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MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Alcohol-Related Traffic Fatalities During Holidays — United States, 1988

For 1988, the National Highway Traffic and Safety Administration (NHTSA) reported that motor-vehicle crashes accounted for 47,093 deaths in the United States (*1*); an estimated 18,503 (39.3%) of these fatalities were alcohol-related. Drunk drivers* were involved in 16,323 of the deaths; in addition, 2180 drunk pedestrians and bicyclists were killed. During weekdays, 30.4% of fatal crashes involved drunk driving; during weekends, 50.3%; and during weekends at nighttime, 60.3% (*1*).

In general, holiday periods were characterized by an increased rate of traffic fatalities and a higher proportion of deaths involving drunk driving (Table 1). Overall, 48.9% of traffic deaths during the holiday periods involved drunk driving, compared with 38.6% during nonholiday periods.

For the 1989 Christmas/Hanukkah/New Year's holiday period (December 21, 1989–January 2, 1990), analysis of data provided by the National Center for Statistics and Analysis, NHTSA, indicates that an estimated 1770 deaths (Table 2) and 48,000 moderate to severe injuries in motor vehicle crashes will occur. Of these, an estimated 885 (50%) deaths and 24,000 (50%) injuries will be associated with alcohol use.

Reported by: Div of Injury Epidemiology and Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note: Although substantial progress has been made in reducing the combination of drinking and driving in recent years (*2*), the persistence of drunk driving as a serious public health problem (*1*) is reflected by the estimated 40% of persons in the United States who will be involved in an alcohol-related crash during their lifetimes (*4*). Almost half of fatally injured drivers and substantial proportions of adult passengers and pedestrians killed in motor-vehicle crashes have blood-alcohol concentrations (BACs) of $\geq$0.1 g/dL (*1*). However, substantial proportions of alcohol-related injuries and deaths in motor-vehicle crashes also involved participants (drivers, pedestrians, or bicyclists) with detectable BACs of $<$0.1 g/dL (*5*).

The increase in traffic deaths and injuries during holidays may be related, in part, to higher rates of travel—especially at times of greatest risk (e.g., nighttime and

*Drunk driving is defined as a blood alcohol concentration of $\geq$ 0.1 g/dL in either a driver or nonoccupant (pedestrian or bicyclist) involved in a motor-vehicle crash.

Alcohol-Related Traffic Fatalities — Continued

TABLE 1. Total traffic fatalities and estimates of number and percentage of fatalities involving drunk driving,* by selected holidays — United States, 1988

Holiday	Period covered†	No. fatalities		Fatalities involving drunk driving§	
		Total	24-hr average	No.	(%)
New Year's Day	Jan. 1	171	171.0	99	(58.1)
Memorial Day	May 27–May 31	530	151.4	258	(48.6)
Independence Day	July 1–July 5	630	180.0	311	(49.3)
Labor Day	Sept. 2–Sept. 6	592	169.1	300	(50.6)
Thanksgiving	Nov. 23–Nov. 28	601	133.6	282	(46.8)
Christmas	Dec. 23–Dec. 27	510	145.7	256	(50.1)
New Year's Eve	Dec. 31	159	159.0	56	(35.5)
Total holiday		**3,193**	**155.8**	**1,562**	**(48.9)**
Total nonholiday		43,900	127.1	16,941	(38.6)
Total	**Jan. 1–Dec. 31**	**47,093**	**128.7**	**18,503**	**(39.3)**

*Fatality data are from the Fatal Accident Reporting System (*1*). Drunk driving is defined as a blood alcohol concentration of ≥0.1 g/dL in either a driver or nonoccupant (pedestrian or bicyclist) involved in a motor-vehicle crash.

†For periods of >1 day, the period began at 6 p.m. on the first day shown and ended at 6 a.m. on the last day. For Memorial Day, Independence Day, Labor Day, and Christmas, the days were Friday through Tuesday. For Thanksgiving, the days were Wednesday through Monday. New Year's Day occurred on a Friday and New Year's Eve on a Saturday.

§Estimates of percentage of fatalities are based on blood alcohol testing data for persons involved in fatal crashes. Estimates of number of fatalities are rounded to nearest whole number.

TABLE 2. Projected holiday fatalities in motor-vehicle crashes* — United States, December 21, 1989–January 2, 1990

Date	Day of week	No. expected fatalities
Dec. 21	Thursday	141
Dec. 22	Friday	197
Dec. 23	Saturday	235
Dec. 24	Sunday	176
Dec. 25	Monday	90
Dec. 26	Tuesday	82
Dec. 27	Wednesday	98
Dec. 28	Thursday	94
Dec. 29	Friday	124
Dec. 30	Saturday	143
Dec. 31	Sunday	125
Jan. 1	Monday	165
Jan. 2	Tuesday	100
Total		**1770**

*Source: Fatal Accident Reporting System, National Highway Traffic and Safety Administration.

Alcohol-Related Traffic Fatalities — Continued

weekends, when drivers are most likely to be drinking). In 1988, an estimated 69.8% of all nighttime fatal motor-vehicle crashes involved at least one participant with a detectable BAC, compared with 23.5% of daytime crashes. Of all weekend fatal crashes, an estimated 62.4% involved a participant with a detectable BAC, compared with 38.9% on weekdays (*6*).

In 1988, Congress adopted resolutions urging the Surgeon General to declare drunk driving a national crisis and to take measures to reduce the occurrence of drinking and driving. The Surgeon General's Workshop on Drunk Driving (jointly convened in 1988 by the U.S. departments of Defense, Education, Health and Human Services, Justice, and Transportation) developed recommendations directed at this problem. Major recommendations of the workshop advocated reducing the legal limit for BACs in drivers to 0.04 g/dL, increasing federal and state taxes on liquor, strengthening warning labels on alcohol beverages, restricting alcohol advertising in certain areas, and increasing public safety messages that stress moderation in drinking (*3*).

References

1. National Highway Traffic Safety Administration. Fatal Accident Reporting System 1988: a review of information on fatal traffic accidents in the United States in 1988. Washington, DC: US Department of Transportation (in press).
2. Fell JC, Nash CE. The nature of the alcohol problem in U.S. fatal crashes. Health Educ Q 1989;16:335–43.
3. Office of the Surgeon General. Surgeon General's Workshop on Drunk Driving Proceedings. Washington, DC: US Department of Health and Human Services, 1989.
4. National Highway Traffic Safety Administration. Drunk driving facts. Washington, DC: US Department of Transportation, 1988.
5. CDC. Premature mortality due to alcohol-related motor vehicle traffic fatalities—United States, 1987. MMWR 1988;37:753–5.
6. National Highway Traffic Safety Administration. Alcohol involvement in fatal traffic crashes, 1988. Washington, DC: US Department of Transportation, 1989.

Measles — United States, First 26 Weeks, 1989

During the first 26 weeks of 1989, local and state health departments reported a provisional total of 7335 measles cases to CDC—a 380% increase over the 1529 cases reported for the same period in 1988; at least 10 measles-associated deaths were also reported. In addition, another 30 suspected measles-associated fatalities are being investigated by local and state health departments and CDC. Forty states and the District of Columbia reported cases, compared with 36 states for the first 26 weeks of 1988. During the 1989 period, the incidence rate was 3.0 cases per 100,000 population—five times the rate of 0.6 per 100,000 for the same period in 1988 and more than double the rate for all of 1988 (1.4 per 100,000) (*1*).

Thirteen states reported at least 100 cases and accounted for 6588 (89.8%) of all reported cases: Texas (2764), California (1189), Ohio (661), Illinois (489), New Jersey (271), Missouri (237), New York (193), North Carolina (167), Pennsylvania (147), Connecticut (146), Nebraska (110), Kansas (108), and Oklahoma (106). Incidence rates of >4.0 per 100,000 population occurred in Texas (16.4), Delaware (8.9), Nebraska (6.9), Ohio (6.1), Missouri (4.6), Connecticut (4.5), Kansas (4.3), Illinois (4.2), California (4.2), and Rhode Island (4.1).

Measles — Continued

For 6880 (94%) cases, more detailed information was collected by CDC. Of these, 6373 (92.6%) met the clinical case definition for measles,* and 1775 (25.8%) were serologically confirmed.

Consistent with the usual seasonal pattern, most of the 6880 cases occurred from March through May (weeks 9–19). Ninety-three (1.4%) cases were imported from other countries; an additional 157 (2.3%) cases were epidemiologically linked to imported cases.

One hundred twenty-eight outbreaks involving five or more persons were reported and accounted for 78.8% of the 6880 cases. Almost half the cases occurred in outbreaks involving ≥100 persons. The three largest outbreaks occurred in Houston, Los Angeles, and Chicago and accounted for 31.9% of the 6880 cases. Twenty percent of all cases were reported from the outbreak in Houston.

Detailed information on age was provided for 6873 (99.9%) cases (Table 1). Children <5 years of age accounted for 30.2% of measles cases, compared with 19.4% during the same period in 1988. Of this group, 664 (32.0%) were <1 year of age. School-aged children (5–19-year-olds) accounted for 51.1% of cases in 1989 but for 66.2% of cases in 1988. The incidence rates for all age groups were higher in 1989 than in 1988; the highest were for 0–4-year-olds (11.3 per 100,000) and 15–19-year-olds (11.2 per 100,000).

Complications were reported in 672 (9.8%) cases, including otitis media in 318 (4.6%) cases, pneumonia in 178 (2.6%), diarrhea in 171 (2.5%), and encephalitis in five (0.1%). Nine hundred thirteen patients (13.3%) were hospitalized, and 10 measles-associated fatalities were reported (case-fatality rate: 1.5 deaths per 1000 reported cases). Eight of the deaths were reported in children <5 years of age, all of whom were unvaccinated. None had a reported underlying illness or immunodeficiency. Most deaths have been attributed to pneumonia.

The setting of transmission was reported for 4057 (59.0%) cases: 1899 (46.8%) persons acquired measles in primary or secondary schools; 796 (19.6%) in colleges or universities; 627 (15.5%) at home; 248 (6.1%) in medical settings; 89 (2.2%) in

*Fever ≥38.3 C (101 F), if measured, generalized rash lasting ≥3 days, and at least one of the following: cough, coryza, or conjunctivitis.

TABLE 1. Reported measles cases* and estimated incidence rates† of measles, by age of patient — United States, first 26 weeks, 1988 and 1989

Age group (yrs)	1988			1989			Rate change (%)
	No.	(%)	Rate	No.	(%)	Rate	
0–4	294	(19.4)	1.6	2078	(30.2)	11.3	(+606.3)
5–9	144	(9.5)	0.8	597	(8.7)	3.3	(+312.5)
10–14	351	(23.1)	2.1	872	(12.7)	5.2	(+147.6)
15–19	511	(33.6)	2.8	2043	(29.7)	11.2	(+300.0)
20–24	119	(7.8)	0.6	678	(9.9)	3.5	(+483.3)
25–29	47	(3.1)	0.2	307	(4.5)	1.4	(+600.0)
>30	53	(3.5)	0.04	298	(4.3)	0.2	(+400.0)
Total	**1519§**	**(100.0)**	**0.6**	**6873§**	**(100.0)**	**2.8**	**(+366.7)**

*Cases reported to CDC for which detailed information was available.
†Rates per 100,000 population are based on provisional data for both years.
§Data unavailable for 10 cases in 1988 and seven cases in 1989.

Measles — Continued

day-care centers; and 398 (9.8%) in other settings, including work, church, and the military. The number of cases occurring in colleges and universities was 60.7% higher than those from the same period in 1988.

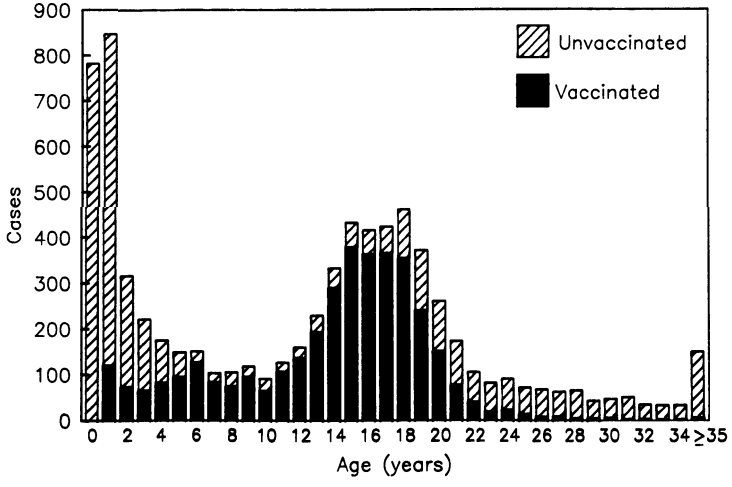
A total of 3520 (51.2%) measles patients had been vaccinated on or after their first birthday, including 1298 (18.9%) who had been vaccinated between the ages of 12 and 14 months; 3340 (48.5%) were unvaccinated or vaccinated before their first birthday. Of the 6873 patients for whom age information was provided, 3512 (51.1%) were school-aged children, 2830 (80.6%) of whom had been appropriately vaccinated. As in 1988, most vaccine failures occurred in 12–19-year-olds (Figure 1), and children <2 years old were most affected. Measles occurred in 1261 (18.3%) persons for whom vaccine was not routinely indicated, and 226 (3.3%) were unvaccinated for other reasons. Of those unvaccinated, vaccine would have been routinely indicated for 1853 (55.5% [26.9% of total]) (Table 2). The percentage of cases in unvaccinated persons for whom vaccination was indicated varied by age group. Most occurred among children 16 months to 4 years of age (64.7%) and among persons ≥20 years of age (52.9%).

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

Editorial Note: In 1989, measles outbreaks have involved previously vaccinated school-aged children and college students, as well as unvaccinated urban preschoolers who are predominantly black and Hispanic (*2*). Large outbreaks involving minority populations are continuing in Houston, Los Angeles, and Chicago. Aggressive outbreak-control strategies aimed toward reaching inner-city children have been implemented and include intensified surveillance, door-to-door vaccination in high-risk communities, emergency department vaccination clinics, and lowering of the recommended age for vaccination to 6 months during outbreaks, with revaccination at 15 months.

The increased incidence of measles in preschoolers living in densely populated urban areas reflects low vaccination levels in these populations. While these children are generally well immunized by the time they enter school, immunization levels in

FIGURE 1. Age distribution of measles patients, by vaccine status — United States, 1989*



*First 26 weeks, provisional data.

Measles — Continued

some inner cities are as low as 49% in children 2 years of age (*3*). Many of these children receive intermittent health care and are less likely to be age-appropriately immunized with other antigens (*4*). Innovative efforts need to be directed toward reducing barriers to immunization services and toward full use of existing opportunities to vaccinate eligible children whenever they present for health care. This approach should increase opportunities for vaccine administration in highly susceptible populations and reduce transmission to infants too young for routine immunization.

Suboptimal vaccination also played a major role in measles incidence among adults: 53% of cases in adults ≥20 years of age were in unvaccinated persons for whom vaccine was indicated. Many young adults may have missed immunization during the first years after vaccine licensure, may not have been immunized before the adoption of comprehensive state school laws, or may not have been infected naturally because of declining measles transmission.

(Continued on page 871)

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

Disease	50th Week Ending			Cumulative, 50th Week Ending		
	Dec. 16, 1989	Dec. 17, 1988	Median 1984-1988	Dec. 16, 1989	Dec. 17, 1988	Median 1984-1988
Acquired Immunodeficiency Syndrome (AIDS)	299	U*	363	33,173	29,319	12,609
Aseptic meningitis	189	141	144	9,701	6,794	9,999
Encephalitis: Primary (arthropod-borne & unspec)	30	17	20	877	789	1,180
Post-infectious	3	2	2	81	115	109
Gonorrhea: Civilian	11,920	13,705	17,444	665,783	670,559	816,111
Military	197	277	339	10,428	11,273	16,314
Hepatitis: Type A	678	822	478	33,918	26,013	22,050
Type B	493	583	545	22,047	21,968	24,805
Non A, Non B	40	50	67	2,228	2,464	3,379
Unspecified	46	76	93	2,213	2,312	4,215
Legionellosis	28	27	15	1,084	965	794
Leprosy	7	3	5	166	174	228
Malaria	14	15	15	1,203	972	972
Measles: Total†	16	39	18	14,714	2,876	2,876
Indigenous	15	38	16	14,048	2,547	2,547
Imported	1	1	2	666	329	329
Meningococcal infections	46	48	48	2,517	2,677	2,564
Mumps	100	90	90	5,346	4,537	4,537
Pertussis	50	83	44	3,597	3,067	3,067
Rubella (German measles)	11	8	4	369	216	512
Syphilis (Primary & Secondary): Civilian	823	915	617	40,327	37,266	26,896
Military	-	25	8	246	193	163
Toxic Shock syndrome	8	3	4	362	341	346
Tuberculosis	417	479	482	20,563	20,513	20,707
Tularemia	2	4	4	142	182	182
Typhoid Fever	5	7	7	465	390	364
Typhus fever, tick-borne (RMSF)	6	2	3	606	593	685
Rabies, animal	38	52	70	4,387	4,154	5,161

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1989		Cum. 1989
Anthrax	-	Leptospirosis (NYC 1)	96
Botulism: Foodborne	24	Plague	4
Infant	23	Poliomyelitis, Paralytic	-
Other	5	Psittacosis (N.C. 5, Ore. 1, Calif. 2)	102
Brucellosis	83	Rabies, human	1
Cholera	-	Tetanus	45
Congenital rubella syndrome	3	Trichinosis (N.J. 1)	23
Congenital syphilis, ages < 1 year	243		
Diphtheria	2		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending December 16, 1989 and December 17, 1988 (50th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	33,173	9,701	877	81	665,783	670,559	33,918	22,047	2,228	2,213	1,084	166
NEW ENGLAND	1,359	533	26	2	19,845	21,185	708	1,067	71	80	67	10
Maine	66	32	5	-	249	384	24	61	6	1	6	-
N.H.	39	56	1	-	181	267	59	57	10	4	2	-
Vt.	13	42	4	-	68	111	36	78	8	-	3	-
Mass.	758	168	8	2	7,805	7,246	224	593	27	58	42	8
R.I.	79	119	-	-	1,390	1,955	52	76	5	10	14	1
Conn.	404	116	8	-	10,152	11,222	313	202	15	7	-	1
MID. ATLANTIC	9,604	1,388	41	7	94,279	106,518	4,095	3,471	209	230	287	22
Upstate N.Y.	1,444	567	33	5	17,779	15,080	995	721	78	19	105	4
N.Y. City	4,860	179	5	2	33,223	45,110	433	1,353	34	173	46	16
N.J.	2,219	-	3	-	14,139	15,310	461	591	32	7	44	1
Pa.	1,081	642	-	-	29,138	31,018	2,206	806	65	31	92	1
E.N. CENTRAL	2,597	1,926	321	9	126,475	114,712	2,069	2,632	255	110	298	4
Ohio	481	655	128	4	33,809	25,838	407	477	41	24	125	-
Ind.	359	256	45	3	9,559	8,672	208	394	29	41	61	1
Ill.	1,150	382	71	2	41,169	34,245	918	707	107	25	20	3
Mich.	477	515	48	-	32,506	36,132	293	654	47	20	50	-
Wis.	130	118	29	-	9,432	9,825	243	400	31	-	42	-
W.N. CENTRAL	835	514	50	4	32,217	28,771	1,442	983	115	31	42	1
Minn.	164	90	15	1	3,640	3,805	163	114	24	7	3	-
Iowa	57	83	15	-	2,710	2,203	174	46	15	5	6	-
Mo.	445	216	3	-	19,678	16,736	754	677	48	13	18	-
N. Dak.	8	14	4	-	136	187	9	23	4	2	1	-
S. Dak.	4	14	4	-	266	461	23	10	9	-	2	-
Nebr.	32	22	6	-	1,591	1,416	96	30	3	2	6	1
Kans.	125	75	3	3	4,196	3,963	223	83	12	2	6	-
S. ATLANTIC	6,851	1,918	167	26	180,721	187,617	3,551	4,234	330	356	138	2
Del.	81	84	1	-	3,159	2,961	86	139	5	8	12	-
Md.	745	230	19	2	21,073	19,509	1,102	717	31	30	31	-
D.C.	502	26	-	-	10,255	14,072	12	40	2	-	1	-
Va.	400	403	42	3	15,287	13,872	320	295	67	216	11	-
W. Va.	73	97	86	-	1,439	1,293	27	105	14	10	-	-
N.C.	492	219	11	2	27,882	26,665	431	1,014	87	-	35	1
S.C.	329	40	1	-	16,463	15,064	85	600	4	11	9	-
Ga.	1,100	134	3	1	35,994	35,632	372	421	14	10	25	-
Fla.	3,129	685	4	18	49,169	58,549	1,116	903	106	71	14	1
E.S. CENTRAL	740	691	48	3	54,863	52,865	409	1,584	154	13	64	-
Ky.	116	217	20	1	5,325	5,359	125	389	51	6	9	-
Tenn.	266	125	5	-	18,556	18,543	159	806	35	-	40	-
Ala.	213	245	20	1	17,598	15,840	79	248	56	3	13	-
Miss.	145	104	3	1	13,384	13,123	46	141	12	4	2	-
W.S. CENTRAL	2,729	938	84	7	68,954	71,938	3,815	2,242	146	520	53	25
Ark.	78	47	8	-	7,876	7,105	275	74	15	13	3	-
La.	489	79	22	1	14,431	14,216	262	369	16	2	10	-
Okla.	169	82	12	4	6,151	6,793	477	206	38	39	26	-
Tex.	1,993	730	42	2	40,496	43,824	2,801	1,593	77	466	14	25
MOUNTAIN	1,078	320	16	6	13,931	14,369	4,994	1,457	211	154	63	3
Mont.	17	6	-	-	184	393	89	47	7	3	3	1
Idaho	23	2	-	1	167	315	165	127	13	4	3	-
Wyo.	17	9	-	-	104	195	56	9	4	-	-	-
Colo.	358	157	3	2	2,962	3,218	505	167	60	67	5	-
N. Mex.	86	13	2	1	1,205	1,406	700	214	33	3	8	1
Ariz.	338	98	5	-	5,622	5,242	2,649	549	51	61	26	1
Utah	75	22	1	2	429	519	493	115	27	5	8	-
Nev.	164	13	5	-	3,258	3,081	337	229	16	11	10	-
PACIFIC	7,380	1,473	124	17	74,498	72,584	12,835	4,377	737	719	72	99
Wash.	486	-	6	1	6,243	6,897	2,998	944	195	71	26	10
Oreg.	220	-	-	-	3,009	3,128	2,218	520	80	15	2	1
Calif.	6,486	1,344	103	16	63,684	60,970	6,813	2,770	446	616	41	69
Alaska	17	37	12	-	1,055	1,025	641	60	8	5	1	-
Hawaii	171	92	3	-	507	564	165	83	8	12	2	19
Guam	1	5	1	-	124	143	6	-	-	7	-	1
P.R.	1,426	138	3	1	1,073	1,288	193	250	20	19	-	8
V.I.	27	-	-	-	568	432	-	8	-	-	-	-
Amer. Samoa	-	-	-	-	44	77	36	-	2	-	-	5
C.N.M.I.	-	-	-	-	73	52	3	10	-	2	-	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 December 16, 1989 and December 17, 1988 (50th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	1989	Cum. 1989	Cum. 1988
UNITED STATES	1,203	15	14,048	1	666	2,876	2,517	100	5,346	50	3,597	3,067	11	369	216
NEW ENGLAND	86	-	344	-	38	115	189	2	88	16	391	318	-	6	9
Maine	1	-	-	-	1	7	18	-	-	-	25	24	-	-	-
N.H.	2	-	9	-	7	88	17	-	15	-	16	47	-	4	5
Vt.	4	-	1	-	2	-	8	-	3	3	9	5	-	1	-
Mass.	46	-	85	-	21	4	104	2	59	3	298	202	-	1	3
R.I.	21	-	38	-	3	-	1	-	-	10	21	17	-	-	1
Conn.	12	-	211	-	4	16	41	-	11	-	22	23	-	-	-
MID. ATLANTIC	226	4	806	1	190	987	378	14	463	3	313	303	-	35	15
Upstate N.Y.	36	-	58	1§	99	38	136	4	177	3	141	207	-	14	2
N.Y. City	92	3	108	-	17	52	43	3	23	-	17	9	-	16	7
N.J.	61	-	420	-	16	354	73	-	182	-	34	18	-	5	4
Pa.	37	1	220	-	58	543	126	7	81	-	121	69	-	-	2
E.N. CENTRAL	82	-	4,791	-	108	249	326	4	609	10	557	295	-	29	32
Ohio	11	-	1,516	-	35	85	118	-	153	-	139	49	-	3	1
Ind.	11	-	112	-	-	57	32	-	50	10	56	71	-	-	-
Ill.	36	-	2,514	-	7	72	85	-	199	-	153	59	-	22	27
Mich.	16	-	320	-	23	31	67	4	158	-	46	38	-	1	4
Wis.	8	-	329	-	43	4	24	-	49	-	163	78	-	3	-
W.N. CENTRAL	36	-	802	-	11	19	75	3	440	-	190	144	-	7	2
Minn.	10	-	17	-	-	11	17	-	2	-	60	62	-	-	-
Iowa	5	-	12	-	1	2	2	1	52	-	15	34	-	1	-
Mo.	13	-	533	-	-	6	21	2	81	-	92	25	-	4	-
N. Dak.	2	-	-	-	-	-	-	-	-	-	4	11	-	1	-
S. Dak.	1	-	-	-	-	-	8	-	-	-	4	5	-	-	-
Nebr.	2	-	108	-	2	-	18	-	5	-	7	-	-	-	-
Kans.	3	-	132	-	8	-	9	-	300	-	8	7	-	1	2
S. ATLANTIC	207	1	663	-	76	437	455	44	1,049	9	360	258	11	21	18
Del.	7	-	42	-	1	-	2	-	1	-	1	7	-	-	-
Md.	38	-	69	-	36	17	75	26	529	-	77	48	-	2	1
D.C.	10	-	37	-	5	-	15	2	140	-	3	1	-	-	-
Va.	45	U	20	U	3	239	60	U	131	U	36	24	U	-	11
W. Va.	3	-	53	-	-	6	13	-	16	1	34	10	-	-	-
N.C.	21	-	187	-	3	5	68	1	44	2	78	67	-	1	1
S.C.	10	-	15	-	-	-	32	-	49	-	-	1	-	-	-
Ga.	15	-	2	-	16	-	76	14	92	3	54	37	-	-	2
Fla.	58	1	238	-	12	170	114	1	47	3	77	63	11	18	3
E.S. CENTRAL	19	1	250	-	4	69	90	-	236	2	200	106	-	5	2
Ky.	1	-	40	-	4	35	46	-	9	-	1	13	-	-	-
Tenn.	5	-	150	-	-	-	12	-	84	1	113	30	-	4	2
Ala.	7	1	59	-	-	-	27	-	29	1	79	58	-	1	-
Miss.	6	-	1	-	-	34	5	N	N	-	7	5	-	-	-
W.S. CENTRAL	77	9	3,264	-	75	24	182	18	1,626	1	375	239	-	50	23
Ark.	-	-	3	-	19	1	13	5	192	1	31	38	-	-	3
La.	3	9	119	-	-	-	45	8	723	-	31	20	-	5	-
Okla.	8	-	126	-	-	8	24	-	198	-	63	62	-	1	1
Tex.	66	-	3,016	-	56	15	100	5	513	-	250	119	-	44	19
MOUNTAIN	26	-	364	-	54	196	74	15	269	8	682	881	-	37	6
Mont.	1	-	12	-	1	79	2	-	4	3	43	4	-	1	-
Idaho	2	-	-	-	7	1	2	-	27	-	76	344	-	32	-
Wyo.	1	-	-	-	-	-	1	-	8	-	-	2	-	2	-
Colo.	6	-	80	-	19	115	25	13	78	4	102	38	-	1	2
N. Mex.	4	-	16	-	15	-	2	N	N	-	35	50	-	-	-
Ariz.	9	-	141	-	4	-	28	2	126	1	400	413	-	-	-
Utah	-	-	114	-	-	1	6	-	19	-	25	29	-	-	3
Nev.	3	-	1	-	8	-	8	-	7	-	1	1	-	1	1
PACIFIC	444	-	2,764	-	110	780	748	-	566	1	529	523	-	179	109
Wash.	36	-	31	-	22	7	81	-	52	-	189	125	-	-	-
Oreg.	20	-	12	-	48	8	54	N	N	-	14	50	-	3	-
Calif.	377	-	2,700	-	28	751	597	-	493	1	300	280	-	154	78
Alaska	3	-	1	-	-	2	13	-	2	-	1	8	-	-	-
Hawaii	8	-	20	-	12	12	3	-	19	-	25	60	-	22	31
Guam	3	U	-	U	-	1	1	U	6	U	1	-	U	-	1
P.R.	1	-	562	-	-	231	8	-	8	-	6	15	-	8	3
V.I.	-	U	4	U	-	-	-	U	18	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	3	U	-	-	U	-	-
C.N.M.I.	1	U	-	U	-	-	-	U	6	U	-	-	U	-	-

*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 December 16, 1989 and December 17, 1988 (50th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	40,327	37,266	362	20,563	20,513	142	465	606	4,387
NEW ENGLAND	1,642	1,168	23	629	526	2	40	7	9
Maine	13	12	6	25	29	-	-	-	2
N.H.	14	7	3	27	11	-	1	-	2
Vt.	1	3	1	9	6	-	-	-	-
Mass.	487	426	7	354	302	2	26	4	2
R.I.	30	33	2	64	39	-	6	1	-
Conn.	1,097	687	4	150	139	-	7	2	3
MID. ATLANTIC	8,284	7,437	61	4,286	4,225	4	135	62	760
Upstate N.Y.	935	596	13	358	529	1	40	14	57
N.Y. City	3,575	4,514	4	2,421	2,306	2	58	3	-
N.J.	1,398	980	13	839	726	-	29	24	41
Pa.	2,376	1,347	31	668	664	1	8	21	662
E.N. CENTRAL	1,852	1,172	60	2,113	2,251	3	48	55	141
Ohio	168	108	18	352	424	-	9	26	12
Ind.	58	51	9	186	243	1	4	19	22
Ill.	812	520	12	1,017	995	-	24	7	29
Mich.	658	433	21	434	490	1	6	3	29
Wis.	156	60	-	124	99	1	5	-	49
W.N. CENTRAL	318	259	46	534	505	54	7	76	570
Minn.	58	18	14	100	85	-	2	-	142
Iowa	35	26	6	50	56	-	2	4	110
Mo.	168	153	10	255	244	42	2	54	59
N. Dak.	4	2	-	14	15	-	-	1	59
S. Dak.	1	-	4	29	33	5	-	5	103
Nebr.	24	27	9	22	16	3	-	1	44
Kans.	28	33	3	64	56	4	1	11	53
S. ATLANTIC	13,632	13,943	25	4,347	4,387	6	44	223	1,301
Del.	218	100	2	42	44	-	2	1	36
Md.	824	697	1	367	418	2	9	19	369
D.C.	835	693	1	155	175	-	2	-	2
Va.	567	420	4	349	392	4	7	16	257
W. Va.	15	37	-	72	68	-	-	2	48
N.C.	1,108	811	6	577	525	-	2	118	7
S.C.	849	714	4	489	470	-	2	40	190
Ga.	2,380	2,498	3	758	723	-	6	23	229
Fla.	6,836	7,973	4	1,538	1,572	-	14	4	163
E.S. CENTRAL	2,968	2,030	9	1,599	1,705	8	3	65	343
Ky.	53	65	3	355	353	1	1	14	134
Tenn.	1,320	895	4	522	513	6	1	35	89
Ala.	890	567	1	444	501	-	1	6	116
Miss.	705	503	1	278	338	1	-	10	4
W.S. CENTRAL	6,083	4,318	27	2,532	2,598	43	17	90	596
Ark.	381	247	2	283	302	32	-	19	86
La.	1,541	848	-	333	311	-	1	1	13
Okla.	117	139	16	213	235	11	1	55	95
Tex.	4,044	3,084	9	1,703	1,750	-	15	15	402
MOUNTAIN	821	803	45	526	590	15	13	24	260
Mont.	2	3	-	16	30	1	-	14	73
Idaho	1	3	4	23	22	-	-	4	11
Wyo.	6	1	2	-	5	2	-	2	74
Colo.	61	108	9	50	97	3	2	3	32
N. Mex.	26	47	5	88	98	2	2	1	22
Ariz.	346	163	12	266	248	-	8	-	27
Utah	16	17	9	42	29	6	1	-	9
Nev.	363	461	4	41	61	1	-	-	12
PACIFIC	4,727	6,136	66	3,997	3,726	7	158	4	407
Wash.	415	247	5	231	226	1	10	-	-
Oreg.	237	302	-	133	150	4	6	1	-
Calif.	4,049	5,544	60	3,402	3,140	2	132	3	339
Alaska	11	15	-	53	50	-	-	-	68
Hawaii	15	28	1	178	160	-	10	-	-
Guam	4	3	-	68	31	-	3	-	-
P.R.	519	661	-	289	249	-	10	-	70
V.I.	8	2	-	4	6	-	1	-	-
Amer. Samoa	-	-	-	5	5	-	8	-	-
C.N.M.I.	8	1	-	21	25	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending December 16, 1989 (50th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	729	519	121	58	11	20	47
Boston, Mass.	182	115	38	22	3	4	7
Bridgeport, Conn.	48	38	6	3	-	1	3
Cambridge, Mass.	27	23	3	1	-	-	4
Fall River, Mass.	42	33	6	2	1	-	-
Hartford, Conn.	72	53	14	4	-	1	7
Lowell, Mass.	29	19	5	1	2	2	2
Lynn, Mass.	15	15	-	-	-	-	3
New Bedford, Mass.	28	21	4	2	1	-	3
New Haven, Conn.	77	45	12	13	3	4	4
Providence, R.I.	53	40	8	2	-	3	3
Somerville, Mass.	6	4	2	-	-	-	1
Springfield, Mass.	53	36	12	2	-	3	2
Waterbury, Conn.	35	30	3	1	-	1	1
Worcester, Mass.	62	47	8	5	1	1	7
MID. ATLANTIC	2,861	1,914	533	295	55	64	167
Albany, N.Y.	40	25	9	4	1	1	4
Allentown, Pa.	23	20	3	-	-	-	1
Buffalo, N.Y.	102	73	19	7	-	3	12
Camden, N.J.	21	11	4	3	2	1	-
Elizabeth, N.J.	25	15	7	2	1	-	-
Erie, Pa.†	35	26	5	1	1	2	2
Jersey City, N.J.	82	52	18	7	2	3	1
N.Y. City, N.Y.	1,598	1,026	309	203	25	35	75
Newark, N.J.	90	47	14	14	9	6	6
Paterson, N.J.	35	21	3	9	-	2	2
Philadelphia, Pa.	293	202	57	26	3	5	14
Pittsburgh, Pa.†	91	67	19	2	-	3	3
Reading, Pa.	37	29	7	1	-	-	7
Rochester, N.Y.	125	98	16	6	5	-	18
Schenectady, N.Y.	29	21	7	-	-	1	6
Scranton, Pa.†	40	36	3	-	1	-	4
Syracuse, N.Y.	100	76	19	2	2	1	6
Trenton, N.J.	40	24	8	5	3	-	3
Utica, N.Y.	31	25	5	1	-	-	1
Yonkers, N.Y.	24	20	1	2	-	1	2
E.N. CENTRAL	2,359	1,556	491	172	54	86	99
Akron, Ohio	64	43	13	5	-	3	-
Canton, Ohio	39	28	7	2	1	1	4
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	140	85	35	10	6	4	11
Cleveland, Ohio	160	102	40	10	4	4	2
Columbus, Ohio	153	92	37	8	5	11	3
Dayton, Ohio	115	78	25	5	3	4	5
Detroit, Mich.	266	161	58	32	4	11	8
Evansville, Ind.	61	49	8	3	1	-	4
Fort Wayne, Ind.	45	32	12	-	-	1	4
Gary, Ind.	16	8	5	2	1	-	-
Grand Rapids, Mich.	48	34	8	3	-	3	5
Indianapolis, Ind.	175	116	34	10	7	8	5
Madison, Wis.	34	27	2	2	2	1	5
Milwaukee, Wis.	139	106	25	3	4	1	3
Peoria, Ill.	59	28	8	16	5	2	8
Rockford, Ill.	48	35	8	2	-	3	1
South Bend, Ind.	49	38	4	4	-	3	5
Toledo, Ohio	115	87	20	5	1	2	4
Youngstown, Ohio	69	45	17	5	-	2	6
W.N. CENTRAL	738	520	144	45	18	11	44
Des Moines, Iowa	64	46	12	5	1	-	1
Duluth, Minn.	27	21	5	1	-	-	2
Kansas City, Kans.	28	16	10	1	1	-	-
Kansas City, Mo.	120	76	26	9	7	2	10
Lincoln, Nebr.	33	26	3	2	2	-	3
Minneapolis, Minn.	154	115	24	8	2	5	13
Omaha, Nebr.	86	52	23	7	1	3	4
St. Louis, Mo.	108	76	22	7	2	1	7
St. Paul, Minn.	55	47	5	2	1	-	3
Wichita, Kans.	63	45	14	3	1	-	1

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,389	781	294	202	54	58	73
Atlanta, Ga.	158	86	39	22	3	8	8
Baltimore, Md.	298	180	62	34	7	15	18
Charlotte, N.C.	110	56	25	19	5	5	7
Jacksonville, Fla.	114	69	25	13	3	4	10
Miami, Fla.	182	67	33	66	10	6	1
Norfolk, Va.	71	34	22	7	4	4	6
Richmond, Va.	52	24	11	7	4	6	5
Savannah, Ga.	46	34	9	1	1	1	5
St. Petersburg, Fla.	71	53	11	3	2	2	5
Tampa, Fla.	82	54	13	7	5	3	5
Washington, D.C.	166	93	40	20	10	3	1
Wilmington, Del.	39	31	4	3	-	1	2
E.S. CENTRAL	789	527	157	61	23	21	61
Birmingham, Ala.	163	116	31	7	4	5	4
Chattanooga, Tenn.	51	31	16	2	1	1	5
Knoxville, Tenn.	76	44	16	7	2	7	8
Louisville, Ky.§	99	69	19	8	1	2	6
Memphis, Tenn.	155	97	33	17	6	2	14
Mobile, Ala.	47	31	9	5	2	-	2
Montgomery, Ala.	59	51	7	-	-	1	7
Nashville, Tenn.	139	88	26	15	7	3	15
W.S. CENTRAL	1,862	1,133	418	198	57	56	97
Austin, Tex.	79	53	16	3	3	4	8
Baton Rouge, La.	52	35	13	4	-	-	8
Corpus Christi, Tex.§	40	29	8	3	-	-	2
Dallas, Tex.	247	137	58	34	10	8	10
El Paso, Tex.	58	37	13	6	2	-	5
Fort Worth, Tex	83	50	18	5	2	8	4
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	105	72	22	8	-	3	13
New Orleans, La.	128	65	29	20	4	10	-
San Antonio, Tex.	179	117	36	13	9	4	17
Shreveport, La.	49	33	12	2	2	-	6
Tulsa, Okla.	108	69	24	11	1	3	6
MOUNTAIN	700	462	136	50	29	23	45
Albuquerque, N. Mex.	101	70	12	6	10	3	6
Colo. Springs, Colo.	37	23	7	3	3	1	5
Denver, Colo.	117	74	27	13	2	1	6
Las Vegas, Nev.	116	75	24	7	5	5	11
Ogden, Utah	25	19	4	1	-	1	4
Phoenix, Ariz.	140	95	32	9	1	3	5
Pueblo, Colo.	19	15	2	2	-	-	2
Salt Lake City, Utah	54	28	10	6	2	8	2
Tucson, Ariz.	91	63	18	3	6	1	4
PACIFIC	1,971	1,271	371	209	54	59	119
Berkeley, Calif.	31	23	3	4	-	1	3
Fresno, Calif.	85	61	18	1	2	3	5
Glendale, Calif.§	24	19	4	1	-	-	1
Honolulu, Hawaii	66	48	12	5	1	-	8
Long Beach, Calif.§	84	59	16	6	1	2	12
Los Angeles Calif.§	484	300	85	63	20	10	15
Oakland, Calif.	60	22	14	14	7	3	3
Pasadena, Calif.	22	13	4	-	2	3	-
Portland, Oreg.	129	87	22	11	-	9	5
Sacramento, Calif.	171	117	34	10	6	4	16
San Diego, Calif.	179	124	28	14	4	9	19
San Francisco, Calif.	178	98	39	37	2	2	5
San Jose, Calif.	193	124	43	16	5	5	15
Seattle, Wash.	161	108	27	20	3	3	4
Spokane, Wash.	53	34	12	4	-	2	6
Tacoma, Wash.	51	34	10	3	1	3	2
TOTAL	13,398††	8,683	2,665	1,290	355	398	752

*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.

Measles — Continued

In 1989, the number of measles-associated deaths and the case-fatality rate are higher than in any year since 1971 (CDC, unpublished data). The reason for this increase is not known but could be associated with underreporting of cases, resulting in spuriously high case-fatality rates.

More than half of measles cases occurred among appropriately vaccinated children 5–19 years of age. Primary vaccine failure (rather than waning of vaccine-induced immunity) may be the major reason for the occurrence of measles in this group (*5*). To reduce the number of primary vaccine failure-related cases, the Immunization Practices Advisory Committee (ACIP) has recommended a routine two-dose measles vaccine schedule (*6*). The initial dose is to be administered to children at 15 months of age, except for children in high-risk areas for preschool transmission, who should be vaccinated at 12 months of age. The second dose is recommended at school entry (4–6 years of age), although localities can choose other ages, such as entry to middle school or junior high school. Both doses should generally be given as measles-mumps-rubella vaccine. In addition, ACIP recommends that colleges and other educational institutions require documentation of two doses of live measles vaccine or other evidence of measles immunity (i.e., prior physician diagnosis or laboratory evidence) for entering students born in or after 1957.

Two approaches to measles control and prevention are crucial until all localities can fully implement a two-dose schedule. The highest priority should always be given to assuring that susceptible persons receive at least one dose of vaccine. In addition, during an outbreak, localities should implement the new outbreak-control recommendations (*6*), which call for vaccination of all persons at risk (e.g., students attending schools where cases have occurred) who have not received two prior doses and have no other evidence of measles immunity. The ultimate goal, however, will be to implement a routine two-dose schedule in all communities.

TABLE 2. Classification of measles cases — United States, first 26 weeks, 1989*

Classification		No.	% of total
Unvaccinated			
Vaccine indicated		1853	26.9
Vaccine not routinely indicated		1261	18.3
Persons <16 mos. of age	(1044)		
Persons born before 1957	(182)		
Lab immunity/Physician diagnosis	(12)		
Medical exemption	(23)		
Other		226	3.3
Non-U.S. citizen	(35)		
Religious/Philosophic exemption	(191)		
Appropriately vaccinated†		**3520**	**51.2**
Unknown		20	0.3
Total		**6880**	**100.0**

*Provisional data.
†Vaccinated with live measles vaccine on or after the first birthday.

Measles – Continued

References
1. CDC. Measles – United States, 1988. MMWR 1989;38:601–5.
2. CDC. Measles outbreak – Chicago, 1989. MMWR 1989;38:591–2.
3. CDC. Measles – Dade County, Florida. MMWR 1987;36:45–8.
4. Hutchins SS, Escolan J, Markowitz LE, et al. Measles outbreak among unvaccinated preschool-aged children: opportunities missed by health care providers to administer measles vaccine. Pediatrics 1989;83:369–74.
5. Markowitz LE, Preblud SR, Fine PEM, Orenstein, WA. Duration of live measles vaccine-induced immunity. Pediatr Infect Dis J (in press).
6. CDC. Measles prevention: recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1989;38(no. S-9).

Update: Influenza Activity – United States, 1989

The first laboratory-confirmed outbreaks of influenza in the United States during the 1989–90 influenza season have been reported to CDC. The first outbreak occurred in a day-care center in Colorado in November and involved 24 children 6 weeks–10 years of age. Influenza A(H3N2) was isolated from the only culture taken, which was from a 5-year-old with sickle cell anemia who was hospitalized for influenza.

During the week of December 4, an influenza A(H3N2) outbreak began in a Minnesota nursing home. Four residents and two employees have developed influenza-like illnesses. Influenza A(H3N2) has been isolated from one patient as of December 18.

From October 1 to December 18, CDC received reports of 42 culture-confirmed influenza A cases from 19 states. Of the 42 isolates, 16 were influenza A(H3N2), and three were influenza A(H1N1); 23 isolates have not been subtyped. States reporting isolates were Alabama, Alaska, Arizona, California, Connecticut, Colorado, Georgia, Hawaii, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Mexico, North Carolina, Texas, Utah, Washington, and Wisconsin. As of December 18, all U.S. influenza A(H3N2) isolates characterized at CDC have been similar to the A/Shanghai/11/87-like virus antigen contained in the 1989–90 influenza vaccine. The A(H1N1) isolates are similar to the A/Taiwan/1/86-like vaccine antigen.

For the week ending December 9, sporadic influenza-like illness activity was reported by 20 states (Alabama, Alaska, Arizona, Delaware, Georgia, Hawaii, Kentucky, Maine, Michigan, Nevada, New Hampshire, New Mexico, New York, Ohio, Oklahoma, Rhode Island, South Dakota, Tennessee, Utah, and West Virginia) and Puerto Rico; two states (Massachusetts and Montana) reported regional activity.* For the same week, sentinel family practice physicians reported that 4.4% of patient visits were for influenza-like illnesses. During the 4 previous weeks, influenza-like illnesses generally increased, accounting for 2.6%, 3.1%, 4.5%, and 4.3% of visits, respectively.

Reported by: P Graves, RE Hoffman, MD, Colorado Dept of Health. J Degelau, MD, MB Grimm, MT Osterholm, PhD, Minnesota Dept of Health. State and territorial health department epide-

*Levels of activity are: 1) *Sporadic*—sporadically occurring cases of influenza-like illness or culture-confirmed influenza, with no outbreaks detected; 2) *Regional*—outbreaks of influenza-like illness or culture-confirmed influenza in counties having a combined population of <50% of the state's total population; 3) *Widespread*—outbreaks of influenza-like illness or culture-confirmed influenza in counties having a combined population of ≥50% of the state's total population.

Influenza Activity — Continued

miologists and state laboratory directors. WHO Collaborating Laboratories. Sentinel Physicians of the American Academy of Family Practice. Epidemiology Office and Influenza Br, Div of Viral and Rickettsial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Because influenza activity is currently increasing in the United States, health-care providers should consider options that can prevent or reduce the impact of influenza infection; these include 1) immunoprophylaxis with influenza vaccine and 2) chemoprophylaxis or therapy with amantadine. Annual vaccination of persons at increased risk for complications of influenza infection is the single most important measure available to reduce influenza-related morbidity and mortality. Amantadine may be used in conjunction with vaccination to prevent and control outbreaks of influenza A in institutional settings such as nursing homes and chronic-care facilities, for temporary prophylaxis until antibody develops in high-risk persons immunized after the start of the influenza season, for prophylaxis in immunodeficient persons, and for prophylaxis in high-risk persons for whom vaccine is contraindicated (*1,2*).

Even though infections caused by influenza A viruses have been confirmed, continued culturing of patients with influenza-like illness is encouraged. Efforts to isolate influenza will assist in identifying areas where influenza viruses are circulating and in determining the specific types/subtypes. Throughout the influenza season, CDC receives reports of influenza activity and isolates from state and local health departments and from sentinel physicians. This information is updated weekly and is available by telephone (CDC Disease Information Hotline, Influenza Update [404-332-4555]), through the CDC Information Service on the Public Health Network electronic bulletin board, and by periodic updates in the *MMWR*. More detailed information on local influenza activity is available from state or local health departments.

References

1. ACIP. Prevention and control of influenza: part 1, vaccines. MMWR 1989;38:297–8,303–11.
2. ACIP. Prevention and control of influenza. MMWR 1988;37:361–4,369–73.

Epidemiologic Notes and Reports

Acute Allergic Reactions Associated with Reprocessed Hemodialyzers — Virginia, 1989

From July 18 to November 27, 1989, nine patients had 12 acute allergic reactions during hemodialysis treatments at a dialysis center in Virginia. The reactions occurred within 10 minutes of the initiation of dialysis and were characterized by symptoms including a sensation of warmth (75%), especially in the hands; fullness in the mouth or throat (58%); tingling paresthesias (50%); nausea/vomiting (33%); and tightness in the chest (33%). Two patients developed angioedema of the lips and tongue; one of these patients required hospitalization.

All 12 reactions occurred in patients using mechanically reprocessed dialyzers which had been rinsed with hydrogen peroxide and filled with a disinfectant (hydrogen peroxide, peroxyacetic acid) before reuse. When dialysis sessions were resumed with unused dialyzers, no subsequent reactions occurred. No reactions occurred among patients receiving dialysis with unused dialyzers.

Allergic Reactions — Continued

Before reuse, all reprocessed dialyzers were rinsed with saline and had tested negative for residual hydrogen peroxide. Reactions were not associated with a specific type of dialyzer membrane or dialysis machine. The Food and Drug Administration (FDA) also has received reports of similar reactions from dialysis centers in Oregon and Georgia. CDC and FDA investigations have been initiated to identify the cause and source of the reactions.

Reported by: GB Miller, Jr, MD, State Epidemiologist, Virginia State Dept of Health. R Keith Sikes, DVM, State Epidemiologist, Georgia Dept of Human Resources. Office of Compliance, Center for Devices and Radiologic Health, Food and Drug Administration. Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: Acute allergic or hypersensitive reactions infrequently occur in patients during hemodialysis (*1*) and are usually attributed to the first use of a dialyzer. The reactions in this outbreak were unusual because all were associated with reprocessed dialyzers, occurred within 10 minutes of beginning dialysis, and were temporally clustered at several hemodialysis centers. Physicians are requested to report acute allergic reactions associated with hemodialysis through state health departments to CDC (CDC telephone: [404] 639-3406).

Reference

1. Villarroel F, Ciarkowski AA. A survey on hypersensitivity reactions in hemodialysis. Trans Am Soc Artif Intern Organs 1985;9:231–4.

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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; telephone (404) 332-4555.

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