

# M M M M R

## MORBIDITY AND MORTALITY WEEKLY REPORT

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### Surveillance Summary

#### Human *Salmonella* Isolates — United States, 1980

In 1980, 30,004 isolations of salmonellae (including *Salmonella typhi*) from humans were reported to CDC, a decrease of 3.6% from 1979.

The decrease in isolates was not confined to a single state or region. Decreases occurred in all the New England states, as well as Alaska, Georgia, Nevada, New York, Oklahoma, Oregon, and Washington. Isolates either increased or remained approximately the same in all other states. No 1 particular serotype accounted for the decrease. *S. heidelberg*, *S. enteritidis*, and *S. oranienburg* all showed notable declines, while *S. agona* increased 27.1%. *S. enteritidis* declined in New England and New York, but almost doubled in Washington. *S. heidelberg* declined in New England, New York, Oregon, and Washington. *S. newport* declined in New York, Oklahoma, and Washington. However, *S. agona* more than doubled in Massachusetts, New Jersey, and Tennessee, accounting for more than half of the increase in that serotype. The 10 most frequently isolated serotypes accounted for more than two-thirds of the total isolates (Table 1).

TABLE 1. The 10 serotypes of *Salmonella* most frequently isolated from humans, United States, 1980

Serotype	Number of isolates	Percentage	Median age of patients (years)
<i>S. typhimurium</i> *	10,443	34.8	9
<i>S. heidelberg</i>	1,975	6.6	3
<i>S. enteritidis</i>	1,904	6.3	18
<i>S. newport</i>	1,651	5.5	14
<i>S. infantis</i>	1,428	4.8	4
<i>S. agona</i>	1,402	4.7	7
<i>S. saint-paul</i>	757	2.5	20
<i>S. montevideo</i>	665	2.2	17
<i>S. typhi</i>	605	2.0	24
<i>S. oranienburg</i>	503	1.7	14
Subtotal	21,333	71.1	12
Others	8,671	28.9	
Total	30,004	100.0	11

\*Includes *S. typhimurium* var. copenhagen.

*Salmonella Isolates — Continued*

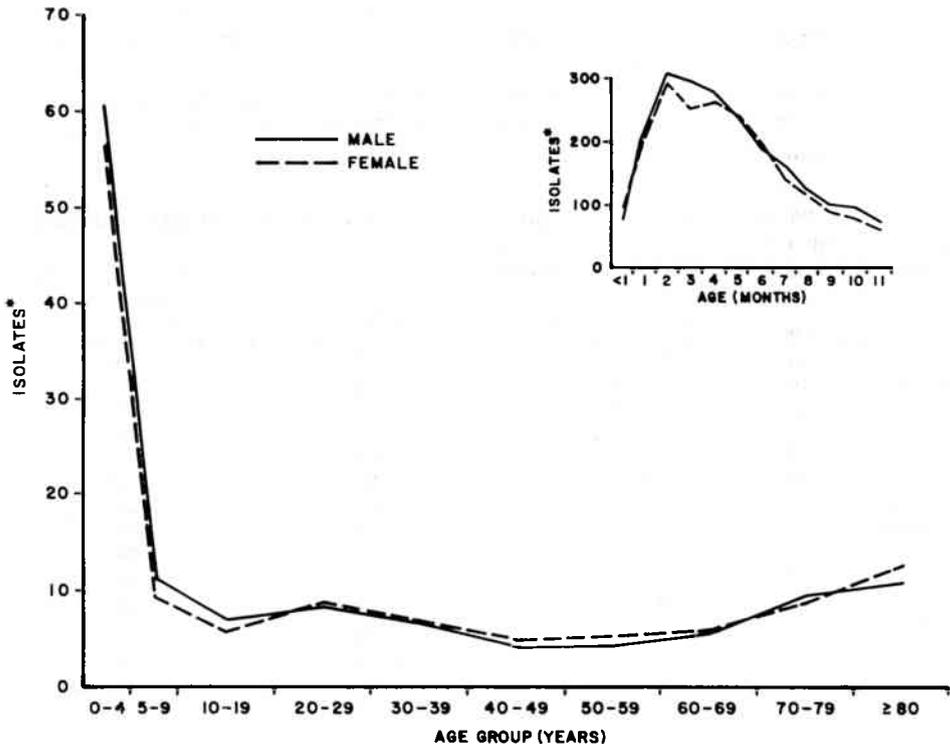
The age distribution of persons from whom isolates were obtained (Figure 1) followed a well-established pattern: the rate was highest for infants approximately 2-3 months of age, decreased rapidly through early childhood, and then held fairly constant from approximately age 8 through the adult years. Isolation rates for those under 20 were higher for males than for females, but for persons from 21 through approximately age 70, females showed a slightly higher reported isolation rate.

For most serotypes, the median age of infected patients has been consistent for the 18 years that surveillance records have been maintained. In 1980, 43 of the 605 isolates of *S. typhi* were from carriers, 199 from infected patients, and the rest were undesignated. The median age of carriers was 63 years; of infected patients, 21 years; and of those unspecified, 19 years. Any variation in the median age of persons from whom a particular serotype is isolated may indicate differences in the vehicles, the infectious dose, or other variables.

Reported by Statistical Svcs Br, Enteric Diseases Br, Bacterial Diseases Div, Center for Infectious Diseases, CDC.

**Editorial Note:** This report is based on the Salmonella Surveillance Activity conducted by the Association of State and Territorial Epidemiologists and by CDC. It is a passive,

**FIGURE 1. Rate of reported isolates of *Salmonella*, by age of patient, United States, 1980**



\*PER 100,000 POPULATION

*Salmonella Isolates – Continued*

laboratory-based system which receives weekly reports from the 50 states and the District of Columbia and regular summaries from the U.S. Department of Agriculture. These reports do not distinguish between clinical and subclinical infections, or between chronic and convalescent carriers. Many selective factors affect whether or not an infection will be reported. Despite such restrictions, these data provide a basis for comparison with past and future tabulations.

The decrease in the number of reported isolates of various serotypes is probably artificial, reflecting the fact that several states have either begun charging for serotyping or are no longer doing it routinely. Even with these difficulties in the system, ongoing analysis of this surveillance information has led directly to the identification of new vehicles of transmission and interstate outbreaks. Also, surveillance data have served as indicators of the effectiveness of various public health measures. With the advent of new epidemiologic tools such as plasmid typing of *Salmonella* strains, it will be even more important to maintain *Salmonella* surveillance.

*Epidemiologic Notes and Reports***Enterovirus-Associated Illness – Florida, Arizona, Tennessee, 1981**

Outbreaks of enterovirus-associated meningitis have been reported recently from Palm Beach County, Florida; Tucson, Arizona; and regions of Tennessee.

**Palm Beach County:** Routine county surveillance has uncovered 65 patients with aseptic meningitis and 3 with encephalitis hospitalized between April 5 and July 26, 1981; an additional 23 probable cases are being followed. The number of cases has increased this year compared with previous years. In 1979, 12 cases were reported during the same time period and in 1980, 21 cases were reported. Nearby counties have not reported similar increases. To date, enteroviruses have been isolated from 12 patients. Seven cases were associated with echovirus 30, 2 cases with echovirus 9, 1 case with echovirus 14, and 2 cases with Coxsackie A4. One of the encephalitis cases was in a 7-month-old, previously healthy infant initially diagnosed as a victim of sudden infant death syndrome after he was found dead in his crib 1 morning. Coxsackie A4 was isolated from brain tissue obtained at autopsy.

**Tucson:** In June 1981, 4 cases of aseptic meningitis were reported from a 130-unit apartment complex in the northeastern section of the city. Following that report, a survey of virology laboratory records and hospital charts identified an unusual number of aseptic meningitis cases. Cases began increasing in May. One hundred ten cases were identified, 85 cases through the virology laboratory and 25 additional cases from hospital reviews. New cases are still being reported. Patients resided throughout Tucson; no clustering by section of the city was found. Nonpolio enteroviruses were isolated from 20 cases. Ten isolates were subtyped; 8 were echovirus 30, 1 Coxsackie B1, and 1 Coxsackie B5. All patients were <40 years of age with a median age of 12 years. Thirty-three percent of patients were ≤5 years old, and 24% were between 21 and 30 years old. Seventy-three percent (29/40) of all cases over 21 years of age were females.

## Enterovirus — Continued

**Tennessee:** Six counties have reported cases of aseptic meningitis. Fifty cases have been hospitalized since May 1, 1981. Data were collected from 30 cases reported from Williamson County. Cases had temperatures ranging from 99.8 F to 104.2 F (37.7-40.1 C) with a mean of 101.3 F (38.5 C). Lumbar puncture was performed on 19 of 30 cases. The cerebrospinal fluid (CSF) white blood cell (WBC) count ranged from 17 to 912 WBCs/mm<sup>3</sup> (mean 197); CSF protein level ranged from 15 to 100 mg% (mean 42), and CSF glucose level, from 44 to 86 mg% (mean 62). Echovirus 30 was isolated from 5 patients. No other enteroviruses were isolated. Two patients reported complications. Both had aseptic meningitis followed 2 weeks later by descending unilateral paresis, one with cranial nerve involvement, the other with moderate paresis of 1 side of the face, 1 arm and 1 leg. Additional data were collected from 42 Williamson County families, each of which had at least 1 case. Thirty-eight secondary cases of enteroviral-like illness were identified. The secondary attack rate was highest in the <5-year age group. Seventy-two percent of these family members reported symptoms. Predominant symptoms included headache (84%), fever (74%), nausea (58%), vomiting (39%), diarrhea (16%), severe headache with stiff neck (13%), exanthem and/or enanthem (11%), and sore throat (11%).

(Continued on page 385)

**TABLE I. Summary — cases of specified notifiable diseases, United States**  
[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	31st WEEK ENDING		MEDIAN 1976-1980	CUMULATIVE, FIRST 31 WEEKS		
	August 8 1981	August 2 1980		August 8 1981	August 2 1980	MEDIAN 1976-1980
Aseptic meningitis	307	229	215	3,307	2,666	2,044
Brucellosis	4	5	5	89	113	113
Chickenpox	1,010	767	520	165,433	155,720	155,720
Diphtheria	—	—	1	3	2	55
Encephalitis: Primary (arthropod-borne & unsp.)	33	30	30	536	447	447
Post-infectious	1	8	4	50	130	136
Hepatitis, Viral: Type B	532	357	277	12,010	10,146	8,980
Type A	543	551	551	14,976	16,279	17,451
Type unspecified	232	253	144	6,691	6,664	5,248
Malaria	17	39	19	821	1,180	382
Measles (rubeola)	32	129	155	2,546	12,563	22,776
Meningococcal infections: Total	48	32	31	2,310	1,787	1,635
Civilian	47	31	31	2,297	1,774	1,613
Military	1	1	—	13	13	16
Mumps	51	55	125	2,943	6,805	12,916
Pertussis	43	59	51	640	816	785
Rubella (German measles)	58	33	63	1,649	3,085	10,427
Tetanus	2	3	1	36	48	37
Tuberculosis	436	452	618	15,914	15,900	17,305
Tularemia	8	14	5	130	115	88
Typhoid fever	13	16	13	288	258	258
Typhus fever, tick-borne (Rky. Mt. spotted)	51	59	53	803	691	630
Veneral diseases:						
Gonorrhea: Civilian	20,757	20,929	21,165	586,488	571,771	573,920
Military	625	351	574	17,206	15,814	16,134
Syphilis, primary & secondary: Civilian	581	474	440	17,631	15,250	14,085
Military	3	5	5	229	185	182
Rabies in animals	134	121	74	4,296	4,067	1,859

**TABLE II. Notifiable diseases of low frequency, United States**

	CUM. 1981		CUM. 1981
Anthrax	—	Poliomyelitis: Total	1
Botulism	34	Paralytic	1
Cholera	3	Psittacosis (Tex. 1)	71
Congenital rubella syndrome	7	Rabies in man	1
Leprosy (Ill. 2, Calif. 1, Hawaii 1)	157	Trichinosis (N.J. 1, Md. 2)	100
Leptospirosis	23	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	30
Plague	5		

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending August 8, 1981 and August 2, 1980 (31st week)

REPORTING AREA	ASEPTIC MENIN- GITIS	BRU- CEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-in- fectious	B	A	Unspecified		
						1981	1980	1981	1981	1981	1981		
UNITED STATES	307	4	1,010	-	3	33	38	1	532	543	232	17	821
NEW ENGLAND	16	-	134	-	-	-	1	-	19	9	16	4	44
Maine	2	-	10	-	-	-	-	-	-	-	1	-	1
N.H.	1	-	1	-	-	-	-	-	-	-	-	-	3
Vt.	-	-	8	-	-	-	-	-	-	1	-	1	3
Mass.	1	-	89	-	-	-	1	-	4	3	11	3	25
R.I.	12	-	13	-	-	-	-	-	2	1	-	-	2
Conn.	-	-	13	-	-	-	-	-	13	4	4	-	10
MID. ATLANTIC	28	-	37	-	-	2	2	1	100	41	29	1	98
Upstate N.Y.	10	-	19	-	-	-	-	-	11	9	6	-	28
N.Y. City	2	-	17	-	-	-	-	-	10	8	2	-	32
N.J.	10	-	NN	-	-	-	2	-	28	11	17	-	27
Pa.	6	-	1	-	-	2	-	1	51	13	4	1	11
E.N. CENTRAL	72	-	688	-	-	12	12	-	98	99	20	2	37
Ohio	14	-	7	-	-	3	5	-	11	5	2	-	6
Ind.	39	-	21	-	-	7	3	-	32	35	13	-	6
Ill.	1	-	600	-	-	-	3	-	42	34	3	2	11
Mich.	16	-	15	-	-	2	1	-	13	24	2	-	14
Wis.	2	-	45	-	-	-	-	-	-	1	-	-	-
W.N. CENTRAL	12	1	13	-	-	2	1	-	16	13	9	-	22
Minn.	-	-	-	-	-	-	-	-	5	-	-	-	9
Iowa	4	1	5	-	-	-	1	-	2	4	2	-	2
Mo.	2	-	7	-	-	-	-	-	2	8	4	-	3
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	1
S. Dak.	-	-	1	-	-	-	-	-	-	-	-	-	1
Nebr.	-	-	-	-	-	1	-	-	4	-	2	-	1
Kans.	6	-	-	-	-	1	-	-	3	1	1	-	5
S. ATLANTIC	51	3	59	-	1	5	7	-	104	90	37	5	91
Del.	1	1	1	-	-	-	-	-	-	1	1	-	1
Md.	6	-	16	-	-	-	2	-	14	3	12	3	23
D.C.	-	-	-	-	-	-	-	-	-	2	-	-	1
Va.	8	-	12	-	-	2	3	-	15	12	7	1	15
W. Va.	5	-	13	-	-	-	-	-	3	2	-	-	4
N.C.	7	-	NN	-	-	2	-	-	9	10	6	-	7
S.C.	2	-	-	-	-	-	-	-	15	1	1	-	1
Ga.	6	-	2	-	-	-	-	-	14	14	-	-	8
Fla.	16	2	15	-	1	1	2	-	34	45	10	1	31
E.S. CENTRAL	27	-	1	-	-	5	2	-	24	23	4	-	10
Ky.	-	-	1	-	-	-	-	-	-	-	1	-	-
Tenn.	17	-	NN	-	-	2	1	-	16	19	3	-	-
Ala.	10	-	-	-	-	-	-	-	5	3	-	-	9
Miss.	-	-	-	-	-	3	1	-	3	1	-	-	1
W.S. CENTRAL	31	-	30	-	-	4	3	-	24	85	53	1	61
Ark.	-	-	-	-	-	1	-	-	-	6	3	-	4
La.	5	-	NN	-	-	-	-	-	10	20	20	-	3
Okla.	4	-	-	-	-	1	-	-	1	8	2	-	5
Tex.	22	-	30	-	-	3	2	-	13	51	28	1	49
MOUNTAIN	12	-	-	-	1	1	2	-	14	50	8	1	28
Mont.	1	-	-	-	1	-	-	-	2	-	-	-	1
Idaho	-	-	-	-	-	-	-	-	-	9	-	-	1
Wyo.	-	-	-	-	-	-	-	-	-	4	-	-	-
Colo.	5	-	-	-	-	-	-	-	3	7	4	-	13
N. Mex.	1	-	-	-	-	-	-	-	2	11	-	-	2
Ariz.	1	-	NN	-	-	1	2	-	4	5	2	-	4
Utah	2	-	-	-	-	-	-	-	3	8	-	1	4
Nev.	2	-	-	-	-	-	-	-	-	6	2	-	3
PACIFIC	58	-	48	-	1	2	8	-	133	133	56	3	430
Wash.	9	-	7	-	-	-	-	-	21	8	3	-	20
Oreg.	3	-	2	-	-	-	1	-	7	8	2	1	12
Calif.	44	-	1	-	-	2	2	-	102	107	51	-	391
Alaska	-	-	-	-	1	-	-	-	-	1	-	-	1
Hawaii	2	-	38	-	-	-	5	-	3	9	-	2	6
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	1
P.R.	-	-	15	-	-	-	-	-	3	4	1	-	9
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	4
Pac. Trust Terr.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-

NA: Not notifiable.

NA: Not available.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont'd). Cases of specified notifiable diseases, United States, weeks ending August 8, 1981 and August 2, 1980 (31st week)

REPORTING AREA	MEASLES (RUBELLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	1981	1981	CUM. 1981	CUM. 1981
UNITED STATES	32	2,546	12,563	48	2,310	1,787	51	2,943	43	58	1,649	36
NEW ENGLAND	-	75	667	3	146	107	-	142	1	-	105	2
Maine	-	5	33	1	22	5	-	27	-	-	33	-
N.H.	-	4	330	-	16	5	-	17	-	-	35	-
Vt.	-	1	226	-	6	13	-	6	-	-	-	-
Mass.	-	57	54	-	33	36	-	39	-	-	25	-
R.I.	-	-	2	-	13	7	-	20	1	-	-	-
Conn.	-	8	22	2	56	41	-	33	-	-	12	2
MID. ATLANTIC	9	783	3,696	8	320	308	16	524	6	2	197	2
Upstate N.Y.	1	206	667	1	102	104	1	91	3	-	91	1
N.Y. City	1	65	1,147	2	53	76	3	68	-	1	49	1
N.J.	1	54	819	1	73	67	-	83	2	-	46	-
Pa.	6	454	1,063	4	92	61	12	282	1	1	11	-
E.N. CENTRAL	7	84	2,316	6	282	226	15	828	7	8	344	7
Ohio	-	15	355	2	105	69	2	128	1	-	3	1
Ind.	5	15	90	-	40	35	1	93	6	4	122	2
Ill.	-	23	330	3	69	60	2	164	-	3	82	-
Mich.	2	30	230	1	64	49	-	297	-	1	34	3
Wis.	-	1	1,311	-	4	13	10	146	-	-	103	1
W.N. CENTRAL	-	6	1,318	-	102	73	1	177	2	-	76	3
Minn.	-	2	1,084	-	36	18	-	8	2	-	6	2
Iowa	-	1	20	-	18	9	-	41	-	-	4	-
Mo.	-	1	64	-	30	32	1	29	-	-	3	1
N. Dak.	-	-	-	-	1	1	-	-	-	-	-	-
S. Dak.	-	-	-	-	4	4	-	1	-	-	-	-
Nebr.	-	1	83	-	-	-	-	3	-	-	1	-
Kans.	-	1	67	-	13	9	-	95	-	-	62	-
S. ATLANTIC	4	339	1,852	10	520	425	9	413	10	2	131	7
Del.	-	-	3	-	4	2	-	9	-	-	1	-
Md.	-	2	71	-	36	42	2	80	-	-	1	-
D.C.	-	1	-	-	1	1	-	1	-	-	-	-
Va.	-	6	298	1	65	38	2	115	1	-	6	-
W. Va.	-	8	9	1	20	14	3	69	-	-	22	-
N.C.	-	4	128	-	75	81	-	13	1	-	5	2
S.C.	-	-	157	2	68	50	-	10	-	-	8	2
Ga.	-	109	799	3	87	72	-	33	4	-	35	1
Fla.	4	209	387	3	164	125	2	83	4	2	53	2
E.S. CENTRAL	-	4	327	7	170	162	-	70	2	-	28	2
Ky.	-	-	52	3	48	51	-	33	1	-	17	-
Tenn.	-	2	169	-	47	44	-	20	1	-	10	-
Ala.	-	2	22	1	56	42	-	15	-	-	1	2
Miss.	-	-	84	3	19	25	-	2	-	-	-	-
W.S. CENTRAL	3	891	528	10	387	186	-	168	6	1	143	5
Ark.	-	1	16	1	21	14	-	1	-	-	2	1
La.	-	2	11	1	93	66	-	4	1	-	9	2
Okla.	-	6	769	1	33	17	-	-	-	-	-	1
Tex.	3	882	132	7	240	89	-	163	5	1	132	1
MOUNTAIN	1	33	448	-	75	62	2	105	-	4	78	2
Mont.	-	1	2	-	6	3	2	8	-	-	4	-
Idaho	-	1	-	-	3	4	-	4	-	-	3	-
Wyo.	-	-	-	-	1	2	-	1	-	4	7	-
Colo.	-	9	23	-	32	15	-	42	-	-	27	-
N. Mex.	-	8	11	-	6	7	-	-	-	-	5	-
Ariz.	1	5	357	-	17	10	-	23	-	-	19	1
Utah	-	-	47	-	5	2	-	16	-	-	4	1
Nev.	-	10	8	-	5	19	-	11	-	-	9	-
PACIFIC	8	331	1,011	4	308	238	8	516	9	41	547	6
Wash.	-	3	176	2	58	44	-	134	2	33	94	-
Oreg.	-	3	-	-	46	42	-	59	-	-	31	-
Calif.	8	323	827	2	193	147	6	297	7	7	412	6
Alaska	-	-	5	-	7	5	-	7	-	1	1	-
Hawaii	-	2	5	-	4	-	2	19	-	-	9	-
Guam	NA	4	5	-	-	1	NA	6	NA	NA	1	-
P.R.	11	258	110	-	10	9	2	107	2	-	3	3
V.I.	-	24	6	-	1	1	-	4	-	-	1	-
Pac. Trust Terr.	NA	1	6	-	-	-	NA	8	NA	NA	1	-

NA: Not available.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont'd). Cases of specified notifiable diseases, United States, weeks ending August 8, 1981 and August 2, 1980 (31st week)

REPORTING AREA	TUBERCULOSIS		TULA-REMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1981	CUM. 1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1980	CUM. 1981
UNITED STATES	436	15,914	130	13	268	51	803	20,757	586,488	571,771	581	17,631	15,250	4,296
NEW ENGLAND	15	450	1	-	12	1	7	42	14,574	14,337	13	370	316	18
Maine	-	24	-	-	1	-	-	4	745	827	-	2	4	8
N.H.	-	13	-	-	-	-	-	22	528	487	-	11	1	2
Vt.	-	14	-	-	-	-	-	13	250	323	-	13	5	-
Mass.	10	262	-	-	7	1	5	181	5,898	5,958	7	245	179	3
R.I.	1	27	-	-	-	-	-	29	765	919	-	21	19	-
Conn.	4	108	1	-	4	-	2	210	6,388	5,823	6	78	108	5
MID. ATLANTIC	58	2,519	10	1	48	3	32	2,748	70,055	61,138	89	2,668	2,191	48
Upstate N.Y.	12	439	10	-	10	3	12	278	11,393	11,194	-	242	179	37
N.Y. City	16	975	-	-	26	-	2	1,050	29,510	23,831	58	1,403	1,438	-
N.J.	17	527	-	1	8	-	8	830	13,402	10,975	11	361	268	7
Pa.	13	578	-	-	4	-	10	590	15,750	15,138	20	462	306	4
E.N. CENTRAL	69	2,040	1	-	16	1	34	2,178	86,287	87,229	46	1,137	1,410	573
Ohio	15	401	-	-	2	-	28	678	29,399	23,038	12	161	227	47
Ind.	16	164	-	-	-	-	2	250	7,834	8,355	1	113	114	55
Ill.	24	815	-	-	6	-	3	219	22,044	27,603	-	588	791	412
Mich.	9	546	1	-	6	1	1	730	18,960	19,794	31	217	225	6
Wis.	5	114	-	-	2	-	-	301	8,050	8,439	2	58	53	53
W.N. CENTRAL	14	564	16	1	12	5	33	1,063	28,115	26,054	16	350	188	1,839
Minn.	-	95	-	-	2	1	1	57	4,350	4,345	9	127	65	324
Iowa	-	58	-	-	2	-	3	111	3,080	2,857	-	14	9	589
Mo.	10	251	15	-	3	3	18	618	13,050	11,242	7	184	95	144
N. Dak.	-	21	-	-	-	-	-	10	385	382	-	4	3	296
S. Dak.	1	43	-	-	1	-	-	30	768	812	-	2	2	210
Neb.	-	18	1	-	2	-	2	78	2,140	2,072	-	4	6	136
Kans.	3	78	-	1	2	1	9	159	4,342	4,344	-	15	8	140
S. ATLANTIC	73	3,517	9	6	43	26	465	5,035	144,603	142,972	168	4,666	3,657	263
Del.	-	47	1	-	-	-	2	99	2,286	1,962	-	7	10	1
Md.	16	353	-	-	12	-	44	808	16,462	15,106	11	349	253	13
D.C.	6	224	-	-	1	-	-	230	8,706	9,888	17	380	264	-
Va.	8	360	-	-	1	6	79	399	13,201	12,605	11	423	334	46
W. Va.	2	116	-	-	4	-	4	69	2,199	1,862	-	16	14	13
N.C.	16	612	1	-	15	198	733	22,353	20,516	11	354	247	2	
S.C.	13	332	3	-	-	5	80	559	13,976	13,717	9	309	211	17
Ga.	-	563	4	2	4	-	50	1,064	30,022	27,397	42	1,202	1,048	121
Fla.	12	910	-	4	20	-	8	1,074	35,398	39,919	67	1,626	1,276	50
E.S. CENTRAL	38	1,406	5	-	5	3	79	2,723	48,805	46,853	32	1,139	1,258	276
Ky.	9	366	2	-	-	2	116	6,094	6,926	2	53	82	84	
Tenn.	6	463	3	-	1	2	53	662	18,345	16,732	6	432	531	147
Ala.	14	384	-	-	2	1	9	1,613	15,009	13,903	10	321	267	45
Miss.	9	193	-	-	2	-	15	332	9,357	9,292	6	333	378	-
W.S. CENTRAL	57	1,801	61	3	39	8	127	2,704	78,071	73,611	122	4,283	2,964	762
Ark.	5	188	35	1	2	4	27	192	5,702	5,675	4	83	91	100
La.	6	313	2	-	2	-	-	441	13,230	13,445	1	983	720	26
Okl.	8	214	14	-	3	2	74	306	8,253	7,318	1	99	59	150
Tex.	38	1,086	10	2	32	2	26	1,765	50,886	47,173	116	3,118	2,094	486
MOUNTAIN	18	457	23	-	20	3	21	835	23,085	22,184	5	473	369	130
Mont.	-	23	5	-	4	-	10	42	851	823	-	11	1	74
Idaho	-	6	3	-	-	1	5	87	1,022	981	2	17	14	1
Wyo.	-	7	1	-	-	1	4	NA	515	660	-	7	8	6
Colo.	-	50	5	-	5	-	-	218	6,212	5,954	2	144	97	17
N. Mex.	8	85	1	-	-	-	-	92	2,505	2,779	1	87	62	20
Ariz.	9	215	-	-	10	-	-	192	7,034	6,036	-	105	129	10
Utah	1	34	7	-	1	1	1	29	1,074	1,020	-	16	10	-
Nev.	-	37	1	-	-	-	1	175	3,872	3,931	-	86	48	2
PACIFIC	94	3,160	4	2	93	1	5	2,974	92,893	97,393	90	2,545	2,897	387
Wash.	15	241	1	-	3	-	1	230	7,359	8,152	-	68	154	6
Oreg.	12	121	-	-	4	-	-	168	5,560	6,581	3	59	65	5
Calif.	62	2,672	3	2	85	1	4	2,378	75,819	78,363	87	2,369	2,566	362
Alaska	-	39	-	-	-	-	-	95	2,330	2,343	-	6	7	14
Hawaii	5	87	-	-	1	-	-	103	1,825	1,954	-	43	105	-
Guam	NA	7	-	NA	-	NA	-	NA	47	82	NA	-	4	-
P.R.	-	183	-	-	4	-	-	76	1,939	1,537	11	399	323	46
V.I.	-	1	-	-	6	-	-	3	117	108	-	15	10	-
Pac. Trust Terr.	NA	38	-	NA	-	NA	-	NA	211	247	NA	-	-	-

NA: Not available.

All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE IV. Deaths in 121 U.S. cities,\* week ending  
August 8, 1981 (31st week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P & I**	TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P & I**	TOTAL
	ALL AGES	>65	45-64	25-44	1-24	<1				ALL AGES	>65	45-64	25-44	1-24	<1		
<b>NEW ENGLAND</b>	<b>641</b>	<b>436</b>	<b>137</b>	<b>43</b>	<b>7</b>	<b>18</b>	<b>43</b>	<b>S. ATLANTIC</b>	<b>1,063</b>	<b>618</b>	<b>274</b>	<b>79</b>	<b>42</b>	<b>48</b>	<b>27</b>		
Boston, Mass.	184	111	43	19	4	7	13	Atlanta, Ga.	128	76	30	12	6	4	4		
Bridgeport, Conn.	54	34	14	3	—	3	4	Baltimore, Md.	105	57	39	3	5	—	3		
Cambridge, Mass.	16	13	3	—	—	—	3	Charlotte, N.C.	41	23	12	5	1	—	—		
Fall River, Mass.	30	19	8	2	—	1	1	Jacksonville, Fla.	95	57	23	7	6	2	1		
Hartford, Conn.	49	33	10	2	2	2	1	Miami, Fla.	104	50	27	11	7	9	3		
Lowell, Mass.	25	18	6	1	—	—	3	Norfolk, Va.	59	32	11	4	2	9	3		
Lynn, Mass.	17	14	2	1	—	—	—	Richmond, Va.	64	28	23	1	4	8	3		
New Bedford, Mass.	23	20	3	—	—	—	4	Savannah, Ga.	47	29	10	4	3	1	4		
New Haven, Conn.	54	38	11	4	—	1	3	St. Petersburg, Fla.	94	64	6	1	—	3	1		
Providence, R.I. §	60	40	15	3	—	2	4	Tampa, Fla.	72	45	13	10	2	2	2		
Somerville, Mass.	8	5	2	1	—	—	—	Washington, D.C.	202	104	65	19	5	9	5		
Springfield, Mass.	39	30	5	3	—	1	3	Wilmington, Del.	52	33	15	2	1	1	—		
Waterbury, Conn.	22	17	4	—	1	—	1										
Worcester, Mass.	60	44	11	4	—	1	3										
<b>MID. ATLANTIC</b>	<b>2,453</b>	<b>1,609</b>	<b>537</b>	<b>162</b>	<b>71</b>	<b>74</b>	<b>77</b>	<b>E.S. CENTRAL</b>	<b>658</b>	<b>390</b>	<b>174</b>	<b>45</b>	<b>22</b>	<b>27</b>	<b>21</b>		
Albany, N.Y.	54	34	10	3	3	4	—	Birmingham, Ala.	98	55	31	4	4	4	3		
Allentown, Pa. §	18	15	3	—	—	—	—	Chattanooga, Tenn.	74	45	18	6	2	3	1		
Buffalo, N.Y.	100	69	18	7	4	2	13	Knoxville, Tenn. §	46	33	9	2	1	1	—		
Camden, N.J.	38	30	6	—	2	—	—	Louisville, Ky.	88	51	21	6	4	6	1		
Elizabeth, N.J.	22	15	5	2	—	—	—	Memphis, Tenn.	150	97	36	10	5	2	6		
Erie, Pa. †	28	16	8	1	3	—	1	Mobile, Ala.	62	33	16	6	3	4	4		
Jersey City, N.J.	44	30	8	2	1	3	1	Montgomery, Ala.	51	32	13	2	2	2	3		
N.Y. City, N.Y.	1,282	846	267	94	37	38	32	Nashville, Tenn.	89	44	30	9	1	5	3		
Newark, N.J.	59	33	19	4	1	2	1										
Paterson, N.J.	22	14	5	2	—	1	—	<b>W.S. CENTRAL</b>	<b>1,417</b>	<b>781</b>	<b>358</b>	<b>147</b>	<b>75</b>	<b>56</b>	<b>41</b>		
Philadelphia, Pa. †	317	192	79	27	8	11	12	Austin, Tex.	64	38	15	8	2	1	1		
Pittsburgh, Pa. †	92	59	25	5	1	2	4	Baton Rouge, La.	57	37	11	3	5	1	2		
Reading, Pa.	30	22	4	2	2	—	5	Corpus Christi, Tex.	25	13	6	2	2	2	2		
Rochester, N.Y.	113	87	18	3	2	3	6	Dallas, Tex.	186	108	42	19	13	4	4		
Schenectady, N.Y.	32	25	4	1	2	—	—	El Paso, Tex.	61	31	19	4	3	4	1		
Scranton, Pa. †	31	19	11	1	—	—	1	Fort Worth, Tex.	81	45	22	9	2	3	5		
Syracuse, N.Y.	93	54	27	5	—	7	1	Houston, Tex.	419	196	117	52	33	21	7		
Trenton, N.J.	37	21	10	1	4	1	—	Little Rock, Ark.	53	29	12	4	3	5	3		
Utica, N.Y.	17	11	5	—	1	—	—	New Orleans, La.	203	117	58	18	3	7	2		
Yonkers, N.Y.	24	17	5	2	—	—	—	San Antonio, Tex.	152	87	31	20	7	7	7		
								Shreveport, La.	49	34	9	5	—	1	1		
								Tulsa, Okla.	67	46	16	3	2	—	6		
<b>E.N. CENTRAL</b>	<b>2,123</b>	<b>1,267</b>	<b>556</b>	<b>145</b>	<b>85</b>	<b>70</b>	<b>57</b>	<b>MOUNTAIN</b>	<b>585</b>	<b>341</b>	<b>130</b>	<b>62</b>	<b>42</b>	<b>10</b>	<b>27</b>		
Akron, Ohio	51	32	13	1	2	3	—	Albuquerque, N. Mex.	70	37	16	14	3	—	3		
Canton, Ohio	43	31	6	1	5	—	2	Colo. Springs, Colo.	33	24	6	1	1	1	4		
Chicago, Ill.	502	275	144	45	20	18	7	Denver, Colo.	115	69	22	18	6	—	2		
Cincinnati, Ohio	256	160	71	11	6	8	23	Las Vegas, Nev.	69	33	24	10	2	—	—		
Cleveland, Ohio	155	89	39	12	8	7	4	Ogden, Utah	20	12	6	1	—	1	3		
Columbus, Ohio	81	49	24	6	1	1	5	Phoenix, Ariz.	126	80	24	10	7	5	2		
Dayton, Ohio	81	47	27	6	—	1	2	Pueblo, Colo.	10	6	3	—	1	—	4		
Detroit, Mich.	239	123	67	22	17	10	2	Salt Lake City, Utah	59	29	12	2	13	3	—		
Evansville, Ind.	43	31	9	1	—	2	1	Tucson, Ariz.	83	51	17	6	9	—	9		
Fort Wayne, Ind.	58	32	13	9	4	—	3										
Gary, Ind. §	16	11	2	2	1	—	—	<b>PACIFIC</b>	<b>1,665</b>	<b>1,038</b>	<b>364</b>	<b>137</b>	<b>60</b>	<b>66</b>	<b>75</b>		
Grand Rapids, Mich.	47	34	9	—	2	2	—	Berkeley, Calif.	24	13	5	2	2	2	—		
Indianapolis, Ind.	142	81	41	10	5	5	1	Fresno, Calif.	49	32	8	5	1	3	2		
Madison, Wis.	37	24	7	1	2	3	—	Glendale, Calif.	23	19	1	2	1	—	1		
Milwaukee, Wis.	116	76	26	6	2	3	—	Honolulu, Hawaii	66	32	22	1	4	7	5		
Peoria, Ill.	32	21	5	2	1	3	1	Long Beach, Calif.	87	48	31	4	—	4	7		
Rockford, Ill.	46	33	10	2	—	1	—	Los Angeles, Calif.	473	303	100	46	14	10	13		
South Bend, Ind.	30	15	11	2	1	1	2	Oakland, Calif.	67	48	8	5	1	5	6		
Toledo, Ohio	85	59	18	4	2	2	2	Pasadena, Calif.	29	22	4	2	1	—	3		
Youngstown, Ohio	63	44	14	2	2	1	2	Portland, Ore.	108	69	26	5	4	4	2		
								Sacramento, Calif.	66	36	18	5	3	4	5		
<b>W.N. CENTRAL</b>	<b>611</b>	<b>404</b>	<b>125</b>	<b>32</b>	<b>26</b>	<b>22</b>	<b>14</b>	San Diego, Calif.	163	93	32	15	14	9	5		
Des Moines, Iowa	60	36	18	4	2	—	1	San Francisco, Calif.	145	87	31	17	3	7	3		
Duluth, Minn.	28	21	4	1	2	—	1	San Jose, Calif.	147	86	38	13	6	4	14		
Kansas City, Kans.	19	11	3	2	3	—	1	Seattle, Wash.	134	87	27	13	4	3	6		
Kansas City, Mo.	100	68	20	2	6	3	2	Spokane, Wash.	50	36	8	2	1	3	—		
Lincoln, Nebr.	36	25	9	2	—	—	4	Tacoma, Wash.	34	27	5	—	1	1	3		
Minneapolis, Minn.	62	41	13	2	3	3	1										
Omaha, Nebr.	77	48	19	3	2	5	—										
St. Louis, Mo.	134	87	27	6	5	8	2										
St. Paul, Minn.	55	44	5	3	2	1	—										
Wichita, Kans.	40	23	7	7	1	2	2	<b>TOTAL</b>	<b>11,216</b>	<b>6,884</b>	<b>2,655</b>	<b>852</b>	<b>430</b>	<b>391</b>	<b>382</b>		

\*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 this week. Figures are estimates based on average percent of regional totals.

*Enterovirus — Continued*

Reported by C Elder, RN, MPH, C Williams, RN, S Stryker, MD, C Brumback, Palm Beach County Health Dept; E Wyner, E Buff, Virus Unit (Jacksonville), RA Gunn, MD, State Epidemiologist, Florida Dept of Health and Rehabilitation Svcs; B Porter, MPA, Pima County (Tucson) Health Dept; G Ray, MD, Virology Laboratory, University of Arizona College of Medicine; PM Hotchkiss, DVM, Acting State Epidemiologist, J Doll, MD, Arizona State Dept of Health Svcs; B Harvey, RN, Williamson County Hospital; J Moss, MD, C Stilwell, MD, K Rhea, MD, Williamson County; C Reyes, RH Hutcheson Jr, MD, State Epidemiologist, Tennessee State Dept of Public Health; Viral Diseases Div, Center for Infectious Diseases, CDC.

**Editorial Note:** Enterovirus-associated cases of aseptic meningitis are reported during the summer months each year. Cases are usually identified beginning in May, generally peak in August, and decrease in late October. Communitywide and regional outbreaks are common and may last for 1 or 2 months. Mild clinical illnesses are reported by other community residents. Outbreaks most often are caused by multiple agents with 1 serotype predominating.

Echovirus 30 is the serotype most frequently isolated from cases reported in the outbreaks in 1981. Echovirus 30 was first recognized in association with an aseptic meningitis outbreak in Scotland in 1959 (1). Similar outbreaks were reported in New York in 1959 (2), Ontario in 1959-1960 (3), and Minnesota in 1960 (4). In 1968, 431 cases of echovirus 30 associated aseptic meningitis were reported to CDC and constituted 64% of the aseptic meningitis cases characterized by isolation of an enterovirus (5). Between 1970 and 1977, sporadic cases of aseptic meningitis associated with echovirus 30 were reported. Beginning in 1978 the number of cases of echovirus 30 associated aseptic meningitis increased from an average of 7 cases per year (range 1 to 12) to 49 cases in 1979. In 1980, echovirus 30 was the third most frequently reported enterovirus associated with aseptic meningitis. Coxsackie B3 and echovirus 11 were the first and second most frequent agents, respectively.

Echovirus 30, like many of the enteroviruses, causes illness ranging from minor febrile illness to paresis. In 1980, echovirus 30 associated illnesses included encephalitis, aseptic meningitis, carditis, respiratory tract illness, and gastroenteritis. Echovirus 30 isolates were reported from all areas of the country, but 42% (50/120) of all echovirus 30 isolates were from the South Atlantic states of North Carolina, Georgia, and Florida, representing 26% of the enterovirus isolates from those states. Twenty-one percent of echovirus 30 isolates were from the Mid-Atlantic Region, but these isolates constituted only 5% (26/529) of the nonpolio-enteroviruses from that region.

Since 1970, stool specimens have been the most frequent source of isolation. Between 1970 and 1980, 40% (196/496) of the echovirus 30 isolates were from stool specimens or rectal swabs, 21% (104/496) from CSF, 19% (96/496) from throat, 16% (82/496) from tissues, 1% (3/496) from nasopharynx, 1% from urine, 5% from other sources. The presence of an enterovirus in the alimentary tract, however, does not constitute proof of an etiologic role of the virus in clinical illness. Isolation of the virus from specific tissues that are presumably infected, or from CSF—in the case of meningitis—is needed.

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## Epidemiologic Notes and Reports

### Measles — U.S. Counties

From 1977 through the first half of 1981, a substantial decline occurred in the number of counties reporting measles in the United States (Table 2). In 1977, 1,438 (45.7%) of the 3,144 counties in the United States reported measles. In 1980, a provisional total of 715 (22.7%) counties reported measles. During the first 26 weeks of 1981 (Figure 2), a provisional total of 247 (7.9%) counties reported measles, compared with a provisional total of 616 (19.6%) counties during the same period in 1980.

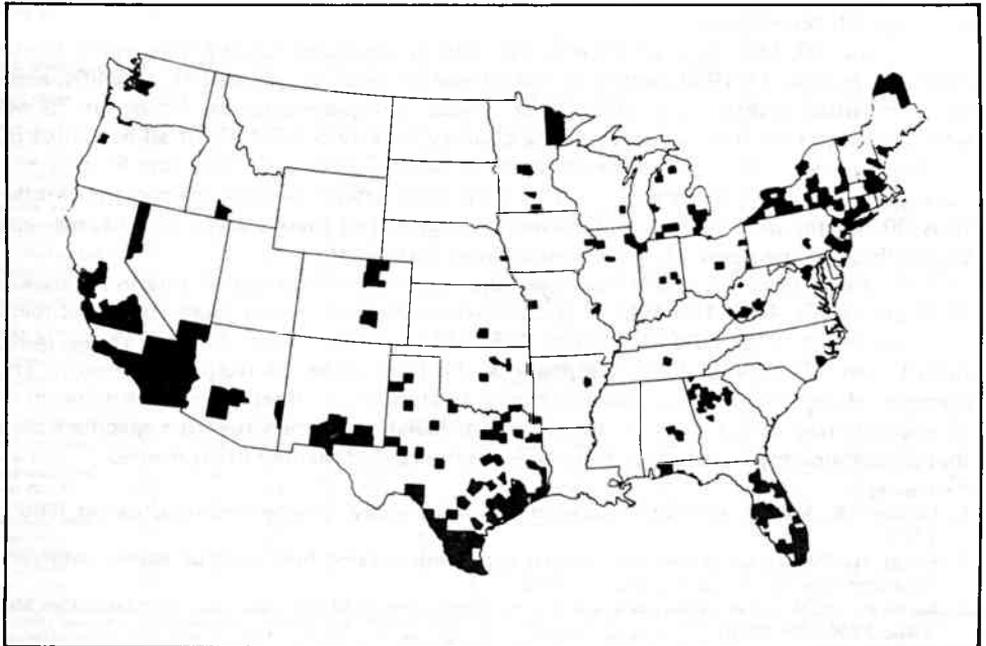
*Reported by Surveillance and Assessment Br, Immunization Div, Center for Prevention Svcs, CDC.*

**Editorial Note:** The sharp decline in the number of counties reporting measles follows the National Childhood Immunization Initiative, which began in April 1977, and the Measles Elimination Program, which began in October 1978. More than 90% of the counties in the United States reported no measles during the first half of 1981, indicating that measles transmission has been interrupted for prolonged periods in most of the nation. Continued application of the current measles-elimination strategy (1,2) should result in further reductions in transmission.

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1. CDC. Goal to eliminate measles from the United States. *MMWR* 1978;27:391.
2. Hinman AR, Brandling-Bennett AD, Nieburg PI. The opportunity and obligation to eliminate measles from the United States. *JAMA* 1979;242:1157-62.

FIGURE 2. U.S. counties\* reporting measles, first 26 weeks (ending July 4), 1981



\*Also included, but not depicted, 1 county in Alaska, and 2 in Hawaii. Black areas indicate counties reporting 1 or more cases of measles.

*Measles — Continued*

TABLE 2. Counties reporting measles, United States, January 1, 1977-July 4 (26th week), 1981\*

Year	Number of counties†	Percentage of counties
1977	1,438	45.7
1978	984	31.3
1979	851	27.1
1980	715	22.7
1980, first 26 weeks	616	19.6
1981, first 26 weeks	247	7.9

\*1980 and 1981 data are provisional.

†N=3,144.

Notice to Readers**Follow-up on Influenza Vaccine**

The antigen content of influenza virus vaccine for the 1981-82 season was recently increased from 7  $\mu\text{g}$  to 15  $\mu\text{g}$  of hemagglutinin of each of the component strains—A/Brazil/78 (H1N1), A/Bangkok/79 (H3N2), B/Singapore/79—per 0.5-ml dose (1). Most of the data on local and systemic reactions and antibody response accumulated from the extensive clinical studies of 1976 and 1978 showed that an increase in antigenic potency of vaccine to approximately 15  $\mu\text{g}$  of each hemagglutinin (total 45  $\mu\text{g}$ ) was associated with an improved antibody response without an increase in reaction rates. Most of these studies were based on a 0.5-ml dose.

Since publication of the ACIP statement (1), CDC has had numerous inquiries concerning using available vaccine from last season (1980-81) because that vaccine contains hemagglutinin of each of the same strains as the current vaccine. However, there are no data on reactivity or antibody response when the dosage volume is increased to 1 ml, as would be required to administer  $\sim 15 \mu\text{g}$  of hemagglutinin with last season's vaccine. To assure the administration of vaccine of recommended potency, without unpredictable reactions, the Food and Drug Administration and CDC advise the use only of the vaccine prepared for the 1981-82 season; the use of 1 ml of influenza virus vaccine produced in 1980 is not recommended.

(Continued)

The Morbidity and Mortality Weekly Report, circulation 89,000, is published by the Centers for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: 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.

*Influenza Vaccine – Continued*

*Reported by the Bur of Biologics, Food and Drug Administration; and the Surveillance and Assessment Br, Immunization Div, Center for Prevention Svcs, CDC.*

**Reference**

1. Immunization Practices Advisory Committee. Influenza vaccine 1981-82. MMWR 1981;30:279-82, 287-8.

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