

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

	Epidemiologic Notes and Reports
369	Endophthalmitis Associated with Implantation of Intra-ocular Lens Prosthesis — United States
	Current Trends
370	Comparative Risks of Three Methods of Midtrimester Abortion
375	Indo-Chinese Refugee Health Study
375	Influenza Immunization Program — Wyoming
	Epidemiologic Notes and Reports
376	Influenza — Missouri

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Epidemiologic Notes and Reports

Endophthalmitis Associated with Implantation of Intra-ocular Lens Prosthesis — United States

Eight patients in a Minnesota hospital who had cataract surgery and implantation of an intra-ocular lens prosthesis on November 10 or 11, 1976, developed endophthalmitis. All patients had received lenses from a single lot of a single manufacturer. *Pseudomonas aeruginosa* was subsequently isolated from 2 patients' eyes and from unused lenses of the same lot. The manufacturer has voluntarily recalled all lenses released after November 5, 1976.

Disease became apparent between 24 and 48 hours following operation and was characterized by brown pupillary light reflex, corneal clouding, and, in 4 patients, by coagulum or hypopion in the anterior chamber. No patient complained of increased pain, and the maximum temperature of any patient was 100 F. Needle aspirations obtained from vitreous fluid of 2 patients grew *P. aeruginosa* sensitive to gentamicin, tobramycin, colistin, and carbenicillin.

An epidemiologic investigation revealed that all 8 lenses were from lot # 76-285 produced by the Copeland Lens Company, New York City. Two control groups of uninfected patients were evaluated: (1) 15 other patients receiving Copeland lenses October 24-November 8, 1976, and (2) 21 patients operated on in the same period receiving prosthetic lenses from other manufacturers. No other patients received lenses from lot # 76-285. Six of 8 affected patients were operated on by a single surgeon, but that surgeon inserted approximately half of all Copeland lenses in the insitution ($p = 0.2$). Other than exposure to lenses from lot # 76-285, there were no significant differences between the case and control groups in terms of underlying illnesses, age, sex, or types of preoperative, intraoperative, or postoperative care.

Patients were initially treated with topical and systemic antimicrobials and corticosteroids. When the identity of the infecting microorganism was discovered, gentamicin was administered parenterally, and by either subconjunctival or sub-tenon injection. In addition, parenteral carbenicillin and high dose prednisone therapy was initiated. One lens had to be removed to control infection, but 7 patients are improving on chemotherapy. At least 5 of the 8 patients are expected to suffer no impairment of vision.

Four unopened lenses from the suspect lot were available in the hospital. Three lenses were aseptically removed from their containers and cultured; each grew *P. aeruginosa* with the same antimicrobial susceptibility pattern as that causing disease. The fourth lens was subsequently cultured by the Food and Drug Administration and was found to be contaminated with *P. aeruginosa*.

Distribution records of the suspect lot were obtained from the manufacturer. Of 97 lenses in the lot, all were recovered except 12 that already had been implanted: 8 in the patients described above, 3 in Florida, and 1 in Connecticut. Close clinical evaluation of the Connecticut and Florida patients has revealed no signs of infection. However, on November 15, an ophthalmologist in California noted *P. aeruginosa* endophthalmitis in a patient who had had implantation of a Copeland lens from a different lot.

The manufacturer has voluntarily recalled all lenses released after November 5, 1976, and reports that lenses released before that date have already been implanted.

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Editorial Note: This incident represents the second outbreak of endophthalmitis associated with implantation of lenses reported to CDC. The first outbreak, involving 11 cases of ocular infection with *Paecilomyces lilacinus* associated with lenses from a different manufacturer, occurred in late 1975. While some lens prostheses are sterilized by ethylene oxide, each of these reported outbreaks was associated with implantation of lenses disinfected with sodium hydroxide.

Reference
 1. MMWR 24(52):437, 1975

Current Trends

Comparative Risks of Three Methods of Midtrimester Abortion

A CDC-initiated, multicenter study of the early medical complications of legal induced abortion (JPSA/CDC*), has investigated the comparative risks of midtrimester abortion by 3 methods — intraamniotic prostaglandin F_{2α} (PGF_{2α}), hypertonic saline, and dilatation and evacuation (D&E). Based on data supplied over a 4-year period from 32 institutions on 80,437 abortion cases, midtrimester D&E was the safest and PGF_{2α} the least safe of the 3 methods.

For the study, 15 complications — out of a list of approximately 100, ranging from vaginitis to death — were identified as major: cardiac arrest; convulsions; death; endotoxic shock; fever for 3 or more days; hemorrhage necessitating blood transfusions; hypernatremia; injury to bladder, ureter, or intestines; pelvic infection with 2 or more days of fever and a peak of at least 40 C or with hospitalization for 11 or more days; pneumonia; psychiatric hospitalization for 11 or more days; pulmonary embolism or infarction; thrombophlebitis; unintended major surgery; and wound disruption after hysterotomy or hysterectomy. The term "major complication rate" was used to refer to the percentage of women sustaining 1 or more of these 15 complications. Differences in rates were compared by Chi square tests.

PGF_{2α} vs Saline: Excluding women undergoing concur-

*The Joint Program for the Study of Abortion under the Auspices of the Center for Disease Control

rent sterilization, 1,241 PGF_{2α} and 10,013 saline instillation patients undergoing abortions between 13 and 24 menstrual weeks' gestation were studied. Characteristics of women in both groups were similar; most were young, white, unmarried, of low gravidity, and free of preexisting medical conditions. Abortifacients were administered by transabdominal amniocentesis; the most common initial dose of PGF_{2α} was 40 mg; the most common saline dose was 40 g, that is, 200 cc of 20% saline. The majority of patients in both groups received oxytocin, but laminaria use was rare in both groups.

Abortion by saline was significantly** more safe than PGF_{2α}. The major complication rates were 1.81% for saline and 2.90% for PGF_{2α}. The relative risk of sustaining 1 or more major complications was 1.6 times higher for PGF_{2α} abortions than saline abortions. Saline was safer than PGF_{2α} for each of the 13- to 16, 17- to 20, and 21- to 24-week intervals. Standardized for gestational age, the relative risk of major complications for PGF_{2α} remained 1.6 greater than saline. The greater risk of PGF_{2α} was also independent of the level of physician training, the presence of preexisting medical conditions, or the administration of prophylactic antibiotics.

**When the term "significant" is used in this text, it refers to a P value of < .05.

(Continued on page 375)

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

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	46th WEEK ENDING		MEDIAN 1971-1975	CUMULATIVE, FIRST 46 WEEKS			
	November 20, 1976	November 15, 1975		November 20, 1976	November 15, 1975	MEDIAN 1971-1975	
Aseptic meningitis	55	122	93	2,862	3,691	3,809	
Brucellosis	3	2	2	239	229	165	
Chickenpox	2,543	1,976	---	157,092	125,758	---	
Diphtheria	2	2	6	133	261	167	
Encephalitis	Primary	17	60	47	1,272	2,321	1,368
	Post-infectious	8	5	4	243	271	252
Hepatitis, Viral	Type B	305	270	207	13,002	10,355	7,987
	Type A	502	675	1,047	29,392	30,896	45,685
	Type unspecified	160	182		7,501	7,253	
Malaria	9	6	6	414	371	371	
Measles (rubeola)	417	292	292	36,140	22,480	25,299	
Meningococcal infections, total	25	26	20	1,349	1,283	1,214	
Civilian	25	26	20	1,340	1,256	1,194	
Military	-	-	-	9	27	28	
Mumps	515	791	1,070	35,138	51,965	61,834	
Pertussis	22	26	---	855	1,432	---	
Rubella (German measles)	140	102	166	11,330	15,584	23,057	
Tetanus	-	1	3	56	91	91	
Tuberculosis	620	517	---	29,185	29,293	---	
Tularemia	3	1	1	123	97	130	
Typhoid fever	6	6	9	358	312	375	
Typhus, tick-borne (Rky. Mt. spotted fever)	8	5	4	845	791	621	
Venereal Diseases:							
Gonorrhea							
Civilian	19,821	20,281	---	892,950	883,089	---	
Military	526	606	---	26,025	25,896	---	
Syphilis, primary and secondary							
Civilian	472	476	---	21,363	22,692	---	
Military	8	2	---	307	309	---	
Rabies in animals	45	41	54	2,610	2,182	3,051	

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax	2	Poliomyelitis, total:	8
Botulism	27	Paralytic:	7
Congenital rubella syndrome: Mich. 1	21	Psittacosis:	61
Leprosy:	119	Rabies in man:	2
Leptospirosis:*	40	Trichinosis:	80
Plague:	15	Typhus, murine: Tex. 3	48

*Delayed Report: Leptospirosis: W. Va. 1

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending November 20, 1976 and November 15, 1975 - 46th 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		
						1976	1975	1976	1976	1976	1976		
UNITED STATES	55	3	2,543	2	133	17	60	8	305	502	160	9	414
NEW ENGLAND	1	-	240	-	-	1	1	-	7	17	9	2	20
Maine	-	-	15	-	-	-	-	-	-	2	-	-	-
New Hampshire	-	-	94	-	-	-	-	-	-	2	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	73	-	-	1	1	-	-	5	9	1	11
Rhode Island	1	-	30	-	-	-	-	-	5	2	-	1	4
Connecticut	-	-	28	-	-	-	-	-	2	6	-	-	5
MIDDLE ATLANTIC	7	-	124	-	-	5	3	2	51	59	21	2	91
Upstate New York	3	-	71	-	-	1	1	1	6	19	2	-	21
New York City	3	-	19	-	-	-	-	-	20	17	-	1	40
New Jersey*	-	-	NN	-	-	-	-	-	16	15	16	-	14
Pennsylvania*	1	-	34	-	-	4	2	1	9	8	3	1	16
EAST NORTH CENTRAL	8	1	1,183	-	1	4	7	-	41	96	23	-	21
Ohio	-	1	153	-	1	-	2	-	6	39	-	-	7
Indiana	3	-	98	-	-	1	-	-	2	-	11	-	-
Illinois	1	-	144	-	-	-	-	-	6	10	4	-	3
Michigan	4	-	524	-	-	3	4	-	19	44	7	-	9
Wisconsin*	-	-	264	-	-	-	1	-	8	3	1	-	2
WEST NORTH CENTRAL	1	-	375	-	4	-	19	-	15	38	4	-	27
Minnesota	-	-	-	-	-	-	14	-	2	5	1	-	4
Iowa	-	-	177	-	-	-	-	-	4	-	-	-	-
Missouri*	1	-	8	-	1	-	-	-	3	5	3	-	9
North Dakota	-	-	44	-	-	-	-	-	-	2	-	-	1
South Dakota	-	-	-	-	3	-	-	-	1	1	-	-	3
Nebraska	-	-	-	-	-	-	-	-	-	-	-	-	5
Kansas	-	-	150	-	-	-	5	-	5	25	-	-	5
SOUTH ATLANTIC	4	-	138	-	1	1	1	2	39	57	22	-	67
Delaware	-	-	3	-	-	-	-	-	3	1	-	-	-
Maryland	-	-	13	-	-	1	-	-	5	8	1	-	12
District of Columbia	-	-	1	-	-	-	-	-	1	3	-	-	9
Virginia*	-	-	2	-	-	-	-	-	6	4	4	-	10
West Virginia	-	-	90	-	1	-	1	-	2	3	-	-	3
North Carolina	-	-	NN	-	-	-	-	-	7	9	-	-	6
South Carolina	-	-	6	-	-	-	-	-	6	4	3	-	1
Georgia	-	-	-	-	-	-	-	-	-	9	-	-	5
Florida	4	-	23	-	-	-	-	2	9	16	14	-	21
EAST SOUTH CENTRAL	10	-	51	-	-	1	25	1	21	43	1	1	3
Kentucky	-	-	26	-	-	-	18	-	6	6	-	-	-
Tennessee	5	-	NN	-	-	1	4	1	15	23	-	-	-
Alabama	5	-	23	-	-	-	-	-	6	5	1	1	2
Mississippi	-	-	2	-	-	-	3	-	-	9	-	-	1
WEST SOUTH CENTRAL	5	1	92	-	1	2	2	3	35	64	25	-	21
Arkansas	-	-	3	-	-	-	-	-	7	9	1	-	2
Louisiana	1	-	NN	-	-	1	-	-	2	8	6	-	2
Oklahoma	2	-	17	-	-	1	1	3	11	18	15	-	3
Texas	2	1	72	-	1	-	1	-	15	29	3	-	14
MOUNTAIN	-	1	181	-	4	-	1	-	16	40	22	-	15
Montana	-	-	17	-	-	-	-	-	2	-	-	-	-
Idaho	-	-	17	-	-	-	-	-	-	1	5	-	-
Wyoming*	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	1	77	-	3	-	1	-	5	8	4	-	9
New Mexico	-	-	12	-	1	-	-	-	1	11	-	-	1
Arizona	-	-	NN	-	-	-	-	-	6	10	13	-	4
Utah	-	-	57	-	-	-	-	-	2	9	-	-	-
Nevada	-	-	1	-	-	-	-	-	-	1	-	-	1
PACIFIC	19	-	155	2	122	3	1	-	80	88	33	4	149
Washington	3	-	146	2	114	2	1	-	3	2	3	1	3
Oregon	-	-	-	-	-	-	-	-	7	11	4	-	6
California*	16	-	-	-	1	1	-	-	69	73	26	3	139
Alaska	-	-	2	-	6	-	-	-	-	-	-	-	-
Hawaii	-	-	7	-	1	-	-	-	1	2	-	-	1
Guam*	-	-	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	NA	NA	NA	NA	1	NA	-	-	NA	NA	NA	NA	1
Virgin Islands*	-	-	1	-	-	-	-	-	-	-	-	-	-

NN: Not notifiable

NA: Not available

*Delayed reports: Asep. Meng. N.J. add 3, Pa. delete 2, Wisc. add 5, Mo. delete 1; Chickenpox: Calif. add 44, Guam add 1, V.I. add 2; Enceph: Wisc. add 1, Mo. add 1; Hep. A: Mo. delete 4, Wyo. delete 1; Hep. unsp: Va. delete 2

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending November 20, 1976 and November 15, 1975 - 46th Week

REPORTING AREA	MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1976	CUMULATIVE		1976	CUMULATIVE		1976	CUM. 1976	1976	1976	CUM. 1976	CUM. 1976
		1976	1975		1976	1975						
UNITED STATES	417	36,140	22,480	25	1,349	1,283	515	35,138	22	140	11,330	56
NEW ENGLAND	32	481	323	1	64	72	48	1,476	-	4	304	2
Maine	-	9	16	-	1	6	-	125	-	1	13	-
New Hampshire	-	9	22	-	5	3	-	27	-	1	12	-
Vermont	32	127	52	1	5	2	1	42	-	1	6	-
Massachusetts	-	38	111	-	18	26	1	168	-	1	143	1
Rhode Island	-	15	3	-	7	5	1	475	-	-	5	-
Connecticut	-	283	119	-	28	30	45	639	-	-	125	1
MIDDLE ATLANTIC	16	7,140	2,125	4	202	132	18	3,224	1	5	2,327	8
Upstate New York	-	2,955	891	3	77	41	2	406	-	1	611	4
New York City	3	480	164	-	51	33	9	1,711	-	1	152	3
New Jersey*	2	620	474	1	30	20	3	529	-	1	1,352	-
Pennsylvania*	11	3,085	596	-	44	38	4	578	1	2	212	1
EAST NORTH CENTRAL	295	15,511	6,682	4	172	189	206	14,325	2	82	4,304	4
Ohio	-	579	106	-	68	63	53	2,054	-	4	316	2
Indiana	117	3,609	467	4	12	10	14	1,531	-	35	896	-
Illinois	45	1,718	1,836	-	20	23	5	1,828	-	4	1,197	-
Michigan	66	5,551	3,112	-	61	71	100	5,131	-	23	1,435	2
Wisconsin	67	3,654	1,161	-	11	22	34	3,781	2	16	460	-
WEST NORTH CENTRAL	10	1,216	5,058	2	82	88	85	3,683	-	8	426	7
Minnesota	-	425	182	-	12	19	-	549	-	1	31	2
Iowa	-	37	646	-	10	7	30	1,409	-	-	85	-
Missouri*	-	24	271	2	35	45	3	356	-	1	44	2
North Dakota	-	3	1,061	-	3	2	-	127	-	-	3	1
South Dakota	-	4	356	-	3	1	-	9	-	-	21	1
Nebraska	-	55	395	-	5	3	-	106	-	-	3	-
Kansas	10	668	2,147	-	14	11	52	1,127	-	6	239	1
SOUTH ATLANTIC	4	2,187	394	4	256	255	14	2,659	6	4	1,314	9
Delaware	-	130	35	-	9	7	2	69	-	-	36	-
Maryland	-	715	54	-	22	29	2	701	-	-	3	3
District of Columbia	-	13	1	-	3	5	-	107	-	-	46	-
Virginia	3	780	38	-	30	21	-	207	2	3	240	1
West Virginia	1	203	180	-	8	5	8	808	1	1	319	-
North Carolina	-	17	2	-	50	47	-	385	1	-	18	-
South Carolina	-	4	-	-	36	36	-	45	-	-	590	-
Georgia	-	3	40	3	29	15	-	1	-	-	2	-
Florida	-	322	44	1	69	90	2	336	2	-	60	5
EAST SOUTH CENTRAL	18	909	323	4	125	179	38	2,951	4	3	384	9
Kentucky	1	754	114	-	23	76	1	984	1	-	173	2
Tennessee	17	138	178	3	53	58	22	1,589	3	3	199	6
Alabama	-	-	5	1	35	31	15	319	-	-	1	1
Mississippi	-	17	26	-	14	14	-	59	-	-	11	-
WEST SOUTH CENTRAL	13	826	376	5	200	192	42	2,538	3	11	574	10
Arkansas	-	1	-	2	13	11	-	81	-	-	190	-
Louisiana	1	281	2	1	38	37	-	26	-	3	92	2
Oklahoma	1	301	146	-	21	12	30	758	3	2	79	-
Texas	11	243	228	2	128	132	12	1,673	-	6	213	8
MOUNTAIN	2	5,176	1,487	-	46	37	20	1,185	-	2	486	1
Montana	2	286	50	-	5	7	2	24	-	-	235	-
Idaho	-	2,020	12	-	7	5	5	452	-	-	18	-
Wyoming	-	4	3	-	-	1	-	1	-	-	2	-
Colorado	-	320	1,159	-	12	9	4	254	-	-	24	-
New Mexico	-	16	15	-	4	4	-	127	-	-	31	-
Arizona	-	227	82	-	10	3	-	-	-	-	-	1
Utah	-	2,237	138	-	6	7	9	210	-	2	157	-
Nevada	-	66	28	-	2	1	-	117	-	-	19	-
PACIFIC	27	2,654	5,712	1	202	139	44	3,097	6	21	1,211	6
Washington	1	355	293	-	34	17	11	902	5	11	207	1
Oregon	-	173	199	-	17	8	5	393	-	-	136	1
California	26	2,154	5,156	1	126	105	26	1,736	1	10	845	4
Alaska	-	9	-	-	22	7	-	29	-	-	3	-
Hawaii	-	3	64	-	3	2	2	37	-	-	20	-
Guam	-	16	33	-	1	3	-	22	-	-	6	-
Puerto Rico	NA	448	690	-	4	1	NA	752	NA	NA	10	7
Virgin Islands*	-	17	8	-	1	-	3	41	-	-	8	2

NA: Not available

*Delayed reports: Men. Inf. Pa. delete 3, Mo. add 1; Mumps: N.J. add 12, V.I. add 6; Pertussis: Mo. add 1

Table III-Continued
 Cases of Specified Notifiable Diseases: United States
 Weeks Ending November 20, 1976 and November 15, 1975 - 46th Week

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
	1976	CUM. 1976	CUM. 1976	1976	CUM. 1976	1976	CUM. 1976	GONORRHEA		SYPHILIS (Pri. & Sec.)		CUM. 1976		
								CUMULATIVE		1976	CUMULATIVE			
								1976	1975		1976		1975	
UNITED STATES	620	29,185	123	6	358	8	845	19,821	892,950	883,089	472	21,363	22,692	2,610
NEW ENGLAND	22	1,000	1	-	24	-	9	605	25,464	24,513	21	738	801	73
Maine	1	70	-	-	-	-	-	54	2,156	1,970	-	21	31	35
New Hampshire	-	39	-	-	2	-	-	26	764	632	-	10	15	1
Vermont	1	27	-	-	-	-	-	23	634	615	-	9	7	-
Massachusetts	14	594	1	-	15	-	4	296	12,050	11,412	15	539	529	24
Rhode Island	1	74	-	-	-	-	3	24	1,786	1,889	-	17	21	5
Connecticut	5	196	-	-	7	-	2	182	8,074	7,995	6	142	198	8
MIDDLE ATLANTIC	103	5,379	3	-	63	-	62	2,339	102,969	101,301	73	3,518	4,114	69
Upstate New York*	17	833	2	-	9	-	23	171	16,652	18,304	-	217	367	16
New York City	34	2,108	1	-	34	-	5	1,120	45,336	42,110	53	2,184	2,400	-
New Jersey	27	1,088	-	-	12	-	13	421	16,167	14,938	13	532	657	31
Pennsylvania	25	1,350	-	-	8	-	21	627	24,814	25,949	7	585	690	22
EAST NORTH CENTRAL	89	4,170	1	-	40	-	23	3,304	141,974	145,609	55	1,937	1,859	175
Ohio	32	797	-	-	12	-	18	994	35,632	40,848	10	443	447	34
Indiana	5	463	-	-	4	-	-	488	13,962	12,124	6	102	136	23
Illinois	22	1,456	1	-	12	-	-	907	48,703	50,670	30	1,076	899	27
Michigan*	18	1,212	-	-	9	-	5	661	30,502	27,977	4	213	305	7
Wisconsin	12	242	-	-	3	-	-	254	13,175	13,990	5	103	72	84
WEST NORTH CENTRAL	34	1,079	29	-	21	-	28	967	46,883	44,572	6	398	548	595
Minnesota	5	180	3	-	11	-	-	237	8,345	8,883	1	90	103	153
Iowa	3	104	1	-	1	-	3	77	5,817	6,421	3	40	55	122
Missouri	15	539	21	-	5	-	15	289	18,694	16,221	-	161	246	62
North Dakota	-	31	-	-	-	-	-	18	734	695	-	-	5	121
South Dakota*	4	53	1	-	1	-	3	37	1,401	1,720	-	5	5	57
Nebraska	1	47	-	-	2	-	-	117	3,965	3,965	-	33	18	15
Kansas*	6	125	3	-	1	-	7	192	7,927	6,667	2	69	116	65
SOUTH ATLANTIC	113	6,166	10	1	46	4	419	4,479	215,090	216,491	115	6,112	6,998	407
Delaware	-	63	-	-	-	-	1	81	3,082	3,071	3	61	81	18
Maryland	8	843	1	-	5	-	21	522	28,334	26,714	8	490	511	11
District of Columbia	5	280	-	-	2	-	-	26	12,081	12,433	9	532	615	-
Virginia*	19	916	3	-	5	-	98	581	22,662	21,172	18	626	551	55
West Virginia	7	241	-	-	5	-	8	62	2,762	2,769	-	22	54	14
North Carolina*	21	1,144	3	-	2	3	182	667	31,847	31,086	16	1,103	918	14
South Carolina	5	453	-	-	4	-	50	460	20,143	20,285	8	332	491	5
Georgia	15	781	2	1	4	-	56	1,167	41,909	40,578	15	702	954	204
Florida	33	1,445	1	-	19	1	3	913	52,270	58,383	38	2,244	2,823	86
EAST SOUTH CENTRAL	71	2,513	18	-	15	2	158	1,448	79,108	74,695	11	829	1,036	121
Kentucky	25	537	1	-	6	-	34	129	10,404	9,709	3	116	156	59
Tennessee	25	819	17	-	8	1	90	564	31,650	29,533	4	283	385	41
Alabama	15	732	-	-	1	-	14	492	22,066	20,730	1	171	238	21
Mississippi	6	425	-	-	-	1	20	263	14,988	14,723	3	259	257	-
WEST SOUTH CENTRAL	94	3,521	45	-	17	2	136	2,821	112,655	108,891	66	2,569	2,012	591
Arkansas	6	429	26	-	4	-	20	288	10,433	11,451	2	93	59	142
Louisiana*	9	560	3	-	3	-	-	221	16,316	19,177	14	536	471	7
Oklahoma	10	347	7	-	1	-	95	289	11,056	10,584	1	88	83	154
Texas	69	2,185	9	-	9	2	21	2,023	74,850	67,679	49	1,852	1,399	288
MOUNTAIN	22	826	5	-	20	-	4	997	34,896	35,698	24	708	513	193
Montana	3	45	2	-	2	-	1	36	1,816	1,884	-	12	5	85
Idaho	1	31	-	-	1	-	1	72	1,966	1,830	-	33	15	-
Wyoming*	-	18	1	-	-	-	-	10	706	835	-	10	10	1
Colorado	4	133	1	-	5	-	1	267	9,248	9,543	11	149	91	53
New Mexico	5	160	-	-	2	-	1	156	6,585	6,297	7	264	136	4
Arizona	7	363	-	-	9	-	-	285	10,200	9,484	6	194	190	29
Utah	2	43	1	-	1	-	-	49	2,013	2,220	-	20	15	21
Nevada	-	33	-	-	-	-	-	122	2,362	3,605	-	26	51	-
PACIFIC	72	4,531	11	5	112	-	6	2,861	133,911	131,319	101	4,554	4,811	386
Washington	-	360	2	-	5	-	3	180	11,186	11,975	-	129	164	8
Oregon	5	179	1	-	-	-	-	200	9,431	9,967	1	99	128	11
California	57	3,346	8	5	101	-	3	2,373	106,555	103,973	97	4,216	4,462	325
Alaska	-	80	-	-	-	-	-	79	3,862	3,273	-	22	6	42
Hawaii	10	566	-	-	6	-	-	29	2,877	2,131	3	88	51	-
Guam*	-	38	-	-	1	-	-	-	278	366	-	2	17	-
Puerto Rico	NA	363	-	NA	1	NA	-	NA	2,316	2,605	NA	521	643	40
Virgin Islands*	-	5	-	-	-	-	-	4	213	195	-	47	39	-

NA: Not available

*Delayed reports: TB: Mich. delete 7, Kans. delete 1, Va. delete 1, N. Car. delete 6, Ky. delete 1, La. delete 1, Guam add 2; RMSF: Ups. N.Y.: add 3; GC: La. delete 35, Wyo. add 33, Guam add 2, V.I. add 1; Syphilis: La. delete 7, V.I. add 1; An. rabies: S. Dak. add 37

Table IV
Deaths in 121 United States Cities*
Week Ending November 20, 1976 - 46th 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	699	452	180	35	15	38	SOUTH ATLANTIC	1,350	808	354	78	56	53
Boston, Mass.	216	118	72	13	6	12	Atlanta, Ga.	121	69	30	12	3	3
Bridgeport, Conn.	46	37	6	2	-	2	Baltimore, Md.	297	161	96	17	8	7
Cambridge, Mass.	23	18	4	-	-	1	Charlotte, N. C.	41	26	10	1	3	-
Fall River, Mass.	26	19	6	-	1	1	Jacksonville, Fla.	96	57	22	8	4	-
Hartford, Conn.	48	26	17	1	4	2	Miami, Fla.	127	89	26	5	6	6
Lowell, Mass.	25	15	7	3	-	2	Norfolk, Va.	61	36	19	2	3	4
Lynn, Mass.	24	16	8	-	-	2	Richmond, Va.	110	66	30	4	5	9
New Bedford, Mass.	34	23	9	1	-	-	Savannah, Ga.	45	27	10	1	2	7
New Haven, Conn.	61	46	11	3	1	1	St. Petersburg, Fla.	98	75	15	3	1	4
Providence, R.I.	61	41	11	5	1	7	Tampa, Fla.	72	50	16	2	2	4
Somerville, Mass.	3	-	2	1	-	-	Washington, D. C.	221	113	62	20	19	7
Springfield, Mass.	47	35	9	2	1	3	Wilmington, Del.	61	39	18	3	-	2
Waterbury, Conn.	38	26	7	2	-	4							
Worcester, Mass.	47	32	11	2	1	1	EAST SOUTH CENTRAL	751	431	201	46	45	34
MIDDLE ATLANTIC	3,133	1,997	793	170	107	140	Birmingham, Ala.	125	68	35	9	9	4
Albany, N. Y.	55	40	8	2	4	1	Chattanooga, Tenn.	61	36	14	6	3	4
Allentown, Pa.	25	16	8	1	-	1	Knoxville, Tenn.	51	34	9	2	1	2
Buffalo, N. Y.	118	72	29	9	7	4	Louisville, Ky.	128	73	36	6	10	10
Camden, N. J.	33	18	11	1	2	2	Memphis, Tenn.	180	101	48	9	16	3
Elizabeth, N. J.	31	22	9	-	-	-	Mobile, Ala.	63	36	19	2	1	1
Erie, Pa.	33	24	6	2	1	2	Montgomery, Ala.	38	25	6	3	4	3
Jersey City, N. J.	44	31	12	1	-	1	Nashville, Tenn.	105	58	34	9	1	7
Newark, N. J.	64	30	19	5	9	5							
New York City, N. Y.	1,620	1,050	399	94	45	59	WEST SOUTH CENTRAL	1,263	702	327	108	69	44
Peterston, N. J.	42	22	12	2	5	5	Austin, Tex.	39	29	5	2	2	1
Philadelphia, Pa.	397	245	112	19	10	24	Baton Rouge, La.	150	75	43	19	3	8
Pittsburgh, Pa.	249	129	80	16	15	13	Corpus Christi, Tex.	33	13	9	3	5	1
Reading, Pa.	54	40	11	1	1	1	Dallas, Tex.	165	98	37	15	8	4
Rochester, N. Y.	102	73	21	6	1	10	El Paso, Tex.	49	27	15	6	1	4
Schenectady, N. Y.	34	26	6	2	-	-	Fort Worth, Tex.	72	50	12	5	4	3
Scranton, Pa.	33	24	8	1	-	3	Houston, Tex.	218	113	55	23	7	2
Syracuse, N. Y.	109	70	25	2	6	3	Little Rock, Ark.	37	25	8	1	1	3
Trenton, N. J.	39	24	10	3	1	3	New Orleans, La.	205	97	69	14	17	2
Utica, N. Y.	26	21	5	-	-	1	San Antonio, Tex.	143	74	42	15	10	4
Yonkers, N. Y.	25	20	2	3	-	2	Shreveport, La.	69	47	19	1	2	2
							Tulsa, Okla.	83	54	13	4	9	10
EAST NORTH CENTRAL	2,435	1,437	631	157	134	74	MOUNTAIN	623	352	166	50	30	12
Akron, Ohio	79	45	20	6	7	-	Albuquerque, N. Mex.	56	27	12	11	2	3
Canton, Ohio	34	25	6	1	-	-	Colorado Springs, Colo.	55	32	13	4	-	3
Chicago, Ill.	636	348	157	60	53	8	Denver, Colo.	160	97	48	7	6	3
Cincinnati, Ohio	138	88	38	3	5	1	Las Vegas, Nev.	28	17	9	1	-	2
Cleveland, Ohio	174	92	56	10	12	3	Ogden, Utah	19	12	5	1	-	-
Columbus, Ohio	87	54	23	3	2	6	Phoenix, Ariz.	137	83	33	10	6	-
Dayton, Ohio	95	58	25	4	5	3	Pueblo, Colo.	13	7	4	2	-	-
Detroit, Mich.	336	187	95	25	13	9	Salt Lake City, Utah	65	34	18	3	8	1
Evansville, Ind.	51	32	14	3	1	4	Tucson, Ariz.	90	43	24	11	8	-
Fort Wayne, Ind.	47	27	10	2	4	2							
Gary, Ind.	26	10	11	4	1	2	PACIFIC	1,769	1,113	437	120	49	56
Grand Rapids, Mich.	68	47	10	3	6	8	Berkeley, Calif.	20	12	3	1	1	-
Indianapolis, Ind.	179	112	39	12	10	5	Fresno, Calif.	47	23	17	3	3	2
Madison, Wis.	49	33	9	4	2	11	Glendale, Calif.	30	19	10	1	-	2
Milwaukee, Wis.	148	93	43	7	5	4	Honolulu, Hawaii	65	37	17	4	2	1
Peoria, Ill.	27	17	6	1	1	6	Long Beach, Calif.	90	56	20	7	2	4
Rockford, Ill.	49	26	18	1	2	6	Los Angeles, Calif.	551	373	126	32	9	15
South Bend, Ind.	32	21	7	1	2	2	Oakland, Calif.	84	51	21	7	3	1
Toledo, Ohio	110	71	31	2	2	-	Pasadena, Calif.	32	26	5	-	1	1
Youngstown, Ohio	70	51	13	5	1	-	Portland, Oreg.	126	87	26	7	-	2
							Sacramento, Calif.	62	29	19	6	6	3
WEST NORTH CENTRAL	846	542	199	38	43	17	San Diego, Calif.	140	85	33	10	6	3
Des Moines, Iowa	68	48	10	3	5	-	San Francisco, Calif.	179	102	53	15	6	3
Duluth, Minn.	25	18	6	1	-	3	San Jose, Calif.	69	42	19	6	1	2
Kansas City, Kans.	26	13	5	2	3	-	Seattle, Wash.	154	91	47	12	3	6
Kansas City, Mo.	141	89	33	5	7	2	Spokane, Wash.	69	48	9	5	6	9
Lincoln, Neb.	41	29	9	1	2	-	Tacoma, Wash.	51	32	12	4	-	2
Minneapolis, Minn.	126	85	27	4	7	3							
Omaha, Neb.	88	57	19	6	3	-	TOTAL	12,869	7,834	3,288	802	548	468
St. Louis, Mo.	204	124	60	10	8	4	Expected Number	11,616	7,031	3,025	745	405	396
St. Paul, Minn.	71	45	19	2	3	1							
Wichita, Kans.	56	34	11	4	5	4							

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

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

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Abortion — continued

Fever, endometritis, hemorrhage, retained products of conception, and convulsions each were significantly more frequent for PGF_{2α} abortions. In addition, PGF_{2α} abortions required operative treatment of complications significantly more often than saline abortions, including laparotomy, hysterotomy, and hysterectomy as well as curettage or manual evacuation of the uterus.

Lengths of hospital stay were similar for patients in both groups (mean 2.1 days), although PGF_{2α} produced significantly shorter induction-to-abortion times: 24.8 vs. 29.2 hours. On the other hand, PGF_{2α} abortion patients were significantly more likely to be readmitted to a hospital than saline abortion patients.

D&E vs. Saline: JPSA/CDC studied 6,213 D&E and 8,662 saline instillation patients in the 13- to 20-week interval. Characteristics of women in these 2 groups were again similar: most were young, unmarried, primigravidas, and free of preexisting medical conditions. D&E abortions utilized suction curettage frequently in conjunction with crushing forceps or sharp curettage. Cervical dilatation was accomplished by using graduated metal dilators.

D&E in the 13- to 20-week interval was significantly safer than saline instillation. The major complication rate for D&E was 0.69%, while that of saline instillation was 1.78%. The relative risk of sustaining 1 or more major complications was 2.6 times higher for saline instillation than for D&E.

D&E was significantly safer than saline instillation in the 13- to 16 and 17- to 20-week intervals. Standardized for preexisting medical conditions, prophylactic antibiotic administration, and level of training of the operator, D&E remained significantly safer than saline.

Fever, endometritis, hemorrhage, retained products of conception, and urinary tract infection were each signifi-

cantly more frequent among saline instillation patients, while cervical injury and uterine perforation were significantly more frequent in D&E patients. Rates of uterine perforation, however, did not increase significantly with advancing gestational age.†

D&E patients required curettage or manual evacuation of the uterus as treatment of a complication significantly less often than saline instillation patients, although cervical suturing as a treatment was significantly more frequent among D&E patients. D&E patients spent significantly less time in the hospital (mean 0.2 days). Readmission rates were not significantly different for the 2 groups.

Editorial Note: Current tenets hold that intraamniotic prostaglandin F_{2α} is the safest available method of midtrimester abortion, that saline instillation is less safe than PGF_{2α}, and that D&E beyond the twelfth menstrual week is both unsafe and impractical (1,2). Among the patients in JPSA/CDC, however, midtrimester D&E was significantly safer than saline, which was significantly safer than PGF_{2α}. Statistical testing showed that chance is an unlikely explanation for the differences observed.

Reported by Abortion Surveillance Br, Family Planning Evaluation Div, Bur of Epidemiology, CDC; and C Tietze, MD, The Population Council, New York City.

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2. Brenner WE: Second trimester interruption of pregnancy, in Taymor ML, Green TH Jr (eds): *Progress in Gynecology*, Vol. VI. New York, Grune & Stratton, Inc, 1975

†Gestational age was calculated for 94% of patients by subtracting the date of the last menstrual period from the date of abortion; the physician's estimate of gestational age was used for the 6% of patients for whom 1 or both dates were unknown.

Indo-Chinese Refugee Health Study

In response to a recent request from the HEW Refugee Task Force, the Center for Disease Control collected data on the health status of Indo-Chinese refugees in this country. Information was obtained directly from a random sample of the refugees and their sponsors in 3 widely separated cities in the United States March 1-May 30, 1976. One of every 2 families in Atlanta, Georgia, and Fort Smith, Arkansas, and 1 of every 6 families in San Diego, California, were part of the study. The sample totaled 83 families and 396 people.

Dental problems were the most common health problem found; 48% of the refugees reported such illness. Respiratory disease, undiagnosed fevers, and obstetrical and gynecological problems were also found.

There were 5 cases of communicable disease of public health importance in this group for a prevalence rate of 1.2%. These cases included 2 cases of tuberculosis, and 1 case each of Hansen's disease, syphilis, and malaria. All 5 patients were under treatment.

Health care access varied markedly by region. Three-fourths of the refugees were covered by a health insurance plan. Private plans predominated in Atlanta and Fort Smith while public coverage via Medi-Cal predominated in San Diego. Ninety percent of the refugees sampled in San Diego were covered by some insurance plan.

Reported by the Center for Disease Control.

Influenza Immunization Program — Wyoming

Wyoming is the first state in the union to have more than 70% of its population 18 years and older inoculated with influenza vaccine. In the period October 4 — November 15, 1976, 155,213 persons or 73.2% of those 18 and older received influenza vaccine in 164 mass vaccination clinics conducted throughout the state in all population

aggregates of more than 100 persons.

The early success of the program is attributed to:
 (1) Identifying the program as a local effort in response to a need to protect the local community, rather than as part of a state or national campaign;

- (2) Using local leaders to promote and implement the campaign;
- (3) Emphasizing local media as the primary means of informing the public of the need for the program; and
- (4) Making the vaccine not only available but truly acces-

sible to those who want it by establishing clinic locations and times to meet the convenience of the persons being immunized.

Reported by HS Parish, MD, State Epidemiologist, Wyoming State Dept of Health & Social Services; and National Influenza Immunization Program, CDC.

Epidemiologic Notes and Reports

Influenza — Missouri

A 32-year-old man from a rural area in Missouri became ill on October 10 with a cough, sore throat, low grade fever, and malaise. An acute serum sample was obtained on October 20, and a convalescent serum sample was drawn on November 13. The state laboratory found that titers to A/Victoria/75 and B/Hong Kong/72 remained stable while the titer to A/New Jersey/76 increased from 1:10 to 1:80. CDC has confirmed these findings.

A serologic survey on 20 persons in the community who had recently had febrile upper respiratory infections and on the man's son showed single positive titers to A/New Jersey in 4 persons, 3 of whom were over the age of 55 and one, aged 20, who had a titer of 1:10. Initial investigation sug-

gests a slight increase in febrile upper respiratory tract infections in early November in that area. While the work of the index patient did take him to rural areas, he had no known contact with swine. An investigation is currently underway by the state Department of Health and Welfare and CDC.

In the absence of virus isolation or other serologic conversions in the community, the significance of this finding is uncertain.

Reported by JL Meyer, MD, Concordia; HD Donnell Jr, MD, Missouri State Dept of Health & Welfare; and the National Influenza Immunization Program, CDC.

Erratum, Vol. 25, No. 45

p360 In the ACIP recommendation on Measles Vaccine, delete the reference to "untreated tuberculosis" in the category of high-risk groups for vaccine usage. The corrected description of high-risk groups should read: "Immunization against measles is par-

ticularly important for children with illnesses such as heart disease and cystic fibrosis and for all children who are malnourished or are institutionalized. All these children are prone to have severe cases of measles and complications."

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