Louisiana

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MONTHLY MORBIDITY REPORT

Provisional Statistics

Reported Morbidity
October, 1978

from

EPIDEMIOLOGY UNIT AND PUBLIC HEALTH STATISTIC

✱ *Recommendation of the Public Health Service Advisory Committee on Immunization Practices*

Influenza Vaccine

INTRODUCTION

Influenza virus infections occur every year in the United States, but they vary greatly in incidence and geographic distribution. Infections may be asymptomatic, or they may produce a spectrum of manifestations, ranging from mild upper respiratory infection to pneumonia and death. Influenza viruses A and B are responsible for only a portion of all respiratory disease. However, they are unique in their ability to cause periodic widespread outbreaks of febrile respiratory disease in both adults and children. Influenza epidemics are frequently associated with deaths in excess of the number normally expected. During the period from 1968 to 1978, more than 150,000 excess deaths are estimated to have occurred during epidemics of influenza A in the United States.

Efforts to prevent or control influenza in the United States have been aimed at protecting those at greatest risk of serious illness or death. Observations during influenza epidemics have indicated that influenza-related deaths occur primarily among chronically ill adults and children and in older persons, especially those over age 65. Therefore, annual vaccination is recommended for these "high-risk" individuals.

Influenza A viruses can be classified into subtypes on the basis of 2 antigens: hemagglutinin (H) and neuraminidase (N). Four types of hemagglutinin (H0-H3) and 2 types of neuraminidase (N1-N2) are recognized among viruses causing widespread disease among humans. Immunity to these antigens reduces the likelihood of infection and reduces the severity of disease in infected persons. However, there may be sufficient antigenic variation within the same subtype over time (antigenic drift) that infection or immunization with 1 strain may not induce immunity to distantly related strains. As a consequence, the antigenic composition of the most current strains is considered in selecting the virus strain(s) to be included in the vaccine.

During 1977-78, 2 H3N2 variants, A/Victoria/75 and A/Texas/77, both related to the 1968 Hong Kong strain of influenza A, were prevalent in the United States. In 1977 a major antigenic variant, A/USSR/77 (H1N1), appeared in China and Russia. This strain is unrelated to the H3N2 strain but is closely related to strains that had circulated throughout the world in the early 1950s. From January through April 1978, the H1N1 virus spread throughout the United States, causing outbreaks in several schools and colleges, and, to a lesser extent, in young persons in the general community. Persons born more than 25 years ago were not affected, presumably because of previous infection with antigenically related strains.

In this country and elsewhere throughout the world, H1N1 strains circulated concurrently with A/Victoria/75 and A/Texas/77-like H3N2 strains. Whether or not the H1N1 strains will replace the H3N2 strains remains uncertain. However, based on present information, continued co-circulation of strains related to A/Texas/77 (H3N2) and A/USSR/77 (H1N1) must be anticipated.

✱ Recommendations reprinted from MMWR, Vol. 27, No. 32, CDC, DHEW, Aug.11, 1978, pp 285 - 292.

Outbreaks caused by influenza B viruses occur less frequently than influenza A epidemics, but influenza B infection can also cause serious illness or death. Influenza B viruses have shown much more antigenic stability than influenza A viruses. Strains of influenza B that were isolated in 1978 in the United States and elsewhere resembled the B/Hong Kong/5/72 virus.

INFLUENZA VIRUS VACCINE FOR 1978-79

The Public Health Service reviews influenza vaccine formulation regularly, recommending changes, when necessary, to counter major antigenic changes and antigenic drift. Influenza vaccine for 1978-79 will consist of inactivated trivalent preparations of antigens representative of influenza viruses expected to be prevalent: A/USSR/77 (H1N1), A/Texas/77 (H3N2), and B/Hong Kong/72. Two alternative vaccine formulations▼ will be available for different age groups. The formulation recommended for individuals 26 years and older, most of whom have had prior experience with all 3 viruses, will contain 7 μg of hemagglutinin of each antigen. Only 1 dose is required for members of this age group. In contrast, the formulation recommended for persons less than 26 years of age, most of whom lack contact with H1N1 strains, will contain 20 μg of the A/USSR antigen and 7 μg each of the other 2 antigens. Persons in this age group will require 2 doses for satisfactory immunization. Both formulations will be available as "whole-virus" and "split-virus" preparations. Based on past data, split-virus vaccines have been associated with somewhat fewer side effects than whole-virus vaccines in children. Thus, only split-virus vaccines are recommended for persons less than 13 years of age.

VACCINE USAGE

General Recommendations

Annual vaccination is strongly recommended for all individuals at increased risk of adverse consequences from infections of the lower respiratory tract. Conditions predisposing to such risk include: (1) acquired or congenital heart disease associated with altered circulatory dynamics, actual or potential (for example, mitral stenosis, congestive heart failure, or pulmonary vascular overload); (2) any chronic disorder with compromised pulmonary function, such as chronic obstructive pulmonary disease, bronchiectasis, tuberculosis, severe asthma, cystic fibrosis, neuromuscular and orthopedic disorders with impaired ventilation, and residual pulmonary dysplasia following the neonatal respiratory distress syndrome; (3) chronic renal disease with azotemia or the nephrotic syndrome; (4) diabetes mellitus and other metabolic diseases with increased susceptibility to infection; (5) chronic, severe anemia, such as sickle cell disease; and (6) conditions which compromise the immune mechanism, including certain malignancies and immunosuppressive therapy.

Vaccination is also recommended for older persons, particularly those over age 65, because excess mortality in influenza outbreaks occurs in this age group.

In considering vaccination of persons who provide essential community services or who may be at increased risk of exposure, such as medical care personnel, the inherent benefits, risks, and cost of vaccination should be taken into account.

Table 1 summarizes vaccine and dosage recommendations by age group for 1978-79. These recommendations are derived from observations made during the field trials of influenza vaccines conducted in 1978.

TABLE 1. Influenza vaccine dosage, by age, 1978-79

Vaccine formulation	Age (years)	Product type	Dosage (ml)	Number of doses
Adult*	≥ 26	whole-virus split-virus	0.5	1
Youth**	13-25	whole-virus or split-virus	0.5	2†
	< 13	N/A††	N/A††	N/A††

*Contains 7 μg each of A/USSR/77, A/Texas/77, B/Hong Kong/72 hemagglutinin antigens

**Contains 20 μg A/USSR/77 and 7 μg each of A/Texas/77 and B/Hong Kong/72 hemagglutinin antigens

†4 weeks or more between doses; both doses essential for good protection

††N/A = not available; final recommendations for those < 13 years old will be made in approximately 1 month

▼Official names: Influenza Virus Vaccine, Trivalent, Adult Formula; and Influenza Virus Vaccine, Trivalent, Youth Formula

SIDE EFFECTS AND ADVERSE REACTIONS

Influenza Virus Vaccine for 1978-79 has been associated with few side effects. Local reactions, consisting of redness and induration at the site of injection lasting 1 or 2 days, have been observed in less than one-third of vaccinees. Three types of systemic reactions to influenza vaccines have been described.

1. Fever, malaise, myalgia, and other systemic symptoms of toxicity, although infrequent, occur more often in children and others who have had no experience with influenza viruses containing the vaccine antigen(s). These reactions, which begin 6-12 hours after vaccination and persist 1-2 days, are usually attributed to the influenza virus itself (even though it is inactivated) and constitute most of the side effects of influenza vaccination.

2. Immediate—presumable allergic—responses, such as flare and wheal or various respiratory expressions of hypersensitivity occur extremely rarely after influenza vaccination. They probably derive from sensitivity to some vaccine component, most likely residual egg protein. Although current influenza vaccines contain only a small quantity of egg protein, on rare occasions they can provoke hypersensitivity reactions. Individuals with anaphylactic hypersensitivity to eggs should not be given influenza vaccine. This would include persons who, upon ingestion of eggs, develop swelling of the lips or tongue or who experience acute respiratory distress or collapse.

3. Guillain-Barré syndrome (GBS) is an uncommon illness characterized by ascending paralysis which is usually self-limited and reversible. However, 5-10% of persons with GBS have residual weakness, and approximately 5% of cases are fatal. Before 1976, no association of GBS with influenza vaccination was recognized. However, that year GBS appeared in excess frequency among persons who had received swine influenza vaccine. For the 10 weeks following vaccination the excess risk was found to be approximately 10 cases of GBS for every million persons vaccinated. The overall incidence in that period was 5-6 times higher than that in unvaccinated persons. Younger persons (under 25 years) had a lower relative risk than others and also had a lower case-fatality rate. Although there is no comparable information about the association of GBS with other influenza vaccines, it must be assumed that this risk may be present for all of them. Even though the risk (in 1976) was extremely low, persons who receive influenza vaccine should be aware of it and should balance this risk against the risk of influenza and its complications.

USE IN PREGNANCY

Although the issue has been much discussed, only in the pandemics of 1918-19 and 1957-58 has strong evidence appeared relating influenza infections with increased maternal mortality. Although several studies have reported an increased risk of congenital malformations and childhood leukemia among children born to women who had influenza infection during pregnancy, other studies have not shown an increased risk; the issue is not settled.

Physicians prudently limit prescription of drugs and biologics for pregnant women. However, no evidence has been presented to suggest that influenza vaccination of pregnant women poses any special maternal or fetal risk. Furthermore, because influenza vaccine is an inactivated viral preparation, it does not share the theoretical risks that impel caution in the use of live virus vaccines. Taking the above uncertainties into account, physicians should evaluate pregnant women for influenza immunization according to the same chronic illness criteria applied to other persons. (See **General Recommendations**, p. 2).

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CHOLERA UPDATE

No new cases of cholera have been identified since September although extensive surveillance efforts have continued. The total number of human infections remains at eleven (eight symptomatic and three asymptomatic). Two towns in South Louisiana (Gueydan and Franklin) where cases have not been identified had Vibrio cholerae 0-1 cultured from their sewerage systems. Culturing of sewerage systems in other towns across South Louisiana, crabs and other seafoods, estuarine water, and humans with diarrheal disease, has yielded no additional V. cholerae 0-1 isolates. All samples of live crabs taken by the United States Food and Drug Administration from out-of-state shipments have been negative.

SELECTED REPORTABLE DISEASES

(By Place of Residence)

STATE AND PARISH TOTALS Reported Morbidity October, 1978	ASEPTIC MENINGITIS	DIPHTHERIA	ENCEPHALITIS	ENCEPHALITIS, POST INFECTIOUS	HEPATITIS A AND UNSPECIFIED	HEPATITIS B	TUBERCULOSIS, PULMONARY	MENINGOCOCCAL INFECTIONS	PERTUSSIS	RABIES IN ANIMALS	RUBELLA*	SEVERE UNDERNUTRITION	SHIGELLOSIS	TYPHOID FEVER	OTHER SALMONELLOSIS	TETANUS	MEASLES	GONORRHEA	SYPHILIS, PRIMARY AND SECONDARY
TOTAL TO DATE 1977	20	0	13	0	537	132	468	129	8	22	27	4	119	1	127	2	75	15913	595
TOTAL TO DATE 1978	83	0	11	1	626	179	440	118	4	14	489	9	97	3	152	1	343	18679	609
TOTAL THIS MONTH	6	0	3	0	75	12	48	4	0	2	0	0	10	0	57	0	0	1835	57
ACADIA	1						2								3			14	
ALLEN															1				
ASCENSION							1											8	
ASSUMPTION					1		1											3	
AVOYELLES																		4	1
BEAUREGARD																		4	
BIENVILLE						1												6	1
BOSSIER							1								1			37	
CADDO					1	2	1			1			4		1			202	2
CALCASIEU	1				1	1	2						2		35			101	2
CALDWELL																		2	
CAMERON															1			4	
CATAHOULA																		6	
CLAIBORNE					1													13	
CONCORDIA															1			7	
DESOTO																		6	
EAST BATON ROUGE					3	1	3	1							1			142	9
EAST CARROLL																		1	1
EAST FELICIANA							1											3	1
EVANGELINE																		7	
FRANKLIN																		1	1
GRANT																		2	
IBERIA							1	1										2	2
IBERVILLE							1											15	
JACKSON																		1	
JEFFERSON	4		1		18	1	4						4		4			57	1
JEFFERSON DAVIS						2	2											9	
LAFAYETTE																		34	
LAFOURCHE					1		1											11	
LASALLE																			
LINCOLN					1													27	
LIVINGSTON																		4	
MADISON					4													16	
MOREHOUSE																		11	
NATCHITOCHES						1												12	
ORLEANS					18	2	21											699	18
OUACHITA			1		1													64	8
PLAQUEMINES							1											1	1
POINTE COUPEE																			1
RAPIDES					1			1										99	3
RED RIVER																			
RICHLAND							2											1	
SABINE															1			4	
ST. BERNARD					3													6	
ST. CHARLES																		6	
ST. HELENA																		1	1
ST. JAMES																		2	
ST. JOHN					1													5	1
ST. LANDRY					1													11	
ST. MARTIN			1															6	
ST. MARY					1													5	
ST. TAMMANY																		11	
TANGIPAHOA					12													13	
TENSAS																		5	
TERREBONNE					2		2	1							2			8	
UNION															2			4	
VERMILION					1													3	
VERNON							1								1			16	1
WASHINGTON					1	1									1			23	2
WEBSTER					1					1					2			22	
WEST BATON ROUGE					1													27	
WEST CARROLL																		4	
WEST FELICIANA																		6	
WINN																		1	
OUT OF STATE																		11	

* Includes Rubella, Congenital Syndrome

From January 1 through October 31, the following cases were also reported: 1-Brucellosis; 3-Malaria(contracted outside the U.S.A.);2-Psittacosis; 3-Leptospirosis; 1-Rocky Mountain Spotted Fever; 1-Histoplasmosis; 11-Cholera;1-Cryptococco