CENTER FOR DISEASE CONTROL

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MORBIDITY AND MORTALITY WEEKLY REPORT

Recommendation of the Public Health Service Advisory Committee on Immunization Practices

Influenza Vaccine — Preliminary Statement*

INTRODUCTION

Influenza occurs in the United States every year, but there is great variation in its incidence and geographic distribution. Periodically, influenza becomes epidemic, apparently when the antigens of prevalent influenza viruses have changed enough to render the population susceptible. More epidemics are caused by influenza A viruses than by influenza B viruses, and influenza A epidemics are generally more severe. Furthermore, only influenza A viruses undergo abrupt antigen changes which result in worldwide epidemics, or pandemics.

Thousands have died of influenza in epidemics in the United States in the past 20 years. In the 1957-1958 influenza season, when a new influenza A virus (Asian strain) appeared, nearly 70,000 deaths occurred in this country alone. In 1968-1969, when the Hong Kong variant caused wide spread epidemics in the United States, there were an estimated 33,000 excess deaths. In the intervening years, whenever influenza A epidemics involved most of the country, 10,000 to 20,000 deaths resulted.

Efforts to prevent or control influenza in the United States have generally been aimed at protecting those at greatest risk of having serious illness or dying. This has involved emphasizing the need for annual vaccination of high-risk groups. In interpandemic periods, general vaccination of the entire population has not been a reasonable public health objective for several reasons, including the limited duration of protection from influenza vaccines, the relatively low attack rates of influenza in community outbreaks, and the small number of serious complications of the disease in healthy people.

When, however, an influenza virus with major antigen differences from prevalent strains appears, one to which the population has little or no immunity, a far more aggressive approach may be needed to prevent a possibly extensive epidemic. Such is the case this year.

INFLUENZA A/NEW JERSEY/76 (SWINE INFLUENZA VIRUS)

In February 1976 a new strain of human influenza A virus, A/New Jersey/76 (Hsw1N1),** was isolated in an outbreak of influenza among United States Army recruits at Fort Dix, New Jersey. Retrospective serologic studies show that several hundred personnel on the post were infected; but apparently cases did not spread beyond Fort Dix. This virus is related antigenically to the virus that is believed to have caused the severe influenza pandemic of 1918-1919 and to that which has been circulating in swine since then. There is no evidence that the swine influenza virus has regularly infected human beings since 1930, except in rare instances when human disease was directly related to contact with swine. (Those few persons born since 1930 who have low level of swine influenza antibody most likely encountered somewhat related strains in nature or in influenza vaccines.) The outbreak at Fort Dix thus represents the first documented human-to-human transmission of swine influenza virus since before 1930.

Influenza virus A/New Jersey/76 (Hsw1N1), so-called swine influenza virus, represents a major change from the A/Hong Kong (H3N2) influenza viruses prevalent since 1968. (A current variant of these H3N2 viruses, A/Victoria/75, was epidemic in many parts of the world, including most of the United States, in 1975-1976.) Experience indicates that when a major antigen change occurs in prevalent influenza A viruses, the new virus will rapidly spread worldwide. This sequence of events was particularly notable in 1957 and 1968 when the Asian and Hong Kong strains first appeared.

*A final statement including results of field trials of vaccines to be used in the United States in 1976-1977 will be published in early July.

**The World Health Organization nomenclature for influenza A viruses includes their strain designation and a description of the 2 surface antigens, hemagglutinin (H) and neuraminidase (N).

NATIONAL INFLUENZA IMMUNIZATION PROGRAM

Based on the prospect that the new swine influenza virus will persist and cause extensive disease, health officials in the Federal Government, after consulting with specialists in public health, preventive medicine, and influenza research and with vaccine manufacturers, began planning a nationwide vaccination campaign to protect against this possibility. Comprehensive immunization is feasible this year because the swine influenza virus appeared in time for the United States biologics' producers to prepare enough vaccine to meet the anticipated need. Congress has made funds available to purchase vaccine for all those in the population who are recommended for vaccination. This massive public health effort, unique in our history, is already underway.

The current plan is to distribute swine influenza vaccines at no cost to State agencies for use in State and local programs. National, State, and local public information efforts will make people aware of the availability of vaccine, emphasize the importance of being vaccinated, and describe the associated benefits and risks. The Center for Disease Control will oversee the formulation of national plans, distribute vaccines, maintain epidemiologic and laboratory surveillance of influenza, and assess overall effectiveness of the immunization effort.

Success of the nationwide program depends not only on the proportion of the population vaccinated but also on the potency and safety of the vaccines to be used. Therefore, studies have been underway to test prototype vaccines with several thousand volunteers of different ages. These investigations are sponsored by the National Institute of Allergy and Infectious Diseases (National Institutes of Health), the Bureau of Biologics (Food and Drug Administration), and the Center for Disease Control. Results will be compiled in late June to provide a sound basis for specifying vaccine dosage, age, expected side effects, and contraindications.

INFLUENZA VIRUS VACCINES FOR 1976-1977

The National Influenza Immunization Program provides for two vaccine formulations: a bivalent vaccine for the traditionally identified "high-risk" groups and a monovalent vaccine for the rest of the population. The bivalent vaccine will contain both A/Victoria/75 and A/New Jersey/76 (the swine influenza virus) because the A/Victoria strain which was prevalent in 1975-1976 may persist to some extent in 1976-1977. The monovalent vaccine will contain only the A/New Jersey/76 strain. Vaccines will begin to become available during the summer.

In addition to the influenza A vaccines provided in the National Influenza Immunization Program, there will be a monovalent influenza B vaccine. It will be available through regular commercial channels for persons in the high-risk groups for whom annual influenza vaccination is regularly recommended.

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

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

DISEASE	21st WEEK ENDING		MEDIAN 1971–1975	CUMULATIVE, FIRST 21 WEEKS		
	May 29, 1976	May 24, 1975		May 29, 1976	May 24, 1975	MEDIAN 1971–1975
Aseptic meningitis	51	61	42	724	768	769
Brucellosis	5	7	4	102	74	55
Chickenpox	5,375	4,906	---	120,414	92,351	---
Diphtheria	1	3	2	99	178	88
Encephalitis: Primary	11	14	17	304	261	343
Encephalitis: Post-Infectious	9	4	6	117	119	112
Hepatitis, Viral: Type B	396	248	188	5,862	4,470	3,684
Hepatitis, Viral: Type A	700	662	917	14,348	14,558	20,957
Hepatitis, Viral: Type unspecified	167	151		3,578	3,240	
Malaria	3	8	8	135	104	104
Measles (rubeola)	1,554	941	1,106	25,451	14,576	18,874
Meningococcal infections, total	22	32	25	812	709	709
Civilian	22	32	25	807	692	692
Military	-	-	-	5	17	20
Mumps	1,082	1,815	1,756	26,344	34,731	42,823
Pertussis	18	24	---	381	496	---
Rubella (German measles)	495	630	1,074	8,337	11,438	16,662
Tetanus	2	2	2	16	24	32
Tuberculosis	698	680	---	13,336	12,814	---
Tularemia	4	4	1	43	30	34
Typhoid fever	3	9	8	120	99	116
Typhus, tick-borne (Rky. Mt. spotted fever)	24	38	16	123	109	69
Venereal Diseases:						
Gonorrhea: Civilian	18,015	19,689	---	388,290	377,442	---
Gonorrhea: Military	421	665	---	12,133	11,850	---
Syphilis, primary and secondary: Civilian	440	458	---	10,095	10,376	---
Syphilis, primary and secondary: Military	5	3	---	140	140	---
Rabies in animals	51	67	80	1,017	967	1,524

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	2	Poliomyelitis, total:	4
Botulism:	7	Paralytic:	4
Congenital rubella syndrome:	10	Psittacosis:	21
Leprosy: Tex. 1, Calif. 4, Hawaii 3.	61	Rabies in man:	-
Leptospirosis: *Ga. 1, Hawaii 1	18	Trichinosis: Ups. N.Y. 1.	51
Plague:	2	Typhus, murina: Tex. 1.	9

*Delayed Report: Leptospirosis: Mo. delete 1

Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending May 29, 1976 and May 24, 1975 — 21st Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1976	1976	1976	1976	CUM. 1976	1976	1975	1976	1976	1976	1976	1976	CUM. 1976
UNITED STATES	51	5	5,375	1	99	11	14	9	396	700	167	3	135
NEW ENGLAND	–	–	606	–	–	1	–	1	8	27	13	–	8
Maine*	–	–	15	–	–	–	–	–	–	2	–	–	–
New Hampshire*	–	–	11	–	–	–	–	–	–	1	–	–	–
Vermont	–	–	49	–	–	–	–	–	–	2	–	–	–
Massachusetts	–	–	294*	–	–	1	–	–	3	7	11	–	4
Rhode Island	–	–	84	–	–	–	–	–	1	6	–	–	1
Connecticut	–	–	153	–	–	–	–	1	4	9	2	–	3
MIDDLE ATLANTIC	6	–	256	–	–	1	2	1	67	94	34	–	25
Upstate New York	3	–	112	–	–	1	–	–	15	30	8	–	5
New York City	1	–	118	–	–	–	1	–	6	20	–	–	13
New Jersey	–	–	NN	–	–	–	–	–	39	35	24	–	–
Pennsylvania	2	–	26	–	–	–	1	1	7	9	2	–	7
EAST NORTH CENTRAL	6	–	2,882	–	–	3	1	1	71	74	15	2	9
Ohio	3	–	691	–	–	2	–	–	12	19	–	1	4
Indiana	1	–	218	–	–	–	–	1	4	3	3	–	–
Illinois	1	–	352	–	–	–	1	–	24	20	8	–	1
Michigan	1	–	960	–	–	1	–	–	19	22	3	1	4
Wisconsin*	–	–	661	–	–	–	–	–	12	10	1	–	–
WEST NORTH CENTRAL	–	–	333	–	4	–	2	1	13	18	5	–	4
Minnesota	–	–	12	–	–	–	–	1	4	6	–	–	3
Iowa	–	–	190	–	–	–	–	–	2	2	–	–	–
Missouri*	–	–	6	–	1	–	1	–	3	4	5	–	–
North Dakota	–	–	7	–	–	–	–	–	–	–	–	–	–
South Dakota	–	–	–	–	3	–	–	–	–	5	–	–	1
Nebraska	–	–	36	–	–	–	–	–	–	–	–	–	–
Kansas	–	–	82	–	–	–	1	–	4	1	–	–	–
SOUTH ATLANTIC	6	1	383	–	–	3	2	–	32	106	20	–	20
Delaware*	–	–	4	–	–	–	–	–	1	2	3	–	–
Maryland	1	–	10	–	–	3	–	–	6	6	3	–	2
District of Columbia	–	–	8	–	–	–	–	–	–	3	–	–	2
Virginia	–	1	71	–	–	–	–	–	6	7	2	–	6
West Virginia	–	–	207	–	–	–	–	–	1	9	1	–	–
North Carolina	1	–	NN	–	–	–	–	–	2	10	3	–	3
South Carolina	–	–	8	–	–	–	–	–	–	1	–	–	1
Georgia	–	–	1	–	–	–	–	–	–	41	–	–	1
Florida	4	–	74	–	–	–	2	–	16	27	8	–	5
EAST SOUTH CENTRAL	9	1	37	–	–	1	–	2	22	49	2	–	1
Kentucky	–	–	27	–	–	–	–	–	1	7	1	–	–
Tennessee	1	1	NN	–	–	1	–	–	14	32	1	–	–
Alabama	7	–	5	–	–	–	–	1	5	6	–	–	–
Mississippi	1	–	5	–	–	–	–	1	2	4	–	–	1
WEST SOUTH CENTRAL	11	3	261	–	1	–	–	–	27	51	29	–	6
Arkansas	–	–	1	–	–	–	–	–	–	4	1	–	–
Louisiana	4	2	NN	–	–	–	–	–	1	8	2	–	–
Oklahoma	–	–	43	–	–	–	–	–	4	7	2	–	–
Texas	7	1	217	–	1	–	–	–	22	32	24	–	6
MOUNTAIN	1	–	146	–	3	–	–	3	32	28	8	–	7
Montana*	–	–	25	–	–	–	–	–	1	–	–	–	–
Idaho*	–	–	12	–	–	–	–	–	–	–	1	–	–
Wyoming	–	–	–	–	–	–	–	–	–	–	–	–	–
Colorado	1	–	108	–	3	–	–	2	5	10	6	–	4
New Mexico	–	–	–	–	–	–	–	–	–	13	1	–	1
Arizona	–	–	–	–	–	–	–	1	26	4	–	–	1
Utah	–	–	–	–	–	–	–	–	–	1	–	–	–
Nevada	–	–	1	–	–	–	–	–	–	–	–	–	1
PACIFIC	12	–	471	1	91	2	7	–	124	253	41	1	55
Washington*	1	–	434	1	89	–	1	–	3	14	6	–	1
Oregon	–	–	1	–	–	–	–	–	7	15	3	–	5
California*	9	–	–	–	1	2	6	–	106	127	32	1	48
Alaska	–	–	–	–	1	–	–	–	4	94	–	–	–
Hawaii	2	–	36	–	–	–	–	–	4	3	–	–	1
Guam	–	–	–	–	–	–	–	–	–	–	–	–	–
Puerto Rico	–	–	20	–	–	–	–	–	2	12	–	–	1
Virgin Islands	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–

NA: Not Available NN: Not Notifiable

*Delayed Reports: Asep. Meng.: Mo. add 1; Brucellosis: Mo; delete 2; Chickenpox: Me. add 7, New Hamp. add 2, Wash. add 10, Calif. add 191; Enceph. Prim.: Wisc. delete 1; Enceph. Post: Wisc, add 1; Hep. B: Del. delete 1, Montana add 1, Idaho add 1; Hep. A: Mo. delete 6, Del. delete 9, Idaho add 1; Hep. unsp.: Del. delete 1, Montana delete 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 29, 1976 and May 24, 1975 – 21st Week

REPORTING AREA	MEASLES (Rubeole)			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	1,554	25,451	14,576	22	812	709	1,082	26,344	18	495	8,337	16
NEW ENGLAND	18	208	185	–	34	41	35	977	–	18	223	–
Maine	–	3	10	–	–	5	1	82	–	–	2	–
New Hampshire	–	5	19	–	2	1	–	24	–	–	11	–
Vermont	–	–	38	–	3	–	–	5	–	–	1	–
Massachusetts	18	20	52	–	10	13	3	138	–	4	113	–
Rhode Island	–	14	1	–	4	3	11	353	–	1	5	–
Connecticut	–	166	65	–	15	19	20	375	–	13	91	–
MIDDLE ATLANTIC	250	5,057	968	4	107	71	97	2,094	4	97	1,797	–
Upstate New York	103	1,825	289	1	39	23	9	300	–	22	356	–
New York City	18	295	92	3	28	15	61	1,008	1	4	105	–
New Jersey	–	524	339	–	16	10	17	397	–	50	1,185	–
Pennsylvania	129	2,413	248	–	24	23	10	389	3	21	151	–
EAST NORTH CENTRAL	755	10,723	4,286	–	131	105	482	11,062	7	271	3,027	–
Ohio	64	380	80	–	74	21	89	1,565	–	58	237	–
Indiana	240	2,258	307	–	4	5	70	1,092	–	45	403	–
Illinois	89	1,121	983	–	10	18	83	1,498	4	104	990	–
Michigan	245	4,269	2,247	–	35	49	116	4,167	2	37	1,065	–
Wisconsin	117	2,695	669	–	8	12	124	2,740	1	27	332	–
WEST NORTH CENTRAL	11	749	3,903	1	56	37	66	2,958	2	8	284	1
Minnesota	11	237	–	–	11	8	–	531	–	1	24	–
Iowa	–	10	355	–	8	5	41	1,086	–	5	37	–
Missouri	–	11	202	–	17	19	7	241	2	1	28	–
North Dakota	–	1	925	–	3	–	–	112	–	–	1	1
South Dakota	–	2	338	–	1	1	–	4	–	1	13	–
Nebraska	–	40	331	–	2	1	2	64	–	–	3	–
Kansas	–	448	1,752	1	14	3	16	920	–	–	178	–
SOUTH ATLANTIC	204	1,581	182	5	155	140	71	2,010	2	33	1,116	7
Delaware	4	118	20	–	2	4	–	24	–	–	6	–
Maryland	–	643	17	3	14	15	13	528	–	–	1	2
District of Columbia	1	4	–	–	2	4	–	91	–	–	45	–
Virginia*	169	382	20	1	19	14	4	168	–	28	199	1
West Virginia	3	141	103	–	4	4	30	613	–	3	236	–
North Carolina	–	–	–	–	29	27	20	322	2	–	13	–
South Carolina	–	3	–	1	28	22	–	36	–	–	568	–
Georgia*	–	1	2	–	13	8	–	–	–	–	–	–
Florida	27	289	20	–	44	42	4	228	–	2	48	4
EAST SOUTH CENTRAL	27	552	202	5	61	102	101	2,192	2	18	252	2
Kentucky	27	532	75	2	12	45	17	880	2	3	133	1
Tennessee	–	5	117	3	26	36	76	1,107	–	15	116	1
Alabama	–	–	3	–	16	13	5	177	–	–	–	–
Mississippi	–	15	7	–	7	8	3	28	–	–	3	–
WEST SOUTH CENTRAL	75	576	202	6	125	111	84	1,802	–	5	456	4
Arkansas*	–	–	–	–	5	6	3	63	–	–	187	–
Louisiana	26	157	–	1	18	22	5	18	–	3	83	1
Oklahoma	37	265	89	–	18	8	12	579	–	–	51	–
Texas	12	154	113	5	84	75	64	1,142	–	2	135	3
MOUNTAIN	120	4,515	938	–	26	26	37	956	1	2	406	1
Montana *	5	184	11	–	2	3	–	19	–	1	199	–
Idaho	82	1,905	4	–	2	4	2	421	–	–	18	–
Wyoming	3	3	–	–	–	–	–	1	–	–	2	–
Colorado	10	258	865	–	10	8	7	170	–	1	18	–
New Mexico	1	13	6	–	1	3	–	124	1	–	30	–
Arizona	–	341	32	–	7	1	–	–	–	–	–	1
Utah	17	1,753	4	–	4	6	–	122	–	–	122	–
Nevada	2	58	16	–	–	1	28	99	–	–	17	–
PACIFIC	94	1,490	3,710	1	117	76	109	2,293	–	43	776	1
Washington	2	95	127	–	19	13	19	796	–	8	125	–
Oregon	6	93	137	–	9	4	14	284	–	–	101	1
California	86	1,300	3,400	1	81	58	75	1,181	–	35	539	–
Alaska	–	–	–	–	6	–	–	17	–	–	–	–
Hawaii	–	2	46	–	2	1	1	15	–	–	11	–
Guam	–	6	15	–	1	1	–	7	–	–	3	–
Puerto Rico	11	119	383	–	2	1	19	477	3	–	5	14
Virgin Islands	NA	4	6	–	–	–	NA	20	NA	NA	3	1

NA: Not Available
*Delayed Reports: Measles: Mo. delete 1, Ga. delete 1, Va. delete 2, Montana delete 16; Mumps: Mo. delete 1; Rubella: Ga. add 1, Arkansas add 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending May 29, 1976 and May 24, 1975 — 21st Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
									CUMULATIVE			CUMULATIVE		
	1976	CUM. 1976	CUM. 1976	1976	CUM. 1976	1976	CUM. 1976	1976	1976	1975	1976	1976	1975	CUM. 1976
UNITED STATES	698	13,336	43	3	120	24	123	18,015	388,290	377,442	440	10,095	10,376	1,017
NEW ENGLAND	22	498	-	1	17	1	2	514	10,633	10,340	14	306	372	17
Maine	3	33	-	-	-	-	-	30	891	675	-	8	8	12
New Hampshire	1	21	-	-	2	-	-	12	278	288	-	4	10	-
Vermont	-	14	-	-	-	-	-	13	246	228	-	2	4	-
Massachusetts	13	296	-	1	13	1	2	258	5,087	4,997	14	227	247	4
Rhode Island	-	35	-	-	-	-	-	36	691	788	-	11	4	1
Connecticut	5	99	-	-	2	-	-	165	3,440	3,364	-	54	99	-
MIDDLE ATLANTIC	170	2,515	-	1	20	1	5	1,870	42,129	44,125	65	1,707	1,931	9
Upstate New York	22	376	-	-	4	-	1	230	6,334	7,834	3	107	185	2
New York City	73	1,028	-	-	10	1	1	1,062	18,864	19,126	38	1,078	1,096	-
New Jersey	29	468	-	1	4	-	3	95	6,593	5,974	10	236	310	3
Pennsylvania	46	643	-	-	2	-	-	483	10,338	11,191	14	286	340	4
EAST NORTH CENTRAL	85	1,750	-	1	11	2	3	2,676	63,085	62,627	30	923	828	52
Ohio*	26	312	-	-	3	2	3	355	15,188	16,896	13	222	192	-
Indiana	9	241	-	-	-	-	-	353	5,834	5,849	2	50	54	14
Illinois	24	557	-	-	3	-	-	985	23,390	21,461	11	493	398	10
Michigan	18	536	-	1	4	-	-	656	12,746	12,324	4	109	140	1
Wisconsin	8	104	-	-	1	-	-	327	5,927	6,097	-	49	44	27
WEST NORTH CENTRAL	31	493	12	-	5	-	-	1,049	19,842	18,633	5	176	231	233
Minnesota	10	100	3	-	2	-	-	193	3,662	3,795	-	39	48	58
Iowa	4	45	1	-	-	-	-	98	2,471	2,574	-	19	10	49
Missouri*	5	227	7	-	3	-	-	486	7,967	6,805	5	74	127	30
North Dakota	-	13	-	-	-	-	-	11	281	287	-	-	3	51
South Dakota	3	26	-	-	-	-	-	21	555	735	-	2	3	14
Nebraska	1	23	-	-	-	-	-	131	1,688	1,601	-	13	4	4
Kansas*	8	59	1	-	-	-	-	109	3,218	2,836	-	29	36	27
SOUTH ATLANTIC	138	2,906	3	-	13	12	64	4,519	93,345	92,305	132	2,990	3,231	153
Delaware	2	38	-	-	-	-	-	65	1,267	1,312	-	40	37	-
Maryland	28	424	1	-	-	1	4	436	12,945	10,469	9	243	245	11
District of Columbia	-	122	-	-	-	-	-	222	5,536	5,786	13	277	264	-
Virginia	10	478	-	-	3	4	17	504	9,897	9,293	7	276	247	26
West Virginia*	5	124	-	-	-	-	-	49	1,222	1,124	1	16	10	8
North Carolina	33	504	2	-	1	3	25	782	14,030	13,390	19	583	419	1
South Carolina	22	224	-	-	1	1	14	549	9,239	8,511	11	160	220	2
Georgia	10	365	-	-	2	3	4	840	17,208	17,037	5	306	431	83
Florida	28	627	-	-	6	-	-	1,072	22,001	25,383	67	1,089	1,358	22
EAST SOUTH CENTRAL	53	1,145	9	-	6	4	20	1,706	34,999	31,097	21	417	461	60
Kentucky	10	263	1	-	3	1	4	86	4,420	3,958	-	63	74	38
Tennessee	10	334	8	-	3	3	14	758	13,774	12,417	7	171	166	14
Alabama	20	336	-	-	-	-	1	560	9,930	8,380	1	79	115	8
Mississippi	13	212	-	-	-	-	1	302	6,875	6,342	13	104	106	-
WEST SOUTH CENTRAL	97	1,529	12	-	3	3	28	2,504	51,983	47,363	77	1,159	891	267
Arkansas	12	207	3	-	-	-	7	209	4,781	4,969	2	39	24	68
Louisiana*	34	243	1	-	-	-	-	227	7,331	8,820	21	248	202	-
Oklahoma	-	141	5	-	-	3	19	232	4,795	4,369	5	45	39	64
Texas	51	938	3	-	3	-	2	1,836	35,076	29,205	49	827	626	135
MOUNTAIN	16	365	1	-	7	1	1	721	14,699	14,746	20	283	271	58
Montana	1	22	1	-	2	-	-	40	747	799	-	3	3	49
Idaho	-	9	-	-	1	1	1	43	787	754	-	21	7	-
Wyoming	1	8	-	-	-	-	-	16	336	374	-	6	4	1
Colorado	2	78	-	-	1	-	-	205	3,818	3,797	3	71	51	-
New Mexico	1	56	-	-	1	-	-	122	2,860	2,648	7	78	78	-
Arizona	10	164	-	-	2	-	-	209	4,213	3,892	5	71	95	8
Utah	-	14	-	-	-	-	-	72	800	880	5	15	6	-
Nevada	1	14	-	-	-	-	-	14	1,138	1,602	-	18	27	-
PACIFIC	86	2,135	6	-	38	-	-	2,456	57,575	56,206	76	2,134	2,160	168
Washington	6	201	2	-	2	-	-	224	4,838	5,074	-	45	69	1
Oregon	-	70	1	-	-	-	-	122	4,271	4,124	-	53	47	-
California	77	1,590	3	-	35	-	-	2,030	45,860	44,760	75	1,983	2,018	129
Alaska	-	25	-	-	-	-	-	64	1,556	1,364	1	12	1	38
Hawaii	3	249	-	-	1	-	-	16	1,050	884	-	41	25	-
Guam	-	24	-	-	-	-	-	-	148	193	-	1	3	-
Puerto Rico	8	131	-	-	-	-	-	27	1,071	1,211	9	229	292	16
Virgin Islands	NA	2	-	NA	-	NA	-	NA	104	65	NA	31	13	-

NA: Not Available
*Delayed Reports: TB: Mo. delete 1, Kansas delete 2; Typhoid fever: W. Va. add 1; RMSF: W. Va. add 1; GC: Ohio delete 120, La. delete 21; Syphilis: Mo. add 4

Table IV
Deaths in 121 United States Cities*
Week Ending May 29, 1976 – 21st Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
NEW ENGLAND	620	373	187	21	25	22
Boston, Mass.	174	92	57	9	11	3
Bridgeport, Conn.	33	18	11	3	1	2
Cambridge, Mass.	23	14	8	1	-	3
Fall River, Mass.	33	20	11	1	1	-
Hartford, Conn.	54	34	11	1	3	1
Lowell, Mass.	21	14	7	-	-	2
Lynn, Mass.	12	10	2	-	-	-
New Bedford, Mass.	29	18	9	2	-	1
New Haven, Conn.	67	37	22	2	2	-
Providence, R.I.	54	34	16	-	4	5
Somerville, Mass.	8	4	3	1	-	-
Springfield, Mass.	33	18	13	-	2	1
Waterbury, Conn.	27	21	6	-	-	4
Worcester, Mass.	52	39	11	1	1	-
MIDDLE ATLANTIC	2,620	1,612	682	168	88	131
Albany, N. Y.	44	25	14	-	2	-
Allentown, Pa.	24	18	5	-	1	2
Buffalo, N. Y.	122	73	35	3	6	15
Camden, N. J.	28	13	12	1	1	3
Elizabeth, N. J.	22	16	3	2	-	2
Erie, Pa.	28	19	9	-	-	1
Jersey City, N. J.	40	30	6	4	-	-
Newark, N. J.	55	21	22	4	5	4
New York City, N. Y†	1,347	852	324	103	36	46
Paterson, N. J.	25	9	10	4	2	4
Philadelphia, Pa.	394	226	115	27	16	27
Pittsburgh, Pa.	159	94	45	5	8	10
Reading, Pa.	30	22	6	1	1	1
Rochester, N. Y.	95	55	29	5	3	10
Schenectady, N. Y.	27	21	6	-	-	1
Scranton, Pa.	38	26	9	2	1	1
Syracuse, N. Y.	64	33	16	5	6	-
Trenton, N. J.	29	23	6	-	-	-
Utica, N. Y.	20	16	4	-	-	2
Yonkers, N. Y.	29	20	6	2	-	2
EAST NORTH CENTRAL	2,338	1,354	635	162	94	70
Akron, Ohio	60	36	16	2	4	-
Canton, Ohio	50	37	6	2	2	2
Chicago, Ill.	551	312	154	34	29	11
Cincinnati, Ohio	138	75	40	9	5	2
Cleveland, Ohio	184	104	56	17	2	6
Columbus, Ohio	135	79	34	13	4	7
Dayton, Ohio	105	62	28	6	3	2
Detroit, Mich.	278	142	88	23	9	5
Evansville, Ind.	36	21	9	2	2	1
Fort Wayne, Ind.	57	38	16	-	3	6
Gary, Ind.	28	15	4	6	2	-
Grand Rapids, Mich.	53	31	17	1	3	7
Indianapolis, Ind.	165	102	34	14	5	1
Madison, Wis.	68	42	18	4	4	8
Milwaukee, Wis.	127	68	41	12	3	2
Peoria, Ill.	41	15	18	4	4	-
Rockford, Ill.	36	22	9	2	2	2
South Bend, Ind.	52	43	7	1	-	5
Toledo, Ohio	108	72	21	6	6	2
Youngstown, Ohio	66	38	19	4	2	1
WEST NORTH CENTRAL	748	442	198	35	39	31
Des Moines, Iowa	68	51	15	-	1	6
Duluth, Minn.	24	14	6	1	-	2
Kansas City, Kans.	38	21	12	3	1	1
Kansas City, Mo.	146	84	43	5	6	2
Lincoln, Nebr.	17	9	6	-	2	-
Minneapolis, Minn.	90	55	19	8	7	2
Omaha, Nebr.	75	41	26	2	4	3
St. Louis, Mo.	173	94	46	11	11	8
St. Paul, Minn.**	64	42	14	2	3	2
Wichita, Kans.	53	31	11	3	4	5

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
SOUTH ATLANTIC	1,053	590	296	83	43	26
Atlanta, Ga.	110	50	32	20	4	2
Baltimore, Md.	201	106	68	14	3	2
Charlotte, N. C.	61	26	20	5	6	4
Jacksonville, Fla.	85	58	17	5	2	2
Miami, Fla.	124	68	39	12	2	1
Norfolk, Va.	54	33	11	5	2	8
Richmond, Va.	74	40	23	1	8	-
Savannah, Ga.	35	26	7	1	1	4
St. Petersburg, Fla.	67	61	4	1	1	-
Tampa, Fla.	67	40	15	6	2	1
Washington, D. C.	130	59	44	11	11	2
Wilmington, Del.	45	23	16	2	1	-
EAST SOUTH CENTRAL	704	406	190	42	30	27
Birmingham, Ala.	143	77	34	11	13	2
Chattanooga, Tenn.	42	21	13	5	-	4
Knoxville, Tenn.	57	39	15	-	1	-
Louisville, Ky.	99	53	30	6	8	11
Memphis, Tenn.	163	102	43	7	3	4
Mobile, Ala.	69	42	17	2	3	2
Montgomery, Ala.	44	27	10	4	-	4
Nashville, Tenn.	87	45	28	7	2	-
WEST SOUTH CENTRAL	1,249	648	375	104	48	26
Austin, Tex.	47	26	14	7	-	2
Baton Rouge, La.	52	35	12	1	2	2
Corpus Christi, Tex.	21	13	5	-	2	-
Dallas, Tex.	156	86	39	14	3	3
El Paso, Tex.	70	35	21	6	1	1
Fort Worth, Tex.	74	33	27	9	2	1
Houston, Tex.	402	182	131	42	17	9
Little Rock, Ark.	45	29	15	-	1	-
New Orleans, La.	142	61	57	11	8	-
San Antonio, Tex.	128	78	25	10	6	-
Shreveport, La.	50	33	11	2	2	1
Tulsa, Okla.	62	37	18	2	4	7
MOUNTAIN	497	289	128	38	28	23
Albuquerque, N. Mex.	46	25	15	5	-	1
Colorado Springs, Colo.	31	19	7	4	1	3
Denver, Colo.	108	62	32	4	9	8
Las Vegas, Nev.	35	22	9	2	-	-
Ogden, Utah	19	13	1	2	3	1
Phoenix, Ariz.	128	73	37	12	5	6
Pueblo, Colo.	15	7	4	1	1	3
Salt Lake City, Utah	52	27	10	5	6	1
Tucson, Ariz.	63	41	13	3	3	-
PACIFIC	1,657	1,058	375	121	47	39
Berkeley, Calif.	20	12	4	3	-	-
Fresno, Calif.	67	47	10	4	3	4
Glendale, Calif.	38	29	6	2	1	-
Honolulu, Hawaii	58	33	18	5	1	3
Long Beach, Calif.	93	51	28	8	3	4
Los Angeles, Calif.	546	355	119	40	12	11
Oakland, Calif.	67	44	14	5	4	-
Pasadena, Calif.	20	13	4	1	2	-
Portland, Oreg.	129	94	23	5	3	1
Sacramento, Calif.	64	35	16	5	5	1
San Diego, Calif.	102	62	29	6	3	1
San Francisco, Calif.	166	92	46	16	3	4
San Jose, Calif.	53	36	10	4	-	2
Seattle, Wash.	158	100	36	12	4	4
Spokane, Wash.	40	28	4	4	3	3
Tacoma, Wash.	36	27	8	1	-	1
TOTAL	11,486	6,772	3,066	774	442	395
Expected Number	11,743	7,053	3,094	761	364	374

*By place of occurrence and week of filing certificate. Excludes fetal deaths. †Delayed Report for Week Ending 5/22/76 (For NYC) **Estimated

The Morbidity and Mortality Weekly Report, circulation 52,000, 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.

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SWINE INFLUENZA VACCINE USAGE

General Recommendations

High-Risk Groups: Bivalent influenza A vaccine is recommended for persons of all ages who have such chronic health problems as 1) heart disease of any etiology, particularly with mitral stenosis or cardiac failure, 2) chronic bronchopulmonary diseases, such as asthma, chronic bronchitis, cystic fibrosis, bronchiectasis, tuberculosis, and emphysema, 3) chronic renal failure, and 4) diabetes mellitus and other chronic metabolic disorders.

Bivalent influenza A vaccine is also recommended for older persons, particularly those over age 65 years. This is because excess mortality in influenza outbreaks is seen among those in the older age groups as well as among patients with chronic illnesses.

General Population: Monovalent A/New Jersey/76 (swine influenza virus) vaccine is recommended for all persons not in the high-risk groups who can safely and effectively be vaccinated. Age criteria for vaccine recipients will be derived from the field trials being conducted at the present time and will be included in the final ACIP influenza statement to be published in July 1976.

Information for Vaccinees: Influenza vaccination should be preceded by informing all potential recipients or the parents of children to be vaccinated of the general characteristics of the vaccine, what its benefits are, and what side effects it has. Comparable procedures for providing this information should be used. There should be ample opportunity for recipients to have their questions answered, and there should be documentation that information was received and vaccination desired. Documentation could be by the signature of potential recipients or of parents or guardians or by other systems of records judged sufficient to identify those who, after being informed, choose to be vaccinated.

Dosage and Schedule

Only one dose of the bivalent vaccine or the monovalent influenza A vaccine should be needed. Age criteria, proper dosages, and routes of administration will be derived from field study results. Influenza vaccination programs should begin as vaccines become available and should continue through the fall so that the target population can be vaccinated before winter, the season when influenza characteristically occurs.

Side Effects

Influenza vaccines currently produced by manufacturers in the United States are purified by zonal centrifugation and should produce few severe side effects. Before these new purification techniques came into general use in the late 1960s, influenza vaccines fairly commonly caused local and systemic reactions considered objectionable by many recipients. With current influenza vaccines, however, only mild local reactions, such as erythema and tenderness at the injection site, will be relatively common. Systemic reactions, including low-grade fever, chills, malaise, or headache, should occur only infrequently. These conclusions are based on experience with influenza vaccines similar to the ones that will be used this year. Data from field trials with the actual 1976-1977 vaccines will help delineate side effects.

Precautions

Persons with known hypersensitivity to egg protein should not be given influenza vaccine except under the close supervision of a physician.

Concurrent Administration of Influenza and Other Vaccines

It would seem prudent not to administer influenza vaccine along with vaccine containing diphtheria, pertussis, or tetanus antigens since fever is often associated with these antigens, and their simultaneous administration might increase the chance of febrile responses. Furthermore, influenza vaccine should probably not be administered within 14 days after vaccination with the live, attenuated measles virus vaccine since measles vaccine is known to induce fever in 15 percent or more of vaccinees beginning about 6 days after vaccination and lasting several days.

If, in the context of the National Influenza Immunization Program, health agencies plan to provide vaccines other than those against influenza, they should take into account such matters as the risk of coincidental vaccine reactions, the need for informing recipients about all antigens to be given and for documenting vaccine acceptance, and the record-keeping commitments that giving multiple antigens entail.

Every effort should be made during the period of the National Influenza Immunization Program to maintain routine vaccination activities and to conduct whatever programs are needed to prevent and control outbreaks of vaccine-preventable illnesses.

Epidemiologic Notes and Reports

Trichinosis from Bear Meat — California

In October 1975 a family camping in Trinity County (California) shot a bear which was menacing them at their campsite. Some bear meat was eaten after cooking, some was made into jerky, and a large amount was frozen or given to friends. Ten days after eating some of the cooked meat and jerky which had been smoked for 4 days, a 77-year-old man developed diarrhea, abdominal distress, and muscle aches. He recovered without treatment. His serum, obtained 3 weeks after onset, showed a bentonite flocculation titer of 1:320, which is diagnostic for trichinosis.

The Humboldt-Del Norte Health Department immediately began investigation of this episode to prevent further exposures. Laboratory examination of freezer-stored bear meat showed numerous encysted trichinae. All 34 other individuals who had consumed the bear meat or jerky were interviewed for a history of illness; serum specimens for

Trichinosis — Continued

serology were obtained from 32. One of the exposed persons had symptoms suggestive of trichinosis (muscle aches 2 weeks after eating jerky); however, a bentonite flocculation test, performed at CDC, was negative 6 weeks after ingestion of meat. Three other individuals had positive serologic evidence of infection 6 weeks after exposure; 2 remained asymptomatic, while the third reported only diarrhea.

Editorial Note: Although the prevalence of *Trichinella spiralis* in commercial pork and pork products is low today, infection in wild mammals such as bear and boar is common (*1,2*). Since 1970, 4 other episodes of trichinosis from bear meat have been reported in California. One outbreak involved 9 persons with clinical disease, another 4.

Reported by DD Baker, MD, P Hickey, PhN, W Strickland, MPH, Humboldt-Del Norte County Health Dept; L Bradford, BS, M Hanahoe, BS, CW Juels, MD, RR Roberto, MD, California State Dept of Health: in California Morbidity, *No. 6, February 20, 1976.*

References

1. Clark PS, Brownsberger KM, Saslow AR, et al: Bear meat trichinosis: Epidemiologic, serologic, and clinical observations from two Alaskan outbreaks. Ann Intern Med 76:951-956, 1972
2. Center for Disease Control: Trichinosis surveillance, Annual Summary 1974, Issued September 1975

Fish Tapeworm Infection — Minnesota

On October 23, 1975, a portion of a ribbon-like flatworm was submitted to the Parasitology Laboratory at the Veterans Administration Hospital in Minneapolis. Identified as *Diphyllobothrium latum*, it had come from a 25-year-old man who had caught and eaten Northern Pike (*Esox lucius*) on July 1 while on a fishing trip in Northern Ontario, Canada.

The fish had been cooked for at least 5 minutes before being eaten, but the cooking temperature was difficult to regulate, and fillets were noted to be rare on the inside. The patient's only symptom was mild, intermittent periumbilical pain, which began about 2 months after eating the fish. He gave a history of passing a similar ribbon-like worm 1 month earlier. Physical examination was normal except for a draining pilonidal cyst. The hemoglobin was 15.6 gm/100 ml with normal indices. Leukocyte count was 9,600 per cubic mm with 89% neutrophils and a marked left shift. The stool guaiac was negative.

Tapeworm segments passed by the patient measured 66 cm in total length. The proglottids exhibited a characteristic rosette-formed uterus, bilobed dorsal ovary, ventral uterine pore, and a broadened rather than longitudinal shape when flattened between 2 microscope slides. India ink injected into 1 of the segments facilitated the observation of the lateral coiling of the uterus. No scolex or ova were recovered from the fecal specimen which accompanied the proglottids submitted; however, eggs from a ruptured gravid proglottid were stained and identified as *D. latum*.

The patient was treated with niclosamide (Yomesan), 2 grams orally. The first post-treatment stool and specimens at 1 week and at 5 months were negative. The patient has remained asymptomatic and is doing well. His fishing partner, who consumed the same fish, has remained asymptomatic with negative stool examination.

Reported by D Florek, MS, DN Gerding, MD, G Mosser, MD, Veterans Administration Hospital, Minneapolis; BS Levy, MD, State Epidemiologist, Minnesota Dept of Health.

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