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MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

National Childhood Vaccine Injury Act: Requirements for Permanent Vaccination Records and for Reporting of Selected Events After Vaccination

Since March 21, 1988, health-care providers who administer certain vaccines and toxoids are required by law to record permanently certain information and to report certain events.* The vaccines and toxoids to which these requirements apply follow: diphtheria and tetanus toxoids and pertussis vaccine (DTP); pertussis vaccine (P); measles, mumps, and rubella single-antigen vaccines and combination vaccines (MMR, MR); diphtheria and tetanus toxoids (DT); tetanus and diphtheria toxoids (Td); tetanus toxoid (T); poliovirus vaccine live, oral (OPV); and poliovirus vaccine inactivated (IPV) (Table 1). The requirements also will apply to DTP combined with inactivated poliovirus vaccine (DTP/Polio combined) if it becomes available.

Requirements for Recording

Specifically, all health-care providers who administer one or more of these vaccines or toxoids are required to ensure that there is recorded in the vaccine recipient's permanent medical record (or in a permanent office log or file) the date the vaccine was administered, the manufacturer and lot number of the vaccine, and the name, address, and title of the person administering the vaccine. The term health-care provider is defined as any licensed health-care professional, organization, or institution, whether private or public (including federal, state, and local departments and agencies), under whose authority a specified vaccine is administered.

Requirements for Reporting

Health-care providers are required to report to the U.S. Department of Health and Human Services (DHHS) selected events occurring after vaccination. Reportable events applicable to the previously mentioned vaccines and toxoids are shown in Table 1 and include events described in the vaccine manufacturer's package insert as contraindications to receiving additional doses of the vaccine.

*The National Childhood Vaccine Injury Act of 1986, at Section 2125 of the Public Health Service Act as codified at 42 U.S.C. § 300aa-25 (Supp. 1987).

Vaccine – Continued

TABLE 1. Reportable events following vaccination

Vaccine/Toxoid	Event	Interval from Vaccination
DTP, P, DTP/Polio Combined	A. Anaphylaxis or anaphylactic shock	24 hours
	B. Encephalopathy (or encephalitis)*	7 days
	C. Shock-collapse or hypotonic-hyporesponsive collapse*	7 days
	D. Residual seizure disorder*	(See Aids to Interpretation*)
	E. Any acute complication or sequela (including death) of above events	No limit
	F. Events in vaccinees described in manufacturer's package insert as contraindications to additional doses of vaccine† (such as convulsions)	(See package insert)
Measles, Mumps, and Rubella; DT, Td, Tetanus Toxoid	A. Anaphylaxis or anaphylactic shock	24 hours
	B. Encephalopathy (or encephalitis)*	15 days for measles, mumps, and rubella vaccines; 7 days for DT, Td, and T toxoids
	C. Residual seizure disorder*	(See Aids to Interpretation*)
	D. Any acute complication or sequela (including death) of above events	No limit
	E. Events in vaccinees described in manufacturer's package insert as contraindications to additional doses of vaccine†	(See package insert)
Oral Polio Vaccine	A. Paralytic poliomyelitis	
	—in a non-immunodeficient recipient	30 days
	—in an immunodeficient recipient	6 months
	—in a vaccine-associated community case	No limit
	B. Any acute complication or sequela (including death) of above events	No limit
	C. Events in vaccinees described in manufacturer's package insert as contraindications to additional doses of vaccine†	(See package insert)
Inactivated Polio Vaccine	A. Anaphylaxis or anaphylactic shock	24 hours
	B. Any acute complication or sequela (including death) of above event	No limit
	C. Events in vaccinees described in manufacturer's package insert as contraindications to additional doses of vaccine†	(See package insert)

***Aids to Interpretation:**

Shock-collapse or hypotonic-hyporesponsive collapse may be evidenced by signs or symptoms such as decrease in or loss of muscle tone, paralysis (partial or complete), hemiplegia, hemiparesis, loss of color or turning pale white or blue, unresponsiveness to environmental stimuli, depression of or loss of consciousness, prolonged sleeping with difficulty arousing, or cardiovascular or respiratory arrest.

Residual seizure disorder may be considered to have occurred if no other seizure or convulsion unaccompanied by fever or accompanied by a fever of less than 102 °F occurred before the first seizure or convulsion after the administration of the vaccine involved,

AND, if in the case of measles-, mumps-, or rubella-containing vaccines, the first seizure or convulsion occurred within 15 days after vaccination OR in the case of any other vaccine, the first seizure or convulsion occurred within 3 days after vaccination,

AND, if two or more seizures or convulsions unaccompanied by fever or accompanied by a fever of less than 102 °F occurred within 1 year after vaccination.

The terms seizure and convulsion include grand mal, petit mal, absence, myoclonic, tonic-clonic, and focal motor seizures and signs. Encephalopathy means any significant acquired abnormality of, injury to, or impairment of function of the brain. Among the frequent manifestations of encephalopathy are focal and diffuse neurologic signs, increased intracranial pressure, or changes lasting at least 6 hours in level of consciousness, with or without convulsions. The neurologic signs and symptoms of encephalopathy may be temporary with complete recovery, or they may result in various degrees of permanent impairment. Signs and symptoms such as high-pitched and unusual screaming, persistent unconsolable crying, and bulging fontanel are compatible with an encephalopathy, but in and of themselves are not conclusive evidence of encephalopathy. Encephalopathy usually can be documented by slow wave activity on an electroencephalogram.

†The health-care provider must refer to the CONTRAINDICATION section of the manufacturer's package insert for each vaccine.

Vaccine – Continued

Methods for Reporting

In the United States, vaccines are either publicly or privately purchased. Publicly purchased vaccines are bought with federal, state, and/or local government funds. At present, the method and route for reporting adverse events depend on whether the vaccine administered is publicly or privately purchased. Events occurring after receipt of publicly purchased vaccines are reported through local, county, and/or state health departments to the Centers for Disease Control (CDC) on its Report of Adverse Events Following Immunization (CDC form 71.19). Events occurring after receipt of a privately purchased vaccine usually are reported directly to the Food and Drug Administration (FDA) on its Adverse Reaction Report (FDA form 1639) by the health-care provider or the manufacturer.

For the time being, these two systems for reporting adverse events are to be used to implement the requirement of Title XXI of the Public Health Service Act for reporting adverse events to DHHS (Table 2).

Reportable events occurring after receipt of a publicly purchased vaccine shall be reported to local, county, and/or state health departments through channels currently in place at those institutions. The Report of Adverse Events Following Immunization, available at each state health department, shall be completed and sent by the state health department to CDC.

TABLE 2. Reporting of events occurring after vaccination

	Vaccine Purchased with Public Money	Vaccine Purchased with Private Money
Who Reports:	Health-care provider who administered the vaccine	Health-care provider who administered the vaccine
What Products To Report:	DTP, P, Measles, Mumps, Rubella, DT, Td, T, OPV, IPV, and DTP/Polio Combined	DTP, P, Measles, Mumps, Rubella, DT, Td, T, OPV, IPV, and DTP/Polio Combined
What Reactions To Report:	Events listed in Table 1 including contraindicating reactions specified in manufacturers' package inserts	Events listed in Table 1 including contraindicating reactions specified in manufacturers' package inserts
How To Report:	Initial report taken by local, county, or state health department. State health department completes CDC form 71.19	Health-care provider completes Adverse Reaction Report-FDA form 1639 (include interval from vaccination, manufacturer, and lot number on form)
Where To Report:	State health departments send CDC form 71.19 to: MSAEFI/IM (E05) Centers for Disease Control Atlanta, GA 30333	Completed FDA form 1639 is sent to: Food and Drug Administration (HFN-730) Rockville, MD 20857
Where To Obtain Forms:	State health departments	FDA and publications such as *FDA Drug Bulletin*

Vaccine — Continued

Reportable events occurring after receipt of a privately purchased vaccine shall be reported by the health-care provider directly to the FDA on the Adverse Reaction Report (FDA form 1639). Health-care providers will need to ensure that the name of the vaccine manufacturer, the lot number of the vaccine, and the interval between vaccination and onset of the reaction are included on this form. FDA form 1639 can be obtained directly from Food and Drug Administration, HFN-730, Rockville, Maryland 20857. The form also is printed in *FDA Drug Bulletin,* the physician's edition of the *Physicians' Desk Reference, USP Drug Information for Health Care Providers,* and *AMA Drug Evaluations* and can be duplicated.

Health-care providers are requested not to provide the names and other personal identifiers of patients on FDA form 1639. Such information will be reported for publicly purchased vaccines to state and local health departments, which in turn will remove the names and personal identifiers when submitting CDC form 71.19 to CDC.

Reported by: National Vaccine Program, Office of the Assistant Secretary of Health. Office of Biologics, Office of Epidemiology and Statistics, Food and Drug Administration. Div of Immunization, Center for Prevention Services, CDC.

Topics in Minority Health

High Prevalence of Iron Deficiency Anemia Among Alaskan Native Children

Iron deficiency anemia has long been recognized as a common nutritional problem among Alaskan Native children (*1-3*). Even though the prevalence of childhood iron deficiency anemia in the United States as a whole has declined in the past decade (*4*), data from several sources show that the prevalence of anemia remains high among Alaskan Native children. These sources include 1) the database of the Alaska Area Native Health Service for children aged 5-72 months, 2) a survey of Yupik Eskimo schoolchildren (aged 6-17 years) in 15 villages in the Yukon-Kuskokwim Delta (YKD) region in 1986-1987, and 3) a 1987 survey of 318 schoolchildren in seven villages in the Bristol Bay region.

The computerized medical-record database for the Alaska Area Native Health Service includes hemoglobin and hematocrit values for 1983-1985 for children aged 5-72 months who were eligible for care. Testing is recommended as part of routine well-baby care at ages 6, 10, and 18 months and before the child enters school. In the years 1983-1985, more than 4,000 test results were recorded annually, and the prevalence of anemia (hemoglobin<11 g/dL, hematocrit<34%) ranged from 22% to 28% in children under 5 years of age.

The two regional surveys focused on determining hemoglobin values in school-aged children (Table 1). A total of 876 children were tested in the 15 YKD villages, and 318 in the seven Bristol Bay villages. Overall, the combined prevalence of anemia for the Bristol Bay area was 23% and for the YKD area, 10%. Serum ferritin levels were

Iron Deficiency Anemia — Continued

also determined on a random sample of 83 children in YKD; 65% had a value below 10 ng/dL, the diagnostic cutoff value for iron deficiency.

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Editorial Note: Based on three sources of data, the prevalence of anemia among Alaskan Native children was higher than 20% for children under 5 years old and was 10% or greater overall for older children and adolescents. By comparison, data from the second National Health and Nutrition Examination Survey of 1976-1980, which used similar criteria for anemia, show that the prevalence of anemia in the entire United States was 4% for children 3-5 years old, 3% for children 6-11 years old, 3% for males 12-17 years old, and 5% for females 12-17 years old (*5*). Also, the recently reported decline in prevalence of anemia among U.S. children from low-income families may mean that the current prevalence of anemia in the United States is even lower (*4*). Comparing the findings of the current Bristol Bay survey with those of a detailed study done in the same region in 1975 shows no evidence of improvement in the prevalence of anemia (*6*).

The 1975 Bristol Bay survey documented that most of the anemic children had a significant rise in hemoglobin after oral iron treatment; this improvement indicates that iron deficiency was the primary cause of anemia. The high percentage of children who had low ferritin levels observed in the recent study in the YKD also confirms that anemia is mainly related to iron deficiency. The cause of the iron deficiency among Alaskan Native children, especially the older children, is not clear. In other U.S. populations, most cases of anemia occur in younger children, whose iron deficiency results from inadequate iron intake in infancy, and the prevalence declines by preschool age (*7*). The traditional Native Alaskan diet generally contains many iron-rich items such as meat and fish. However, a recent study of diets of children in the Bristol Bay area found common consumption of non-native food that is relatively low in iron content (Alaska Area Native Health Service, Public Health Service, unpublished data). It remains to be determined whether this lower intake of iron alone can explain the lower hemoglobin values, or whether iron metabolism is affected by other dietary factors such as inhibitors of iron absorption.

TABLE 1. Prevalence of iron deficiency anemia among Alaskan Native children — Yukon-Kuskokwim Delta and Bristol Bay regions, Alaska

		Yukon-Kuskokwim Delta			Bristol Bay		
			Anemic			Anemic	
Age	Anemia Criteria	Total No.	No.	(%)	Total No.	No.	(%)
6-11 Years	Hb*<11.5 g/dL	352	15	(4.3)	161	30	(18.6)
12-17 Years							
Female	Hb<12.0 g/dL	243	35	(14.4)	76	18	(23.7)
Male	Hb<12.5 g/dL	281	37	(13.2)	81	24	(29.6)
Total		**876**	**87**	**(9.9)**	**318**	**72**	**(22.6)**

*Hb=hemoglobin

Iron Deficiency Anemia — Continued

References

1. Scott EM, Wright RC, Hannan BT. Anemia in Alaskan Eskimos. J Nutr 1955;55:137-49.
2. Petersen KM, Brant LJ. Growth and hematological changes in the Eskimo children of Wainwright, Alaska: 1968 to 1977. Am J Clin Nutr 1984;39:460-5.
3. Burks JM, Siimes MA, Mentzer WC, Dallman PR. Iron deficiency in an Eskimo village: the value of serum ferritin in assessing iron nutrition before and after a three-month period of iron supplementation. J Pediatr 1976:88:224-8.
4. Yip R, Binkin NJ, Fleshood L, Trowbridge FL. Declining prevalence of anemia among low-income children in the United States. JAMA 1987;258:1619-23.
5. Dallman PR, Yip R, Johnson C. Prevalence and causes of anemia in the United States, 1976 to 1980. Am J Clin Nutr 1984;39:437-45.
6. Margolis HS, Hardison HH, Bender TR, Dallman PR. Iron deficiency in children: the relationship between pretreatment laboratory tests and subsequent hemoglobin response to iron therapy. Am J Clin Nutr 1981;34:2158-68.
7. Dallman PR, Siimes MA, Stekel A. Iron deficiency in infancy and childhood. Am J Clin Nutr 1980;33:86-118.

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

Disease	13th Week Ending			Cumulative, 13th Week Ending		
	April 2, 1988	April 4, 1987	Median 1983-1987	April 2, 1988	April 4, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	675	U*	250	7,422	4,727	1,583
Aseptic meningitis	70	84	84	947	1,134	1,065
Encephalitis: Primary (arthropod-borne & unspec)	11	17	18	155	208	217
Post-infectious	1	1	3	19	14	23
Gonorrhea: Civilian	9,160	14,581	15,976	168,166	204,756	205,191
Military	160	279	465	3,052	4,256	5,094
Hepatitis: Type A	413	528	447	5,968	6,233	5,696
Type B	440	485	485	4,847	6,144	6,001
Non A, Non B	53	67	67	592	745	814
Unspecified	46	30	80	539	813	1,257
Legionellosis	14	11	11	163	178	152
Leprosy	5	4	4	38	52	65
Malaria	13	20	13	162	175	166
Measles: Total†	19	82	85	501	767	644
Indigenous	18	73	73	468	667	561
Imported	1	9	13	33	100	83
Meningococcal infections	60	68	68	894	1,045	861
Mumps	108	400	103	1,184	4,594	1,055
Pertussis	38	24	41	558	460	455
Rubella (German measles)	7	7	8	59	73	118
Syphilis (Primary & Secondary): Civilian	733	562	630	9,203	8,553	7,209
Military	2	2	5	53	54	58
Toxic Shock syndrome	8	8	8	69	78	98
Tuberculosis	426	336	390	4,345	4,699	4,699
Tularemia	-	2	1	21	19	19
Typhoid Fever	10	3	3	87	62	62
Typhus fever, tick-borne (RMSF)	2	1	2	18	11	15
Rabies, animal	105	121	134	831	1,097	1,097

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis (Nebr. 1)	8
Botulism: Foodborne	4	Plague (Tex. 1)	1
Infant (Wash. 1)	9	Poliomyelitis, Paralytic	-
Other	2	Psittacosis	18
Brucellosis	13	Rabies, human	-
Cholera	-	Tetanus (W. Va. 1, Tex. 1)	9
Congenital rubella syndrome	-	Trichinosis	4
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†One of the 19 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending April 2, 1988 and April 4, 1987 (13th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	7,422	947	155	19	168,166	204,756	5,968	4,847	592	539	163	38
NEW ENGLAND	291	43	7	4	5,066	7,227	222	335	64	33	6	5
Maine	11	3	1	4	109	223	11	16	1	1	1	-
N.H.	6	8	-	-	78	114	15	8	3	2	-	-
Vt.	3	2	2	-	43	53	3	10	4	-	-	-
Mass.	162	17	3	-	1,838	2,716	131	209	48	25	4	5
R.I.	13	11	-	-	416	562	33	40	6	-	1	-
Conn.	96	2	1	-	2,582	3,559	29	52	2	5	-	-
MID. ATLANTIC	2,511	122	19	-	24,576	33,241	328	581	37	46	36	4
Upstate N.Y.	366	65	14	-	2,800	4,276	204	146	18	4	22	-
N.Y. City	1,345	20	4	-	10,250	18,440	54	270	4	32	2	4
N.J.	607	37	1	-	3,794	3,862	70	165	15	10	-	-
Pa.	193	-	-	-	7,732	6,663	-	-	-	-	12	-
E.N. CENTRAL	504	122	24	1	26,234	29,035	295	494	30	33	50	-
Ohio	111	49	11	1	6,040	5,840	88	155	10	3	17	-
Ind.	39	19	2	-	2,247	2,536	36	57	1	12	5	-
Ill.	220	2	-	-	7,403	8,846	25	29	-	1	-	-
Mich.	113	47	8	-	8,882	9,240	124	219	14	17	22	-
Wis.	21	5	3	-	1,662	2,573	22	34	5	-	6	-
W.N. CENTRAL	168	49	12	2	6,633	8,301	396	253	24	10	12	-
Minn.	28	12	2	-	931	1,345	14	35	3	3	-	-
Iowa	8	10	6	-	472	822	19	23	4	-	4	-
Mo.	83	8	-	-	3,710	4,144	214	145	11	5	1	-
N. Dak.	-	-	-	-	36	101	2	2	1	-	-	-
S. Dak.	3	5	-	1	143	166	-	1	1	-	4	-
Nebr.	13	3	1	1	448	525	9	16	-	-	2	-
Kans.	33	• 11	3	-	893	1,198	138	31	4	2	1	-
S. ATLANTIC	1,177	217	20	5	47,909	53,653	420	1,011	81	82	30	1
Del.	14	5	1	-	679	759	5	24	2	1	3	-
Md.	113	19	1	1	4,728	5,387	49	170	6	2	5	1
D.C.	116	5	-	-	3,172	3,593	4	10	2	1	-	-
Va.	105	25	12	1	3,412	4,305	95	64	23	55	2	-
W. Va.	5	5	1	-	395	401	3	14	1	3	-	-
N.C.	76	41	4	-	7,973	7,973	58	167	18	-	12	-
S.C.	40	4	-	-	3,601	4,814	14	168	3	3	4	-
Ga.	142	29	1	-	9,136	9,083	73	174	3	1	2	-
Fla.	566	84	-	3	14,813	17,338	119	220	23	16	2	-
E.S. CENTRAL	214	67	15	2	12,822	14,868	285	276	50	5	7	1
Ky.	29	26	4	1	1,110	1,553	258	66	22	2	3	-
Tenn.	105	6	5	-	4,153	5,149	18	114	12	-	2	-
Ala.	52	28	6	1	4,484	4,834	3	84	14	3	2	1
Miss.	28	7	-	-	3,075	3,332	6	12	2	-	-	-
W.S. CENTRAL	726	74	7	-	19,685	22,157	597	314	42	120	3	-
Ark.	29	3	2	-	1,746	2,228	63	18	1	3	-	-
La.	106	15	-	-	4,488	4,366	34	72	5	3	1	-
Okla.	33	6	1	-	1,703	2,541	165	49	9	10	2	-
Tex.	558	50	4	-	11,748	13,022	335	175	27	104	-	-
MOUNTAIN	275	40	13	1	3,508	5,425	857	390	59	56	9	-
Mont.	5	1	-	-	102	135	16	16	4	2	-	-
Idaho	3	-	-	-	83	185	38	22	2	1	-	-
Wyo.	1	1	-	-	53	97	1	1	3	-	1	-
Colo.	93	12	2	-	813	1,094	41	51	6	23	4	-
N. Mex.	12	1	1	-	348	587	156	45	3	1	-	-
Ariz.	108	13	5	-	1,256	1,989	449	177	22	18	1	-
Utah	19	6	3	1	166	205	106	27	16	9	2	-
Nev.	34	6	2	-	687	1,133	50	51	3	2	1	-
PACIFIC	1,556	213	38	4	21,733	30,849	2,568	1,193	205	154	10	27
Wash.	72	-	1	3	1,638	2,242	464	119	27	15	5	-
Oreg.	57	-	-	-	759	1,107	506	183	24	7	-	-
Calif.	1,391	187	36	1	18,844	26,689	1,514	860	151	129	3	27
Alaska	7	6	-	-	279	529	84	22	2	3	-	-
Hawaii	29	20	1	-	213	282	-	9	1	-	2	-
Guam	-	-	-	-	32	53	1	3	-	2	-	3
P.R.	287	8	1	-	395	566	4	63	15	9	-	-
V.I.	8	-	-	-	101	61	-	3	-	-	-	-
Amer. Samoa	-	-	-	-	-	148	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	12	27	-	1	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 2, 1988 and April 4, 1987 (13th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	162	18	468	1	33	767	894	108	1,184	38	558	460	7	59	73
NEW ENGLAND	16	-	1	1	1	10	77	1	5	-	71	11	-	-	-
Maine	2	-	-	-	-	-	3	-	-	-	11	-	-	-	-
N.H.	-	-	-	-	-	2	8	1	3	-	21	1	-	-	-
Vt.	-	-	-	-	-	6	2	-	-	-	-	3	-	-	-
Mass.	10	-	1	-	-	2	32	-	2	-	32	3	-	-	-
R.I.	2	-	-	-	-	-	13	-	-	-	-	-	-	-	-
Conn.	2	-	-	1†	1	-	19	-	-	-	7	4	-	-	-
MID. ATLANTIC	24	13	132	-	1	141	76	13	78	2	16	61	-	4	3
Upstate N.Y.	12	-	-	-	1	16	38	3	24	-	6	45	-	1	1
N.Y. City	7	-	13	-	-	102	12	-	10	-	1	-	-	1	1
N.J.	4	-	-	-	-	5	26	-	17	-	1	4	-	1	1
Pa.	1	13	119	-	-	18	-	10	27	2	8	12	-	1	-
E.N. CENTRAL	8	4	35	-	3	79	92	16	325	2	51	62	-	20	15
Ohio	1	-	-	-	3	4	38	-	36	-	8	19	-	-	-
Ind.	-	-	-	-	-	-	7	-	21	-	24	-	-	-	-
Ill.	-	4	24	-	-	46	2	-	102	-	2	3	-	16	14
Mich.	6	-	11	-	-	23	34	16	115	2	12	18	-	4	1
Wis.	1	-	-	-	-	6	11	-	51	-	5	22	-	-	-
W.N. CENTRAL	4	-	-	-	-	9	37	1	60	3	33	28	-	-	-
Minn.	1	-	-	-	-	-	9	-	-	1	4	3	-	-	-
Iowa	-	-	-	-	-	-	-	-	22	-	14	3	-	-	-
Mo.	2	-	-	-	-	9	14	-	13	2	5	11	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	6	2	-	-	-
S. Dak.	-	-	-	-	-	-	1	-	-	-	2	2	-	-	-
Nebr.	-	-	-	-	-	-	5	1	5	-	-	-	-	-	-
Kans.	1	-	-	-	-	-	8	-	20	-	2	7	-	-	-
S. ATLANTIC	19	1	97	-	9	22	160	24	94	2	49	104	2	2	7
Del.	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
Md.	2	-	-	-	2	-	19	-	6	-	9	-	-	-	1
D.C.	4	-	-	-	-	-	4	5	35	-	-	-	-	-	-
Va.	5	-	33	-	2	-	19	12	19	-	7	30	1	1	1
W. Va.	-	-	2	-	-	-	-	-	2	-	-	14	-	-	-
N.C.	2	-	-	-	1	-	25	6	16	2	21	47	-	-	-
S.C.	3	-	-	-	-	-	18	-	3	-	-	-	-	-	-
Ga.	1	-	-	-	-	-	25	-	5	-	8	10	-	-	-
Fla.	2	1	62	-	4	22	50	1	8	-	1	3	1	1	5
E.S. CENTRAL	3	-	-	-	-	-	83	7	182	-	7	6	-	-	2
Ky.	-	-	-	-	-	-	15	-	37	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	49	4	138	-	6	-	-	-	-
Ala.	3	-	-	-	-	-	16	3	6	-	-	3	-	-	-
Miss.	-	-	-	-	-	-	3	N	N	-	1	2	-	-	-
W.S. CENTRAL	16	-	8	-	-	6	51	12	184	-	29	34	3	4	-
Ark.	-	-	-	-	-	-	7	-	2	-	5	2	2	3	-
La.	1	-	-	-	-	-	13	-	68	-	2	5	-	-	-
Okla.	4	-	8	-	-	1	6	-	51	-	22	27	1	1	-
Tex.	11	-	-	-	-	5	25	12	63	-	-	-	-	-	-
MOUNTAIN	9	-	113	-	-	174	34	6	75	20	204	45	-	2	5
Mont.	1	-	-	-	-	1	-	-	-	-	1	1	-	-	-
Idaho	-	-	-	-	-	-	2	-	1	19	176	17	-	-	-
Wyo.	-	-	-	-	-	-	-	-	2	-	1	2	-	-	1
Colo.	3	-	113	-	-	-	8	2	17	-	3	15	-	1	-
N. Mex.	1	-	-	-	-	171	8	N	N	-	1	1	-	-	-
Ariz.	2	-	-	-	-	2	9	4	47	1	13	8	-	-	-
Utah	1	-	-	-	-	-	6	-	1	-	8	1	-	-	4
Nev.	1	-	-	-	-	-	1	-	7	-	1	-	-	1	-
PACIFIC	63	-	82	-	19	326	284	28	181	9	98	109	2	27	41
Wash.	3	-	-	-	-	-	24	1	7	4	17	20	-	-	-
Oreg.	4	-	-	-	-	27	15	N	N	-	2	12	-	-	1
Calif.	55	-	82	-	18	297	232	27	171	4	57	49	2	25	38
Alaska	1	-	-	-	-	-	4	-	3	1	3	3	-	-	-
Hawaii	-	-	-	-	1	2	9	-	-	-	19	25	-	2	2
Guam	-	-	-	-	1	2	-	-	2	-	-	-	-	1	-
P.R.	1	47	94	-	-	239	4	1	3	1	3	9	-	-	1
V.I.	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 2, 1988 and April 4, 1987 (13th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	9,203	8,553	69	4,345	4,699	21	87	18	831
NEW ENGLAND	261	122	5	67	105	-	7	-	3
Maine	3	1	1	2	10	-	-	-	1
N.H.	2	1	2	-	5	-	-	-	2
Vt.	-	1	-	-	3	-	-	-	-
Mass.	108	69	2	39	30	-	5	-	-
R.I.	9	2	-	7	15	-	-	-	-
Conn.	139	48	-	19	42	-	2	-	-
MID. ATLANTIC	1,769	1,429	11	810	906	-	13	1	93
Upstate N.Y.	110	55	5	150	153	-	1	-	1
N.Y. City	1,165	1,005	2	336	435	-	6	1	-
N.J.	196	164	2	150	143	-	6	-	-
Pa.	298	205	2	174	175	-	-	-	92
E.N. CENTRAL	274	261	11	546	549	1	9	-	14
Ohio	29	29	8	96	110	-	2	-	-
Ind.	17	15	-	56	50	-	2	-	2
Ill.	126	156	-	208	233	-	4	-	4
Mich.	96	42	3	152	141	1	1	-	2
Wis.	6	19	-	34	15	-	-	-	6
W.N. CENTRAL	59	36	10	129	130	10	2	1	103
Minn.	4	4	-	23	33	-	1	-	49
Iowa	3	6	2	10	8	-	-	-	13
Mo.	33	19	4	62	64	8	1	1	5
N. Dak.	1	-	-	1	1	-	-	-	14
S. Dak.	5	3	-	14	5	-	-	-	16
Nebr.	7	3	2	4	11	1	-	-	1
Kans.	6	1	2	15	8	1	-	-	5
S. ATLANTIC	3,287	2,898	8	939	939	3	14	11	298
Del.	44	23	-	9	11	1	-	-	10
Md.	162	159	1	75	83	-	-	-	76
D.C.	149	89	-	45	29	-	-	-	1
Va.	107	66	-	112	88	1	6	-	105
W. Va.	1	4	-	24	30	-	-	-	20
N.C.	205	165	5	52	91	-	1	10	-
S.C.	144	189	-	95	97	-	-	1	15
Ga.	517	422	-	137	124	1	2	-	56
Fla.	1,958	1,781	2	390	386	-	5	-	15
E.S. CENTRAL	499	550	10	377	420	4	1	2	59
Ky.	17	3	3	104	106	3	1	-	37
Tenn.	198	243	4	100	123	-	-	1	-
Ala.	145	143	3	110	138	-	-	1	22
Miss.	139	161	-	63	53	1	-	-	-
W.S. CENTRAL	1,021	1,116	4	512	491	1	2	1	105
Ark.	47	53	-	48	43	-	-	-	21
La.	194	178	-	92	80	-	2	-	-
Okla.	42	41	2	49	56	1	-	1	5
Tex.	738	844	2	323	312	-	-	-	79
MOUNTAIN	191	187	6	91	143	2	3	1	72
Mont.	2	7	-	-	8	-	1	-	58
Idaho	-	1	1	2	13	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	5
Colo.	25	25	1	8	21	2	2	-	-
N. Mex.	17	15	-	22	24	-	-	-	3
Ariz.	53	97	1	46	68	-	-	-	6
Utah	7	4	3	-	1	-	-	-	-
Nev.	87	38	-	13	8	-	-	-	-
PACIFIC	1,842	1,954	4	874	1,016	-	36	1	84
Wash.	29	35	-	52	50	-	3	-	-
Oreg.	73	55	-	32	22	-	4	-	-
Calif.	1,731	1,859	4	737	871	-	27	1	82
Alaska	1	2	-	10	21	-	-	-	2
Hawaii	8	3	-	43	52	-	2	-	-
Guam	-	1	-	7	4	-	-	-	-
P.R.	165	246	-	46	56	-	2	-	18
V.I.	1	3	-	3	2	-	-	-	-
Amer. Samoa	-	81	-	-	43	-	-	-	-
C.N.M.I.	-	2	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending April 2, 1988 (13th Week)

Reporting Area	All Causes, By Age (Years): All Ages	≥65	45-64	25-44	1-24	<1	P&I** Total
NEW ENGLAND	674	481	124	48	9	12	77
Boston, Mass.	166	111	31	16	5	3	26
Bridgeport, Conn.	67	51	12	3	1	-	5
Cambridge, Mass.	29	24	3	1	-	1	5
Fall River, Mass.	24	19	2	3	-	-	-
Hartford, Conn.	45	33	8	3	1	-	2
Lowell, Mass.	32	20	9	2	-	1	5
Lynn, Mass.	24	19	3	2	-	-	1
New Bedford, Mass.	19	13	4	2	-	-	1
New Haven, Conn.	51	32	10	7	1	1	8
Providence, R.I.	36	25	7	4	-	-	3
Somerville, Mass.	6	3	3	-	-	-	-
Springfield, Mass.	55	33	13	5	-	4	7
Waterbury, Conn.	33	28	4	-	-	1	4
Worcester, Mass.	87	70	15	-	1	1	10
MID. ATLANTIC	3,163	2,114	598	317	60	74	219
Albany, N.Y.	58	44	10	2	1	1	2
Allentown, Pa.	15	14	1	-	-	-	-
Buffalo, N.Y.	113	85	22	4	1	1	21
Camden, N.J.	35	21	9	-	1	4	3
Elizabeth, N.J.	15	9	4	2	-	-	4
Erie, Pa.†	47	38	7	1	1	-	6
Jersey City, N.J.	50	31	11	5	-	3	1
N.Y. City, N.Y.	1,787	1,177	343	194	33	40	92
Newark, N.J.	38	20	10	5	2	1	1
Paterson, N.J.	40	22	7	4	2	5	-
Philadelphia, Pa.	475	274	99	75	16	11	31
Pittsburgh, Pa.†	75	54	13	4	-	4	4
Reading, Pa.	41	35	5	1	-	-	10
Rochester, N.Y.	132	105	16	7	2	2	29
Schenectady, N.Y.	39	29	6	4	-	-	1
Scranton, Pa.†	33	23	8	1	-	1	-
Syracuse, N.Y.	77	60	12	4	-	1	5
Trenton, N.J.	43	32	10	1	-	-	2
Utica, N.Y.	16	14	1	1	-	-	2
Yonkers, N.Y.	34	27	4	2	1	-	5
E.N. CENTRAL	2,319	1,586	456	166	54	57	118
Akron, Ohio	53	40	8	4	-	1	2
Canton, Ohio	17	12	2	2	-	1	4
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	168	123	28	10	4	3	18
Cleveland, Ohio	127	76	31	9	5	6	-
Columbus, Ohio	172	116	37	11	6	2	8
Dayton, Ohio	135	100	25	6	3	1	7
Detroit, Mich.	263	168	55	30	5	5	9
Evansville, Ind.	46	36	6	3	1	-	2
Fort Wayne, Ind.	34	25	9	-	-	-	1
Gary, Ind.	13	10	2	1	-	-	2
Grand Rapids, Mich.	68	52	10	4	1	1	8
Indianapolis, Ind.	194	127	45	8	7	7	-
Madison, Wis.	40	24	8	5	3	-	3
Milwaukee, Wis.	127	88	23	12	1	3	8
Peoria, Ill.	52	45	5	1	1	-	11
Rockford, Ill.	53	38	7	6	2	-	5
South Bend, Ind.	23	19	3	-	-	1	4
Toledo, Ohio	100	69	21	5	1	4	9
Youngstown, Ohio	70	56	6	4	4	-	1
W.N. CENTRAL	827	574	160	45	22	26	68
Des Moines, Iowa	62	40	15	5	1	1	5
Duluth, Minn.	29	22	6	1	-	-	6
Kansas City, Kans.	19	13	2	1	-	3	-
Kansas City, Mo.	128	82	28	5	4	9	9
Lincoln, Nebr.	37	27	7	1	1	1	5
Minneapolis, Minn.	169	122	26	13	3	5	13
Omaha, Nebr.	87	62	16	4	2	3	8
St. Louis, Mo.	133	81	39	7	3	3	8
St. Paul, Minn.	71	59	6	3	2	1	-
Wichita, Kans.	92	66	15	5	6	-	14

Reporting Area	All Causes, By Age (Years): All Ages	≥65	45-64	25-44	1-24	<1	P&I** Total
S. ATLANTIC	1,352	843	298	117	32	62	76
Atlanta, Ga.	187	105	40	19	4	19	6
Baltimore, Md.	206	137	47	10	5	7	10
Charlotte, N.C.	76	52	15	7	-	2	4
Jacksonville, Fla.	106	64	29	7	3	3	5
Miami, Fla.	135	76	29	22	4	4	3
Norfolk, Va.	83	42	24	6	3	8	6
Richmond, Va.	78	56	16	5	1	-	12
Savannah, Ga.	86	60	16	4	4	2	8
St. Petersburg, Fla.	97	86	7	3	1	-	4
Tampa, Fla.	76	49	19	3	3	2	8
Washington, D.C.	201	103	50	29	4	15	8
Wilmington, Del.	21	13	6	2	-	-	2
E.S. CENTRAL	799	517	168	64	24	26	65
Birmingham, Ala.	166	113	30	12	4	7	4
Chattanooga, Tenn.	47	30	12	2	-	3	2
Knoxville, Tenn.	73	57	10	5	-	1	13
Louisville, Ky.	97	67	20	6	1	3	4
Memphis, Tenn.	192	122	34	21	10	5	25
Mobile, Ala.	42	21	13	4	1	3	5
Montgomery, Ala.	44	27	10	4	2	1	1
Nashville, Tenn.	138	80	39	10	6	3	11
W.S. CENTRAL	1,442	908	309	120	57	48	74
Austin, Tex.	65	49	7	5	-	4	6
Baton Rouge, La.	49	29	14	4	2	-	4
Corpus Christi, Tex.	48	29	12	1	3	3	-
Dallas, Tex.	190	110	40	28	7	5	10
El Paso, Tex.	67	43	15	3	4	2	3
Fort Worth, Tex	100	65	21	4	5	5	3
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	60	35	16	6	1	2	6
New Orleans, La.	159	107	35	11	6	-	-
San Antonio, Tex.	195	120	43	17	8	7	10
Shreveport, La.	107	75	18	5	4	5	12
Tulsa, Okla.	94	70	14	2	4	4	13
MOUNTAIN	654	439	123	57	19	16	35
Albuquerque, N. Mex.	69	49	12	4	4	-	3
Colo. Springs, Colo.	33	22	5	2	2	2	4
Denver, Colo.	125	82	24	13	2	4	7
Las Vegas, Nev.	80	46	20	10	3	1	4
Ogden, Utah	20	13	4	2	1	-	1
Phoenix, Ariz.	145	96	31	14	3	1	5
Pueblo, Colo.	23	22	1	-	-	-	4
Salt Lake City, Utah	30	19	8	3	-	-	1
Tucson, Ariz.	129	90	18	9	4	8	6
PACIFIC	2,074	1,425	346	176	61	57	129
Berkeley, Calif.	10	7	2	-	-	1	-
Fresno, Calif.	79	56	12	6	3	2	10
Glendale, Calif.	29	24	3	2	-	-	2
Honolulu, Hawaii	63	51	5	2	3	2	11
Long Beach, Calif.	158	105	31	13	1	8	10
Los Angeles Calif.	565	386	85	57	21	7	24
Oakland, Calif.	80	50	18	4	5	3	7
Pasadena, Calif.	40	33	3	2	2	-	2
Portland, Oreg.	131	92	18	9	4	8	6
Sacramento, Calif.	150	95	36	12	5	2	6
San Diego, Calif.	170	122	25	11	6	6	16
San Francisco, Calif.	164	108	25	24	2	5	6
San Jose, Calif.	157	98	43	11	3	2	16
Seattle, Wash.	170	113	26	18	4	9	5
Spokane, Wash.	61	47	7	4	2	1	4
Tacoma, Wash.	47	38	7	1	-	1	4
TOTAL	13,304††	8,887	2,582	1,110	338	378	861

*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 3 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 available 4 weeks.

Epidemiologic Notes and Reports

Influenza – United States

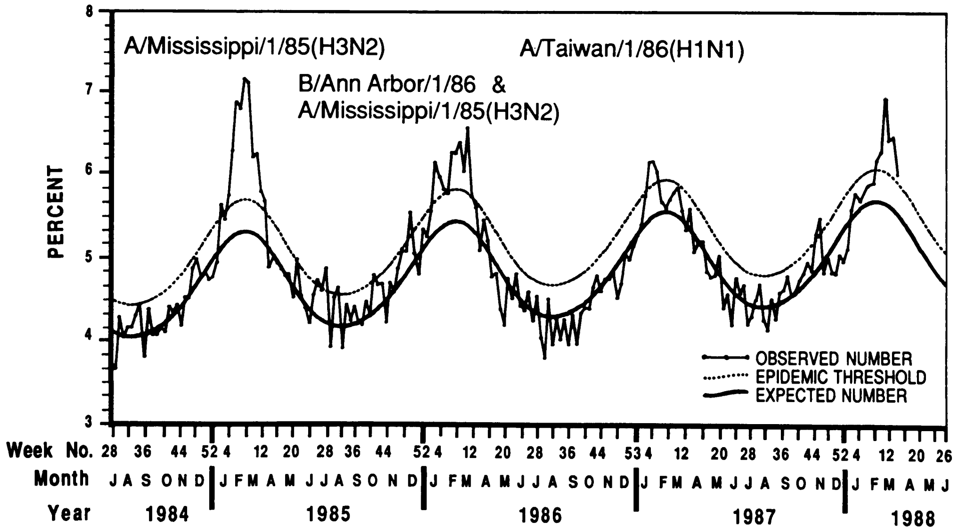
Update on Activity

During the 1987-88 influenza season in the United States, peak activity occurred in late February and early March. During the 4-week period February 14–March 12, 1988, widespread or regional outbreaks of influenza-like illness were reported from 28 to 30 states each week. For the week ending February 20, 30 states reported outbreaks, the highest number for any single week this season. Surveillance conducted throughout the country also showed a peak in the percentage of patients seen with influenza-like illness during the week ending February 20: an average of 8.1% of patients seen that week had an influenza-like illness, compared with the overall seasonal average of 4.8%. Correlating with these indicators, the proportion of deaths attributed to pneumonia and influenza (P&I) first exceeded the epidemic threshold* on the week ending February 20, peaked during the week ending March 5, and remained above the threshold on April 2 (Figure 1).

Influenza type A(H3N2) has been the predominant influenza strain this season, representing 85% of all influenza virus isolates reported in the United States by the World Health Organization Collaborating Laboratories as of March 26. Influenza A(H3N2) isolates have been confirmed in the District of Columbia and in all states

*The epidemic threshold for the 1987-88 influenza season was estimated at 1.645 standard deviations above the values projected on the basis of a periodic regression model applied to observed P&I deaths for the previous 5-year period, but excluding the observations during influenza outbreaks (1).

FIGURE 1. Pneumonia and influenza deaths as a percentage of total deaths* – United States, July 1984-March 26, 1988



*Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths for which pneumonia is listed as a primary or underlying cause or for which influenza is listed on the death certificate.

Influenza — Continued

except New Hampshire and Rhode Island. Many states have reported outbreaks of influenza-like illness in nursing homes, often with isolation of influenza A(H3N2) virus from specimens collected either from the nursing-home residents or from residents of nearby communities.

During the latter part of the 1987-88 season, influenza types A(H1N1) and B have been isolated more frequently, but as of March 26, these viruses still represented only 6% and 9% of isolates, respectively. Influenza A(H1N1) has been isolated in 16 states,[†] and influenza B, in 26 states.[§] Although these isolates have primarily been associated with sporadically occurring cases, three culture-confirmed outbreaks of influenza B have been reported with onset dates during late February or early March. Two occurred in nursing homes in Connecticut, and the third in a pediatric long-term care wing of a New York hospital.

Characterization of Antigenic Variants of Influenza A(H3N2) Viruses

Earlier, CDC reported circulation of two type A(H3N2) viruses, A/Sichuan/2/87 and A/Victoria/7/87, that were antigenically distinct from viruses circulating from 1985 through the spring of 1987, such as A/Leningrad/360/86 and A/Mississippi/1/85 (*2*). Viruses with reaction patterns that were intermediate between A/Sichuan/2/87 and A/Leningrad/360/86 were also described. These intermediate viruses have now been characterized and found to resemble two reference strains: A/Sydney/1/87 and A/Shanghai/11/87 (Table 1). These viruses are inhibited at higher titers than is A/Sichuan/2/87 virus with antiserum prepared against A/Leningrad/360/86 and at lower titers with A/Sichuan/2/87 antiserum. The A/Shanghai/11/87 virus is distinct from the A/Sydney/1/87 virus as evidenced by the lower hemagglutination-inhibition titers with antisera to A/Caen/1/84, A/Mississippi/1/85, and A/Sydney/1/87. Since the fall of 1987, 158 viruses collected in the United States have been characterized; seven

[†]Alabama, Arkansas, Connecticut, Georgia, Illinois, Louisiana, Maine, Massachusetts, Nebraska, New Jersey, New York, North Carolina, South Carolina, Texas, Vermont, and Virginia.
[§]Alabama, Alaska, Arizona, Arkansas, California, Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Massachusetts, Montana, Nebraska, Nevada, New Mexico, New York, Ohio, Pennsylvania, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wisconsin.

TABLE 1. Hemagglutination-inhibition reactions* of influenza type A(H3N2) viruses

	Ferret Antiserum Prepared from Reference Strains							
Reference Antigen	A/Bangkok 1/79	A/Caen 1/84	A/Miss 1/85	A/Len 360/86	A/Vict 7/87	A/Sichuan 2/87	A/Sydney 1/87	A/Shanghai 11/87
A/Bangkok/1/79	**1280**	160	640	160	80	80	40	20
A/Caen/1/84	10	**640**	320	160	20	320	40	40
A/Mississippi/1/85	80	320	**640**	320	20	160	80	160
A/Leningrad/360/86	40	80	320	**640**	40	160	80	160
A/Victoria/7/87	80	160	320	160	**640**	80	160	320
A/Sichuan/2/87	10	80	80	80	80	**640**	80	160
A/Sydney/1/87	<10	160	160	160	80	160	**640**	320
A/Shanghai/11/87	<10	40	40	160	40	160	160	**320**

*Titers are the reciprocal of antiserum dilutions; homologous titers appear in bold type. When reactions of serum with different antigens are compared, fourfold or greater differences are considered significant.

Influenza — Continued

(5%) are A/Sichuan/2/87-like, 19 (12%) are A/Victoria/7/87-like, 24 (15%) are A/Sydney/1/87-like, and 108 (68%) are A/Shanghai/11/87-like.

Reported by: Participating State and Territorial Epidemiologists and State Laboratory Directors. Participating Physicians of the American Academy of Family Physicians. WHO Collaborating Laboratories. WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Cocirculation of two or more closely related antigenic variants in a single season is not uncommon. This season, four variants of influenza type A(H3N2) are circulating as well as types A(H1N1) and B.

Of the influenza viruses currently in circulation, influenza A(H3N2), which emerged in 1968, has been associated with the greatest excess P&I deaths and total excess mortality. Excess mortality has occurred during each of 11 influenza A(H3N2) epidemics. Thus, the elevation of the percentage of P&I deaths observed this season is consistent with observations during other influenza A(H3N2) epidemics.

Weekly reports of deaths in 121 cities in the United States are used to determine preliminary estimates of influenza-related mortality during the influenza season. The percentage of deaths attributed to P&I is calculated each week and compared with a ratio of P&I deaths to total deaths that would be expected in the absence of an influenza epidemic (*1*). Data from the National Center for Health Statistics (NCHS) on all deaths in the United States are used to determine final estimates of excess P&I deaths and total excess mortality; these statistics are not available until approximately 2 years after the epidemic period. The P&I ratio from 121 cities offers a useful method for evaluating the impact of influenza during epidemics, and death rates calculated with use of the 121-city data and the final NCHS data show similar trends. However, the 121-city data cannot be used to project accurately total influenza-related deaths for this season or to make other than general comparisons to past influenza seasons.

References

1. Lui K-J, Kendal AP. Impact of influenza epidemics on mortality in the United States from October 1972 to May 1985. Am J Public Health 1987;77:712-6.
2. Centers for Disease Control. Antigenic variation of recent influenza A(H3N2) viruses. MMWR 1988;37:38-40,46-47.

Notice to Readers

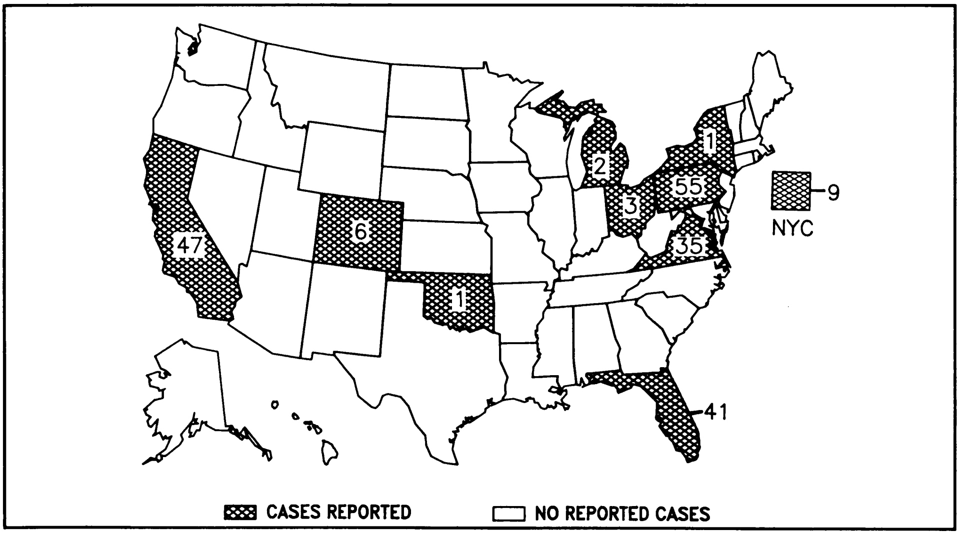
CDC Symposium on Statistics in Surveillance

The CDC Statisticians, the Surveillance Coordination Group, and the Epidemiology Program Office will sponsor a Symposium on Statistics in Surveillance on May 5, 1988, at the Centers for Disease Control, Atlanta, Georgia. Contributed and invited papers and poster presentations will discuss 1) Current Statistical Issues in Public Health Surveillance, 2) Statistical Methods in the Analysis of Surveillance Data, 3) Statistical Issues in the Quality and Reliability of Surveillance Data, and 4) Time Series Analysis in Surveillance Data. The symposium is open to the public. For more information or a preliminary program announcement, contact Donna F. Stroup, Ph.D., Chief, Statistical Services Branch, Division of Surveillance and Epidemiologic Studies, Epidemiology Program Office (C08), Centers for Disease Control (404) 639-3071.

Erratum: Vol. 37, No. 3

p. 45 In Table V, the Years of Potential Life Lost (YPLL) due to chronic liver diseases and cirrhosis (ICD-571) for 1985 should read: 238,303.

FIGURE I. Reported measles cases — United States, Weeks 9-12, 1988



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The data in this report are provisional, based on weekly reports 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. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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