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MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

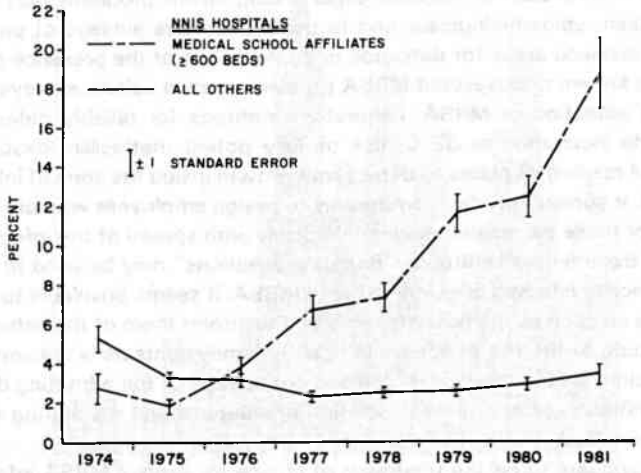
Methicillin-Resistant *Staphylococcus aureus* — United States

Over the past 5 years, there have been an increasing number of reports of infections with methicillin-resistant *Staphylococcus aureus* (MRSA) in U.S. hospitals (*1*). Review of the literature indicated that all reported MRSA problems in the United States have occurred in large, medical school-affiliated hospitals. This finding raised the question of whether MRSA infections are mainly confined to this group of hospitals, or whether the association is due to a reporting bias. To study this question, rates were examined of MRSA occurrence among 63 hospitals that have been voluntarily reporting nosocomial infections and antimicrobial-susceptibility patterns to the National Nosocomial Infections Study (NNIS) regularly since 1974.

Defining an MRSA problem as methicillin resistance associated with more than 10% of the *S. aureus* infections in one hospital in a given year, all MRSA problems in NNIS hospitals were found to occur in medical school-affiliated hospitals with more than 600 beds. From 1974 to 1981, the percentage of all *S. aureus* infections due to MRSA rose steadily in that group of large tertiary referral hospitals, whereas it remained below 4% for hospitals in all other categories (Figure 1).

Reported by Hospital Infections Program, Center for Infectious Diseases, CDC.

FIGURE 1. Percentage of *Staphylococcus aureus* infections resistant to methicillin, NNIS hospitals, United States, 1974-1981*



*Data for 1974 and 1981 for 6 months only.

Staphylococcus aureus — Continued

Editorial Note: This finding from NNIS appears to confirm the impression conveyed in the scientific literature that serious problems with MRSA in the United States occur primarily in very large, medical school-affiliated, tertiary referral hospitals and suggests that the problem is of increasing importance in these hospitals. Smaller hospitals appear to encounter only occasional MRSA strains that do not tend to spread substantially among their patients. Although the predominance of large hospitals among the published reports could have been due to the greater publishing propensity of physicians in large medical school-affiliated hospitals, the findings in NNIS appear not to be biased in this way since half of the NNIS hospitals have fewer than 400 beds and two-thirds are not affiliated with a medical school.

Published reports of MRSA infections suggest that transfer of patients or house staff from 1 medical school-affiliated hospital to another or occasionally between hospitals and nursing homes is a major means of geographic spread for MRSA (*2-5*). This traffic among the larger medical centers, particularly involving their burn and trauma units, provides a potential source of periodic reintroduction of these organisms, which may then spread among the large groups of high-risk patients in these institutions. Although colonized or clinically infected patients are probably transferred sometimes from large medical centers to smaller hospitals, the review of the literature and the analysis of NNIS data suggest that transmission of MRSA does not occur as frequently in these smaller hospitals.

To reduce the interhospital spread of MRSA, it may be prudent to avoid transferring patients known to be clinically infected or colonized to other hospitals when possible. If, however, transfer becomes necessary, infection-control personnel at the receiving hospital can be notified so that appropriate precautions to prevent the spread of MRSA will be taken upon the patient's arrival. Although optimal isolation precautions remain to be defined, "barrier precautions" (*6*) may be adequate in the absence of a condition requiring another specific type of isolation. Transfer of MRSA-infected patients to and from nursing homes represents a special problem since it is often impractical to delay their admission or discharge indefinitely because of colonization or clinical infection. Further study of the frequency and modes of transmission of the organism in nursing-home settings is needed to determine whether isolation precautions or efforts to eradicate the organism are effective in reducing morbidity and spread between hospitals and within nursing homes.

The infection-control staff in hospitals experiencing MRSA problems may find it useful to define their problem epidemiologically and to perform culture surveys of patients and staff members in the involved areas for detection or confirmation of the presence of a reservoir. In the absence of a known or suspected MRSA problem, routine culture surveys are not recommended for the detection of MRSA. Laboratory methods for reliably detecting methicillin resistance include incubation at 35 C, use of fully potent methicillin, oxacillin, or nafcillin discs, and careful reading of plates to detect light growth inside the zone of inhibition (heteroresistant strains). It appears prudent temporarily to assign employees who are culture-positive with dermatitis or those associated epidemiologically with spread of the infection to nonclinical duties while treatment is instituted. "Barrier precautions" may be used to isolate patients known to be clinically infected or colonized with MRSA. It seems advisable to discharge such patients to home as soon as medically feasible and to inform them of the nature of their infection. The magnitude of the risk of spread to healthy family contacts is unknown but is probably small. A notation on the medical record and notification of the admitting department may permit prompt initiation of appropriate isolation precautions and reculturing without delay if the person is readmitted.

Vancomycin appears to be the treatment of choice for serious MRSA infection. The CDC

Staphylococcus aureus — Continued

Antimicrobics Reference Laboratory has not found any MRSA strains resistant to vancomycin. Although MRSA isolates often appear to be sensitive to cephalosporins by routine disc sensitivity procedures, these antibiotics are usually ineffective against MRSA infection (*7,8*).

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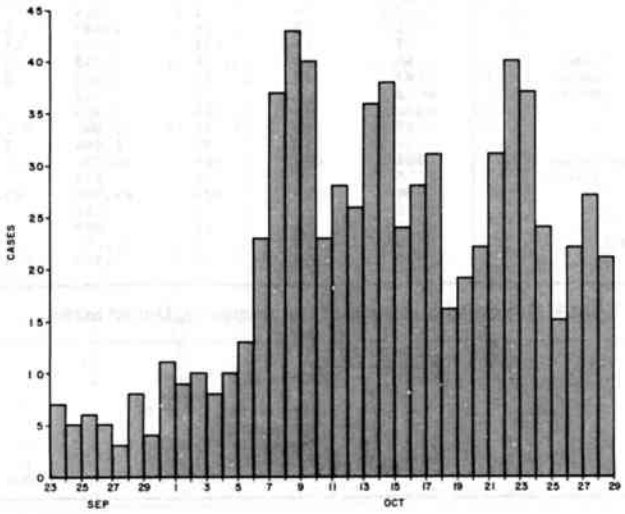
International Notes

Aseptic Meningitis — Panama

A major outbreak of aseptic meningitis associated with echovirus type 4 began in mid-September in Panama City, Panama. Between September 23 and October 28, 1981, 749 persons were hospitalized, mainly in the metropolitan capital city (Figure 2). Although most pa-

FIGURE 2. Aseptic meningitis cases, by date of hospitalization, Panama City, Panama, September 23-October 29, 1981



Aseptic Meningitis — Continued

tients have been residents of lower socioeconomic areas, cases occurred throughout the entire city. No obvious source for the epidemic has been identified.

Isolates were obtained from 37 (14.2%) of 261 specimens tested (Table 1). Four isolates were confirmed at CDC as echovirus type 4 by neutralization tests (1 from cerebrospinal fluid and 3 from throat swabs.)

Hospital records from 586 patients were analyzed in detail. Except for one 57-year old, all patients were less than 16 years old (Figure 3). More males than females (61% vs. 39%) had aseptic meningitis. The disease was mild and self limiting, with an average hospital stay of 4.6 days. No deaths or other sequelae have been documented. The most common symptoms were: fever (93%), headache (84%), vomiting (84%), and stiff neck (54%). Laboratory findings revealed pleocytosis; bacterial cultures of cerebrospinal fluid were negative.

This outbreak was concurrent with an outbreak of acute hemorrhagic conjunctivitis (AHC), but only 32 (8%) of 386 patients queried reported contact with AHC cases (*1*). No abnormal levels of school absenteeism were documented; only 8 (3%) of 278 patients investigated attended preschools or day-care centers.

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

DISEASE	45th WEEK ENDING			CUMULATIVE, FIRST 45 WEEKS		
	November 14 1981	November 8 1980	MEDIAN 1976-1980	November 14 1981	November 8 1980	MEDIAN 1976-1980
Aseptic meningitis	193	176	167	8,096	6,756	5,640
Brucellosis	4	1	3	134	159	159
Chickenpox	1,763	1,418	1,463	175,620	164,103	164,103
Encephalitis: Primary (arthropod-borne & unspec.)	35	36	25	1,230	1,056	1,048
Post-infectious	–	4	2	75	190	191
Gonorrhea: Civilian	16,822	22,887	19,202	866,438	873,123	873,123
Military	289	684	495	24,053	23,905	23,905
Hepatitis: Type A	456	596	573	21,551	24,470	25,777
Type B	410	422	298	17,770	15,598	12,920
Type unspecified	233	248	200	9,478	10,052	7,605
Leprosy	3	–	1	214	191	135
Malaria	11	43	14	1,187	1,755	655
Measles (rubeola)	51	24	132	2,869	13,128	25,000
Meningococcal infections: Total	68	53	31	3,015	2,333	2,090
Civilian	67	52	31	3,003	2,316	2,066
Military	1	1	–	12	17	17
Mumps	132	83	223	3,813	7,748	14,569
Pertussis	18	30	30	1,061	1,486	1,486
Rubella(German measles)	16	19	85	1,894	3,484	11,254
Syphilis (Primary & Secondary): Civilian	561	604	404	26,597	23,542	20,882
Military	5	1	4	332	272	272
Tuberculosis	459	523	523	23,501	23,533	25,038
Tularemia	2	–	3	224	196	145
Typhoid fever	11	14	11	520	458	450
Typhus fever, tick-borne (RMSF)	5	10	6	1,151	1,131	1,014
Rabies, animal	89	115	64	6,377	5,659	2,780

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	–	Poliomyelitis: Total	7
Botulism (Calif. 4)	71	Paralytic	6
Cholera	14	Psittacosis (N.J. 1, Calif. 1)	91
Congenital rubella syndrome	11	Rabies, human	1
Diphtheria	4	Tetanus (N.Y. City 1, Utah 1)	53
Leptospirosis (Md. 1, La. 1)	44	Trichinosis (Md. 1)	119
Plague	9	Typhus fever, flea-borne (endemic, murine) (La. 1, Tex. 1)	41

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 14, 1981 and November 8, 1980 (45th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	ENCEPHALITIS		GONORRHEA (Civilian)		HEPATITIS (Viral), by type			LEPROSY
				Primary	Post-infectious			A	B	Unspecified	
	1981	CUM. 1981	1981	CUM. 1981	CUM. 1981	CUM. 1981	CUM. 1980	1981	1981	1981	CUM. 1981
UNITED STATES	193	134	1,763	1,230	75	866,438	873,123	456	410	233	214
NEW ENGLAND	2	4	183	41	7	21,590	22,014	18	23	19	3
Maine	1	–	59	1	–	1,149	1,252	2	2	–	–
N.H.	1	–	11	4	–	779	767	–	3	–	–
Vt.	–	–	11	–	–	384	491	2	–	–	–
Mass.	–	3	35	15	–	8,983	9,278	1	3	16	2
R.I.	–	1	25	1	2	1,274	1,419	7	3	–	–
Conn.	–	–	42	20	5	9,021	8,807	6	12	3	1
MID. ATLANTIC	19	7	22	99	8	104,939	97,800	47	60	21	13
Upstate N.Y.	1	3	7	28	3	18,123	17,533	8	10	4	3
N.Y. City	3	1	13	19	–	42,840	38,737	14	20	4	8
N.J.	5	1	N	15	–	20,015	17,763	25	30	13	2
Pa.	10	2	2	37	5	23,961	23,767	U	U	U	–
E.N. CENTRAL	62	6	882	438	11	126,268	135,059	61	46	17	20
Ohio	21	1	59	215	2	40,294	35,088	17	15	5	–
Ind.	40	1	211	133	8	10,859	14,176	18	21	10	–
Ill.	–	–	247	7	–	34,666	42,651	20	6	–	18
Mich.	1	2	111	60	1	28,508	30,740	6	4	2	2
Wis.	–	2	254	23	–	11,941	12,404	–	–	–	–
W.N. CENTRAL	10	19	309	95	6	42,355	41,434	8	5	5	3
Minn.	4	5	–	38	3	6,701	6,841	3	3	2	1
Iowa	–	5	181	28	2	4,627	4,410	3	1	2	–
Mo.	4	4	4	10	–	19,762	18,189	1	1	1	–
N. Dak.	–	–	5	1	–	522	576	–	–	–	–
S. Dak.	1	1	8	1	–	1,107	1,206	–	–	–	–
Nebr.	–	1	–	4	–	3,112	3,249	–	–	–	–
Kans.	1	3	111	13	1	6,524	6,963	1	–	–	2
S. ATLANTIC	24	30	211	130	19	214,074	219,406	57	97	28	12
Del.	–	1	1	–	–	3,405	3,102	2	9	1	–
Md.	2	–	39	21	2	25,301	23,332	1	17	5	2
D.C.	–	–	–	–	–	12,059	15,039	2	1	1	–
Va.	9	8	12	36	3	19,647	20,122	5	10	1	3
W. Va.	1	1	91	21	–	3,225	2,994	1	2	–	–
N.C.	4	1	N	32	1	33,137	33,111	11	10	5	–
S.C.	–	–	–	4	–	20,920	20,572	1	5	–	7
Ga.	–	6	27	2	–	44,416	42,947	6	14	–	–
Fla.	8	13	41	14	13	51,964	58,187	28	29	15	–
E.S. CENTRAL	11	12	12	139	7	72,645	71,171	12	27	7	–
Ky.	–	1	4	21	2	9,065	10,352	1	2	–	–
Tenn.	8	5	N	80	1	27,478	25,665	5	5	1	–
Ala.	2	4	2	21	2	22,167	21,235	4	18	6	–
Miss.	1	2	6	17	2	13,935	13,919	2	2	–	–
W.S. CENTRAL	20	37	36	111	4	114,576	110,420	98	42	67	22
Ark.	–	5	–	5	–	8,755	8,885	3	1	2	1
La.	2	1	N	7	1	19,799	19,882	49	16	12	–
Okla.	–	7	–	23	1	12,560	10,985	9	1	9	–
Tex.	18	24	36	76	2	73,462	70,668	37	24	44	21
MOUNTAIN	8	5	2	42	3	33,865	33,569	35	22	19	5
Mont.	–	–	–	2	–	1,255	1,288	–	–	–	–
Idaho	–	–	–	–	–	1,515	1,489	3	–	–	1
Wyo.	–	–	–	1	–	908	983	1	–	1	–
Colo.	1	1	–	11	1	9,006	9,099	5	6	3	–
N. Mex.	–	–	–	–	–	3,726	4,034	6	1	1	–
Ariz.	3	1	N	18	–	10,007	8,970	9	9	11	3
Utah	4	–	–	9	2	1,706	1,682	5	1	1	–
Nev.	–	3	2	1	–	5,742	6,024	6	5	2	1
PACIFIC	37	14	106	135	10	136,126	142,250	120	88	50	136
Wash.	–	–	87	12	1	11,287	12,168	6	10	3	5
Oreg.	3	–	1	6	1	8,048	9,754	9	5	1	5
Calif.	33	14	–	108	8	110,609	114,022	104	70	46	87
Alaska	1	–	1	5	–	3,538	3,487	–	1	–	–
Hawaii	–	–	17	4	–	2,644	2,819	1	2	–	39
Guam	U	–	U	–	–	81	116	U	U	U	–
P.R.	1	–	16	1	–	2,694	2,370	4	3	2	2
V.I.	–	–	–	–	–	216	108	–	–	–	–
Pac. Trust Terr.	U	–	U	–	–	329	370	U	U	U	16

N: Not notifiable U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 14, 1981 and November 8, 1980 (45th week)

REPORTING AREA	MALARIA		MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS (Total)		MUMPS		PERTUSSIS	RUBELLA		
	1981	CUM. 1981	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	1981	CUM. 1981	1981	1981	CUM. 1981	CUM. 1980
UNITED STATES	11	1,187	51	2,869	13,128	68	3,015	132	3,813	18	16	1,894	3,484
NEW ENGLAND	–	64	–	86	675	6	197	19	209	–	–	123	210
Maine	–	1	–	5	33	–	24	–	36	–	–	33	68
N.H.	–	3	–	7	331	2	21	–	23	–	–	51	40
Vt.	–	6	–	3	226	4	12	2	8	–	–	–	3
Mass.	–	30	–	61	58	–	62	17	73	–	–	27	69
R.I.	–	3	–	–	2	–	17	–	25	–	–	–	9
Conn.	–	21	–	10	25	–	61	–	44	–	–	12	21
MID. ATLANTIC	2	153	41	916	3,818	6	439	6	625	5	–	223	562
Upstate N.Y.	–	33	2	221	702	1	139	3	133	1	–	107	216
N.Y. City	2	58	2	90	1,196	1	71	–	86	4	–	55	99
N.J.	–	45	–	58	839	1	95	–	99	–	–	48	101
Pa.	–	17	37	547	1,081	3	134	3	307	–	–	13	146
E.N. CENTRAL	3	59	3	84	2,446	9	367	54	1,101	4	8	357	836
Ohio	–	8	–	16	380	2	138	38	228	–	–	3	8
Ind.	2	9	–	9	93	2	46	3	120	1	–	135	354
Ill.	–	17	–	23	348	5	91	7	202	1	7	101	166
Mich.	1	25	3	33	250	–	85	4	344	–	–	37	129
Wis.	–	–	–	3	1,375	–	7	2	207	2	1	121	179
W.N. CENTRAL	–	33	–	10	1,338	2	141	4	220	–	–	79	207
Minn.	–	14	–	3	1,103	1	47	–	8	–	–	8	28
Iowa	–	4	–	1	20	–	25	2	67	–	–	4	9
Mo.	–	3	–	1	65	–	42	–	21	–	–	2	45
N. Dak.	–	1	–	–	–	–	2	–	–	–	–	–	6
S. Dak.	–	1	–	–	–	–	7	–	1	–	–	–	2
Nebr.	–	2	–	4	83	–	–	–	3	–	–	1	4
Kans.	–	8	–	1	67	1	18	2	120	–	–	64	113
S. ATLANTIC	1	144	5	459	1,971	20	696	17	540	2	–	142	339
Del.	–	1	–	–	3	–	4	–	10	–	–	1	1
Md.	1	35	–	5	83	3	48	–	96	–	–	1	68
D.C.	–	9	–	1	5	–	6	–	3	–	–	–	1
Va.	–	30	–	9	339	2	90	–	125	1	–	9	41
W. Va.	–	4	–	9	10	2	27	11	100	–	–	22	25
N.C.	–	13	–	3	130	5	104	–	22	1	–	5	46
S.C.	–	2	–	2	159	3	88	–	18	–	–	8	57
Ga.	–	8	–	111	826	1	108	–	38	–	–	37	–
Fla.	–	42	5	319	416	4	221	6	128	–	–	59	100
E.S. CENTRAL	1	12	–	5	332	4	214	3	92	–	–	37	87
Ky.	–	–	–	1	56	–	61	1	44	–	–	23	42
Tenn.	–	–	–	2	170	4	63	–	23	–	–	13	40
Ala.	1	10	–	2	22	–	65	1	19	–	–	1	3
Miss.	–	2	–	–	84	–	25	1	6	–	–	–	2
W.S. CENTRAL	1	93	2	893	963	12	467	4	223	1	4	176	136
Ark.	–	4	1	24	16	1	27	–	6	–	3	6	4
La.	–	8	–	4	12	–	109	–	5	–	–	9	12
Okla.	1	7	–	7	775	1	42	–	–	–	–	2	6
Tex.	–	74	1	858	160	10	289	4	212	1	1	159	114
MOUNTAIN	1	42	–	35	478	3	132	6	136	3	1	94	159
Mont.	–	1	–	–	2	–	9	2	14	–	–	4	45
Idaho	–	4	–	1	–	–	6	–	6	–	–	4	23
Wyo.	–	–	–	1	–	2	4	–	1	–	–	12	1
Colo.	1	20	–	10	24	1	44	1	47	–	–	27	12
N. Mex.	–	3	–	8	12	–	7	–	–	–	–	5	5
Ariz.	–	7	–	5	383	–	20	1	34	2	–	21	39
Utah	–	4	–	–	47	–	5	2	20	–	1	9	28
Nev.	–	3	–	10	10	–	27	–	14	1	–	12	6
PACIFIC	2	587	–	381	1,107	6	372	19	667	3	3	623	948
Wash.	–	25	–	3	177	1	65	5	156	–	1	92	84
Oreg.	–	15	–	5	–	3	54	4	69	–	–	51	62
Calif.	2	535	–	366	918	1	236	8	401	3	2	468	786
Alaska	–	3	–	–	6	1	13	–	17	–	–	1	12
Hawaii	–	9	–	7	6	–	4	2	24	–	–	11	4
Guam	U	2	U	5	6	U	–	U	8	U	U	1	2
P.R.	–	11	–	288	161	–	12	4	149	–	–	4	23
V.I.	–	4	–	25	6	–	1	–	5	–	–	1	–
Pac. Trust Terr.	U	–	U	1	12	U	–	U	15	U	U	1	1

U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 14, 1981 and November 8, 1980 (45th week)

REPORTING AREA	SYPHILIS (Civilian) (Primary & Secondary)		TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		RABIES, Animal
	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	CUM. 1981
UNITED STATES	26,597	23,542	459	23,501	224	11	520	5	1,151	6,377
NEW ENGLAND	513	455	24	694	5	–	16	–	9	39
Maine	5	6	4	48	–	–	1	–	–	13
N.H.	11	6	–	19	–	–	–	–	–	7
Vt.	16	6	–	23	1	–	–	–	–	–
Mass.	324	272	18	407	3	–	8	–	5	11
R.I.	32	29	1	48	–	–	–	–	2	2
Conn.	125	136	1	149	1	–	7	–	2	6
MID. ATLANTIC	3,786	3,210	71	3,651	10	–	78	–	41	108
Upstate N.Y.	345	280	12	613	10	–	13	–	14	75
N.Y. City	2,261	2,076	18	1,385	–	–	43	–	3	–
N.J.	536	386	19	779	–	–	13	–	11	23
Pa.	644	468	22	874	–	–	9	–	13	10
E.N. CENTRAL	1,899	2,382	51	3,201	5	–	38	–	52	970
Ohio	268	326	12	579	–	–	10	–	39	65
Ind.	267	170	8	364	4	–	3	–	6	86
Ill.	956	1,443	7	1,297	–	–	15	–	6	516
Mich.	329	356	20	795	1	–	8	–	1	16
Wis.	79	87	4	166	–	–	2	–	–	287
W.N. CENTRAL	583	311	11	795	33	1	19	–	53	2,469
Minn.	175	105	2	136	–	–	2	–	2	436
Iowa	24	23	–	71	–	–	3	–	7	799
Mo.	332	143	9	373	27	1	9	–	29	223
N. Dak.	9	4	–	30	–	–	–	–	–	345
S. Dak.	2	5	–	58	1	–	1	–	–	295
Nebr.	10	10	–	25	3	–	2	–	3	182
Kans.	31	21	–	102	2	–	2	–	12	189
S. ATLANTIC	7,148	5,675	93	4,995	13	1	61	3	656	575
Del.	13	19	–	51	1	–	–	–	3	1
Md.	513	393	10	509	–	–	14	–	59	46
D.C.	572	421	4	294	–	1	2	–	1	–
Va.	619	513	19	507	3	–	1	–	105	133
W. Va.	23	16	6	163	–	–	6	–	6	33
N.C.	571	424	11	883	2	–	5	3	292	18
S.C.	491	329	6	469	3	–	1	–	102	44
Ga.	1,759	1,612	–	814	4	–	4	–	78	207
Fla.	2,587	1,948	37	1,305	–	–	28	–	10	93
E.S. CENTRAL	1,746	1,953	45	2,117	10	1	11	–	133	428
Ky.	85	118	16	525	3	–	1	–	2	118
Tenn.	623	823	11	703	7	–	3	–	82	204
Ala.	527	433	10	571	–	1	5	–	22	102
Miss.	511	579	8	318	–	–	2	–	27	4
W.S. CENTRAL	6,442	4,723	61	2,674	101	2	131	2	171	1,006
Ark.	142	195	11	302	52	1	5	–	36	142
La.	1,469	1,164	3	479	5	–	2	–	1	33
Okla.	153	93	10	282	28	–	4	–	96	200
Tex.	4,678	3,271	37	1,611	16	1	120	2	38	631
MOUNTAIN	648	558	15	638	37	1	24	–	28	243
Mont.	11	2	–	30	6	–	4	–	12	114
Idaho	18	16	–	10	4	–	–	–	5	7
Wyo.	16	12	–	11	1	–	–	–	5	17
Colo.	192	152	6	79	9	1	9	–	1	35
N. Mex.	112	96	3	127	3	–	–	–	–	27
Ariz.	159	190	6	289	–	–	10	–	–	26
Utah	26	13	–	50	13	–	1	–	2	11
Nev.	114	77	–	42	1	–	–	–	3	6
PACIFIC	3,832	4,275	88	4,736	10	5	142	–	8	539
Wash.	158	219	8	335	1	1	4	–	1	15
Oreg.	102	97	8	165	1	–	4	–	–	10
Calif.	3,498	3,814	68	4,009	8	4	130	–	7	492
Alaska	12	8	–	61	–	–	–	–	–	22
Hawaii	62	137	4	166	–	–	4	–	–	–
Guam	–	5	U	33	–	U	–	U	–	–
P.R.	554	529	1	438	–	–	4	–	–	73
V.I.	18	10	–	1	–	–	6	–	–	–
Pac. Trust Terr.	–	–	U	49	–	U	–	U	–	–

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending November 14, 1981 (45th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	561	380	128	24	15	14	36
Boston, Mass.	167	91	50	12	8	6	20
Bridgeport, Conn.	48	32	11	2	2	1	2
Cambridge, Mass.	21	15	6	-	-	-	3
Fall River, Mass.	27	21	4	2	-	-	-
Hartford, Conn.	44	32	9	3	1	-	1
Lowell, Mass.	14	8	6	-	-	-	-
Lynn, Mass.	11	6	4	-	1	-	-
New Bedford, Mass.	23	20	3	-	-	-	2
New Haven, Conn.	36	24	8	2	-	2	1
Providence, R.I. §	42	42	-	-	-	-	1
Somerville, Mass.	7	6	-	-	1	-	-
Springfield, Mass.	49	30	12	1	1	5	1
Waterbury, Conn.	22	18	4	-	-	-	3
Worcester, Mass.	50	35	12	2	1	-	2
MID. ATLANTIC	2,743	1,779	621	192	77	74	93
Albany, N.Y.	50	37	7	1	2	3	1
Allentown, Pa.	15	13	2	-	-	-	-
Buffalo, N.Y.	150	107	39	1	-	3	11
Camden, N.J.	32	18	9	2	2	1	2
Elizabeth, N.J.	28	21	6	1	-	-	3
Erie, Pa.†	41	26	9	2	2	2	2
Jersey City, N.J.	42	25	8	4	1	4	-
N.Y. City, N.Y.	1,404	909	307	119	44	25	35
Newark, N.J.	59	33	17	5	-	4	2
Paterson, N.J.	28	21	5	1	1	-	1
Philadelphia, Pa.†	299	189	72	20	8	10	13
Pittsburgh, Pa.†	156	82	45	8	7	14	5
Reading, Pa.	30	22	5	2	1	-	1
Rochester, N.Y.	120	76	29	7	3	5	11
Schenectady, N.Y.	23	16	4	2	1	-	1
Scranton, Pa.†	29	17	10	-	1	1	1
Syracuse, N.Y.	143	101	27	10	3	2	1
Trenton, N.J.	47	31	13	3	-	-	1
Utica, N.Y.	21	14	3	3	1	-	-
Yonkers, N.Y.	26	21	4	1	-	-	2
E.N. CENTRAL	2,177	1,344	525	140	82	86	67
Akron, Ohio	56	37	12	1	4	2	-
Canton, Ohio	40	29	9	1	1	-	1
Chicago, Ill.	582	343	151	33	22	33	13
Cincinnati, Ohio	125	81	28	10	1	5	10
Cleveland, Ohio	153	81	41	13	10	8	5
Columbus, Ohio	138	94	24	7	5	8	2
Dayton, Ohio	94	61	21	6	4	2	2
Detroit, Mich.	252	152	58	28	8	6	12
Evansville, Ind.	40	27	12	1	-	-	-
Fort Wayne, Ind.	35	22	8	2	2	1	3
Gary, Ind.	14	8	3	1	2	-	-
Grand Rapids, Mich.	32	23	7	-	1	1	2
Indianapolis, Ind.	162	88	44	12	10	8	4
Madison, Wis.	38	20	12	1	3	2	5
Milwaukee, Wis.	148	115	21	5	4	3	-
Peoria, Ill.	28	15	9	1	1	2	-
Rockford, Ill.	47	27	19	1	-	-	1
South Bend, Ind.	43	18	16	5	1	3	1
Toledo, Ohio	99	71	18	7	2	1	5
Youngstown, Ohio	51	32	12	5	1	1	1
W.N. CENTRAL	674	460	140	32	21	21	21
Des Moines, Iowa	58	42	10	3	2	1	1
Duluth, Minn.	41	27	11	1	1	1	2
Kansas City, Kans.	24	16	5	2	1	-	1
Kansas City, Mo.	115	81	27	6	-	1	3
Lincoln, Nebr.	26	21	5	-	-	-	1
Minneapolis, Minn.	109	69	22	7	9	2	3
Omaha, Nebr.	67	48	10	4	3	2	2
St. Louis, Mo.	134	83	28	8	2	13	4
St. Paul, Minn.	63	49	10	1	2	1	2
Wichita, Kans.	37	24	12	-	1	-	2

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,065	685	236	70	31	43	38
Atlanta, Ga.	120	82	25	9	4	-	3
Baltimore, Md.	185	121	47	13	2	2	3
Charlotte, N.C.	69	39	19	5	2	4	4
Jacksonville, Fla.	96	61	21	6	1	7	2
Miami, Fla.	105	69	21	7	6	2	4
Norfolk, Va.	61	30	21	1	2	7	4
Richmond, Va.	75	47	16	5	3	4	3
Savannah, Ga.	21	15	3	3	-	-	3
St. Petersburg, Fla.	71	65	4	1	1	-	1
Tampa, Fla.	70	48	15	6	-	1	8
Washington, D.C.	138	78	34	13	6	7	2
Wilmington, Del.	54	30	10	1	4	9	1
E.S. CENTRAL	668	382	177	57	19	33	25
Birmingham, Ala.	91	55	23	8	2	3	-
Chattanooga, Tenn.	45	28	13	1	1	2	2
Knoxville, Tenn.	50	34	9	3	1	3	2
Louisville, Ky.	132	67	46	14	4	1	9
Memphis, Tenn.	140	74	34	9	6	17	3
Mobile, Ala.	59	35	9	9	1	5	3
Montgomery, Ala.	42	25	14	2	1	-	2
Nashville, Tenn.	109	64	29	11	3	2	4
W.S. CENTRAL	1,114	609	280	103	60	62	32
Austin, Tex.	41	26	8	2	4	1	2
Baton Rouge, La.	37	23	5	4	1	4	1
Corpus Christi, Tex.	35	16	7	2	5	5	-
Dallas, Tex.	182	97	46	21	9	9	3
El Paso, Tex.	44	26	9	4	5	1	-
Fort Worth, Tex.	88	46	24	7	6	5	5
Houston, Tex.	220	105	61	26	12	16	2
Little Rock, Ark.	83	50	17	7	3	6	6
New Orleans, La.	103	42	41	10	4	6	1
San Antonio, Tex.	125	82	31	5	3	4	3
Shreveport, La.	55	34	13	6	2	-	3
Tulsa, Okla.	101	62	19	9	6	5	6
MOUNTAIN	644	381	137	37	58	31	24
Albuquerque, N. Mex.	88	37	8	11	30	2	2
Colo. Springs, Colo.	40	32	4	-	3	1	1
Denver, Colo.	113	69	32	6	2	4	2
Las Vegas, Nev.	72	36	25	4	3	4	3
Ogden, Utah	25	17	5	1	-	2	3
Phoenix, Ariz.	131	86	26	7	6	6	1
Pueblo, Colo.	22	18	3	1	-	-	3
Salt Lake City, Utah	53	25	11	3	7	7	1
Tucson, Ariz.	100	61	23	4	7	5	8
PACIFIC	1,538	1,044	302	91	48	50	76
Berkeley, Calif.	16	11	4	1	-	-	-
Fresno, Calif.	67	50	10	4	2	1	2
Glendale, Calif.	26	20	4	1	-	1	1
Honolulu, Hawaii	69	46	12	6	4	1	3
Long Beach, Calif.	85	60	21	1	1	2	4
Los Angeles, Calif.	465	326	84	27	14	14	13
Oakland, Calif.	53	27	9	4	6	7	3
Pasadena, Calif.	26	20	4	-	-	2	2
Portland, Oreg.	75	42	21	6	1	5	2
Sacramento, Calif.	64	41	17	5	1	-	5
San Diego, Calif.	114	69	26	7	6	3	11
San Francisco, Calif.	135	90	27	10	2	6	3
San Jose, Calif.	148	102	32	6	6	2	15
Seattle, Wash.	93	65	18	6	2	2	2
Spokane, Wash.	52	39	7	1	3	2	7
Tacoma, Wash.	50	36	6	6	-	2	3
TOTAL	11,184††	7,064	2,546	746	411	414	412

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

**Pneumonia and influenza

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

††Total includes unknown ages.

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

Aseptic Meningitis — Continued

Editorial Note: Echovirus 4 has been associated with epidemics of aseptic meningitis in many countries in past years. The highest number of reported cases is usually among 5- to 14-year olds. Minor illnesses without meningeal signs and symptoms are commonly reported by other members of the community. As with other enteroviruses there is a high incidence of intrafamilial spread, and close human contact appears to be the primary mode of transmission (*2*). To date, there have been no reports of infections among U.S. travelers to Panama. Transmission patterns would seem to indicate that the risk of infection for tourists is minimal.

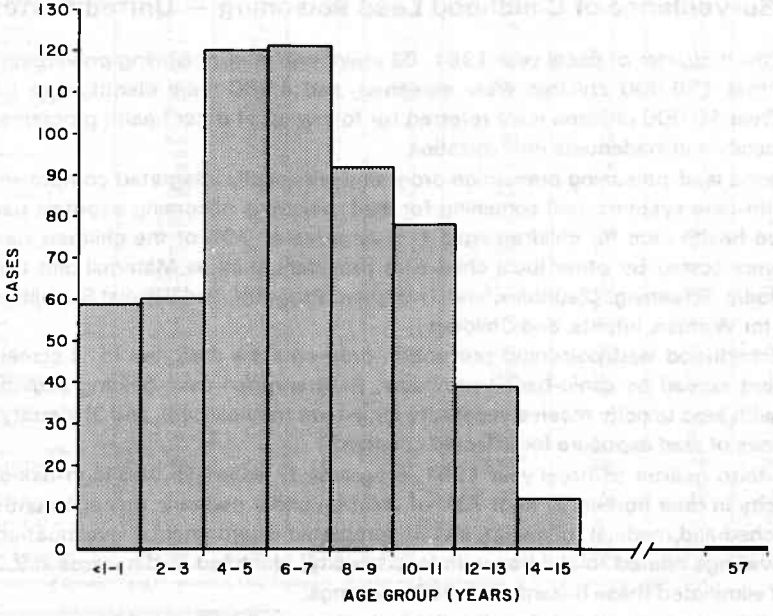
References

1. CDC. Acute hemorrhagic conjunctivitis—Panama and Belize, 1981. MMWR 1981;39:497-500.
2. Ray CG, McCollough RH, Doto IL, Todd JC, Glezen WP, Chin TDY. Echo 4 illness. Epidemiological, clinical and laboratory studies of an outbreak in a rural community. Am J Epidemiol 1966;84:253-67.

TABLE 1. Virus isolation by site of culture, Panama City, Panama, September 23-October 29, 1981

Site of culture	Number of specimens	Number positive (%)
Cerebrospinal fluid	117	6 (5.1)
Throat swab	81	24 (29.6)
Rectal swab	63	7 (11.1)
Total	**261**	**37 (14.2)**

FIGURE 3. Aseptic meningitis cases*, by age group, Panama City, Panama, September 23-October 29, 1981



*Age not reported for four persons.

Epidemiologic Notes and Reports

Influenza B — Texas

The following represents the first reports of indigenous influenza infections in the United States in the 1981-82 influenza season.

Texas: On October 14, 1981, a 37-year-old woman with respiratory infection visited a neighborhood health clinic on the outskirts of Houston. The patient recovered rapidly, and influenza type B virus was isolated by the Influenza Research Center at Baylor College of Medicine from a throat-swab specimen collected at the time of her visit. The isolate was characterized as being closely related to B/Singapore/222/79 strain of type B influenza by testing at Baylor and CDC. Three other isolates of type B influenza, now being studied by the Baylor College of Medicine, were also obtained from local patients with respiratory illness. Two isolates were obtained later in October from a 4- and a 6-year-old at separate medical clinics in the Houston area. A fourth isolate was obtained from a 26-year-old patient seen by a private physician on November 6. There was no contact between any of the patients and none had traveled or knew of any recent contact with visitors outside the Houston area. The level of influenza-like illness in the Houston area has been typical for the fall season and parainfluenza types 1 and 2 viruses have also been isolated from other patients with respiratory illness in the area.

Reported by P Glezen, MD, Influenza Research Center, Baylor College of Medicine, Houston; CR Webb, Jr, MD, State Epidemiologist, Texas State Dept of Health, Austin, Texas; Immunization Div, Center for Prevention Svcs, Viral Diseases Div, Center for Infectious Diseases, CDC.

Surveillance Summary

Surveillance of Childhood Lead Poisoning — United States

In the third quarter of fiscal year 1981, 62 childhood lead-poisoning prevention programs reported that 136,000 children were screened, and 4,900 were identified as having lead toxicity. Over 10,000 children were referred for follow up of other health problems, including iron deficiency and inadequate immunization.

Childhood lead-poisoning prevention programs are usually integrated components of local child health-care systems, and screening for lead toxicity is becoming a routine part of comprehensive health care for children ages 1-5. As a result, 70% of the children screened this quarter were tested by other local child-care providers such as Maternal and Child Health, Early Periodic Screening, Diagnosis, and Treatment Program, and Special Supplemental Food Program for Women, Infants, and Children.

Local childhood lead-poisoning prevention programs are designed to 1) screen high-risk children not served by clinic-based providers, 2) strengthen case-holding activities so that children with lead toxicity receive necessary long-term medical care, and 3) identify and eliminate sources of lead exposure for afflicted children.

In the third quarter of fiscal year 1981, programs 1) tested 15,000 high-risk children for lead toxicity in their homes, 2) kept 73% of children under pediatric management up-to-date in their scheduled medical follow up, and 3) completed environmental investigations at about 3,200 dwellings related to children with lead toxicity; identified lead hazards in 2,200 dwellings; and eliminated these hazards in 1,900 dwellings.

Reported by Environmental Health Svcs Div, Center for Environmental Health, CDC.

Childhood Lead Poisoning – Continued

TABLE 2. Results of screening in childhood lead-poisoning prevention programs, United States, third quarter fiscal year 1981 (April 1-June 30, 1981)

Programs	Number of children						Number of dwellings related to children with lead toxicity		
	Screened	With lead toxicity*				Identified with iron deficiency			
		Requiring pediatric management			Receiving pediatric management†		Inspected	Found with lead	Reduced
		Total	Class II	Classes III & IV					
Bridgeport, Conn.	1,319	39	23	16	120	28	45	42	40
Waterbury, Conn.	806	7	3	4	114	32	7	7	3
Augusta (State of Maine)‡	1,291	9	5	4	64	9	2	2	0
Boston, Mass.	5,426	80	52	28	835	218	73	67	58
Lawrence, Mass.	1,605	122	89	33	251	23	63	59	59
Worcester, Mass.	1,743	37	27	10	115	7	31	31	25
Rhode Island State	1,690	44	21	23	406	67	72	50	35
REGION I TOTAL	**13,880**	**338**	**220**	**118**	**1,945**	**384**	**293**	**258**	**220**
Cumulative FY 81	39,534	1,143	747	396		1,172	843	857	591
Atlantic City, N.J.	254	11	7	4	29	4	6	5	8
Camden, N.J.	1,023	27	15	12	259	28	37	22	24
East Orange, N.J.	899	32	25	7	158	94	11	9	9
Jersey City, N.J.	848	106	63	43	186	39	61	57	37
Long Branch, N.J.	330	3	2	1	32	3	10	8	10
Newark, N.J.	2,008	343	241	102	759	133	92	92	93
Paterson, N.J.	1,149	76	58	18	682	83	75	72	60
Plainfield, N.J.	861	49	39	10	115	30	27	24	9
Erie Co., N.Y.	1,166	92	70	22	219	11	73	38	37
Monroe Co., N.Y.	1,401	77	58	19	251	80	36	25	70
New York City	27,280	1,047	713	334	2,161	2,427	411	254	68
Onondaga Co., N.Y.	1,791	47	28	19	246	70	45	40	55
Worchester Co., N.Y.	1,702	35	27	8	266	106	35	32	12
REGION II TOTAL	**40,712**	**1,945**	**1,346**	**599**	**5,363**	**3,108**	**919**	**678**	**492**
Cumulative FY 81	126,651	6,334	4,430	1,904		9,019	2,811	2,004	1,618
Delaware State	1,180	20	15	5	197	36	18	10	3
Washington, D.C.	3,108	40	28	12	323	240	54	42	24
Baltimore, Md.	7,531	132	95	37	702	12	83	51	50
Allentown-Bethlehem, Pa.	145	1	1	0	10	13	1	1	1
Chester, Pa.	503	7	4	3	115	5	11	11	20
Philadelphia, Pa.	5,877	386	269	117	2,084	31	215	194	105
Wilkes-Barre, Pa.	592	5	4	1	73	26	28	11	14
York, Pa.	282	1	1	0	20	14	1	1	0
Lynchburg, Va.	301	3	1	2	51	12	5	2	4
Newport News, Va.	772	10	6	4	41	18	8	8	0
Norfolk, Va.	1,106	20	10	10	211	21	28	18	15
Portsmouth, Va.	792	13	7	6	105	14	17	10	5
Richmond, Va.	1,411	9	3	6	113	17	23	11	6
REGION III TOTAL	**23,600**	**647**	**444**	**203**	**4,045**	**459**	**492**	**370**	**247**
Cumulative FY 81	62,044	2,914	1,914	1,000		1,721	1,530	1,195	832
Augusta, Ga.	797	8	6	2	71	48	11	11	10
Savannah-Chatham Co., Ga.	415	8	4	4	8	5	8	8	0
Louisville, Ky.	2,292	53	39	14	290	70	85	78	71
Cabarrus Co., N.C.	215	4	3	1	15	1	2	2	2
South Carolina State	7,114	61	43	18	337	9	66	45	48
REGION IV TOTAL	**10,833**	**134**	**95**	**39**	**721**	**133**	**172**	**144**	**131**
Cumulative FY 81	31,123	371	250	121		431	459	386	336
Chicago, Ill.	10,762	505	292	213	894	67	NA	NA	NA
Ill. (other local progs.)‡	1,256	30	20	10	37	5	14	5	1
Kankakee, Ill.	902	16	9	7	50	200	14	13	2
Madison Co., Ill.	734	42	24	18	94	50	0	0	0
Rockford, Ill.	647	9	4	5	80	18	7	6	15
Waukegan-Lake Co., Ill.	1,006	9	6	3	36	0	19	8	8
Ft. Wayne, Ind.	89	3	1	2	40	0	4	3	0
Detroit, Mich.	4,379	156	95	61	320	30	117	89	174
Grand Rapids, Mich.§	688	19	15	4	NA	19	2	2	1
Wayne Co., Mich.	477	13	7	6	70	14	8	8	2
Akron, Ohio	1,186	20	19	1	87	236	18	15	17
Cincinnati, Ohio	2,436	37	18	19	345	798	124	18	19
Cleveland, Ohio	3,387	383	272	111	807	327	81	34	21
Beloit, Wis.	255	5	4	1	15	21	7	9	0
Milwaukee, Wis.	1,520	71	43	28	346	33	211	160	75
REGION V TOTAL	**29,724**	**1,318**	**829**	**489**	**3,221**	**1,818**	**626**	**370**	**335**
Cumulative FY 81	77,188	3,307	2,115	1,192		3,532	2,617	1,329	1,479
Arkansas State	3,662	19	12	7	134	93	16	7	29
Louisiana State	3,460	9	5	4	23	0	7	6	0
New Orleans, La.	3,179	83	62	21	583	142	130	85	82
Houston, Tex.	1,409	14	11	3	179	59	22	14	8
REGION VI TOTAL	**11,710**	**125**	**90**	**35**	**919**	**294**	**175**	**112**	**119**
Cumulative FY 81	37,361	319	205	114		706	447	301	395
Cedar Rapids-Linn Co., Iowa	816	6	5	1	57	8	3	3	12
Davenport-Scott Co., Iowa	565	12	9	3	51	11	20	18	14
St. Louis, Mo.	2,966	347	208	139	2,348	194	382	228	228
Omaha-Douglas Co., Neb.	661	9	5	4	141	13	45	42	44
REGION VII TOTAL	**5,008**	**374**	**227**	**147**	**2,597**	**226**	**450**	**291**	**298**
Cumulative FY 81	14,462	989	613	376		448	1,767	1,180	1,260
Los Angeles, Calif.	837	2	1	1	33	43	60	28	28
REGION IX TOTAL	**837**	**2**	**1**	**1**	**33**	**43**	**60**	**28**	**28**
Cumulative FY 81	4,033	9	2	7		251	149	48	41
U.S. TOTALS	**136,304**	**4,883**	**3,252**	**1,631**	**18,844**	**6,465**	**3,187**	**2,251**	**1,870**
Cumulative FY 81	392,396	15,386	10,276	5,110		17,280	10,723	7,300	6,552

*Screening Class II and Classes III and IV defined in CDC Statement, "Preventing Lead Poisoning in Young Children," April 1978.
†Estimated.
‡Reporting program not receiving prevention grant support.
§Not cumulative.
NA = Not available.

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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: Attn: Editor, Morbidity and Mortality Weekly Report, Centers for Disease Control, Atlanta, Georgia 30333.

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