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MORBIDITY AND MORTALITY WEEKLY REPORT

Recommendation of the Immunization Practices Advisory Committee (ACIP)

Influenza Vaccines 1982-1983

This revision of the influenza vaccine recommendations updates information on influenza activity in the United States for the 1981-1982 influenza season (superseding MMWR 1981;30:279-88) and provides information on the vaccine to be available for the 1982-1983 influenza season.

INTRODUCTION

Influenza virus infections occur every year in the United States but 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 A and B viruses are responsible for only a small proportion of all respiratory disease, but they are unique in their ability to cause periodic widespread outbreaks of febrile respiratory illness among adults and children.

Influenza epidemics are frequently associated with deaths in excess of the number normally expected. More than 200,000 excess deaths are estimated to have occurred in association with influenza epidemics in the United States during 1968-1981. Excess deaths in this period were attributable mainly to influenza A viruses, although influenza B epidemics were occasionally associated with excess deaths, as in 1979-1980. Epidemics of influenza B, and to a lesser extent of influenza A, infection have been associated with an increased incidence of Reye syndrome among children and adolescents in the United States.

Efforts to reduce the impact of influenza in the United States have been aimed at protecting persons at greatest risk of serious illness or death. Observations during influenza epidemics indicate that most influenza-related deaths occurred among chronically ill children and adults and older persons, especially those >65 years old. Annual vaccination is therefore recommended for these medically high-risk persons.

Influenza A viruses are classified into subtypes on the basis of 2 antigens: hemagglutinin (H) and neuraminidase (N). Three subtypes of hemagglutinin (H1,H2, H3) and 2 subtypes of neuraminidase (N1, N2) are recognized among influenza A viruses that have caused widespread human disease. Immunity to these antigens, especially hemagglutinin, reduces the likelihood of infection and the severity of disease if a person does become infected. However, there may be sufficient antigenic variation (antigenic drift) within the same subtype over time so that infection or vaccination with 1 strain may not induce immunity to distantly related strains. Although influenza B viruses have shown much more antigenic stability than influenza

Influenza Vaccines – Continued

A viruses, antigenic variation does occur. As a consequence, the characteristics of antigenic properties of current strains provide the basis for selecting virus strain(s) to be included in the vaccine.

During the 1981-1982 winter, influenza activity was generally low in the United States, with no apparent peaks of excess mortality. Less than half the usual number of virus isolates were reported to CDC. In many states, influenza B viruses were shown to be the cause of localized outbreaks among school-age children. Several nursing-home outbreaks, some with associated mortality, were also confirmed to be caused by influenza B viruses. The strains of virus isolated were closely related antigenically to B/Singapore/222/79. Sporadic illnesses and a few focal outbreaks caused by influenza A(H1N1) viruses also occurred among children and young adults, but these viruses were less prevalent than influenza B. Influenza A(H1N1) isolates were, as in 1980-1981, similar to A/England/333/80, which can be shown by laboratory tests to be slightly different from A/Brazil/11/78, the current vaccine strain. Measurement of antibody responses of persons receiving vaccines containing A/Brazil/11/78 antigen, however, indicates that these vaccines should protect against A/England/333/80-like H1N1 strains. Most information about strains of influenza A(H3N2) likely to be prevalent in 1982-1983 is derived from reports and analyses of viruses isolated in 1981 in Asia. There was little circulation of H3N2 strains in the Americas or Europe during the 1981-1982 influenza season. In 1981, most influenza A(H3N2) virus isolates from Asia and the Southern Hemisphere were similar to strains circulating previously. Some additional variants were identified, but they did not become predominant at any time during the year or appear to cause any epidemics.

INFLUENZA VACCINES FOR 1982-1983

The specific antigens and their potency in the vaccine will be the same as in 1981-1982: 15 μg each of hemagglutinin of A/Brazil/78(H1N1), A/Bangkok/79(H3N2), and B/Singapore/79 viruses per 0.5-ml dose.

Adults and children $\geq$13 years old will require only 1 dose. Children $<$13 years old are less likely than older children or adults to have been previously infected with strains related to each of the vaccine components. Therefore, because of their potentially lower level of immunologic priming, children in the $<$13-year age group should receive 2 doses of vaccine. However, children who have already had at least 1 of the influenza vaccines recommended for use from 1978 to 1982 will require only 1 dose of the 1982-1983 vaccine. The 1982-1983 vaccines will be available as whole-virion (whole-virus) and sub-virion (split-virus) preparations. Past data indicate that split-virus vaccines have been associated with somewhat fewer side effects than whole-virus vaccines among children. Thus, only split-virus vaccines are recommended for persons $<$13 years old.

VACCINE USAGE

General Recommendations

Annual vaccination is strongly recommended:

1. For all persons (children and adults) who are at increased risk of adverse consequences from infections of the lower respiratory tract because of a pre-existing medical condition.

   Conditions predisposing to such increased risk include:

   a) Acquired or congenital heart disease with actual or potentially altered circulatory dynamics (e.g., mitral stenosis, congestive heart failure, or pulmonary vascular overload).

Influenza Vaccines — Continued

b) Any chronic disorder or condition that compromises pulmonary function (e.g., chronic obstructive pulmonary disease, bronchiectasis, heavy smoking, tuberculosis, severe asthma, cystic fibrosis, neuromuscular and orthopedic disorders with impaired ventilation, residual pulmonary dysplasia following the neonatal respiratory distress syndrome).

c) Chronic renal disease with azotemia or nephrotic syndrome.

d) Diabetes mellitus or other metabolic diseases that increase the risk that infections will be more severe than for persons without such conditions.

e) Chronic, severe anemia, such as sickle cell disease.

f) Conditions that compromise the immune mechanism, including certain malignancies and immunosuppressive therapy.

2. For all older persons, particularly those >65 years old, because the risk of death during influenza outbreaks generally increases with age.

In balancing the benefits, risks, and costs for the community, some localities have elected to vaccinate persons who provide essential community services and medical-care personnel who also are at increased risk of exposure. Uniform recommendations cannot be made in this regard. However, vaccination programs for groups who provide community services should not take precedence over vaccination of persons specified to be at high risk.

Table 1 summarizes vaccine and dosage recommendations by age group for 1982-1983.

Use in Pregnancy

Physicians should evaluate a pregnant woman's need for influenza vaccination on the same basis used for other persons; that is, vaccination should be advised for a pregnant woman who has any underlying high-risk condition. Only in the pandemics of 1918-1919 and 1957-1958 was there persuasive evidence that influenza infection increased maternal mortality.

There is no evidence to suggest that influenza vaccine carries any maternal or fetal risk, and, because it is inactivated, the vaccine does not share any of the theoretical risks of live-virus-vaccine infection of the fetus. Nonetheless, when vaccine is to be given in pregnancy, waiting until the second or third trimester is a reasonable precaution to minimize any concern over teratogenicity.

Side Effects and Adverse Reactions

Vaccines used in recent years have generally been associated with only a few reactions; less than one-third of vaccinees have been reported to have local redness and induration for 1 or 2 days at the site of injection.

TABLE 1. Influenza vaccine* dosage, by age, 1982-1983

Age group	Product	Dosage	Number of doses
≥13 years	Whole virion (whole virus) or sub-virion (split virus)	0.5 ml	1
3-12 years	Sub-virion (split virus)	0.5 ml	2†
6-35 months	Sub-virion (split virus)	0.25 ml‡	2†

*Contains 15 μg each of A/Brazil/78(H1N1), A/Bangkok/79(H3N2), and B/Singapore/79 hemagglutinin antigens in each 0.5 ml.

†Four weeks or more between doses; both doses recommended for good protection. However, if the individual received at least 1 dose of any influenza vaccine recommended from 1978-79 to 1981-82, one dose is sufficient.

‡Based on limited data. Since the likelihood of febrile convulsions is greater for this age group, special care should be taken in weighing relative risks and benefits.

Influenza Vaccines — Continued

Systemic reactions have been of 3 types:

1. Fever, malaise, myalgia, and other systemic symptoms of toxicity, although infrequent, most often affect children and others who have had no experience with the influenza virus antigens contained in the vaccine. 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, presumably allergic, responses such as flare and wheal or various respiratory expressions of hypersensitivity occur extremely rarely after influenza vaccination. They probably result 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 induce hypersensitivity reactions. Individuals with anaphylactic hypersensitivity to eggs should not be given influenza vaccine. This would include persons who, on eating eggs, develop swelling of the lips or tongue or experience acute respiratory distress or collapse.

3. In 1976, a temporal association (i.e., within 10 weeks of vaccination) was noted between Guillain-Barré syndrome (GBS) and administration of A/New Jersey/76 (swine) influenza vaccine. Vaccinated adults had an excess frequency of GBS at the rate of approximately 10 cases/1 million persons vaccinated. This incidence of GBS was 5-6 times higher than the comparable average reported incidence for unvaccinated persons. An active surveillance system for GBS was initiated in 1978 and was maintained for 3 years. No significant excess risk of GBS was found for recipients of influenza vaccine. Available evidence indicates that any risk of GBS from influenza vaccine appears to be far lower than the risks associated with influenza among persons for whom the vaccine is indicated.

SUPPLEMENTARY MEASURES

Annual vaccination continues to be the most important way to prevent influenza and should be routine for all persons at high risk of serious and/or fatal disease. Supplementary measures intended to reduce the likelihood of exposure in community outbreaks, such as limiting the number of gatherings of large groups, may delay spread but are not uniformly effective.

Amantadine hydrochloride, an antiviral drug, can play a supplementary role in helping prevent influenza A for certain persons and circumscribed groups. It is not a substitute for vaccine and not generally applicable to public health practice, but it may be useful for persons who need protection but have not been vaccinated.

Amantadine protects only against influenza A, not influenza B, infection and must be taken each day for the duration of the epidemic (6-8 weeks, generally) or until active immunity can be expected to develop (about 10-14 days after vaccination). Precautions must be taken for patients with certain chronic conditions, and there are sometimes mild but occasionally troublesome side effects—especially among older patients. Amantadine, a prescription drug, must be ordered and monitored by a physician. Dosage, precautions, and other information on use are specified in the drug's labeling.

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Influenza Vaccines — Continued

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Epidemiologic Notes and Reports

Opportunistic Infections and Kaposi's Sarcoma among Haitians in the United States

Reports of opportunistic infections and Kaposi's sarcoma among Haitians residing in the United States have recently been received at CDC. A total of 34 cases in 5 states have been reported to date.

Florida: From April 1, 1980, through June 20, 1982, 19 Haitian patients admitted to Jackson Memorial Hospital, Miami, had culture, biopsy, or autopsy evidence of opportunistic infections, and 1 other patient had biopsy- and autopsy-confirmed Kaposi's sarcoma. The infections identified included *Pneumocystis carinii* pneumonia (6 patients), cryptococcal meningitis or fungemia (4), toxoplasmosis of the central nervous system (CNS) (7), *Candida albicans* esophagitis (7) and thrush (5), esophageal or disseminated cytomegalovirus infection (3), progressive herpes simplex virus infection (1), disseminated tuberculosis (8), and chronic enteric *Isospora belli* infection (2). Fourteen patients had multiple opportunistic infections. Three patients had recurring infection. The clinical course has been severe; 10 patients have died. The type of infection was initially recognized at autopsy for 6 patients.

The 20 patients ranged in age from 22 to 43 years (mean 28.4 years); 17 were males. All the patients had been born in Haiti and had resided in the Miami-Dade County area for periods ranging from 1 month to 7 years (median 20.5 months).

When initially seen, 18 of the 20 patients had peripheral lymphopenia (< 1,000 lymphocytes/mm^3). Skin tests performed on 17 patients with various combinations of tuberculin, mumps, streptokinase/streptodornase, *Candida*, and *Trichophyton* antigens were all negative. Immunologic studies at CDC on specimens from the 11 patients tested showed severe T-cell

Opportunistic Infections — Continued

dysfunction. Monoclonal antibody analysis of peripheral-blood T-cell subsets revealed a marked decrease of the T-helper cell subset with inversion of the normal ratio of T-helper to T-suppressor cells.

Of the 7 patients with histologically confirmed toxoplasmosis of the CNS, 5 have died. Because there was no history of underlying conditions or drugs associated with immunosuppression, CNS toxoplasmosis was not considered in the premortem diagnosis of the first 4 cases. Pathology findings for all these patients were confirmed with an immuno-peroxidase method for toxoplasmosis and, in one instance, with electron microscopy as well. Tachyzoites were the predominant form of the parasite observed; encysted forms were rare or absent in many tissue blocks.

In addition to the 20 cases reported from Miami, a Haitian female from Naples, Florida, was reported to have *P. carinii* pneumonia.

New York: From July 1, 1981, through May 31, 1982, 10 Haitian residents of Brooklyn were diagnosed as having the following opportunistic infections: *P. carinii* pneumonia (5 patients), CNS toxoplasmosis (2), disseminated cryptococcosis (1), esophageal candidiasis (1), and disseminated tuberculosis (2). None had any underlying disease or history of therapy known to cause immunosuppression. Five died of their infections.

All 10 patients were males and ranged in age from 22 to 37 years. Eight stated they were heterosexual; the sexual orientation of the other 2 was not known. One patient gave a history

(Continued on page 360)

TABLE I. Summary — cases of specified notifiable diseases, United States

DISEASE	26th WEEK ENDING			CUMULATIVE, FIRST 26 WEEKS		
	July 3, 1982	July, 4 1981	MEDIAN 1977-1981	July, 3, 1982	July, 4 1981	MEDIAN 1977-1981
Aseptic meningitis	99	141	135	2,125	2,045	1,548
Brucellosis	6	6	3	73	75	86
Encephalitis: Primary (arthropod-borne & unspec.)	10	15	18	385	373	326
Post-infectious	2	3	4	40	50	106
Gonorrhea: Civilian	14,245	18,569	18,569	446,168	486,754	471,737
Military	199	669	565	12,633	14,619	13,493
Hepatitis: Type A	386	494	529	10,794	12,787	14,341
Type B	295	409	290	10,129	9,981	8,178
Non A, Non B	21	N	N	1,048	N	N
Unspecified	144	220	176	4,475	5,485	4,973
Legionellosis	8	N	N	191	N	N
Leprosy	4	6	6	90	109	82
Malaria	13	24	18	421	664	302
Measles (rubeola)	15	52	398	895	2,270	11,650
Meningococcal infections: Total	50	54	41	1,729	2,132	1,605
Civilian	49	54	40	1,721	2,124	1,588
Military	1	–	–	8	8	11
Mumps	52	52	226	3,794	2,720	9,985
Pertussis	24	16	28	523	512	563
Rubella(German measles)	10	34	183	1,627	1,476	9,757
Syphilis (Primary & Secondary): Civilian	463	521	418	16,152	14,905	11,991
Military	5	2	5	199	183	153
Tuberculosis	393	495	632	12,630	13,141	13,852
Tularemia	8	10	6	83	99	76
Typhoid fever	6	13	11	184	239	221
Typhus fever, tick-borne (RMSF)	37	75	63	371	524	416
Rabies, animal	92	122	99	3,105	3,835	2,388

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1982		CUM. 1982
Anthrax	–	Poliomyelitis: Total	2
Botulism (Upstate N.Y. 1)	38	Paralytic	2
Cholera	–	Psittacosis (NYC 1, Minn. 3)	57
Congenital rubella syndrome	5	Rabies, human	–
Diphtheria	–	Tetanus	35
Leptospirosis	29	Trichinosis	54
Plague	4	Typhus fever, flea-borne (endemic, murine)	14

N: Not notifiable

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 3, 1982 and July 4, 1981 (26th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	ENCEPHALITIS		GONORRHEA (Civilian)		HEPATITIS (Viral), by type				LEGIONELLOSIS	LEPROSY
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1981	1982	1982	1982	1982	1982	CUM. 1982
UNITED STATES	99	73	385	40	446,168	486,754	386	295	21	144	8	90
NEW ENGLAND	9	3	15	5	10,978	11,929	17	20	1	17	–	1
Maine	–	–	–	–	513	590	–	3	–	–	–	–
N.H.	1	–	–	–	317	409	1	2	–	–	–	–
Vt.	–	–	–	–	222	206	–	–	–	–	–	–
Mass.	8	–	5	–	5,149	4,992	10	3	–	16	–	–
R.I.	–	–	–	–	760	627	1	4	–	–	–	–
Conn.	–	3	10	5	4,017	5,110	5	8	1	1	–	1
MID. ATLANTIC	12	1	52	10	56,665	56,276	74	101	5	20	2	4
Upstate N.Y.	1	1	19	3	9,294	9,459	12	12	–	2	–	1
N.Y. City	2	–	11	–	23,743	22,888	12	36	–	3	–	1
N.J.	4	–	10	–	10,190	10,919	19	31	5	8	2	1
Pa.	5	–	12	7	13,438	13,010	31	22	–	7	–	1
E.N. CENTRAL	10	–	80	7	61,303	74,852	69	48	3	12	3	3
Ohio	5	–	26	4	18,190	25,622	8	12	1	7	2	–
Ind.	–	–	15	2	7,709	6,663	38	6	2	3	–	–
Ill.	1	–	6	1	13,925	20,433	2	2	–	–	–	3
Mich.	4	–	31	–	15,427	15,641	18	28	–	2	1	–
Wis.	–	–	2	–	6,052	6,493	3	–	–	–	–	–
W.N. CENTRAL	4	7	24	3	21,981	23,017	91	8	1	3	–	3
Minn.	2	–	5	1	3,310	3,653	1	1	–	–	–	1
Iowa	1	1	10	1	2,340	2,500	1	–	–	–	–	–
Mo.	–	2	4	–	10,235	10,566	1	4	–	3	–	1
N. Dak.	–	–	–	–	295	319	–	–	–	–	–	–
S. Dak.	–	1	–	1	595	645	–	–	–	–	–	1
Nebr.	–	–	3	–	1,346	1,760	–	–	1	–	–	–
Kans.	1	3	2	–	3,860	3,574	88	3	–	–	–	–
S. ATLANTIC	35	15	57	6	108,065	119,543	33	61	8	22	–	5
Del.	–	–	–	–	1,845	1,819	2	1	–	–	–	–
Md.	–	–	13	–	15,308	13,279	–	6	1	2	–	2
D.C.	1	–	–	–	6,491	7,475	1	7	–	2	–	–
Va.	7	6	14	1	10,402	10,803	2	15	3	–	–	1
W. Va.	2	–	–	–	1,323	1,780	–	–	–	–	–	–
N.C.	5	–	5	1	19,152	18,422	4	5	–	4	–	–
S.C.	3	2	–	–	11,533	11,312	6	5	–	2	–	–
Ga.	1	1	–	–	9,483	24,628	2	3	–	1	–	–
Fla.	16	6	25	4	32,528	30,025	16	19	4	11	–	2
E.S. CENTRAL	5	9	21	2	39,190	40,332	19	15	–	3	–	–
Ky.	2	–	–	–	5,354	5,096	13	2	–	2	–	–
Tenn.	1	5	11	–	15,302	15,140	3	11	–	1	–	–
Ala.	2	3	7	2	11,554	12,682	2	2	–	–	–	–
Miss.	–	1	3	–	6,980	7,414	1	–	–	–	–	–
W.S. CENTRAL	13	22	44	1	64,990	64,092	62	18	1	58	1	12
Ark.	–	4	1	–	5,329	4,533	1	–	–	5	1	–
La.	1	5	6	–	12,081	10,003	16	6	1	5	–	–
Okla.	4	3	13	–	6,897	6,825	2	3	–	12	–	–
Tex.	8	10	24	1	40,683	42,731	43	9	–	36	–	12
MOUNTAIN	1	–	17	3	16,095	19,133	14	9	1	4	2	2
Mont.	–	–	–	–	664	673	1	–	–	–	1	–
Idaho	–	–	–	–	757	807	1	1	–	–	–	1
Wyo.	–	–	–	–	469	422	–	–	–	–	1	–
Colo.	–	–	7	1	4,170	5,134	–	4	–	1	–	–
N. Mex.	–	–	–	–	2,002	2,091	4	–	1	–	–	–
Ariz.	–	–	6	–	4,490	5,883	–	–	–	–	–	–
Utah	1	–	–	2	749	904	–	2	–	1	–	1
Nev.	–	–	4	–	2,794	3,219	8	2	–	2	–	–
PACIFIC	10	16	75	3	66,901	77,580	7	15	1	5	–	60
Wash.	1	–	8	–	5,528	6,346	2	–	–	4	–	6
Oreg.	1	–	1	–	3,847	4,821	4	10	1	1	–	–
Calif.	U	15	62	3	54,615	63,052	U	U	U	U	U	34
Alaska	2	1	3	–	1,691	1,899	1	3	–	–	–	1
Hawaii	6	–	1	–	1,220	1,462	–	2	–	–	–	19
Guam	U	–	–	–	47	68	U	U	U	U	U	–
P.R.	–	–	1	–	1,523	1,655	9	22	–	11	–	–
V.I.	–	–	–	–	105	85	–	–	–	–	–	–
Pac. Trust Terr.	U	–	–	–	36	211	U	U	U	U	U	1

N: Not notifiable U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 3, 1982 and July 4, 1981 (26th week)

REPORTING AREA	MALARIA		MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS (Total)		MUMPS		PERTUSSIS	RUBELLA		
	1982	CUM. 1982	1982	CUM. 1982	CUM. 1981	1982	CUM. 1982	1982	CUM. 1982	1982	1982	CUM. 1982	CUM. 1981
UNITED STATES	13	421	15	895	2,270	50	1,729	52	3,794	24	10	1,627	1,476
NEW ENGLAND	2	24	–	9	72	2	92	2	150	1	–	14	106
Maine	–	–	–	–	5	1	5	–	33	–	–	–	33
N.H.	–	–	–	2	6	–	13	–	12	–	–	8	43
Vt.	–	–	–	2	2	–	6	–	5	–	–	–	–
Mass.	2	19	–	2	51	–	22	2	74	–	–	3	18
R.I.	–	1	–	–	–	–	11	–	13	1	–	1	–
Conn.	–	4	–	3	8	1	35	–	13	–	–	2	12
MID. ATLANTIC	3	58	4	145	734	12	311	3	237	3	4	82	173
Upstate N.Y.	–	14	3	102	193	5	102	2	47	2	2	40	71
N.Y. City	2	20	1	35	53	1	54	–	38	–	2	28	46
N.J.	–	16	–	4	50	1	64	1	36	–	–	14	46
Pa.	1	8	–	4	438	5	91	–	116	1	–	–	10
E.N. CENTRAL	–	29	11	65	72	4	208	16	2,077	1	–	143	320
Ohio	–	7	–	1	15	2	79	11	1,531	1	–	–	1
Ind.	–	1	–	2	8	2	22	–	33	–	–	26	113
Ill.	–	3	7	23	21	–	56	1	157	–	–	55	75
Mich.	–	16	4	39	27	–	40	4	279	–	–	42	31
Wis.	–	2	–	–	1	–	11	–	77	–	–	20	100
W.N. CENTRAL	–	13	–	38	7	–	75	23	518	5	1	58	75
Minn.	–	2	–	–	3	–	19	23	396	3	1	8	7
Iowa	–	5	–	–	1	–	5	–	29	–	–	–	4
Mo.	–	3	–	2	1	–	21	–	14	1	–	38	2
N. Dak.	–	–	–	–	–	–	6	–	–	–	–	–	–
S. Dak.	–	–	–	–	–	–	3	–	1	–	–	1	–
Nebr.	–	2	–	–	1	–	9	–	–	–	–	–	1
Kans.	–	1	–	36	1	–	12	–	78	1	–	11	61
S. ATLANTIC	6	65	–	33	320	13	346	2	213	5	2	63	119
Del.	–	–	–	–	–	–	–	–	10	–	–	1	1
Md.	1	8	–	2	2	–	21	–	21	–	2	33	1
D.C.	–	3	–	1	1	–	2	–	–	–	–	–	–
Va.	1	23	–	14	6	1	37	–	30	3	–	11	4
W. Va.	–	3	–	2	8	–	7	1	81	1	–	1	22
N.C.	–	–	–	–	3	2	69	1	10	–	–	1	4
S.C.	–	3	–	–	–	1	40	–	12	1	–	1	8
Ga.	1	10	–	–	101	5	74	–	10	–	–	5	32
Fla.	3	15	–	14	199	4	96	–	39	–	–	10	47
E.S. CENTRAL	–	5	–	7	2	4	119	2	32	2	–	37	23
Ky.	–	4	–	1	–	1	20	–	9	–	–	21	14
Tenn.	–	–	–	5	–	2	48	2	13	1	–	–	8
Ala.	–	–	–	–	2	1	44	–	5	1	–	–	1
Miss.	–	1	–	1	–	–	7	–	5	–	–	16	–
W.S. CENTRAL	1	32	–	14	738	11	210	3	140	3	1	91	118
Ark.	–	3	–	–	1	–	12	–	6	–	–	1	2
La.	–	3	–	2	–	3	37	–	3	2	–	1	9
Okla.	–	3	–	–	5	3	20	–	–	–	–	3	–
Tex.	1	23	–	12	732	5	141	3	131	1	1	86	107
MOUNTAIN	–	10	–	5	31	1	84	–	55	4	–	53	70
Mont.	–	–	–	–	–	–	4	–	3	–	–	4	3
Idaho	–	–	–	–	1	–	6	–	3	3	–	1	3
Wyo.	–	–	–	–	–	–	5	–	2	–	–	5	1
Colo.	–	6	–	5	8	1	33	–	8	1	–	4	30
N. Mex.	–	2	–	–	8	–	12	–	–	–	–	7	5
Ariz.	–	1	–	–	4	–	14	–	24	–	–	7	18
Utah	–	1	–	–	–	–	7	–	11	–	–	16	3
Nev.	–	–	–	–	10	–	3	–	4	–	–	9	7
PACIFIC	1	185	–	579	294	3	284	1	372	–	2	1,086	472
Wash.	–	11	–	25	1	1	30	1	59	–	–	32	54
Oreg.	1	6	–	–	3	1	61	–	–	–	1	5	48
Calif.	U	166	U	550	288	U	180	U	300	U	U	1,040	362
Alaska	–	–	–	1	–	1	10	–	6	–	–	1	–
Hawaii	–	2	–	3	2	–	3	–	7	–	1	8	8
Guam	U	1	U	5	6	U	2	U	1	U	U	1	1
P.R.	–	4	4	71	212	–	5	4	43	–	–	4	3
V.I.	–	–	–	–	7	–	–	–	–	–	–	–	1
Pac. Trust Terr.	U	–	U	–	1	U	–	U	–	U	U	–	1

U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending July 3, 1982 and July 4, 1981 (26th week)

REPORTING AREA	SYPHILIS (Civilian) (Primary & Secondary)		TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		RABIES, Animal
	CUM. 1982	CUM. 1981	1982	CUM. 1982	CUM. 1982	1982	CUM. 1982	1982	CUM. 1982	CUM. 1982
UNITED STATES	16,152	14,905	393	12,630	83	6	184	37	371	3,105
NEW ENGLAND	273	322	11	339	-	1	12	1	4	21
Maine	1	2	-	25	-	-	-	-	-	19
N.H.	1	12	-	10	-	-	-	1	1	-
Vt.	1	13	-	7	-	-	2	-	-	-
Mass.	191	216	7	226	-	1	9	-	1	-
R.I.	14	19	-	14	-	-	-	-	1	-
Conn.	65	60	4	57	-	-	1	-	1	2
MID. ATLANTIC	2,239	2,237	80	2,079	6	2	32	1	9	74
Upstate N.Y.	237	206	26	364	6	-	3	-	-	39
N.Y. City	1,346	1,353	26	774	-	1	20	1	1	-
N.J.	291	290	28	430	-	-	5	-	6	1
Pa.	365	388	-	511	-	1	4	-	2	34
E.N. CENTRAL	859	1,031	97	1,937	-	1	15	2	33	360
Ohio	145	134	21	321	-	1	7	2	32	53
Ind.	103	105	14	255	-	-	-	-	-	53
Ill.	423	571	37	764	-	-	3	-	1	178
Mich.	134	174	24	491	-	-	5	-	-	3
Wis.	54	47	1	106	-	-	-	-	-	73
W.N. CENTRAL	308	290	17	392	13	-	7	-	12	692
Minn.	56	101	4	70	-	-	4	-	-	113
Iowa	17	13	3	47	1	-	1	-	2	219
Mo.	189	151	9	179	8	-	1	-	5	66
N. Dak.	4	6	-	7	-	-	-	-	-	59
S. Dak.	-	2	-	16	-	-	-	-	-	58
Nebr.	8	3	-	15	1	-	-	-	-	81
Kans.	34	14	1	58	3	-	1	-	5	96
S. ATLANTIC	4,437	3,912	72	2,608	8	-	27	22	212	507
Del.	9	7	-	22	-	-	-	-	-	-
Md.	247	302	3	303	1	-	6	-	25	27
D.C.	261	330	1	104	-	-	-	-	-	-
Va.	321	347	-	305	1	-	2	7	27	257
W. Va.	17	9	9	78	-	-	3	-	4	27
N.C.	299	310	15	423	-	-	-	8	85	30
S.C.	230	261	-	233	5	-	3	5	52	26
Ga.	911	990	21	387	-	-	-	2	18	105
Fla.	2,142	1,356	23	753	1	-	13	-	1	35
E.S. CENTRAL	1,129	951	46	1,185	6	-	14	3	22	385
Ky.	63	48	16	308	-	-	-	-	-	80
Tenn.	300	373	14	390	4	-	2	3	14	248
Ala.	406	261	9	332	-	-	9	-	4	57
Miss.	360	269	7	155	2	-	3	-	4	-
W.S. CENTRAL	4,209	3,596	43	1,495	36	1	17	8	72	630
Ark.	106	67	8	154	21	-	1	-	11	86
La.	896	820	-	240	3	-	1	-	-	16
Okla.	84	85	4	213	12	-	2	8	39	117
Tex.	3,123	2,624	31	888	-	1	13	-	22	411
MOUNTAIN	415	372	15	365	10	-	6	-	6	112
Mont.	3	9	-	25	2	-	-	-	1	42
Idaho	19	14	-	14	1	-	-	-	1	2
Wyo.	10	7	-	2	1	-	-	-	1	10
Colo.	114	117	2	48	1	-	2	-	-	15
N. Mex.	89	72	5	71	-	-	-	-	1	10
Ariz.	95	80	2	146	-	-	3	-	-	26
Utah	13	14	4	21	5	-	1	-	-	5
Nev.	72	59	2	38	-	-	-	-	2	2
PACIFIC	2,283	2,194	12	2,230	4	1	54	-	1	324
Wash.	69	75	10	144	1	-	3	-	-	-
Oreg.	62	44	-	88	-	-	1	-	-	-
Calif.	2,079	2,031	U	1,800	3	U	48	U	1	254
Alaska	8	6	-	32	-	-	-	-	-	70
Hawaii	65	38	2	166	-	1	2	-	-	-
Guam	1	-	U	3	-	U	-	U	-	-
P.R.	318	337	5	176	-	-	2	-	-	29
V.I.	8	9	-	1	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	19	-	U	-	U	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 3, 1982 (26th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	627	418	146	29	17	17	44
Boston, Mass.	190	109	61	10	5	5	15
Bridgeport, Conn.	42	27	8	2	3	2	4
Cambridge, Mass.	24	21	2	1	–	–	1
Fall River, Mass.	26	20	5	–	1	–	–
Hartford, Conn.	44	28	6	5	3	2	1
Lowell, Mass.	41	30	10	1	–	–	5
Lynn, Mass.	17	14	3	–	–	–	–
New Bedford, Mass.	24	18	2	2	2	–	–
New Haven, Conn.	42	26	10	5	1	–	1
Providence, R.I.	52	30	16	2	1	3	1
Somerville, Mass.	11	9	1	1	–	–	3
Springfield, Mass.	39	26	8	–	1	4	3
Waterbury, Conn.	34	25	9	–	–	–	8
Worcester, Mass.	41	35	5	–	–	1	2
MID. ATLANTIC	2,511	1,589	573	187	82	79	89
Albany, N.Y.	54	29	14	3	4	4	1
Allentown, Pa.	18	15	3	–	–	–	–
Buffalo, N.Y.	109	65	23	6	3	12	3
Camden, N.J.	47	30	11	3	1	2	2
Elizabeth, N.J.	29	23	5	1	–	–	–
Erie, Pa.†	36	25	9	1	1	–	–
Jersey City, N.J.	46	27	12	1	1	5	–
N.Y. City, N.Y.	1,380	886	298	120	45	31	49
Newark, N.J.	61	24	22	7	4	3	7
Paterson, N.J.	26	21	2	2	1	–	–
Philadelphia, Pa.†	276	158	74	24	8	12	14
Pittsburgh, Pa.†	60	39	18	2	–	1	1
Reading, Pa.	35	28	6	1	–	–	3
Rochester, N.Y.	113	77	22	6	4	4	6
Schenectady, N.Y.	24	19	5	–	–	–	–
Scranton, Pa.†	23	16	5	1	–	1	–
Syracuse, N.Y.	78	40	26	3	6	3	–
Trenton, N.J.	26	15	8	2	1	–	–
Utica, N.Y.	41	32	5	–	3	1	2
Yonkers, N.Y.	29	20	5	4	–	–	1
E.N. CENTRAL	2,232	1,407	511	147	78	89	67
Akron, Ohio	52	37	11	1	1	2	–
Canton, Ohio	31	19	9	1	1	1	–
Chicago, Ill.	537	319	129	43	22	24	8
Cincinnati, Ohio	128	76	38	9	2	3	7
Cleveland, Ohio	187	111	41	10	6	19	3
Columbus, Ohio	94	56	22	7	5	4	2
Dayton, Ohio	89	62	20	1	3	3	–
Detroit, Mich.	276	162	73	23	7	11	7
Evansville, Ind.	41	31	6	2	1	1	2
Fort Wayne, Ind.	55	37	15	–	1	2	6
Gary, Ind.	18	9	3	2	4	–	–
Grand Rapids, Mich.	67	40	19	3	1	4	7
Indianapolis, Ind.	160	107	30	9	10	4	1
Madison, Wis.	43	29	6	4	1	3	3
Milwaukee, Wis.	136	91	31	9	3	2	1
Peoria, Ill.	45	30	5	5	4	1	2
Rockford, Ill.	47	28	13	4	1	1	5
South Bend, Ind.	42	31	10	1	–	–	3
Toledo, Ohio	108	78	15	10	3	2	4
Youngstown, Ohio	76	54	15	3	2	2	6
W.N. CENTRAL	639	441	123	35	22	17	29
Des Moines, Iowa §	53	51	–	–	1	–	–
Duluth, Minn.	24	14	3	1	3	3	1
Kansas City, Kans.	21	11	6	2	2	–	–
Kansas City, Mo.	98	60	23	7	4	4	7
Lincoln, Nebr.	28	23	3	–	–	2	2
Minneapolis, Minn.	70	45	15	7	–	3	1
Omaha, Nebr.	87	59	18	6	4	–	–
St. Louis, Mo.	130	89	26	9	6	–	10
St. Paul, Minn.	68	50	14	–	1	3	3
Wichita, Kans.	60	39	15	3	1	2	5

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,393	816	365	120	34	55	41
Atlanta, Ga.	162	89	43	21	6	3	3
Baltimore, Md.	297	172	84	23	5	13	9
Charlotte, N.C.	75	43	12	7	6	4	2
Jacksonville, Fla.	127	83	37	2	2	3	2
Miami, Fla.	120	75	24	12	2	7	7
Norfolk, Va.	56	33	20	1	1	1	1
Richmond, Va.	91	55	21	5	1	9	6
Savannah, Ga.	40	25	13	1	1	–	1
St. Petersburg, Fla.	85	69	15	1	–	–	2
Tampa, Fla.	54	30	14	6	3	1	4
Washington, D.C.	212	101	58	34	6	13	3
Wilmington, Del.	74	41	24	7	1	1	1
E.S. CENTRAL	675	417	152	37	41	28	17
Birmingham, Ala.	114	65	24	9	8	8	–
Chattanooga, Tenn.	61	43	12	2	3	1	2
Knoxville, Tenn.	63	46	11	3	3	–	–
Louisville, Ky.	99	61	26	5	3	4	7
Memphis, Tenn.	150	94	29	9	13	5	1
Mobile, Ala.	51	26	13	2	5	5	2
Montgomery, Ala.	48	31	14	2	1	–	1
Nashville, Tenn.	89	51	23	5	5	5	4
W.S. CENTRAL	980	550	255	85	54	36	26
Austin, Tex.	46	35	8	2	1	–	–
Baton Rouge, La.	37	18	9	5	3	2	4
Corpus Christi, Tex.	49	22	9	9	7	2	1
Dallas, Tex.	177	91	54	19	9	4	1
El Paso, Tex.	58	34	16	2	2	4	1
Fort Worth, Tex.	71	44	18	2	5	2	7
Houston, Tex.	70	28	23	11	5	3	1
Little Rock, Ark.	52	30	13	3	2	4	1
New Orleans, La.	121	69	32	12	5	3	–
San Antonio, Tex.	168	100	38	15	9	6	8
Shreveport, La.	60	36	16	2	3	3	1
Tulsa, Okla.	71	43	19	3	3	3	1
MOUNTAIN	570	342	132	47	31	18	26
Albuquerque, N. Mex.	85	57	17	6	4	1	4
Colo. Springs, Colo.	34	20	8	2	4	–	4
Denver, Colo.	122	66	30	11	8	7	5
Las Vegas, Nev.	67	34	19	11	1	2	1
Ogden, Utah	17	12	2	1	2	–	–
Phoenix, Ariz.	110	68	23	7	7	5	5
Pueblo, Colo.	14	8	4	1	1	–	–
Salt Lake City, Utah	55	32	11	5	4	3	3
Tucson, Ariz.	66	45	18	3	–	–	4
PACIFIC	1,611	1,028	360	118	59	46	85
Berkeley, Calif.	26	14	7	2	2	1	–
Fresno, Calif.	75	53	11	5	5	1	3
Glendale, Calif.	22	16	3	1	1	1	1
Honolulu, Hawaii	55	32	12	5	4	2	2
Long Beach, Calif.	89	58	17	8	4	2	1
Los Angeles, Calif.	411	258	103	25	15	10	12
Oakland, Calif.	86	56	16	11	3	–	6
Pasadena, Calif.	29	20	7	–	–	2	4
Portland, Oreg.	113	67	24	11	4	7	5
Sacramento, Calif.	61	37	15	6	3	–	5
San Diego, Calif.	123	81	28	9	4	1	11
San Francisco, Calif.	139	87	33	10	4	5	5
San Jose, Calif.	158	91	40	14	7	6	14
Seattle, Wash.	123	89	21	8	1	4	5
Spokane, Wash.	56	37	13	1	2	3	5
Tacoma, Wash.	45	32	10	2	–	1	6
TOTAL	11,238††	7,008	2,617	805	418	385	424

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

†Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past 4 weeks.

TABLE V. Years of potential life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Years of potential life lost before age 65 by persons dying in 1980[1]	Estimated mortality February 1982		Estimated number of physician contacts February 1982[4]
		Number[2]	Annual Rate/100,000[3]	
ALL CAUSES (TOTAL)	10,006,060	164,820	931.3	91,355,000
Accidents and adverse effects (E800-E807, E810-E825, E826-E949)	2,684,850	7,150	40.4	5,335,000
Malignant neoplasms (140-208)	1,804,120	35,020	197.9	1,442,000
Diseases of heart (390-398, 402, 404-429)	1,636,510	63,320	357.8	4,697,000
Suicides, homicides (E950-E978)	1,401,880	4,040	22.8	—
Chronic liver disease and cirrhosis (571)	301,070	2,070	11.7	114,000
Cerebrovascular diseases (430-438)	280,430	13,980	79.0	495,000
Pneumonia and influenza (480-487)	124,830	4,340	24.5	1,150,000
Diabetes mellitus (250)	117,340	2,970	16.8	2,314,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	110,530	4,670	26.4	1,864,000
Prenatal care[5]				2,014,000
Infant mortality[5]		3,600	13.1 /1,000 live births	

[1]Years of potential life lost for persons between 1 year and 65 years old at the time of death are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSR), Vol. 29, No. 13, September 17, 1981, multiplied by the difference between 65 years and the age at the mid-point of each category. As a measure of mortality, "Years of potential life lost" underestimates the importance of diseases that contribute to death without being the underlying cause of death.

[2]The number of deaths is estimated by CDC by multiplying the estimated annual mortality rates (MVSR Vol. 31, No. 3, June 21, 1982, pp. 8-9) and the provisional U.S. population in that month (MVSR Vol. 31, No. 2, May 12, 1982, p.1) and dividing by the days in the month as a proportion of the days in the year.

[3]Annual mortality rates are estimated by NCHS (MVSR Vol. 31, No. 3, June 21, 1982, pp. 8-9), using the underlying cause of death from a systematic sample of 10% of death certificates received in state vital statistics offices during the month and the provisional population of those states included in the sample for that month.

[4]IMS America *National Disease and Therapeutic Index* (NDTI), Monthly Report, February 1982, Section III. This estimate comprises the number of office, hospital, and nursing home visits and telephone calls prompted by each medical condition based on a stratified random sample of office-based physicians (2,100) who record all private patient contacts for 2 consecutive days each quarter.

[5]"Prenatal care" (NDTI) and "Infant mortality" (MVSR Vol. 31, No. 2, May 12, 1982, p.1) are included in the table because "Years of potential life lost" does not reflect deaths of children < 1 year.

Opportunistic Infections – Continued

of intravenous (IV) drug abuse; 8 denied drug abuse, and for 1, no information was available on drug use. The 10 had resided in the United States for periods ranging from 3 months to 8 years (the majority, for 2 years or less). At least 1 patient had onset of illness before arriving in the United States. Immunologic studies performed at CDC on specimens from 2 patients showed results comparable to those for the 11 patients from Miami.

Other States: Opportunistic infections or Kaposi's sarcoma were also reported for 3 other Haitians located in California, Georgia, and New Jersey. All 3 were heterosexual males who denied IV drug abuse. One patient had *P. carinii* pneumonia, another had Kaposi's sarcoma, and the third had esophageal candidiasis.

Reported by GT Hensley, MD, LB Moskowitz, MD, AE Pitchenik, MD, MA Fischl, MD, SZ Tabei MD, P Kory, MD, MJ Post, MD, FK Conley, MD (Stanford University School of Medicine), G Dickinson, MD, D Becker, MD, A Fournier, MD, M O'Connell, MD, G Scott, MD, University of Miami School of Medicine, RA Morgan, MD, JQ Cleveland, MD, Dade County Health Dept, H Tennis, Metropolitan Dade County, HT Janowski, MPH, RA Gunn, MD, MPH, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs; J Viera, MD, S Landesman, MD, E Frank, MD, J Nadler, MD, Kings County Hospital, SUNY Downstate Medical Center, Brooklyn, C Metroka, MD, T Nash, MD, New York Hospital, SM Friedman, MD, DJ Sencer, MD, New York City Dept of Health, R Rothenberg, MD, State Epidemiolgist, New York State Dept of Health; T Howard, MD, Cedars-Sinai Medical Center, M Gottlieb, MD, UCLA Medical Center, S Fannin, MD, Los Angeles County Dept of Health Svcs, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; R Kapila, MD, New Jersey College of Medicine and Dentistry, IC Guerrero, WE Parkin, DVM, State Epidemiologist, New Jersey Dept of Health; J Hawkins, MD, Medical College of Georgia, RK Sikes, DVM, State Epidemiologist, Georgia Dept of Human Resources; Div of Parasitic Diseases, Div of Host Factors, Center for Infectious Diseases, Field Svcs Div, Epidemiology Program Office, Task Force on Kaposi's Sarcoma and Opportunistic Infections, CDC.

Editorial Note: The occurrence of severe opportunistic infections among 32 Haitians recently entering the United States is a new phenomenon. The in vitro immunologic findings and the high mortality rate (nearly 50%) for these patients are similar to the pattern recently described among homosexual males and IV drug abusers (*1-4*). None of the 23 Haitian males questioned reported homosexual activity, and only 1 of 26 gave a history of IV drug abuse—substantially lower than the prevalence reported for heterosexual patients of other racial/ethnic groups who had Kaposi's sarcoma or opportunistic infections. Of the 34 patients discussed above with opportunistic infections or Kaposi's sarcoma, 30 (88%) were males. All patients were between 20 and 45 years of age. Data from medical screening of 10,780 Haitians entering the United States between March and November 1980 indicated that 73% were adult males. Only 2% of those screened were <12 years old, and over 90% were <45 years old (*5*).

The occurrence of opportunistic infections among adult Haitians with no history of underlying immunosuppressive therapy or disease has not been reported previously. However, 11 cases of disseminated Kaposi's sarcoma have been diagnosed by dermatologists in Port au Prince, Haiti, over a period of 2 1/2 years (*6*). The reason for the high prevalence of disseminated tuberculosis among the group of patients discussed above is not known; but a high prevalence of tuberculosis has been documented among recent Haitian entrants (*7*), and the disease has been reported to disseminate more frequently among persons who are immunocompromised (*8,9*).

To date, it has not been established whether the cases of toxoplasmosis represent reactivation of old lesions acquired in Haiti or whether they are progressive primary infections acquired in the United States. However, serum specimens obtained from 2 patients in Miami and tested at CDC by indirect immuno-fluorescence (IIF) were negative for IgM antibody to *Toxoplasma*. This suggests that the infections of these 2 patients were not recently acquired. Serologic tests such as the IIF may be helpful in establishing or excluding a diagnosis of toxoplasmosis for patients with CNS symptoms. Tachyzoites in tissue specimens can be visualized more effectively using Giemsa stain or a recently developed immuno-peroxidase method (*10*) than with the standard hemotoxylin and eosin staining.

Opportunistic Infections — Continued

plasmosis for patients seen with CNS symptoms. Tachyzoites in tissue specimens can be visualized more effectively using Giémsa stain or a recently developed immuno-peroxidase method (*10*) than with the standard hemotoxylin and eosin staining.

It is not clear whether this outbreak is related to similar outbreaks among homosexual males, IV drug abusers, and others, but the clinical and immunologic pictures appear quite similar. CDC is currently collaborating with local investigators to define this problem and identify risk factors.

Physicians who care for Haitian patients should be aware that opportunistic infections may occur in this population. Health-care providers who diagnose opportunistic infections or Kaposi's sarcoma among persons who do not have underlying disease and are not on immunosuppressive therapy are requested to report such cases to CDC through their appropriate state and local health departments.

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Influenza Activity, April-May, United States, 1982

Several states reported influenza activity in April and May 1982, including the first laboratory isolations of influenza virus for the season in Idaho, Ohio, and West Virginia. In Idaho, influenza B virus was isolated from several patients in a nursing home during an outbreak of influenza that affected more than half the residents and continued from mid-April to early May, and in Ohio and West Virginia influenza B viruses were isolated from patients with sporadic cases who became ill in April and May, respectively.

Outbreaks of influenza occurred in institutions in California, Montana, New York, and South Dakota in April or May. However, little other coincident influenza activity was noted in the surrounding communities when these focal outbreaks occurred. At a Job Corps Center in Upstate New York, almost 200 of the 380 residents had influenza-like illness during an out-

Influenza Activity – Continued

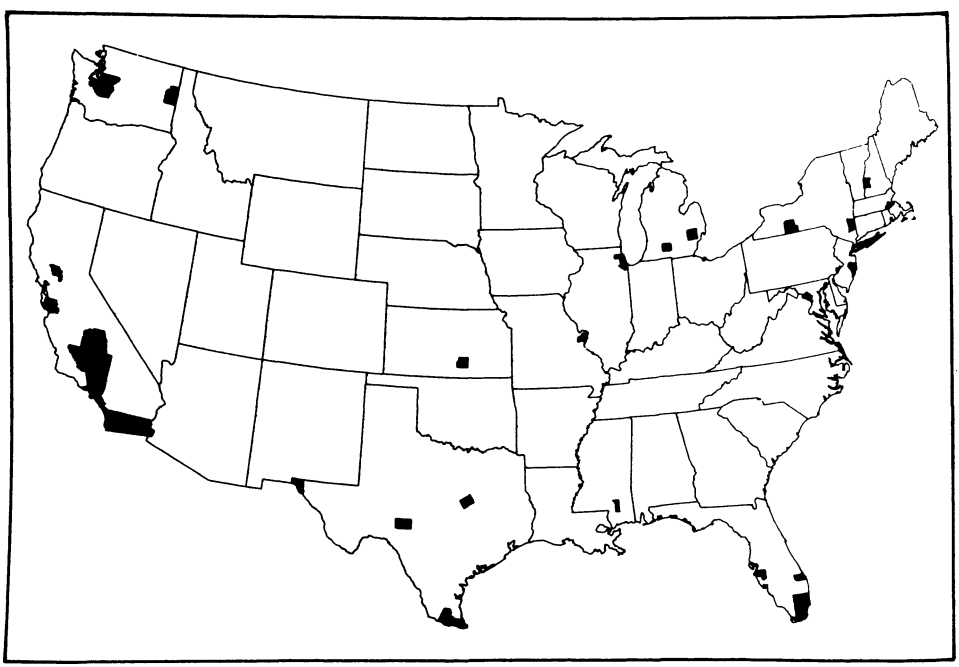
break that began in mid-April. Influenza type A(H1N1) virus was isolated from 4 of 10 patients tested. In South Dakota, approximately half of the 80 residents of a nursing home had influenza-like illness early in April. Serologic testing following the outbreak suggested that these persons had recently had influenza B infection. In April, influenza B was also serologically diagnosed as being associated with an outbreak of illness in a nursing home in Montana. In California, an outbreak of influenza began in early May and affected about half of the patients and staff members in 2 of 5 wards in a state hospital. Influenza B viruses were isolated from patients in both wards.

Reported by R Moulton, F R Dixon, MD, State Epidemiologist, Idaho Div of Health; J Porterfield-Baxa, T Halpin, MD, State Epidemiologist, Ohio Dept of Health; R Belshe, MD, Marshall University, Huntington, L Haddy, State Epidemiologist, West Virginia State Dept of Health; R Deibel, PhD, R Rothenberg, MD, State Epidemiologist, New York Dept of Health; R Melton, PhD, K Sanger, State Epidemiologist, South Dakota Dept of Health; J Brinker, J Anderson, MD, State Epidemiologist, Montana Dept of Health and Environmental Svcs; DM O'Connor, MD, Napa State Hospital, J Schieble, PhD, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; Influenza Br, Center for Infectious Diseases, CDC.

Measles, United States — Weeks 17-20, 1982

In the 4-week period April 25-May 22, 1982 (reporting weeks 17-20), 190 cases of measles were reported to CDC—an average of fewer than 48 cases per week. This total is 69.3% below the 619 cases reported in the same period in 1981. Only 33 (1.0%) of the nation's 3,144 counties reported measles to CDC in this period (Figure 1).

FIGURE 1. States and counties reporting measles, weeks 17-20, April 25-May 22, 1982



Measles – Continued

Of the 190 measles cases, 8 were known to be imported (from 6 countries—England, Finland, India, the Philippines, Russia, and Switzerland). Two of these 8 led to at least 18 subsequent cases (Kansas and New Jersey) and 42 subsequent cases (Dutchess County, New York), i.e., a total of 60 cases that could be linked to 2 of the known importations. Thus, a total of 68 (35.8%) measles cases reported were related to importations.

Reported by Immunization Div, Center for Prevention Svcs, CDC.

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

Send mailing list additions, deletions and address changes to: Attn: Distribution Services, Management Analysis and Services Office, 1-SB-419, Centers for Disease Control, 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.

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