

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

International Notes

- 1 Follow-up on Multiple-Antibiotic-Resistant Pneumococci – South Africa
- 7 Quarantine Measures
- 8 Smallpox Surveillance – Worldwide
- 8 Influenza – Taiwan, Finland, United States
- Current Trends**
- 7 Enforcement of a State's Immunization Law for Entering School Children – Detroit

International Notes

Follow-up on Multiple-Antibiotic-Resistant Pneumococci – South Africa

From May to November 1977, type 19A* pneumococci resistant to multiple antibiotics have been isolated from blood, cerebrospinal fluid (CSF), or pleural fluid of 15 South African children with meningitis (3 cases), pneumonia and bacteremia (10), or pneumonia and empyema (2). The children were from Johannesburg (in 4 cases) and Durban (11), and all were less than 3 years of age. Eight of these children died, including the 3 with meningitis. Many other hospitalized children have had pharyngeal or sputum cultures positive for multiply-resistant pneumococci and had signs and symptoms of pneumonia. Some of these children died without documentation of the etiology of their pneumonia. Almost all infections occurred in children previously hospitalized for other medical conditions,

notably malnutrition, measles, and pneumonia (1,2).

Culture surveys in several South Africa communities demonstrate that antibiotic-resistant pneumococci have at least 5 resistant patterns+: 1) penicillin resistance only (minimal inhibitory concentration [MIC] = 0.5-4 µg/ml); 2) penicillin and tetracycline (MIC = 16-64 µg/ml) resistance; 3) penicillin, tetracycline, and chloramphenicol (MIC = 16-32 µg/ml) resistance; 4) penicillin and chloramphenicol resistance; and 5) penicillin, tetracycline, chloramphenicol, erythromycin (MIC = 8-64 µg/ml), and clindamycin (MIC = > 128 µg/ml) resistance. Strains in the last group are called multiply-resistant in this report. Several of the multiply-resistant pneumococci have also developed

+ All resistant isolates are additionally resistant to aminoglycosides, cephalosporins, carbenicillin, methicillin, and ampicillin (1).

*Danish nomenclature, type 57 American

TABLE 1. Prevalence of antibiotic-resistant pneumococci in nasopharyngeal cultures, South Africa, 1977

	No. persons cultured	No. persons with pneumococci	Resistance Pattern (% Pneumococci)					
			Sensitive	Penicillin resistant	Penicillin, tetracycline resistant	Penicillin, chloramphenicol resistant	Penicillin, tetracycline, chloramphenicol resistant	Multiply-resistant
Durban								
Hospital 1	239	23	56.5	0	0	21.7	21.7	0
Hospital 2	408	38	21.1	7.9	0	52.6	18.4	0
Hospital 3	232	119	52.1	8.4	5.0	21.0	9.2	4.2
Other hospitals (N=4)	175	31	71.0	0	0	19.4	10.0	9.7
Community studies	472	245	98.0	0	0	1.6	0.4	0
Johannesburg								
Hospital 1	427	128	35.2	10.9	2.3	7.8	7.0	36.7
Hospital 2	116	81	2.5	3.7	0	2.5	0	91.4
Hospital 3	42	23	47.8	0	13.0	0	0	39.1
Hospital 4	51	12	75.0	0	0	0	0	25.0
Hospital 5	273	57	47.4	0	0	0	1.8	50.9
Hospital 6	72	14	57.1	0	0	0	0	42.8
Other hospitals (N=10)	382	57	94.7	1.8	1.8	0	0	1.8*
Community studies	902	236	91.9	4.2	0.4	0.4	0.4	2.5*
Cape Town								
Hospitals (N=5)	236	37	100.0	0	0+	0	0+	0
Total								
Hospitals (N=28)	2,653	619	48.0	5.0	2.1	11.0	6.0	28.3
Communities	1,374	481	95.0	2.1	0.2	1.0	0.4	1.2

*Multiply-resistant carriers could be traced epidemiologically to involved hospitals or other carriers.

+Two pneumococcal isolates, one resistant to penicillin and tetracycline and the other resistant to penicillin, tetracycline, and chloramphenicol, have subsequently been identified.

Smallpox - Continued

resistance to rifampin (MIC = > 4 µg/ml). Multiply-resistant pneumococci are serotypes 6 and 19A from Durban and Johannesburg, respectively. Pneumococci with other resistance patterns have also been type 6 and type 19A. None of 8 pneumococcal blood (3) and CSF (5) isolates serotyped in Johannesburg between May and July 1977 was type 19, whereas 5 of 15 were type 19 during August 1977. Four of these 5 were multiply-resistant.

The prevalence of resistant pneumococci found in community and hospital surveys in Durban, Cape Town, and the Johannesburg area are shown in Table 1. Carriers of multiply-resistant pneumococci were found in 8 of 28 hospitals surveyed and were found largely in black children less than 3 years of age. Only 0.9% (4/434) of staff personnel caring for these children were found to be carriers. Spread between these hospitals appeared to have resulted from transfer of patients later found to be infected. Multiply-resistant pneumococci were found in 4.6% (7/152) healthy family contacts of hospitalized carriers discharged home, which suggests that the spread into the community was slight. Community surveys were performed among factory workers and at day-care centers, orphanages, and health clinics; also included were surveys of new admissions to the involved hospitals. Carriers of multiply-resistant strains could be traced to previous contact with involved hospitals or other carriers.

Following these findings, hospital wards having carriers

of multiply-resistant organisms were closed to new admissions. Carriers were placed in isolated wards or transferred to an isolation hospital. To evaluate control measures, subsequent surveys of patients and new admissions to the involved hospitals identified additional carriers who were then transferred to isolation hospitals. Erythromycin eradicated carriage of pneumococcal strains resistant only to penicillin, tetracycline, or chloramphenicol. A combination of rifampin (30 mg/kg/day) and fusidic acid (30 mg/kg/day) given for 10 days was 63% effective in eradicating carriage of multiply-resistant pneumococci. Various combinations and doses of novobiocin, cotrimoxazole, rifampin, minocycline, and aerosol bacitracin were given with little success in eradicating carriage. Intravenous vancomycin (45 mg/kg/day) given twice daily for 5 days was effective in eradicating the organism. Nasopharyngeal colonization with a strain of *Streptococcus faecalis* (3), which produces bacterocins and which inhibits the growth of the multiply-resistant pneumococci *in vitro*, did not eradicate carriage of multiply-resistant organisms. No new cases of illness due to multiply-resistant organisms have been reported since these control measures were completed in November 1977; however, reports of disease due to penicillin and chloramphenicol-resistant organisms continue in Durban, South Africa.

Reported by HJ Koornhof, MD, M Jacobs, MD, M Isaacson, MD, South African Institute of Medical Research, Johannesburg; P

(Continued on page 7)

Table I. Summary—Cases of Specified Notifiable Diseases: United States

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

DISEASE	52nd WEEK ENDING		MEDIAN 1972-1976	CUMULATIVE, FIRST 52 WEEKS		
	December 31, 1977	January 1, 1977		December 31, 1977	January 1, 1977	MEDIAN 1972-1976
Aseptic meningitis	36	76	65	4,500	3,262	4,088
Brucellosis	-	14	14	214	292	203
Chickenpox	2,314	3,550	---	181,863	182,250	---
Diphtheria	3	2	6	84	148	224
Encephalitis	Primary	2	25	1,090	1,401	1,401
	Post-Infectious	3	2	205	259	259
Hepatitis, Viral	Type B	209	428	16,083	15,091	10,054
	Type A	420	854	30,481	33,570	41,536
	Type unspecified	121	171	9,052	8,083	
Malaria	3	13	5	516	462	415
Measles (rubeola)	252	669	242	54,847	40,057	26,718
Meningococcal infections, total	25	62	19	1,752	1,569	1,355
Civilian	25	62	18	1,741	1,548	1,334
Military	-	-	-	11	21	29
Mumps	298	376	993	20,123	38,147	58,406
Pertussis	24	17	---	1,915	923	---
Rubella (German measles)	104	142	126	20,045	12,193	16,210
Tetanus	-	7	5	70	76	94
Tuberculosis	560	629	---	30,005	32,497	---
Tularemia	2	7	4	161	144	144
Typhoid fever	-	13	13	372	405	405
Typhus, tick-borne (Rky. Mt. spotted fever)	4	18	7	1,115	910	782
Venereal Diseases:						
Gonorrhea						
Civilian	11,827	15,715	---	991,676	1,002,298	---
Military	234	308	---	26,237	28,799	---
Syphilis, primary and secondary						
Civilian	198	343	---	20,321	23,724	---
Military	-	8	---	302	343	---
Rabies in animals	16	46	46	2,929	2,907	2,907

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	-	Poliomyelitis, total:	20
Botulism:	103	Paralytic:	17
Congenital rubella syndrome: N.C. +1	18	Psittacosis: *	65
Leprosy:	131	Rabies in man:	1
Leptospirosis: *	50	Trichinosis: * Va. +1, Tex. +2, Ariz. +1	117
Plague:	17	Typhus, murine: Tex. +1	73

*The above figures do not reflect the following corrections. The corrected cumulatives for 1977 will be available upon request.
Leptospirosis: Pa. -1, Calif. +1; Psittacosis: Calif. +1; Trichinosis: Calif. +4

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending December 31, 1977 and January 1, 1977 - 52nd Week

AREA REPORTING	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified		
						1977	1978	1977	1977	1977	1977		
UNITED STATES	36	-	2,314	3	84	2	25	3	209	420	121	3	516
NEW ENGLAND	-	-	252	-	-	-	4	-	15	14	7	-	26
Maine	-	-	18	-	-	-	-	-	-	-	-	-	1
New Hampshire *	-	-	-	-	-	-	-	-	2	-	-	-	3
Vermont *	-	-	1	-	-	-	-	-	1	3	-	-	2
Massachusetts	-	-	172	-	-	-	-	-	2	4	7	-	4
Rhode Island	-	-	35	-	-	-	-	-	2	4	-	-	5
Connecticut	-	-	26	-	-	-	4	-	8	3	-	-	11
MIDDLE ATLANTIC	3	-	130	-	5	-	12	-	48	47	17	-	130
Upstate New York	2	-	86	-	-	-	-	-	6	14	-	-	28
New York City	1	-	20	-	5	-	-	-	8	8	8	-	61
New Jersey *	-	-	NN	-	-	-	1	-	15	6	8	-	19
Pennsylvania	-	-	24	-	-	-	11	-	19	19	1	-	22
EAST NORTH CENTRAL	8	-	1,070	-	-	2	1	2	30	86	17	-	38
Ohio	1	-	51	-	-	-	-	2	4	22	-	-	14
Indiana *	-	-	73	-	-	-	-	-	6	2	7	-	2
Illinois	-	-	192	-	-	-	-	-	10	27	3	-	2
Michigan	7	-	525	-	-	2	1	-	8	25	6	-	17
Wisconsin	-	-	229	-	-	-	-	-	2	10	1	-	3
WEST NORTH CENTRAL	3	-	289	-	1	-	-	-	23	75	2	-	39
Minnesota	-	-	1	-	-	-	-	-	14	11	-	-	13
Iowa	1	-	116	-	-	-	-	-	1	1	1	-	1
Missouri *	2	-	-	-	1	-	-	-	1	11	-	-	19
North Dakota	-	-	2	-	-	-	-	-	-	-	-	-	1
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-	1
Nebraska	-	-	40	-	-	-	-	-	-	3	1	-	-
Kansas	-	-	130	-	-	-	-	-	7	49	-	-	4
SOUTH ATLANTIC	8	-	190	-	-	-	1	-	49	59	16	-	94
Delaware *	-	-	3	-	-	-	-	-	-	1	-	-	-
Maryland	-	-	18	-	-	-	1	-	10	8	1	-	24
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	6
Virginia	4	-	5	-	-	-	-	-	8	4	4	-	23
West Virginia	-	-	112	-	-	-	-	-	-	3	1	-	2
North Carolina	-	-	NN	-	-	-	-	-	6	11	5	-	10
South Carolina	-	-	-	-	-	-	-	-	3	5	-	-	-
Georgia *	-	-	-	-	-	-	-	-	-	2	-	-	8
Florida *	4	-	52	-	-	-	-	-	22	25	5	-	21
EAST SOUTH CENTRAL	2	-	64	-	-	-	1	1	7	29	13	-	11
Kentucky	-	-	37	-	-	-	-	-	-	-	-	-	4
Tennessee	2	-	NN	-	-	-	1	1	7	25	11	-	1
Alabama	-	-	1	-	-	-	-	-	-	-	2	-	5
Mississippi	-	-	26	-	-	-	-	-	-	4	-	-	1
WEST SOUTH CENTRAL	5	-	71	-	3	-	2	-	14	38	23	1	31
Arkansas *	-	-	3	-	-	-	-	-	-	5	5	-	3
Louisiana	-	-	NN	-	-	-	-	-	-	-	-	1	3
Oklahoma	3	-	22	-	-	-	-	-	1	1	6	-	-
Texas *	2	-	46	-	3	-	2	-	13	32	12	-	25
MOUNTAIN	1	-	117	-	6	-	-	-	10	46	18	-	15
Montana	-	-	35	-	-	-	-	-	-	3	1	-	2
Idaho	-	-	-	-	-	-	-	-	-	10	-	-	-
Wyoming	-	-	4	-	-	-	-	-	-	1	-	-	2
Colorado	1	-	71	-	-	-	-	-	6	12	5	-	7
New Mexico	-	-	5	-	5	-	-	-	1	4	10	-	2
Arizona *	-	-	NN	-	1	-	-	-	2	14	2	-	2
Utah	-	-	2	-	-	-	-	-	1	2	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	6	-	131	3	69	-	4	-	13	26	8	2	132
Washington	-	-	122	3	63	-	1	-	6	10	5	-	5
Oregon	4	-	-	-	-	-	-	-	4	9	2	-	2
California *	NA	NA	NA	NA	4	NA	3	-	NA	NA	NA	NA	117
Alaska	-	-	7	-	2	-	-	-	1	5	-	-	4
Hawaii	2	-	2	-	-	-	-	-	2	2	1	-	4
Guam *	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Puerto Rico	-	-	1	-	1	-	-	-	-	11	2	-	2
Virgin Islands	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-

NN: Not notifiable
 NA: Not available
 *The above figures do not reflect the following corrections. The corrected cumulatives for 1977 will be available upon request. Asep. men.: Ind. +4, Calif. +11; Chickenpox: Ind. +94, Mo. +52, Calif. +56, Guam +17; Enceph.: Ind. +3, Ark. -1, Calif. +3; Hep. B: N.H. +1, N.J. -1, Ind. +9, Mo. +1, Ga. +1, Tex. +1, Calif. +46, Guam +2; Hep. A: Vt. +1, N.J. -2, Ind. +6, Del. +3, Ga. +12, Fla. +1, Ariz. -1, Calif. +73; Hep. unsp.: Vt. +1, Ind. +9, Tex. -1, Calif. +51.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending December 31, 1977 and January 1, 1977—52nd Week

REPORTING AREA	MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	252	54,847	40,057	25	1,752	1,569	298	20,123	24	104	20,045	70
NEW ENGLAND	7	2,513	531	4	86	77	7	771	1	2	1,235	1
Maine	4	178	10	-	4	1	1	83	-	-	71	-
New Hampshire	-	514	10	-	4	7	1	99	-	-	247	-
Vermont	-	294	169	-	8	6	-	8	-	-	65	-
Massachusetts	2	650	39	-	24	26	1	138	1	2	393	-
Rhode Island	-	65	15	-	2	8	-	68	-	-	136	-
Connecticut	1	312	238	4	44	29	4	375	-	-	323	1
MIDDLE ATLANTIC	82	8,666	7,511	2	247	235	22	1,501	4	17	6,184	7
Upstate New York	66	3,959	2,996	1	54	91	6	368	3	9	3,399	2
New York City	6	810	497	1	71	55	3	538	1	1	336	1
New Jersey*	-	210	628	-	56	38	2	379	-	-	1,793	2
Pennsylvania*	10	3,687	3,390	-	66	51	11	216	-	7	656	2
EAST NORTH CENTRAL ..	104	12,063	17,435	2	181	181	116	6,868	1	60	4,277	8
Ohio	11	1,477	626	1	72	68	11	859	-	3	1,150	3
Indiana*	-	4,372	4,491	1	16	16	4	372	-	6	992	1
Illinois	27	1,931	2,032	-	26	20	62	1,396	-	1	362	2
Michigan	60	1,392	6,139	-	51	65	32	2,339	1	33	1,160	2
Wisconsin	6	2,491	4,147	-	16	12	7	1,902	-	17	613	-
WEST NORTH CENTRAL ..	-	9,435	1,912	-	91	102	66	4,553	2	1	634	10
Minnesota	-	2,047	431	-	27	14	-	38	-	-	18	2
Iowa	-	4,330	108	-	10	10	15	1,359	-	-	179	1
Missouri*	-	920	463	-	38	51	19	1,660	2	-	47	4
North Dakota*	-	29	3	-	1	3	-	21	-	-	21	-
South Dakota	-	75	5	-	6	3	-	59	-	-	89	-
Nebraska	-	214	55	-	2	6	1	86	-	-	3	-
Kansas	-	1,220	842	-	7	15	31	1,330	-	1	277	3
SOUTH ATLANTIC	19	4,757	2,291	9	387	317	18	1,014	4	4	1,741	14
Delaware	-	22	131	-	7	9	1	154	-	-	29	-
Maryland	-	372	715	-	29	26	11	99	-	-	6	1
District of Columbia ..	-	14	13	-	1	8	-	7	-	-	-	-
Virginia	6	2,758	844	1	38	44	2	129	-	1	586	1
West Virginia	3	278	214	-	10	8	1	221	-	2	174	-
North Carolina	-	66	24	3	81	55	1	78	-	1	454	1
South Carolina	1	164	4	1	43	36	-	21	-	-	238	-
Georgia*	-	770	4	4	58	41	1	37	3	-	58	1
Florida	9	313	342	-	120	90	1	268	1	-	196	10
EAST SOUTH CENTRAL ..	20	2,082	992	2	176	144	28	1,229	4	-	1,999	6
Kentucky	7	1,200	760	-	32	24	1	124	-	-	95	1
Tennessee	13	746	215	-	48	65	23	685	4	-	1,785	3
Alabama	-	79	-	2	61	40	4	376	-	-	110	2
Mississippi	-	57	17	-	35	15	-	44	-	-	9	-
WEST SOUTH CENTRAL ..	5	2,246	898	3	323	234	25	1,819	-	5	852	14
Arkansas	-	36	18	-	21	18	4	157	-	-	3	2
Louisiana	3	112	309	-	142	50	-	67	-	-	33	3
Oklahoma	-	66	306	1	16	26	8	600	-	-	38	-
Texas	2	2,032	265	2	144	140	13	995	-	5	778	9
MOUNTAIN	10	2,577	5,577	1	43	46	8	691	3	12	415	2
Montana	2	1,172	520	-	7	6	1	15	-	-	17	1
Idaho*	8	171	2,024	-	6	7	1	134	-	12	25	-
Wyoming	-	19	5	-	2	-	-	4	-	-	6	1
Colorado	-	514	470	-	1	9	6	308	3	-	248	-
New Mexico	-	256	16	-	11	4	-	118	-	-	11	-
Arizona	-	329	236	-	10	10	-	-	-	-	25	-
Utah	-	23	2,239	-	4	7	-	95	-	-	74	-
Nevada*	-	93	67	1	2	3	-	17	-	-	9	-
PACIFIC	5	10,508	2,910	2	218	233	8	1,677	5	3	2,708	8
Washington	-	559	364	2	35	38	5	356	1	2	474	-
Oregon	-	367	175	-	18	21	2	322	4	-	141	-
California*	NA	9,478	2,352	-	125	147	NA	923	NA	NA	1,659	8
Alaska	-	60	13	-	35	24	1	35	-	-	1	-
Hawaii	5	44	6	-	5	3	-	41	-	1	433	-
Guam	NA	9	16	-	1	-	NA	9	NA	NA	11	-
Puerto Rico	-	1,092	515	-	1	5	42	971	-	-	37	11
Virgin Islands	NA	14	24	-	-	2	NA	195	NA	NA	2	-

NA: Not available

*The above figures do not reflect the following corrections. The corrected cumulatives for 1977 will be available upon request. Measles: Ind. +4, Mo. +1, Calif. +7; Men. inf.: N.J. -2, Pa. -2, Ga. -2, Idaho +2, Calif. +1; Mumps: Ind. +9, Mo. +21, N. Dak. +1, Calif. +8; Pertussis: Mo. +1, Ga. +3; Rubella: Ind. +7, Mo. +1, N. Dak. +2, Nev. +1, Calif. +29.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending December 31, 1977 and January 1, 1977 - 52nd Week

REPORTING AREA	TUBERCULOSIS		TULA-REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	CUMULATIVE		1977	CUMULATIVE		CUM. 1977	
							1977	1976	1977		1976			
UNITED STATES	560	30,005	161	-	372	4	1,115	11,627	591,676	1,002,298	198	20,321	23,724	2,929
NEW ENGLAND	16	1,113	2	-	19	-	11	516	26,962	28,256	7	796	832	49
Maine	2	82	-	-	-	-	-	59	2,103	2,390	-	28	23	32
New Hampshire	1	29	-	-	-	-	-	14	1,120	857	-	5	10	1
Vermont*	1	37	-	-	-	-	-	9	639	704	-	7	13	-
Massachusetts	8	638	2	-	13	-	5	183	11,488	13,412	2	549	597	8
Rhode Island	-	87	-	-	3	-	3	36	2,065	2,065	2	12	19	-
Connecticut	4	240	-	-	3	-	3	215	9,547	8,828	3	195	173	8
MIDDLE ATLANTIC	70	4,803	3	-	70	-	84	1,016	103,621	115,621	33	2,930	3,944	107
Upstate New York	21	841	3	-	8	-	41	NA	17,768	19,727	NA	255	247	61
New York City	33	1,508	-	-	29	-	2	680	40,279	50,255	22	1,858	2,494	-
New Jersey	6	1,198	-	-	21	-	11	106	18,295	17,721	6	391	556	28
Pennsylvania	19	1,256	-	-	12	-	30	230	27,279	27,918	5	426	647	18
EAST NORTH CENTRAL	115	4,717	3	-	34	1	41	2,036	158,441	157,582	11	2,115	2,068	162
Ohio*	14	848	1	-	10	1	21	942	41,751	39,258	6	480	495	16
Indiana*	8	524	-	-	3	-	2	NA	14,941	15,671	NA	171	121	11
Illinois	75	1,850	-	-	7	-	16	755	51,091	53,808	-	1,103	1,083	42
Michigan*	13	1,281	-	-	13	-	2	648	36,807	34,836	5	252	258	6
Wisconsin	5	214	2	-	1	-	-	291	13,851	14,339	-	109	111	87
WEST NORTH CENTRAL	49	1,052	28	-	24	-	34	777	51,596	52,756	6	456	476	757
Minnesota	1	207	-	-	5	-	-	123	9,202	9,221	-	155	105	275
Iowa	6	99	-	-	-	-	1	65	6,017	6,526	2	43	45	125
Missouri*	27	464	25	-	14	-	18	310	21,345	21,015	2	178	181	55
North Dakota	1	31	-	-	1	-	-	12	950	846	-	3	-	117
South Dakota	7	58	2	-	-	-	2	26	1,611	1,571	1	12	6	139
Nebraska	1	42	1	-	1	-	2	115	4,465	4,501	-	24	45	3
Kansas	6	151	-	-	3	-	11	126	8,006	9,076	1	41	94	43
SOUTH ATLANTIC	166	6,547	12	-	61	2	581	3,800	244,047	244,348	110	5,495	7,071	349
Delaware	-	53	-	-	-	-	3	109	3,285	3,380	-	20	65	2
Maryland*	7	422	2	-	5	-	77	465	33,740	31,695	-	316	536	-
District of Columbia	-	339	-	-	1	-	-	102	15,919	16,561	-	537	552	-
Virginia	35	761	3	-	10	-	154	344	25,422	25,639	19	548	693	5
West Virginia	1	238	-	-	6	-	5	52	3,468	3,162	-	5	23	9
North Carolina	19	1,065	2	-	5	2	223	434	36,514	35,464	12	727	1,250	13
South Carolina*	11	592	2	-	7	-	53	NA	23,092	23,206	NA	251	379	36
Georgia*	57	935	3	-	5	-	65	864	46,766	46,339	24	1,264	1,392	236
Florida*	36	1,642	-	-	22	-	1	1,370	58,841	58,932	55	1,827	2,481	78
EAST SOUTH CENTRAL	44	2,804	10	-	10	1	179	1,146	87,364	87,780	17	785	890	19
Kentucky	-	723	3	-	5	-	43	239	11,822	11,478	3	111	121	29
Tennessee	13	891	6	-	2	1	107	500	34,496	35,257	12	255	293	37
Alabama	25	694	1	-	1	-	20	392	24,273	24,482	2	163	188	13
Mississippi	6	496	-	-	2	-	9	15	16,773	16,563	-	256	288	-
WEST SOUTH CENTRAL	63	3,521	79	-	34	-	166	869	126,196	124,785	7	2,951	2,810	769
Arkansas	8	382	55	-	8	-	55	253	9,597	11,949	2	65	133	115
Louisiana	5	611	1	-	1	-	6	468	19,516	18,283	-	675	570	22
Oklahoma	3	294	12	-	2	-	70	148	12,299	12,253	5	88	93	242
Texas	47	2,234	11	-	23	-	29	-	84,784	82,333	-	2,123	2,044	390
MOUNTAIN	18	833	18	-	30	-	14	691	40,434	41,184	3	435	587	186
Montana	-	52	1	-	-	-	6	22	2,128	2,019	-	7	13	45
Idaho	-	31	-	-	-	-	5	17	1,812	2,198	-	12	24	-
Wyoming	-	19	1	-	-	-	2	13	943	839	1	4	7	1
Colorado	-	112	4	-	9	-	1	171	10,613	10,416	2	128	140	57
New Mexico	3	159	1	-	-	-	-	65	5,893	7,177	-	101	142	22
Arizona*	14	358	3	-	14	-	-	180	11,048	12,240	-	154	203	50
Utah	-	43	8	-	5	-	-	64	2,482	2,344	-	13	23	11
Nevada	1	59	-	-	2	-	-	159	5,515	3,951	-	16	35	-
PACIFIC	13	4,615	6	-	90	-	5	376	153,015	149,986	4	4,358	5,046	471
Washington	NA	290	-	-	2	-	-	NA	12,061	12,632	NA	241	180	2
Oregon	5	177	1	-	3	-	1	172	10,964	11,002	4	146	106	8
California*	NA	3,481	5	NA	83	NA	4	NA	121,689	119,242	NA	3,904	4,645	424
Alaska	-	85	-	-	-	-	-	172	5,383	4,342	-	27	29	37
Hawaii	8	582	-	-	2	-	-	32	3,218	2,768	-	40	86	-
Guam*	NA	56	-	NA	1	NA	-	NA	201	343	NA	2	2	-
Puerto Rico	2	381	-	-	7	-	-	21	3,108	2,598	7	539	604	53
Virgin Islands	NA	2	-	NA	-	NA	-	NA	225	220	NA	9	52	-

NA: Not available
 *The above figures do not reflect the following corrections. The corrected cumulatives for 1977 will be available upon request. TB: Ohio -2, Mich. -2, Md. -1, S.C. -1, Fla. -17, Calif. +62, Guam +3
 Typhoid: Ariz. +1; RMSF: Ga. -3, GC: Vt. +17 civ., Calif. +1547 civ. +81 mil., Guam +5 civ.; Syphilis: Ohio -1, Ind. -15, Mo. -2, Calif. +47. An rabies: Ohio +2, Ind. +2, Ga. +3, Calif. +2.

Table IV
Deaths in 121 United States Cities*
 Week Ending December 31, 1977 — 52nd Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES	REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year			ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	
NEW ENGLAND	768	507	179	38	22	49	SOUTH ATLANTIC	1,149	705	304	66	41	49
Boston, Mass.	228	136	60	17	8	13	Atlanta, Ga.	94	47	27	7	8	6
Bridgeport, Conn.	39	24	11	1	3	9	Baltimore, Md.	235	134	64	19	9	4
Cambridge, Mass.	30	23	4	2	—	2	Charlotte, N. C.	53	29	16	3	4	1
Fall River, Mass.	33	26	7	—	—	—	Jacksonville, Fla.	143	85	44	5	5	10
Hartford, Conn.	62	44	12	3	2	4	Miami, Fla.	97	66	22	4	3	2
Lowell, Mass.	31	25	6	—	—	2	Norfolk, Va.	55	36	13	3	3	2
Lynn, Mass.	22	18	1	3	—	—	Richmond, Va.	67	35	26	2	2	2
New Bedford, Mass.	32	25	7	—	—	2	Savannah, Ga.	27	17	5	2	1	1
New Haven, Conn.	67	42	16	5	2	5	St. Petersburg, Fla.	94	85	7	2	—	8
Providence, R.I.	66	42	19	1	2	4	Tampa, Fla.	79	53	20	4	1	6
Somerville, Mass.	12	8	3	1	—	—	Washington, D. C.	156	88	47	12	4	6
Springfield, Mass.	45	29	12	—	4	4	Wilmington, Del.	49	30	13	3	1	1
Waterbury, Conn.	45	30	12	2	—	3							
Worcester, Mass.	56	39	9	3	1	1							
							EAST SOUTH CENTRAL	569	322	163	38	22	32
MIDDLE ATLANTIC	3,196	2,086	762	188	78	218	Birmingham, Ala.	109	56	36	8	3	3
Albany, N. Y.	63	43	14	3	1	2	Chattanooga, Tenn.	36	22	7	3	1	1
Allentown, Pa.	33	22	8	2	—	3	Knoxville, Tenn.	42	25	15	—	—	—
Buffalo, N. Y.	146	89	43	9	3	8	Louisville, Ky.	82	43	30	6	1	4
Camden, N. J.	35	20	13	—	2	1	Memphis, Tenn.	104	63	31	5	1	7
Elizabeth, N. J.	35	25	9	—	1	1	Mobile, Ala.	58	35	10	9	3	1
Erie, Pa.	28	19	6	1	1	4	Montgomery, Ala.	46	26	11	—	5	7
Jersey City, N. J.	52	41	7	2	2	4	Nashville, Tenn.	92	52	23	7	8	9
Newark, N. J.	115	57	32	11	11	11							
New York City, N. Y.	1,638	1,109	344	108	31	100	WEST SOUTH CENTRAL	922	515	239	77	43	20
Paterson, N. J.	47	31	12	3	1	5	Austin, Tex.	20	12	5	3	—	2
Philadelphia, Pa.	396	236	119	23	10	27	Baton Rouge, La.	19	13	3	—	2	3
Pittsburgh, Pa.	182	106	48	14	7	23	Corpus Christi, Tex.	26	15	6	3	—	—
Reading, Pa.	48	32	12	1	1	4	Dallas, Tex.	158	85	43	12	8	2
Rochester, N. Y.	143	91	40	4	2	11	El Paso, Tex.	18	8	6	1	2	4
Schenectady, N. Y.	21	19	2	—	—	1	Fort Worth, Tex.	73	43	20	2	6	—
Scranton, Pa.	33	24	7	1	—	—	Houston, Tex.	196	95	56	24	9	2
Syracuse, N. Y.	86	51	28	2	5	4	Little Rock, Ark.	63	35	19	4	1	3
Trenton, N. J.	51	35	12	3	—	5	New Orleans, La.	112	64	29	8	5	—
Utica, N. Y.	20	17	2	1	—	2	San Antonio, Tex.	111	61	29	9	5	2
Yonkers, N. Y.	24	19	4	—	—	2	Shreveport, La.	49	29	13	3	2	1
							Tulsa, Okla.	77	55	10	8	3	1
EAST NORTH CENTRAL	2,475	1,526	600	156	89	95	MOUNTAIN	522	330	121	33	19	18
Akron, Ohio	51	37	8	2	3	—	Albuquerque, N. Mex.	51	29	12	5	2	6
Canton, Ohio	36	28	4	3	—	1	Colorado Springs, Colo.	35	22	6	3	1	1
Chicago, Ill.	708	421	185	46	29	35	Denver, Colo.	101	63	22	5	7	5
Cincinnati, Ohio	147	99	35	7	1	9	Las Vegas, Nev.	22	12	8	1	—	1
Cleveland, Ohio	163	98	40	10	8	4	Ogden, Utah	30	23	2	2	2	2
Columbus, Ohio	137	75	33	13	12	—	Phoenix, Ariz.	147	90	36	11	4	—
Dayton, Ohio	95	59	29	6	4	2	Pueblo, Colo.	14	12	1	1	—	3
Detroit, Mich.	250	149	69	17	6	4	Salt Lake City, Utah	46	27	15	2	2	—
Evansville, Ind.	96	49	16	11	1	6	Tucson, Ariz.	76	52	19	3	1	—
Fort Wayne, Ind.	46	38	4	4	—	4							
Gary, Ind.	22	7	5	2	1	2	PACIFIC	1,440	910	341	90	48	36
Grand Rapids, Mich.	71	47	17	3	3	4	Berkeley, Calif.	27	18	7	2	—	—
Indianapolis, Ind.	158	93	39	8	10	3	Fresno, Calif.	57	29	16	2	6	—
Madison, Wis.	35	21	11	—	1	2	Glendale, Calif.	20	14	6	—	—	—
Milwaukee, Wis.	115	79	26	6	1	3	Honolulu, Hawaii	51	30	12	5	1	2
Peoria, Ill.	37	30	6	1	—	3	Long Beach, Calif.	107	72	17	4	7	—
Rockford, Ill.	51	31	15	2	2	2	Los Angeles, Calif.	401	259	87	24	13	15
South Bend, Ind.	75	44	21	5	—	8	Oakland, Calif.	56	31	19	2	4	2
Toledo, Ohio	122	83	23	9	6	2	Pasadena, Calif.	27	17	7	—	3	—
Youngstown, Ohio	60	42	14	1	1	1	Portland, Oreg.	112	74	25	4	6	2
							Sacramento, Calif.	72	39	24	7	1	1
WEST NORTH CENTRAL	678	443	154	33	28	29	San Diego, Calif.	107	69	23	13	—	4
Des Moines, Iowa	62	39	14	5	2	6	San Francisco, Calif.	139	93	27	12	2	—
Duluth, Minn.	19	14	3	1	1	2	San Jose, Calif.	64	39	20	3	1	1
Kansas City, Kans.	45	26	10	2	2	3	Seattle, Wash.	120	74	28	8	4	3
Kansas City, Mo.	119	70	31	9	4	1	Spokane, Wash.	45	30	13	2	—	4
Lincoln, Nebr.	23	14	4	—	3	2	Tacoma, Wash.	35	22	10	2	—	2
Minneapolis, Minn.	85	58	13	7	5	4							
Omaha, Nebr.	59	33	19	2	4	—							
St. Louis, Mo.	162	117	34	5	4	2							
St. Paul, Minn.	59	42	15	2	—	3							
Wichita, Kans.	45	30	11	—	3	6							
							TOTAL	11,719	7,344	2,863	719	390	546
							Expected Number	12,238	7,460	3,146	724	430	475

*By place of occurrence and week of filing certificate. Excludes fetal deaths.

†Estimate based on average percent of regional total

The Morbidity and Mortality Weekly Report, circulation 70,000, is published by the Center 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: Center for Disease Control, Attn.: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

Send mailing list additions, deletions, and address changes to: Center for Disease Control, Attn.: Distribution Services, GSO, 1-SB-36, 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.

Smallpox — Continued

Appelbaum, MD, University of Natal, Durban; B Miller, MD, CM Stevenson, MD, Johannesburg City Health Dept; I Freeman, MD, Baragwanath Hospital, Johannesburg; A Naude, MD, P Botha, MD, University of Cape Town, Cape Town; E Glathar, MD, J Gilliland, MD, South African Dept of Health, Pretoria; Bacteriology Div, Bur of Laboratories, Bacteriology Div, Bur of Epidemiology, CDC.

Current Trends**Enforcement of a State's Immunization Law for Entering School Children — Detroit**

Michigan's revised School Entrant Immunization Law was enforced in Detroit for the first time in March 1977. Affected were 20,594 children, primarily kindergarteners in the public school system (Table 2).

TABLE 2. Immunization status of entering students before and after enforcement of the school enterers law in Detroit, Michigan, March 1977

Status	At school entry		After program	
	No.	%	No.	%
Complete records				
Adequately immunized*	6,502	31.6	15,022	75.2
Needing immunizations	5,832	28.3	4,346	21.7
Exempt under law**	20	0.1	135	0.7
No or incomplete records	8,240	40.0	482	2.4
TOTAL	20,594	100.0	19,985	100.0

* Documented evidence of having received 3 doses of trivalent oral poliomyelitis vaccine (TOPV), 3 doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP), 1 dose each of measles and rubella vaccine.

** Signed waiver from parents

Notices of intent to exclude those children who did not have documented evidence of having received 3 diphtheria and tetanus toxoid and pertussis vaccine (DTP), 3 trivalent oral poliomyelitis vaccine (TOPV), measles, and rubella vaccinations were issued in January and February 1977. Extra immunization clinics were staffed during days and evenings, and approximately 3,000 children of school-entry age were vaccinated. In late February, 9,002 children (44%) still lacked evidence of 1 or more required immunizations, and a final notice was sent home with them. On March 7, 2,011 (10%) children were excluded from classes and sent home. A total of 482 (2.4%) children still had unacceptable records at the completion of the program; 278 of these were still out of school. Some of these were persons with chronic truancy problems; some had moved out of the school system. Others had transferred to Detroit schools from other states, and their records were not yet available. Parents of 135 (0.7%) signed waivers based on religious or personal objection to immunization.

From September 1976 through March 6, 1977—prior to the exclusion of inadequately vaccinated children from

References

1. MMWR 26:285, 1977
2. Appelbaum PC, Scragg JN, Bowen AJ, et al: *Streptococcus pneumoniae* resistant to penicillin and chloramphenicol. Lancet 2: 995-997, 1977
3. Bottone E, Allerhand J, Pisano MA: Characteristics of a bacteriocin derived from *Streptococcus faecalis* var *zymogenes* antagonistic to *Diplococcus pneumoniae*. Appl Microbiol 22:200-204, 1971

school—21.5% of the 223 cases of measles reported in Detroit had occurred in 5-year-old children. After March, 7 (5.5%) of the next 127 measles cases reported in the city were in 5-year-old children, suggesting that the program may have had some immediate benefit in decreasing measles cases in this age group. After receiving 1 or more immunizations, 4,346 children were allowed to return to school even though they were still in need of further immunizations. Since many children are in need of more than 1 dose of these vaccines, the 1977-78 program has 3 exclusion dates, spaced more than 1 month apart.

On October 24, 4,348 (18%) of 1977-78 entering school children were excluded from classes following a series of notices to parents. As of November 16, all but 420 (2%) children were back in school after having provided documented evidence of receiving the appropriate immunizations.

Reported by WC Clextan, DVM, DC Nolan, MD, City Epidemiologist, RS Charter, MA, J Chiasson, Detroit Health Dept; NS Hayner, MD, State Epidemiologist, Michigan State Dept of Public Health; Immunization Div, Bur of State Services, CDC.

Editorial Note: The existence of a state law requiring measles vaccination for children entering school has been shown to correlate with a decreased incidence of measles (1). Such laws will have maximum effect only when enforced by local authorities, as was done in Detroit and in Alaska earlier this year (2). An increasing number of states are enforcing school immunization laws.

Unfortunately, children already in school in higher grades are not covered by most state laws. A nationwide Immunization Initiative, announced last spring, includes as a major component a program to develop and review immunization records on all school-age children and to provide vaccines to those who are found to be inadequately protected. Health departments in all 50 states, the District of Columbia, the Commonwealth of Puerto Rico, and the territories will be participating in the program during the next 2 years. Full support of and participation by all school systems is essential to the success of this program.

References

1. MMWR 26:109, 1977
2. MMWR 26:122, 1977

International Notes

The following changes should be made in the Supplement — Health Information for International Travel, MMWR, Vol. 26, August 1977:

AFARS AND THE ISSAS, FRENCH TERRITORY OF THE
Change name to DJIBOUTI, REPUBLIC OF

Quarantine Measures**CHINA, REPUBLIC OF (TAIWAN)**

Delete the note.
Smallpox — change code to II.

GUYANA

Smallpox — Asia: Insert Pakistan.

Smallpox Surveillance — Worldwide

A total of 3,234 cases of smallpox have been reported from Eastern Africa to the World Health Organization (WHO) in the period January 1-December 6, 1977. Since October 16, 1975 — more than 2 years ago — when a case occurred in Bangladesh, smallpox has been detected only in Ethiopia, Kenya, and Somalia, 3 countries which together with Djibouti are linked by the Ogaden Desert to form one epidemiologic unit.

To date, the last known case of smallpox occurred in Somalia on October 26 in the Merca District. The source of this case was a known outbreak in the nearby district of Kurtuware. All 211 contacts were traced, revaccinated, and kept under surveillance. There have been no secondary cases. As of December 6, there were 6 pending outbreaks* in Somalia — the one in Merca and 5 in Bardere.

During October and November surveillance in Somalia

*An outbreak is defined as one or more cases; a pending outbreak is one in which 6 weeks has not elapsed since the onset of rash of the last case.

has been severely hampered by heavy rains that have made it difficult or impossible to travel by vehicle. Since work has had to be continued on foot, there have been some delays in reporting and incomplete search coverage in certain areas. To combat this, personnel have been concentrated in those areas considered to be at highest risk of having undetected foci or where information is most limited. Currently there are 1,670 national staff and 24 WHO epidemiologists involved in the program. Increased mobility with restoration of complete active searches will be necessary to ensure that all foci have been detected. Accordingly, intensified activities are planned during the dry season, January through April 1978.

The last known case of smallpox in Ethiopia occurred on August 9, 1976, in El Kere Region. In Kenya, the last case was on February 5, 1977, in the Mandera District.

Reported by the World Health Organization in the Weekly Epidemiological Record 52: 389-391, 1977

Influenza — Taiwan, Finland, United States

Taiwan: The Naval Medical Research Unit No. 2 at Taipei, Taiwan, reports the isolation of 2 influenza A strains which in preliminary tests are reactive with antiserum to A/FM/1/47(H1N1) virus, suggesting that the isolates are similar to those recently recovered in the U.S.S.R. and Hong Kong (1). These isolates were obtained in Taipei from children with illness onset in mid-December. Influenza B/Hong Kong/5/72-like strains have been isolated from children in Taiwan for several months.

Finland: The Central Public Health Laboratory, Helsinki, Finland, has reported to the World Health Organization (WHO) the isolation of H1N1 influenza strains from military recruits in one base in Finland. No civilian cases have been reported. Isolates from Taiwan and Finland are being forwarded to the WHO Collaborating Centers for Influenza

in Atlanta and London for further characterization.

United States: Six states now report widespread influenza activity: Illinois, New Jersey, New York, Pennsylvania, Tennessee, and Wisconsin. Isolates of A/Texas/1/77-like viruses have been reported from 19 states; 1 state, Colorado, has recovered A/Victoria/3/75-like strains, and recovery of both types has been confirmed in 3 states — Arizona, Missouri, and Wisconsin. No H1N1 isolates have been detected in the United States.

Reported by J Olsen, PhD, T Ksiazek, PhD, NAMRU-2, Taiwan; Dr. K Cantell, Central Public Health Laboratory, Helsinki; appropriate State Epidemiologists and laboratory directors; WHO Collaborating Center for Influenza, Bur of Laboratories, Bur of State Services, CDC.

Reference

1. MMWR 26: 410, 1977

Erratum, Vol. 26, No. 50

pp415-416 In the article, "Lead Encephalopathy — New Jersey," p. 415, 2nd column, first paragraph, last sentence, the blood lead level was incorrectly delineated as being 175 mg/dl, and the EP level as being 125 mg/dl, instead of 175 µg/dl and 125 µg/dl, respectively. The same error was duplicated in the figures on p. 416, 2nd column. Also, in the credits to the article, which appear on page 416, add the following names: C Parker, Newark; E Duffy, M Pecara, MD, and L Ziskin, MD, MPH, New Jersey State Dept of Health.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE / CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333

Director, Center for Disease Control, William H. Foege, M.D.
Director, Bureau of Epidemiology, Philip S. Brachman, M.D.
Editor, Michael B. Gregg, M.D.
Managing Editor, Anne D. Mather, M.A.
Chief, MMWR Statistical Activity, Dennis J. Bregman, M.S.

OFFICIAL BUSINESS FIRST CLASS

Redistribution using indicia is illegal.



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
HEW 399