CENTER FOR DISEASE CONTROL

MMWR

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Recommendation of the Public Health Service

Advisory Committee on Immunization Practices

Mumps Vaccine

INTRODUCTION

Mumps is primarily a disease of young school-age children; only about 15% of reported cases occur in adolescents and adults. It is generally self-limited, but it may be moderately debilitating. Benign meningeal signs appear in up to 15% of cases, but overt central nervous system (CNS) involvement with sequelae is rare. Nerve deafness is one of the most serious of the rare CNS complications.

Orchitis (usually unilateral) has been reported as a complication in up to 20% of clinical mumps cases in postpubertal males, although sterility is very rare. Symptomatic involvement of other glands and organs has been observed less frequently.

Naturally acquired mumps infection, including the estimated 30% of cases that are subclinical, confers durable immunity.

MUMPS VIRUS VACCINES

An inactivated mumps virus vaccine was developed some years ago, but it did not induce permanent immunity. It is no longer generally available.

Live mumps virus vaccine* is prepared in chick embryo cell culture. Since it was introduced in December 1967, more than 30 million doses have been distributed in the United States. The vaccine produces a subclinical, noncommunicable infection with very few side effects.

Parotitis after vaccination has been reported rarely. Allergic reactions, including rash, pruritus, and purpura, have been temporally associated with mumps vaccination but are uncommon and usually mild and of brief duration. CNS effects such as febrile seizures, unilateral nerve deafness, and encephalitis within 30 days of mumps vaccination have been reported rarely. Almost all patients with such complications have recovered completely, and no deaths have been reported among them. It should be emphasized that the occurrence of reported CNS illness following mumps vaccine does not necessarily connote an etiologic relationship. The frequency of CNS dysfunction following mumps vaccination is lower than the observed background incidence in the normal population.

*Official name: Mumps Virus Vaccine, Live

More than 90% of persons susceptible to mumps develop measurable antibody which, although of considerably lower titer than that following natural infection, is protective and long-lasting. The duration of vaccine-induced immunity is unknown, but observations over nearly 10 years of vaccine use indicate both continuing protection against infection and the presence of antibody.

VACCINE USAGE

General Recommendations

Mumps vaccination programs should not take priority over more essential ongoing community health activities; however, the large-scale production and use of combination live virus vaccines containing the measles, mumps, and rubella antigens have made mumps vaccination a practical component of routine immunization activities.

Dosage: A single dose of vaccine in the volume specified by the manufacturer should be administered subcutaneously. No booster is needed.

Age: Live mumps virus vaccine is recommended for all children at any age after 12 months. It should not be administered to younger infants because persisting maternal antibody may interfere with seroconversion. When given in a combination vaccine that includes measles antigen, it should be administered when a child is about 15 months of age to achieve the maximum rate of measles seroconversion. Mumps vaccine can be of particular value for children approaching puberty and for adolescents and adults, especially males, who have not had mumps. (The mumps skin test is not a reliable indicator of immunity and is no longer commercially available.)

Use of Vaccine Following Exposure

Live mumps vaccine given after exposure may not provide protection. There is, however, no contraindication to its use. If the exposure did not result in infection, the vaccine should induce protection against subsequent infection.

Neither mumps immune globulin nor immune serum globulin (ISG) has been of established value in post-exposure prophylaxis, and neither is recommended.

Precautions and Contraindications

Although specific information is not available concerning adverse effects of mumps vaccine on the developing fetus, it is prudent on theoretical grounds alone to avoid vacccinating pregnant women. Live mumps virus vaccine should not be given to: those with severe febrile illness; persons with congenital immunodeficiency; those with leukemia, lymphoma, or generalized malignancy; or those receiving immunosuppressive therapy.

(See ACIP General Recommendations on Immunization in MMWR 25(44), 1976 for details.)

SURVEILLANCE

There is continuing need to improve the reporting of mumps cases and mumps complications, to document patterns of vaccine use and duration of vaccine effectiveness, and to establish the need for community control programs.

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Epidemiologic Notes and Reports

Follow-up on Salmonellae in Precooked Roasts of Beef

There have now been at least 200 cases of salmonellosis in the United States associated with consumption of precooked roast beef last summer (*1, 2*).

On September 2, a regulation by the U.S. Department of Agriculture (USDA) required that roast beef be cooked to an internal temperature of 145 F (63 C). There have been no reported cases of salmonellosis associated with precooked roast beef produced after the new regulation went into effect. Seven unopened precooked roasts of beef, produced after September 2 by 2 previously implicated manufacturers, were cultured by the New Jersey State Health Department; all were negative for salmonellae.

An investigation is continuing to determine the source(s)

(Continued on page 399)

Table I. Summary—Cases of Specified Notifiable Diseases: United States

[Cumulative totals include revised and delayed reports through previous weeks]

DISEASE	47th WEEK ENDING		MEDIAN 1972–1976	CUMULATIVE, FIRST 47 WEEKS		
	November 26, 1977	November 27, 1976		November 26, 1977	November 27, 1976	MEDIAN 1972–1976
Aseptic meningitis	70	49	78	4,162	2,944	3,764
Brucellosis	10	8	2	203	272	173
Chickenpox	1,882	2,605	---	168,954	163,575	---
Diphtheria	4	1	7	79	136	174
Encephalitis: Primary	19	13	18	971	1,312	1,312
Encephalitis: Post-Infectious	5	–	3	185	246	247
Hepatitis, Viral: Type B	263	250	243	14,556	13,475	8,991
Hepatitis, Viral: Type A	626	566	814	27,612	30,009	37,923
Hepatitis, Viral: Type unspecified	210	111		8,261	7,292	
Malaria	5	5	5	479	422	377
Measles (rubeola)	159	290	274	53,908	36,696	25,532
Meningococcal infections, total	43	22	20	1,589	1,385	1,233
Civilian	43	21	20	1,579	1,366	1,213
Military	–	1	–	10	19	27
Mumps	283	280	1,047	18,352	35,687	53,012
Pertussis	39	13	---	1,610	861	---
Rubella (German measles)	73	100	127	19,414	11,492	15,673
Tetanus	5	1	1	65	60	87
Tuberculosis	460	397	---	27,222	29,472	---
Tularemia	3	3	3	149	128	128
Typhoid fever	–	6	6	343	378	378
Typhus, tick-borne (Rky. Mt. spotted fever)	15	5	5	1,095	866	755
Venereal Diseases:						
Gonorrhea: Civilian	18,460	17,003	---	903,317	911,665	---
Gonorrhea: Military	333	390	---	24,025	26,484	---
Syphilis, primary and secondary: Civilian	349	322	---	18,478	21,669	---
Syphilis, primary and secondary: Military	9	6	---	277	313	---
Rabies in animals	27	31	31	2,747	2,695	2,695

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	–	Poliomyelitis, total:	11
Botulism: NYC 1	95	Paralytic:	10
Congenital rubella syndrome:	14	Psittacosis:	58
Leprosy: Calif. 1	115	Rabies in man:	1
Leptospirosis:	45	Trichinosis: N.J. 1	100
Plague:	15	Typhus, murine: Texas 1	70

Table III

Cases of Specified Notifiable Diseases: United States

Weeks Ending November 26, 1977 and November 27, 1976 – 47th Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod-borne and Unspecified		Post Infectious	Type B	Type A	Type Unspecified		
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	70	10	1,882	4	79	19	13	5	263	626	210	5	479
NEW ENGLAND	1	–	200	–	–	–	1	–	11	9	11	–	25
Maine	–	–	6	–	–	–	–	–	–	–	–	–	1
New Hampshire	–	–	4	–	–	–	–	–	–	1	–	–	3
Vermont	–	–	–	–	–	–	–	–	–	–	–	–	2
Massachusetts*	1	–	167	–	–	–	1	–	1	5	7	–	4
Rhode Island	–	–	4	–	–	–	–	–	–	1	–	–	5
Connecticut	–	–	19	–	–	–	–	–	10	2	4	–	10
MIDDLE ATLANTIC	10	–	142	–	5	2	–	1	22	31	23	3	113
Upstate New York	4	–	40	–	–	–	–	–	–	5	–	–	24
New York City	4	–	25	–	5	–	–	–	13	13	11	1	53
New Jersey *	–	–	NN	–	–	–	–	–	9	13	12	1	17
Pennsylvania*	2	–	77	–	–	2	–	1	NA	NA	NA	1	19
EAST NORTH CENTRAL	11	–	919	–	–	4	1	–	42	104	27	1	36
Ohio	1	–	59	–	–	1	–	–	5	22	–	–	13
Indiana*	4	–	35	–	–	–	–	–	8	9	14	–	2
Illinois	–	–	135	–	–	–	–	–	11	29	5	–	2
Michigan	6	–	414	–	–	2	1	–	12	29	8	1	16
Wisconsin	–	–	276	–	–	1	–	–	6	15	–	–	3
WEST NORTH CENTRAL	3	5	210	–	1	–	–	–	16	58	3	–	35
Minnesota	–	–	–	–	–	–	–	–	2	14	–	–	12
Iowa*	1	5	118	–	–	–	–	–	6	15	1	–	1
Missouri	–	–	–	–	1	–	–	–	3	10	2	–	16
North Dakota	–	–	7	–	–	–	–	–	1	1	–	–	1
South Dakota	1	–	4	–	–	–	–	–	1	5	–	–	1
Nebraska	1	–	6	–	–	–	–	–	2	12	–	–	–
Kansas*	–	–	75	–	–	–	–	–	1	1	–	–	4
SOUTH ATLANTIC	15	3	132	–	–	–	3	2	49	75	23	–	92
Delaware	–	–	4	–	–	–	–	–	–	–	1	–	–
Maryland	2	–	11	–	–	–	–	–	15	6	5	–	22
District of Columbia	–	–	–	–	–	–	–	–	–	1	–	–	6
Virginia*	3	3	7	–	–	–	–	1	6	7	4	–	22
West Virginia	–	–	44	–	–	–	1	–	–	9	–	–	2
North Carolina	4	–	NN	–	–	–	2	–	1	7	5	–	10
South Carolina	–	–	–	–	–	–	–	–	2	2	4	–	–
Georgia	–	–	–	–	–	–	–	–	9	18	–	–	8
Florida	6	–	66	–	–	–	–	1	16	25	4	–	22
EAST SOUTH CENTRAL	7	1	30	–	–	9	4	–	19	54	6	–	11
Kentucky	–	–	18	–	–	1	–	–	10	18	2	–	4
Tennessee	3	1	NN	–	–	–	1	–	4	29	4	–	1
Alabama	2	–	12	–	–	1	3	–	4	1	–	–	5
Mississippi	2	–	–	–	–	7	–	–	1	6	–	–	1
WEST SOUTH CENTRAL	8	–	60	–	3	–	2	2	15	76	42	–	27
Arkansas	–	–	4	–	–	–	1	–	1	14	16	–	2
Louisiana	1	–	NN	–	–	–	1	–	1	5	2	–	2
Oklahoma	3	–	10	–	–	–	–	2	3	8	4	–	–
Texas	4	–	46	–	3	–	–	–	10	49	20	–	23
MOUNTAIN	1	–	135	–	5	–	–	–	14	64	29	–	14
Montana	–	–	14	–	–	–	–	–	1	3	–	–	2
Idaho*	–	–	70	–	–	–	–	–	2	4	–	–	–
Wyoming	–	–	–	–	–	–	–	–	–	1	1	–	2
Colorado	1	–	40	–	–	–	–	–	6	6	10	–	7
New Mexico	–	–	–	–	4	–	–	–	–	5	–	–	1
Arizona	–	–	NN	–	1	–	–	–	3	25	11	–	2
Utah	–	–	11	–	–	–	–	–	2	20	7	–	–
Nevada*	–	–	–	–	–	–	–	–	–	–	–	–	–
PACIFIC	14	1	54	4	65	4	2	–	75	155	46	1	126
Washington	1	–	33	4	59	–	–	–	6	17	3	–	5
Oregon	–	–	–	–	–	–	–	–	5	13	2	–	2
California*	11	1	–	–	4	2	2	–	64	120	41	1	113
Alaska	1	–	20	–	2	2	–	–	–	5	–	–	2
Hawaii	1	–	1	–	–	–	–	–	–	–	–	–	4
Guam*	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Puerto Rico	–	–	9	–	–	–	–	–	1	4	4	–	2
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable
NA: Not available
*Delayed reports: Asep. Meng.: N.J. +1, Ind. +16, Iowa +7, Kans. –1, Idaho +1, Guam +1,; Bruc.: Iowa –1; Chickenpox: Iowa +2, Calif. +17, Guam +2; Enceph.: Ind. +1; Hep. B: N.J. –4, Pa. +21, Va. +1, Nev. +1; Hep. A: N.J. –4, Pa. +22, Nev. +1; Hep. unsp.: Mass. –1, N.J. –3, Pa. +5, Va. –2.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending November 26, 1977 and November 27, 1976 – 47th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE		1977	CUMULATIVE		1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
		1977	1976		1977	1976						
UNITED STATES	159	53,908	36,696	43	1,589	1,385	283	18,352	39	73	19,414	65
NEW ENGLAND	5	2,497	492	3	68	69	2	732	–	1	1,229	1
Maine	–	173	9	–	3	1	–	78	–	–	70	–
New Hampshire*	–	511	9	–	3	6	–	92	–	–	247	–
Vermont	–	294	138	–	6	6	–	8	–	–	65	–
Massachusetts*	5	644	37	2	22	21	–	130	–	1	390	–
Rhode Island	–	64	15	–	2	7	–	65	–	–	135	–
Connecticut	–	811	284	1	32	28	2	359	–	–	322	1
MIDDLE ATLANTIC	47	8,480	7,142	6	229	206	12	1,404	9	6	6,088	6
Upstate New York	4	3,857	2,956	2	55	79	6	327	6	4	3,381	2
New York City	43	796	481	2	57	53	3	516	–	1	332	1
New Jersey	–	197	620	1	50	31	1	366	–	–	1,785	2
Pennsylvania*	–	3,630	3,085	1	67	43	2	195	3	1	590	1
EAST NORTH CENTRAL	49	11,648	15,673	3	170	172	119	6,202	5	41	4,013	7
Ohio	–	1,861	579	1	65	68	8	747	–	5	1,141	3
Indiana	4	4,362	3,644	1	15	12	3	353	–	1	971	1
Illinois	7	1,848	1,729	1	26	20	31	1,161	–	2	342	1
Michigan	30	1,111	5,982	–	48	61	49	2,119	3	11	1,029	2
Wisconsin	8	2,466	3,739	–	16	11	28	1,822	2	22	530	–
WEST NORTH CENTRAL	1	9,396	1,472	1	77	93	36	4,244	5	2	621	10
Minnesota	–	2,634	426	–	25	14	2	18	–	–	17	2
Iowa*	–	4,315	45	1	8	10	6	1,328	–	–	176	1
Missouri*	–	917	174	–	32	43	15	1,554	5	1	44	4
North Dakota*	1	27	3	–	1	3	–	20	–	1	18	–
South Dakota	–	75	4	–	4	3	–	59	–	–	89	–
Nebraska*	–	214	55	–	2	6	1	84	–	–	3	–
Kansas	–	1,214	765	–	5	14	12	1,181	–	–	274	3
SOUTH ATLANTIC	9	4,686	2,208	11	347	270	13	913	–	3	1,705	12
Delaware	–	22	130	–	7	9	4	147	–	2	29	–
Maryland	–	372	715	1	23	22	–	77	–	–	6	–
District of Columbia	–	14	13	–	1	3	–	6	–	–	–	–
Virginia	2	2,748	780	1	35	40	–	112	–	–	582	1
West Virginia	–	262	204	–	9	8	1	206	–	–	160	–
North Carolina	–	65	17	1	75	52	3	66	–	–	447	–
South Carolina	1	157	4	–	36	36	1	17	–	–	230	–
Georgia	–	768	4	–	52	29	–	33	–	–	57	1
Florida	6	278	341	8	109	71	4	249	–	1	194	10
EAST SOUTH CENTRAL	2	2,018	911	4	163	129	21	1,020	–	10	1,959	6
Kentucky	–	1,191	754	–	32	23	1	117	–	5	91	1
Tennessee	2	711	140	–	42	56	8	602	–	5	1,749	3
Alabama*	–	78	–	2	55	36	10	258	–	–	110	2
Mississippi	–	38	17	2	34	14	2	43	–	–	9	–
WEST SOUTH CENTRAL	23	2,182	844	6	298	202	26	1,652	1	2	826	13
Arkansas	4	33	18	–	18	15	7	133	1	–	3	2
Louisiana	–	80	281	–	134	36	4	60	–	–	27	3
Oklahoma	–	66	301	1	15	21	3	552	–	–	33	–
Texas*	19	2,003	244	5	131	130	12	907	–	2	763	8
MOUNTAIN	2	2,544	5,221	–	36	40	12	635	3	–	386	2
Montana	–	1,163	287	–	5	6	–	12	–	–	17	1
Idaho	–	163	2,020	–	5	6	1	129	–	–	13	–
Wyoming	–	19	4	–	1	–	–	4	–	–	6	1
Colorado	–	504	363	–	1	6	3	277	1	–	241	–
New Mexico	–	256	16	–	10	4	–	106	2	–	11	–
Arizona*	–	323	228	–	10	10	–	–	–	–	18	–
Utah	2	23	2,237	–	3	6	8	91	–	–	71	–
Nevada	–	93	66	–	1	2	–	16	–	–	9	–
PACIFIC	21	10,457	2,733	9	201	204	42	1,550	16	8	2,587	8
Washington	–	558	355	3	30	34	5	315	–	1	452	–
Oregon	–	367	175	–	17	17	13	293	12	2	120	–
California	21	9,437	2,189	6	119	128	22	875	4	5	1,600	8
Alaska	–	60	11	–	32	22	1	31	–	–	1	–
Hawaii	–	35	3	–	3	3	1	36	–	–	414	–
Guam	NA	9	16	–	1	–	NA	7	NA	NA	11	–
Puerto Rico	24	1,026	470	–	1	5	30	878	–	–	35	11
Virgin Islands	–	14	17	–	–	1	6	195	–	–	2	–

NA: Not available
*Delayed reports: Measles: N.H. +1, Pa. –1, N. Dak. +4, Texas +1; Men. inf.: Iowa +2, Mo. +1; Mumps: Iowa +2, Nebr. –1, Ala. +84; Pertussis: Iowa +4; Rubella: Mass. –1, Iowa +1, Ariz. +1.

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending November 26, 1977 and November 27, 1976 – 47th Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	CUMULATIVE 1977	CUMULATIVE 1976	1977	CUMULATIVE 1977	CUMULATIVE 1976	CUM. 1977
UNITED STATES	460	27,222	149	–	343	15	1,095	18,460	903,317	911,665	349	18,478	21,669	2,747
NEW ENGLAND	11	1,005	2	–	18	–	11	474	24,363	25,695	23	741	736	47
Maine	–	76	–	–	–	–	–	40	1,837	2,185	1	28	21	32
New Hampshire	–	25	–	–	–	–	–	16	1,016	791	–	4	10	1
Vermont	–	33	–	–	–	–	–	6	606	648	–	7	9	–
Massachusetts	8	566	2	–	13	–	5	199	10,327	12,146	19	516	525	8
Rhode Island	–	84	–	–	3	–	3	17	1,902	1,853	–	8	18	–
Connecticut*	3	221	–	–	2	–	3	196	8,675	8,072	3	178	153	6
MIDDLE ATLANTIC	67	4,382	3	–	68	6	83	2,583	94,821	104,253	47	2,629	3,623	103
Upstate New York	–	754	3	–	8	–	41	371	16,362	17,249	–	245	217	59
New York City	28	1,384	–	–	27	–	2	1,044	36,778	45,519	27	1,650	2,303	–
New Jersey	28	1,109	–	–	22	–	11	694	16,930	16,178	10	347	512	28
Pennsylvania	11	1,135	–	–	11	6	29	474	24,751	25,307	10	387	591	16
EAST NORTH CENTRAL	80	4,217	3	–	32	2	39	2,795	143,510	144,071	57	1,895	1,890	135
Ohio*	13	726	1	–	10	2	19	447	37,909	35,993	5	435	457	–
Indiana	6	484	–	–	3	–	2	267	13,431	14,069	2	143	97	9
Illinois	39	1,645	–	–	6	–	16	1,073	46,460	49,763	45	988	998	41
Michigan	20	1,171	–	–	12	–	2	784	33,208	31,478	2	227	235	6
Wisconsin	2	191	2	–	1	–	–	224	12,502	12,768	3	102	103	79
WEST NORTH CENTRAL	23	916	28	–	22	–	33	620	46,925	47,971	2	401	422	693
Minnesota	–	184	–	–	5	–	–	12	8,327	8,399	–	129	95	248
Iowa*	–	83	–	–	–	–	1	42	5,463	6,006	–	40	41	117
Missouri	17	403	25	–	12	–	18	406	19,600	19,127	2	159	166	52
North Dakota	–	27	–	–	1	–	–	18	881	750	–	–	–	110
South Dakota	2	47	2	–	–	–	2	22	1,423	1,418	–	9	5	120
Nebraska*	–	35	1	–	1	–	1	102	4,038	4,026	–	24	37	3
Kansas	4	137	–	–	3	–	11	18	7,193	8,245	–	40	78	43
SOUTH ATLANTIC	79	5,908	11	–	51	3	577	4,279	221,799	222,207	67	4,992	6,495	330
Delaware	–	53	–	–	–	–	3	20	3,023	3,105	–	19	61	2
Maryland*	12	843	2	–	4	–	75	785	27,570	28,860	–	300	512	–
District of Columbia	5	306	–	–	1	–	–	193	14,547	15,130	11	505	508	–
Virginia*	6	673	2	–	9	1	154	326	23,102	23,659	1	488	618	5
West Virginia	1	214	–	–	5	–	5	95	3,062	2,851	1	4	22	9
North Carolina*	13	972	2	–	4	2	221	667	33,545	32,221	4	663	1,167	13
South Carolina	7	543	2	–	4	–	53	413	21,016	20,929	4	224	343	35
Georgia	8	794	3	–	5	–	65	516	42,491	42,150	20	1,121	986	194
Florida	27	1,510	–	–	19	–	1	1,264	53,443	53,302	26	1,668	2,278	72
EAST SOUTH CENTRAL	47	2,555	9	–	10	4	175	1,270	79,343	80,121	6	718	821	77
Kentucky	11	665	3	–	5	–	43	142	10,842	10,640	1	102	116	29
Tennessee	29	817	5	–	2	4	104	648	31,461	32,045	1	229	273	37
Alabama	7	623	1	–	1	–	19	349	21,718	22,257	2	152	171	11
Mississippi	–	450	–	–	2	–	9	131	15,322	15,179	2	235	261	–
WEST SOUTH CENTRAL	45	3,194	72	–	30	–	158	2,325	114,221	114,463	44	2,662	2,592	727
Arkansas	7	341	49	–	7	–	53	72	8,661	10,809	–	62	93	108
Louisiana*	4	566	1	–	1	–	6	520	17,292	16,455	–	618	531	22
Oklahoma*	1	269	12	–	2	–	71	168	11,041	11,155	–	72	90	227
Texas	33	2,018	10	–	20	–	28	1,565	77,227	76,044	44	1,910	1,878	370
MOUNTAIN	12	756	15	–	27	–	14	744	36,590	37,291	14	424	542	179
Montana	–	48	1	–	–	–	6	49	1,938	1,865	–	5	11	45
Idaho	–	29	–	–	–	–	5	15	1,658	2,029	–	12	22	–
Wyoming*	1	19	1	–	–	–	2	41	876	756	–	5	5	1
Colorado	–	104	3	–	8	–	1	251	9,580	9,366	4	114	129	57
New Mexico*	–	143	1	–	–	–	–	119	5,399	6,674	6	117	131	20
Arizona*	3	318	3	–	13	–	–	150	10,042	11,058	3	145	192	45
Utah	8	42	6	–	5	–	–	45	2,205	2,037	–	10	20	11
Nevada	–	53	–	–	1	–	–	74	4,892	3,506	1	16	32	–
PACIFIC	96	4,289	6	–	85	–	5	3,370	141,745	135,593	89	4,016	4,548	456
Washington	NA	272	–	–	2	–	–	194	11,068	11,431	NA	216	154	2
Oregon	2	164	1	–	3	–	1	149	9,660	10,101	3	130	96	7
California	85	3,245	5	–	78	–	4	2,864	113,633	107,674	85	3,609	4,193	410
Alaska	–	76	–	–	–	–	–	115	4,462	3,918	–	25	25	37
Hawaii	9	532	–	–	2	–	–	48	2,922	2,469	1	36	80	–
Guam*	NA	50	–	NA	1	NA	–	NA	192	309	NA	2	2	–
Puerto Rico	5	357	–	–	7	–	–	61	2,872	2,453	7	491	557	49
Virgin Islands	–	2	–	–	–	–	–	8	198	214	–	9	51	–

NA: Not available

*Delayed replors: TB: Ohio –1, Md. –2, N. Car. –2, Guam +3; Typhoid fever: Va. +1; RMSF: Okla. +1; GC: Nebr. –2, La. –2, N. Mex. +6; Syphilis: Iowa –1, La. –6, Wyo. –2; An rabies: Conn. +1, Iowa +2, Ariz. +2

Table IV
Deaths in 121 United States Cities*
Week Ending November 26, 1977 — 47th Week

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	ALL AGES
NEW ENGLAND	614	406	139	36	11	28
Boston, Mass.	180	111	42	11	6	7
Bridgeport, Conn.	40	25	8	5	1	1
Cambridge, Mass.	23	17	4	2	–	1
Fall River, Mass.	24	18	6	–	–	–
Hartford, Conn.	50	33	10	5	1	1
Lowell, Mass.	34	20	8	3	–	3
Lynn, Mass.	13	10	2	1	–	–
New Bedford, Mass.	17	14	3	–	–	1
New Haven, Conn.	43	24	11	4	1	1
Providence, R.I.	59	38	16	1	2	6
Somerville, Mass.	7	5	1	1	–	–
Springfield, Mass.	38	29	9	–	–	5
Waterbury, Conn.	32	24	6	1	–	2
Worcester, Mass.	54	38	13	2	–	–
MIDDLE ATLANTIC	2,406	1,551	590	137	66	113
Albany, N. Y.	30	18	8	2	2	1
Allentown, Pa.	16	10	4	–	–	2
Buffalo, N. Y.	67	38	20	5	3	5
Camden, N. J.	31	21	10	–	–	1
Elizabeth, N. J.	28	23	4	–	–	1
Erie, Pa.	36	22	12	1	1	3
Jersey City, N. J.	56	36	14	4	–	2
Newark, N. J.	41	20	9	9	2	–
New York City, N. Y.	1,261	812	295	85	34	44
Paterson, N. J.	29	18	6	2	1	2
Philadelphia, Pa.	294	181	82	14	11	10
Pittsburgh, Pa.	131	76	45	3	2	15
Reading, Pa.	39	27	8	2	–	4
Rochester, N. Y.	99	68	22	3	3	10
Schenectady, N. Y.	24	16	6	1	1	1
Scranton, Pa.	74	61	11	1	1	2
Syracuse, N. Y.	68	39	19	4	4	3
Trenton, N. J.	34	28	5	–	1	3
Utica, N. Y.	14	13	–	1	–	2
Yonkers, N. Y.	34	24	10	–	–	2
EAST NORTH CENTRAL	1,895	1,093	513	144	82	63
Akron, Ohio	47	28	16	2	1	–
Canton, Ohio	29	21	6	1	–	4
Chicago, Ill.	503	250	153	39	38	9
Cincinnati, Ohio	147	91	34	10	7	1
Cleveland, Ohio	160	99	38	11	6	2
Columbus, Ohio	85	48	22	10	2	2
Dayton, Ohio	65	41	15	5	2	1
Detroit, Mich.	283	158	81	25	10	5
Evansville, Ind.	34	21	9	2	2	3
Fort Wayne, Ind.	21	15	4	2	–	3
Gary, Ind.	13	4	5	2	2	1
Grand Rapids, Mich.	40	28	9	1	1	5
Indianapolis, Ind.	112	63	31	7	5	2
Madison, Wis.	43	30	7	2	2	7
Milwaukee, Wis.	84	63	17	4	–	3
Peoria, Ill.	23	15	6	1	1	12
Rockford, Ill.	29	20	6	2	–	1
South Bend, Ind.	35	18	14	1	2	2
Toledo, Ohio	87	53	23	11	–	–
Youngstown, Ohio	55	27	17	6	1	–
WEST NORTH CENTRAL	565	379	121	26	24	17
Des Moines, Iowa	66	45	20	–	–	1
Duluth, Minn.	22	14	6	–	1	1
Kansas City, Kans.	27	15	5	4	–	2
Kansas City, Mo.	82	58	18	3	3	1
Lincoln, Nebr.	23	19	3	–	–	–
Minneapolis, Minn.	64	42	12	7	2	3
Omaha, Nebr.	52	33	14	2	1	–
St. Louis, Mo.	150	96	30	9	11	5
St. Paul, Minn.	47	37	9	–	1	1
Wichita, Kans.	32	20	4	1	5	3

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza
	ALL AGES	65 Years and Over	45–64 Years	25–44 Years	Under 1 Year	ALL AGES
SOUTH ATLANTIC	927	545	258	66	32	29
Atlanta, Ga.	118	67	28	14	5	5
Baltimore, Md.	277	169	77	18	7	5
Charlotte, N. C.	40	23	12	2	1	1
Jacksonville, Fla.	45	28	11	2	–	1
Miami, Fla.	89	46	33	6	3	–
Norfolk, Va.	41	21	7	4	8	2
Richmond, Va.	79	42	28	7	1	5
Savannah, Ga.	19	9	8	1	–	1
St. Petersburg, Fla.	61	54	3	3	–	3
Tampa, Fla.	39	24	10	1	3	3
Washington, D. C.	79	41	27	5	4	1
Wilmington, Del.	40	21	14	3	–	2
EAST SOUTH CENTRAL	451	263	119	36	14	19
Birmingham, Ala.	85	50	24	4	3	–
Chattanooga, Tenn.	40	26	10	3	1	1
Knoxville, Tenn.	42	29	8	–	2	–
Louisville, Ky.	69	33	22	7	5	10
Memphis, Tenn.	70	40	23	5	–	1
Mobile, Ala.	44	26	9	8	–	1
Montgomery, Ala.	25	17	4	3	1	2
Nashville, Tenn.	76	42	19	6	2	4
WEST SOUTH CENTRAL	765	434	187	75	28	24
Austin, Tex.	17	9	4	2	–	1
Baton Rouge, La.	34	18	12	2	2	2
Corpus Christi, Tex.	23	14	6	1	1	–
Dallas, Tex.	157	84	37	22	2	3
El Paso, Tex.	28	17	6	3	1	3
Fort Worth, Tex.	67	38	17	4	3	2
Houston, Tex.	144	70	40	15	9	4
Little Rock, Ark.	40	30	9	1	–	2
New Orleans, La.	83	48	20	8	4	–
San Antonio, Tex.	78	51	20	4	2	3
Shreveport, La.	29	17	4	5	1	2
Tulsa, Okla.	65	38	12	8	3	2
MOUNTAIN	468	287	113	39	18	15
Albuquerque, N. Mex.	66	35	19	7	1	5
Colorado Springs, Colo.	29	21	5	–	1	2
Denver, Colo.	101	66	23	9	3	6
Las Vegas, Nev.	37	24	9	2	1	–
Ogden, Utah	18	10	6	1	1	–
Phoenix, Ariz.	117	62	31	16	5	1
Pueblo, Colo.	11	7	2	–	2	1
Salt Lake City, Utah	42	29	10	1	2	–
Tucson, Ariz.	47	33	8	3	2	–
PACIFIC	1,433	914	349	83	39	29
Berkeley, Calif.	17	14	2	–	1	–
Fresno, Calif.	31	22	6	1	1	1
Glendale, Calif.	16	13	3	–	–	1
Honolulu, Hawaii	43	23	7	8	1	–
Long Beach, Calif.	120	69	41	8	1	4
Los Angeles, Calif.	381	245	91	23	8	10
Oakland, Calif.	53	36	9	4	3	2
Pasadena, Calif.	22	16	3	2	1	–
Portland, Oreg.	123	81	29	6	1	–
Sacramento, Calif.	61	42	11	4	3	–
San Diego, Calif.	127	71	38	3	7	2
San Francisco, Calif.	148	90	40	11	5	2
San Jose, Calif.	69	47	11	4	3	1
Seattle, Wash.	138	86	43	2	3	2
Spokane, Wash.	40	29	8	2	1	2
Tacoma, Wash.	44	30	7	5	–	2
TOTAL	9,524	5,872	2,389	642	314	337
Expected Number	11,567	7,088	2,975	729	380	396

*By place of occurrence and week of filing certificate. Excludes fetal deaths.

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

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Salmonellae – continued

of the contaminated beef and to determine possible mechanisms of contamination of the product during processing, cooking, or shipment.

Reported by JN Lewis, MD, State Epidemiologist, Connecticut State Dept of Health; R Altman, MD, State Epidemiologist, New Jersey State Dept of Health; DO Lyman, MD, State Epidemiologist, New York State Dept of Health; WE Parkin, DVM, Pennsylvania State Dept of Health; the U.S. Dept of Agriculture; Food and Drug Admin; and Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Contamination of precooked roast beef with *Salmonella* organisms is another example of a food of animal origin being responsible for epidemic salmonellosis. The common denominator in the perpetuation of salmonellosis is the presence of *Salmonella* organisms in the food chain. The USDA, the Food and Drug Administration, and CDC are currently investigating methods to prevent the introduction of salmonellae into the food production and distribution systems.

References

1. MMWR 26:277-278, 1977
2. MMWR 26:310, 1977

Current Trends

Primary and Secondary Syphilis – United States, September 1977

Reported cases of primary and secondary syphilis numbered 1,754 in September 1977, down 12.6% from the 2,007 cases reported in September 1976 (Table 1). This represents the 18th consecutive month in which a decline in cases has been reported. In the first 9 months of 1977 (January-September), 15,279 cases were reported, representing a decline of 14.9% from the 17,955 such cases reported in the corresponding time period of 1976. Twenty areas reported more cases during the first 9 months of 1977 compared to the same time period of 1976.

Reported early latent (less than 1-year duration) syphilis cases declined 5.1% in September 1977 versus September 1976. During the first 9 months of 1977 some 12,377 early latent cases were reported, representing a decline of 14.2% from the 14,430 such cases reported during the comparable 9-month period of 1976.

Reported by the Venereal Disease Control Div, Bur of State Services, CDC.

TABLE 1. Summary of reported primary and secondary syphilis cases by reporting area: Sept. 1977 and Sept. 1976 – provisional data

Reporting Area by HEW Regions	Sept.		Calendar Year Cumulative January–Sept.	
	1977	1976	1977	1976
Connecticut	18	21	138	128
Maine	3	3	19	19
Massachusetts	44	51	437	408
New Hampshire	0	1	4	8
Rhode Island	1	1	9	17
Vermont	0	1	5	9
REGION I TOTAL	66	78	612	589
New Jersey	23	45	262	427
New York (Excl. NYC)	28	19	211	182
New York City	142	219	1,319	1,852
REGION II TOTAL	193	283	1,792	2,461
Delaware	1	3	16	51
District of Columbia	38	42	427	436
Maryland (Excl. Baltimore)	14	21	118	153
Baltimore	24	14	214	288
Pennsylvania (Excl. Phila.)	16	15	122	185
Philadelphia	22	25	188	312
Virginia	50	54	423	508
West Virginia	0	1	3	20
REGION III TOTAL	165	175	1,511	1,953
Alabama	23	13	119	144
Florida	135	163	1,400	1,880
Georgia (Excl. Atlanta)	94	73	626	455
Atlanta*	36	42	331	364
Kentucky	14	11	76	101
Mississippi	24	32	198	217
North Carolina	63	94	639	966
South Carolina	26	28	199	298
Tennessee	26	14	175	232
REGION IV TOTAL	441	470	3,763	4,657
Illinois (Excl. Chicago)	12	13	121	111
Chicago	106	85	747	704
Indiana (Excl. Indianapolis)	5	9	78	65
Indianapolis*	13	4	48	29
Michigan	17	18	199	180
Minnesota	17	9	110	76
Ohio	44	53	378	376
Wisconsin	10	7	85	78
REGION V TOTAL	224	198	1,766	1,619
Arkansas	6	10	52	70
Louisiana	69	55	534	445
New Mexico	6	11	71	122
Oklahoma	8	7	62	79
Texas	180	227	1,526	1,525
REGION VI TOTAL	269	310	2,245	2,241
Iowa	4	2	29	33
Kansas	7	6	49	60
Missouri	15	14	126	133
Nebraska	0	3	25	29
REGION VII TOTAL	26	25	229	255
Colorado	11	12	98	105
Montana	0	0	4	8
North Dakota	0	0	3	2
South Dakota	6	0	10	4
Utah	3	1	8	21
Wyoming	0	0	2	4
REGION VIII TOTAL	20	13	125	144
Arizona	7	14	118	168
California (Excl. LA & SF)	110	151	1,100	1,532
Los Angeles*	98	158	1,006	1,384
San Francisco*	75	80	646	600
Hawaii	3	5	26	70
Nevada	1	2	14	32
REGION IX TOTAL	294	410	2,910	3,786
Alaska	5	6	25	22
Idaho	0	3	6	20
Oregon	24	15	108	86
Washington	27	21	187	122
REGION X TOTAL	56	45	326	250
UNITED STATES TOTAL	1,754	2,007	15,278	17,955
Puerto Rico	53	43	466	459
Virgin Islands	1	2	11	30
United States, Including Outlying Areas	1,808	2,052	15,756	18,444

*County Data

Note: Cumulative totals include revised and delayed reports through previous months.

Source: CDC 9.98, HEW-CDC-BSS-VD Control Division, Atlanta, Georgia

International Notes

Dengue Fever – Bahamas

Dengue fever appeared in the Bahamas the second week of August but did not reach epidemic proportions until the week of October 22. For the week ending November 5, 233 cases with symptoms suggesting dengue were reported. The symptoms were those of classical dengue; however, 20% of patients had some respiratory complaints, and 5% showed minor forms of bleeding manifestations.

Serologic confirmation of dengue infection has been

reported by the University of the West Indies Virus Laboratory in Jamaica. Virus isolations for serotyping are being made. *Aedes aegypti* indices have been reported to be between 58-77% in the Nassau area. An aerial spray program using malathion began on November 18 and was followed by a major campaign to eliminate breeding sites.

Reported by Dr LJ Charles, Chief Medical Officer, Dr C Davis, Ministry of Health, Nassau, Bahamas; University of the West Indies Virus Laboratory, Jamaica; Walter Reed Institute of Research; Caribbean Epidemiology Centre, Pan American Health Organization; and Enteric and Neurotropic Pathogens Br, Viral Diseases Div, Bur of Epidemiology, CDC, as reported by the Pan American Health Organization in the Weekly Epidemiological Report 49:274, 1977.

Editorial Note: This is the first reported outbreak of dengue fever in the Bahamas in the past 80 years. Increased travel among the Caribbean Islands and the presence in the Bahamas of *Aedes aegypti* in sufficient numbers to propagate a dengue outbreak probably contributed to the current epidemic.

Current Trends

Influenza — Hawaii, New Jersey, New York, Wisconsin

Influenza A viruses (H3N2) have been isolated recently from sporadic cases of illness in Hawaii, New Jersey, New York, and Wisconsin.

The isolate from Hawaii, which has been characterized as A/Texas/1/77-like, was from a 10-year-old girl in Oahu. The onset of her illness was November 3. In New Jersey a traveler returned from Puerto Rico and developed influenza-like illness on November 11. His 11- and 12-year-old sons developed symptoms on November 15 that included fever (to 103.4 F), chills, cough, and sore throat. Subsequently, their mother and 7-year-old sister developed febrile upper respiratory symptoms on November 17. Influenza A virus has been isolated from the 2 sons and their father. Strain characterization is in progress.

Influenza A virus was recovered from a throat swab of a 70-year-old New York City resident who had onset of an influenza-like illness November 18 and developed right lower-lobe pneumonia 7 days later. Strain identification is underway. In Milwaukee, Wisconsin, 2 influenza A viruses, 1 resembling A/Texas/1/77, have been isolated from students at Marquette University. Illness onsets were on approximately November 21. Although respiratory illness has been evident among the student population in recent weeks, several rhinoviruses also have been isolated prior to and concomitant with these influenza isolates.

Reported by G Kobayashi, AI Oda, NH Wiebenga, MD, State Epidemiologist, Hawaii State Dept of Health; R Altman, MD, State Epidemiologist, JJ Nelson, New Jersey Dept of Health; I Spigland, MD, Montefiore Hospital and Medical Center, New York City; JS Marr, MD, Director, Bur of Preventable Diseases, New York City; WHO Collaborating Center for Influenza, Respiratory Virology Br, Virology Div, Bur of Laboratories, Surveillance and Assessment Br, Immunization Div, Bur of State Services, CDC.

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