (2nd week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>85	45-64	25-44	<1			ALL AGES	>85	45-64	25-44	<1	
NEW ENGLAND	725	491	153	27	44	40	S. ATLANTIC	1,529	900	379	106	81	48
Boston, Mass.	204	134	47	8	13	16	Atlanta, Ga.	190	113	44	19	3	7
Bridgeport, Conn.	48	34	12	1	-	2	Baltimore, Md.	301	167	74	31	8	3
Cambridge, Mass.	25	17	7	-	-	6	Charlotte, N.C.	81	38	25	7	8	3
Fall River, Mass.	34	32	1	-	-	1	Jacksonville, Fla.	135	90	35	3	7	9
Hartford, Conn.	66	39	20	6	-	6	Miami, Fla.	112	62	33	7	6	1
Lowell, Mass.††	30	22	6	1	-	2	Norfolk, Va.	67	47	10	5	3	2
Lynn, Mass.††	22	17	4	1	-	1	Richmond, Va.	138	67	35	8	21	9
New Bedford, Mass.	18	16	2	-	-	-	Savannah, Ga.	44	24	9	7	2	1
New Haven, Conn.	65	31	10	4	20	1	St. Petersburg, Fla.	111	90	18	-	2	4
Providence, R.I.	72	47	13	3	6	1	Tampa, Fla.	80	54	15	5	1	5
Somerville, Mass.	5	3	2	-	-	-	Washington, D.C.	228	127	63	11	20	4
Springfield, Mass.	43	30	9	2	2	1	Wilmington, Del.	42	21	18	3	-	-
Waterbury, Conn.	36	29	5	1	1	2							
Worcester, Mass.	57	40	15	-	2	1							
							E.S. CENTRAL	842	528	214	44	26	43
MID. ATLANTIC	3,036	1,986	705	198	73	144	Birmingham, Ala.	125	73	34	10	5	3
Albany, N.Y.	50	35	12	-	3	1	Chattanooga, Tenn.	92	58	22	3	5	8
Allentown, Pa.	22	17	5	-	-	-	Knoxville, Tenn.	80	59	19	1	-	3
Buffalo, N.Y.	115	71	28	12	2	9	Louisville, Ky.	162	107	35	5	6	15
Camden, N.J.	49	34	10	4	-	2	Memphis, Tenn.	100	63	25	9	1	3
Elizabeth, N.J.	26	14	11	1	-	3	Mobile, Ala.	75	47	21	3	-	3
Erie, Pa.†	39	32	6	-	-	-	Montgomery, Ala.	50	32	15	1	-	3
Jersey City, N.J.	44	21	16	5	-	-	Nashville, Tenn.	158	89	43	12	9	5
Newark, N.J.	79	35	25	6	10	7							
N.Y. City, N.Y.	1,624	1,071	363	116	36	76	W.S. CENTRAL	1,484	821	393	121	86	40
Paterson, N.J.	30	25	2	1	1	-	Austin, Tex.	57	36	10	5	3	2
Philadelphia, Pa.†	365	231	90	26	9	21	Baton Rouge, La.	75	38	19	7	4	2
Pittsburgh, Pa.††	152	93	41	8	5	6	Corpus Christi, Tex.	40	28	9	2	-	-
Reading, Pa.	31	25	5	1	-	3	Dallas, Tex.	234	132	60	23	12	5
Rochester, N.Y.	139	99	25	7	4	6	El Paso, Tex.	82	47	18	9	4	2
Schenectady, N.Y.	37	26	9	1	-	1	Fort Worth, Tex.	92	59	19	9	2	3
Scranton, Pa.†	31	22	8	1	-	1	Houston, Tex.	318	129	105	36	28	5
Syracuse, N.Y.	108	66	25	9	2	2	Little Rock, Ark.	80	51	23	3	2	3
Trenton, N.J.	36	23	13	-	-	-	New Orleans, La.	136	70	37	8	15	-
Utica, N.Y.	29	22	6	-	1	4	San Antonio, Tex.	223	140	59	9	9	6
Yonkers, N.Y.	30	24	5	-	-	2	Shreveport, La.	34	21	8	4	1	2
							Tulsa, Okla.	113	70	26	6	6	10
E.N. CENTRAL	2,704	1,693	619	175	118	77	MOUNTAIN	764	469	186	49	30	39
Akron, Ohio	76	48	19	3	3	-	Albuquerque, N. Mex.	75	42	15	10	3	7
Canton, Ohio	42	26	13	3	-	4	Colo. Springs, Colo.	32	19	8	5	-	5
Chicago, Ill.	629	390	140	43	28	19	Denver, Colo.	160	104	44	7	1	8
Cincinnati, Ohio	158	101	38	12	6	7	Las Vegas, Nev.	98	47	29	12	3	8
Cleveland, Ohio	167	93	38	13	14	4	Ogden, Utah	16	8	6	1	1	2
Columbus, Ohio	130	71	44	4	4	4	Phoenix, Ariz.	190	123	36	7	14	2
Dayton, Ohio	108	71	23	4	7	3	Pueblo, Colo.	21	15	5	1	-	2
Detroit, Mich.	344	204	80	27	21	8	Salt Lake City, Utah	55	32	14	2	6	2
Evansville, Ind.	68	43	14	5	4	8	Tucson, Ariz.	117	79	29	4	2	3
Fort Wayne, Ind.	54	39	7	4	-	-							
Gary, Ind.	20	11	5	2	1	-							
Grand Rapids, Mich.	77	54	17	3	1	4	PACIFIC	2,144	1,443	439	129	73	78
Indianapolis, Ind.	208	127	43	20	13	3	Berkeley, Calif.	25	18	5	2	-	1
Madison, Wis.	52	31	15	4	2	2	Fresno, Calif.	79	55	15	5	3	8
Milwaukee, Wis.	193	136	41	6	6	2	Glendale, Calif.	52	43	6	3	-	-
Peoria, Ill.	71	42	13	9	4	2	Honolulu, Hawaii	55	37	14	2	-	7
Rockford, Ill.	40	24	11	2	1	2	Long Beach, Calif.	110	71	25	4	7	1
South Bend, Ind.	69	43	18	5	-	1	Los Angeles, Calif.	722	489	133	56	20	22
Toledo, Ohio	131	94	25	4	-	3	Oakland, Calif.	67	48	15	2	2	5
Youngstown, Ohio	67	45	15	2	3	1	Pasadena, Calif.	47	38	4	-	2	5
							Portland, Ore.	166	106	33	9	13	2
W.N. CENTRAL	885	606	160	55	31	28	Sacramento, Calif.	92	58	17	11	4	4
Des Moines, Iowa	89	67	10	4	5	1	San Diego, Calif.	96	66	15	7	4	-
Duluth, Minn.	14	11	3	-	-	3	San Francisco, Calif.	148	93	39	10	5	7
Kansas City, Kans.	47	22	15	4	1	-	San Jose, Calif.	223	143	56	12	7	7
Kansas City, Mo.	137	94	23	7	10	2	Seattle, Wash.	153	100	39	4	1	4
Lincoln, Neb.	34	26	6	1	-	4	Spokane, Wash.	74	52	16	2	3	4
Minneapolis, Minn.	99	69	16	7	2	4	Tacoma, Wash.	35	26	7	-	2	1
Omaha, Neb.	102	72	15	7	3	1							
St. Louis, Mo.	161	111	30	8	7	2							
St. Paul, Minn.	97	71	13	10	-	-	TOTAL	14,113	8,937	3,248	904	562	537
Wichita, Kans.	105	63	29	7	3	11							

*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. Fatal 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.

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

Adolescent Pregnancy – Continued

The Maryland State Department of Health and Mental Hygiene, with the efforts of Planned Parenthood of Maryland, directs a program in education about human sexuality for adolescents in 2 rural areas, each consisting of 3 counties. Each program is under local control and has a great deal of input from county health departments and local school boards. Teacher-training workshops and special training sessions for health department staff have been held. Three of the 6 counties experienced a 36% drop in the birth rate for 15- to 17-year-olds between 1972 (the year before the program began) and 1975. Although the decline was not as remarkable in the other 3 counties, there is preliminary evidence that the program may be working. Continual evaluation is underway.

Reported by EA Brann, MD, New York City; T Callicott, San Bernardino, California; L Edwards, MD, St. Paul-Ramsey Hospital, St. Paul, Minnesota; JL Pitts, MD, MPH, JK Seegar, MD, JL Stine, A Zachary, MD, MPH, Maryland State Dept of Health and Mental Hygiene; E Story, The Family Planning Council of Western Massachusetts, Inc., Northampton, Massachusetts; and the Family Planning Evaluation Div, Bur of Epidemiology, CDC.

Editorial Note: According to a study completed at CDC in 1978 (3), an estimated 273,000 unintended births occurred in the United States in 1974 among teenage women 15-19 years old. An additional 322,000 births among this age group were intended. These estimates do not include the estimated 237,000 induced abortions undergone by females 15-19 in that year.

Particularly striking among the reports in this article are those from St. Paul and western Massachusetts. These 2 areas have targeted populations which are not college bound and which have traditionally been viewed as very hard to reach with the message that pregnancy should be delayed beyond the high school years. Both areas have had remarkable success with programs that do not rely on abortion. The evidence is that they have also reduced the abortion rates. What these programs have apparently done is to change teenagers' childbearing intentions. Students previously ambivalent about contraception and childbearing are now effectively using contraceptives.

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Measles and Measles Vaccine Reactions Among College Students – Wisconsin

An outbreak of 22 cases of measles occurred at Marquette University from September 5 through October 15, 1979. Seventeen patients demonstrated a 4-fold or greater rise in complement-fixing antibody, when tested at the Wisconsin State Laboratory of Hygiene. All cases occurred in students ranging from 18-21 years of age. The mean number of school days lost per patient was 5.6. Two students developed atypical measles and required hospitalization. Another outbreak involving 20 cases at the University of Wisconsin subsequently occurred; the source was a Marquette University case.

Transmission occurred primarily among dormitory residents and classroom contacts. Measles immunization was recommended for all students who could not verify a personal record of live-virus measles vaccination or physician-diagnosed disease. Special emphasis was given to immunizing the identified high-risk groups (dormitory residents and classroom contacts of measles patients).

During a 3-week interval, 1,316 students, which represents 13% of the total enrollment

Measles Among College Students – Continued

and includes 33% of all dormitory residents, were immunized. Only 1 additional generation of cases, involving 2 cases, occurred after the vaccination program.

To gauge the frequency and severity of vaccine reactions, questionnaires were distributed to 2 dormitories, which had 1,464 student occupants; 1,114 (76%) were returned. Of the respondents, 396 (36%) had been immunized during the vaccination program at Marquette; the other 718 served as controls for a study of vaccine reactions.

The incidence of fever and rash within 21 days of vaccination was significantly higher among the recent vaccinees than in controls (fever: 12% vs. 7%, rash: 4% vs. 2%, respectively) (Table 1). Pain and swelling at the vaccination site occurred in 5% of the vaccinees. There was no difference between the 2 groups in the rate of illness severe enough to require bed rest (5% of vaccinees, 5% of controls).

Reported by HI Dobbs, MD, Marquette University Student Health Service; JP Davis, MD, State Epidemiologist, D Hopfensperger, MP Neuwirth, Wisconsin State Dept of Health and Social Services; DB Nelson, Wisconsin State Laboratory of Hygiene; Field Services Div, Bur of Epidemiology, and Immunization Div, Bur of State Services, CDC.

Editorial Note: In a previous outbreak in California in 1977, high vaccine reaction rates were reported among college students (1). However, in the present controlled study, there were no statistically significant differences between vaccinees and controls for most of the symptoms evaluated (Table 1). Fever and rash were more frequent among vaccinees, but these differences were not great. In contrast to the previous study, vaccinees did not require bed rest more frequently than non-vaccinees in the 21 days following vaccination.

In a recent study of known-susceptible Air Force recruits vaccinated against measles, there was no statistically significant difference in the incidence of dispensary visits, hospitalizations, eye pain, pharyngitis, coryza, cough, myalgias, joint pain, diarrhea, or headache in those who received measles vaccine compared to those who did not; there was a small increase in reports of fever (2).

These findings among susceptible recruits and among college students with an unknown immunity status, many of whom were undoubtedly immune, support the views that reactions to vaccine are not age-related and that the risk of vaccine reactions is not enhanced among persons who previously received live measles vaccine or had measles (3).

References

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2. *MMWR* 1979;28:58.
3. *MMWR* 1978;27:427-30, 435-37.

TABLE 1. Rates of symptoms among vaccinees and unvaccinated controls during 21 days following vaccination, Wisconsin, 1979

Symptom	Percentage of vaccinees	Percentage of unvaccinated controls	P value
	N = 396	N = 714	
Fever	12	7	<.05
Rash	4	2	<.05
Sore throat	27	26	>.05
Cough	24	23	>.05
Coryza	37	31	>.05
Headache	27	22	>.05
Illness requiring bed rest	5	5	>.05
Pain and swelling at vaccination site	5	—	

Current Trends

Influenza — United States

Since November 1979, influenza B viruses have been isolated in 15 states. In addition to earlier reports (1,2), influenza B was isolated in Alaska, Michigan, New York, Ohio, and Washington from patients in localized outbreaks or patients with sporadic illnesses occurring between December 17 and January 2. Isolation of influenza B viruses, previously reported from Hawaii in July through October 1979 (3), continued sporadically in November and December. Infections occurred primarily among children, but viruses were also isolated from adults, including the elderly. No widespread outbreaks of influenza-like illness have been reported in the United States, although regional outbreaks of influenza-like activity were reported by Idaho and Oregon for the week ending January 5.

Reye syndrome associated with influenza B infection was reported in a 10-year-old girl in Oregon and in an 11-year-old boy in Ohio, both of whom had onset of illness in December.

An influenza A/Texas/1/77(H3N2)-like strain was also isolated, from a specimen obtained on December 26 from a 14-year-old boy in Chicago. This appeared to be a sporadic case.

Reported by D Ritter, DF Tirador, MD, State Epidemiologist, Alaska State Dept of Health and Social Services; M Beem, MD, Dept of Pediatrics, University of Chicago; BJ Francis, MD, State Epidemiologist, Illinois State Dept of Public Health; G Kobayashi, Virology Section, NH Wiebenga, MD, State Epidemiologist, Hawaii Dept of Health; J Allard, PhD, Laboratory Section, JW Taylor, MD, State Epidemiologist, Washington State Dept of Social and Health Services; M Kaplan, MD, Nassau County Medical Center, New York; R Rothenberg, MD, State Epidemiologist, New York State Dept of Health; D Nelson, JP Davis, State Epidemiologist, Wisconsin State Dept of Health and Social Services; State Epidemiologists for Michigan, Ohio, and Oregon; WHO Collaborating Center for Influenza, Virology Div, Bur of Laboratories, Immunization Div, Bur of State Services, CDC.

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Epidemiologic Notes and Reports

Asbestos Exposure — Globe, Arizona

Two miles east of Globe, Arizona, is a 44-home mobile housing subdivision with approximately 120 residents. The subdivision was built in 1973 on the property of a currently inactive asbestos mill, and mill tailings were used as landfill during the initial grading of the site. The abandoned mill building still stands in the midst of the subdivision, with asbestos-laden equipment indoors and small piles of asbestos tailings outdoors. The 35-40 children in the area and others have ready access to these materials and have been observed playing in asbestos-containing soil.

An active, operating mill is situated 1,000 feet to the east and upwind of the mobile homes, with a large pile of asbestos tailings approximately 1,500 feet from the homes. Visible airborne dust arising from these sites is noted by residents of the subdivision during mill operation and on windy days.

In a preliminary study conducted by the Arizona State Department of Health Services in December 1979 and January 1980, selected samples of surface soil from 44 of the 50 mobile home lots contained asbestos in concentrations ranging from 5% to 60%. Initial indoor air samples revealed concentrations of asbestos fibers (>5 microns) which ranged from <0.01 fibers/cc to 0.05 fibers/cc in the undisturbed state; concentrations ranged as

Asbestos Exposure – Continued

high as 0.35 fibers/cc during household activities such as vacuuming. (The current occupational asbestos standard recommended by the National Institute for Occupational Safety and Health [NIOSH] is 0.1 fibers/cc for an 8-hour, time-weighted average [7].) Initial studies of the water supply did not reveal asbestos fibers.

More detailed environmental monitoring (including electron microscopy for specific fiber determinations) and evaluation of asbestos exposure in this community are underway. The state of Arizona has requested the involved mill property owners to develop plans for covering over the asbestos tailings to limit further releases. Plans to expeditiously evacuate the residents of the subdivision are underway.

Reported by A Kelter, MD, B Scott, PE, K Starko, MD, Acting State Epidemiologist, Arizona State Dept of Health Services; Industrywide Studies Br, NIOSH, and Chronic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The known long-term risks associated with asbestos include asbestosis, lung cancer, gastrointestinal cancer, and mesothelioma (the latter reported even after relatively brief exposures and unrelated to smoking patterns) (2,3). Children are of particular concern because of their long life expectancy. It should be noted that the NIOSH recommended standard was not designed for the population-at-large, which may be exposed up to 24 hours per day, or for children playing directly with asbestos-containing materials.

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