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MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Follow-Up on Kaposi's Sarcoma and *Pneumocystis* Pneumonia

Twenty-six cases of Kaposi's sarcoma (KS) and 15 cases of *Pneumocystis carinii* pneumonia (PCP) among previously healthy homosexual men were recently reported (*1,2*). Since July 3, 1981, CDC has received reports of an additional 70 cases of these 2 conditions in persons without known underlying disease. The sex, race, sexual preference, and mortality data known for 108 persons with either or both conditions are summarized in Table 1.

The majority of the reported cases of KS and/or PCP have occurred in white men. Patients ranged in age from 15-52 years; over 95% were men 25-49 years of age. Ninety-four percent (95/101) of the men for whom sexual preference was known were homosexual or bisexual. Forty percent of the reported cases were fatal. Of the 82 cases for which the month of diagnosis is known, 75 (91%) have occurred since January 1980, with 55 (67%) diagnosed from January through July 1981. Although physicians from several states have reported cases of KS and PCP among previously healthy homosexual men, the majority of cases have been reported from New York and California.

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Editorial Note: KS is a rare, malignant neoplasm seen predominantly in elderly men in this country. In elderly men the disease is manifested by skin lesions and a chronic clinical course; it is rarely fatal (*3*). In contrast, the persons currently reported to have KS are young to middle-aged men, and 20% of the cases have been fatal. Although some of the patients have presented with the violaceous skin or mucous membrane lesions

TABLE 1. Cases of Kaposi's sarcoma (KS) and *Pneumocystis carinii* pneumonia (PCP) reported to CDC with dates of onset between January 1976 and July 1981

Diagnosis (number of patients)	Sex		Race of men				Sexual preference of men			Fatality (percentage)	
	Male	Female	White	Black	Hispanic	Unknown	Homosexual or bisexual	Heterosexual	Unknown		
KS and PCP (N=7)	7	0	5	0	1	1	7	0	0	3/7	(43%)
KS only (N=47)	47	0	41	3	3	0	44	1	2	8/47	(17%)
PCP only (N=54)	53	1	33	9	7	4	44	5	4	32/54	(59%)
Total (N=108)	107	1	79	12	11	5	95	6	6	43/108	(40%)

Kaposi's Sarcoma – Continued

typical of KS, many such lesions have been initially overlooked. Other patients have been diagnosed by lymph-node biopsy after a prodrome consisting of fever, weight loss, and lymphadenopathy. Seven (13%) of fifty-four KS patients also had PCP. In many cases the histopathologic diagnosis from skin, lymph node, or visceral-lesion tissue has been difficult even in specialized hands.

The occurrence of *Pneumocystis carinii* pneumonia in patients who are not immunosuppressed due to known underlying disease or therapy is also highly unusual (*4*). Although 7 (11%) of the 61 patients with PCP also had KS, in many instances pneumonia preceded the tumor. Although most of the patients with PCP reported recent respiratory symptoms, some gave a history of weeks to months of systemic symptoms including weight loss and general malaise, similar to the prodrome described by patients who developed lymphadenopathic KS. Several of the patients with PCP had other serious infections, including gastrointestinal candidiasis, cryptococcal meningitis, and disseminated infections with Mycobacteriaceae and herpes simplex. Many of the PCP and KS patients have had positive cultures or serologic evidence of infection with cytomegalovirus.

The apparent clustering of both *Pneumocystis carinii* pneumonia and KS among homosexual men suggests a common underlying factor. Both diseases have been associated with host immunosuppression (*4-6*), and studies in progress are showing immunosuppression in some of these cases. The extent or cause of immune suppression is not known. Physicians should be aware of the possible occurrence of these diseases and other opportunistic infections, particularly among men with symptoms suggestive of these disorders or their prodromes, since therapy is specific and verification of the diagnosis requires biopsy.

Several state and local health departments and CDC are conducting active surveillance for KS, PCP, and opportunistic infections in persons without known predisposing underlying disease. A national case-control study will be implemented shortly.

References

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Recommendation of the Immunization Practices Advisory Committee (ACIP)

Pneumococcal Polysaccharide Vaccine

INTRODUCTION

Polyvalent polysaccharide vaccine against disease caused by *Streptococcus pneumoniae* (pneumococcus) was licensed in the United States in 1977. This statement includes a summary of current knowledge about the vaccine and a guide to its use in selected persons and groups.

ACIP Recommendation for Pneumococcal Vaccine -- Continued

VACCINE-PREVENTABLE PNEUMOCOCCAL DISEASE

Data on the precise occurrence of serious pneumococcal diseases in the United States are not available. Estimates come from limited surveys, research reports, and several community-based studies (Table 2).

Community studies indicate that pneumococcal pneumonia usually represents less than 25% of all cases of pneumonia. Yet, it remains an important problem, even in the antibiotic era, because of the substantial annual numbers of cases and deaths that occur.

Pneumococcal pneumonia occurs in all age groups, although incidence increases with age over 40 years. Pneumococcal meningitis is seen primarily in young children, particularly those ≤2 years old. Mortality from pneumococcal disease is highest in patients who have bacteremia or meningitis, in patients with underlying medical conditions, and in older persons.

Patients with certain chronic conditions are clearly at increased risk of developing pneumococcal infection as well as experiencing more severe pneumococcal illness. These conditions include sickle cell anemia, multiple myeloma, cirrhosis, renal failure, splenic dysfunction, and having had a splenectomy or organ transplant. Other patients may be at greater risk of developing pneumococcal infection or having more severe illness as a result of being alcoholic or having diabetes mellitus, congestive heart failure, chronic pulmonary disease, or conditions associated with immunosuppression. Patients with cerebrospinal fluid leakage complicating skull fracture or neurosurgical procedure can have recurrent pneumococcal meningitis.

Surveillance of the antibiotic susceptibilities of recent *S. pneumoniae* isolates has not indicated any trend toward increased resistance to penicillin. From 1978 to 1980, less than 2% of clinically significant isolates of *S. pneumoniae* were relatively penicillin-resistant (MIC* 0.1-0.9 μg/ml). Penicillin remains the antimicrobial agent of choice for treatment of invasive pneumococcal disease.

PNEUMOCOCCAL POLYSACCHARIDE VACCINES

The pneumococcal vaccine licensed in 1977 for use in the United States contains purified capsular material of 14 types of *S. pneumoniae* (Danish types 1,2,3,4,6A,7F,8, 9N,12F,14,18C,19F,23F, and 25). When the vaccine is being prepared, polysaccharides are extracted separately and combined in a final product. Each dose of vaccine contains 50 μg of each polysaccharide. The 14 bacterial types represented in the vaccine are responsible for 68% of bacteremic pneumococcal disease in the United States (*3*). An additional 17% of bacteremic pneumococcal disease is due to serotypes immunologically related to types in the vaccine. Studies of the cross-reactivity of human antibodies against related types suggest that cross-protection may occur among some of these types (for example, 6A and 6B) (*4*).

*Minimal inhibitory concentration.

TABLE 2. Estimated occurrence of serious pneumococcal disease, United States

Pneumococcal disease	Estimated cases (thousands/yr)	Estimated incidence*	Case-fatality ratio (%)
Pneumonia	150-570	68-260	5-7
Meningitis (*1*)	2.6-6.2	1.2-2.8	32
Bacteremia (*2*)	16-55	7-25	20

*Per 100,000 population/yr.

ACIP Recommendation for Pneumococcal Vaccine – Continued

Most healthy adults respond to the vaccine and in 2-3 weeks show a 2-fold rise in type-specific antibody, as measured by radioimmunoassay. The titer of antibody which is protective against each serotype has not been determined.

EFFECTIVENESS OF PNEUMOCOCCAL POLYSACCHARIDE VACCINES

Several pneumococcal vaccines were developed and tested in the 1920s, 1930s, and 1940s. An unblinded trial of a trivalent vaccine was performed from 1937 to 1943 in an elderly institutionalized population (*5*). Protection was demonstrated against pneumonia and bacteremia due both to pneumococcal types in the vaccine and to ones that were not in the vaccine. A tetravalent polysaccharide vaccine tested in 1944 in a young male military population with a high endemic rate of disease prevented pneumonia caused by types in the vaccine (*6*). Disease due to other types was not prevented. A combined pneumococcal polysaccharide vaccine was distributed in the United States from 1945 to 1947. However, when effective antibiotics became available, the vaccine was infrequently used, and the manufacturer voluntarily discontinued production.

In the 1970s, a 12-valent pneumococcal vaccine was field tested in South Africa in healthy, young, adult gold-miner recruits among whom there was a high annual incidence of pneumococcal pneumonia–200 cases/1,000 persons/year (*7*). This vaccine

(Continued on page 417)

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

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

DISEASE	33rd WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 33 WEEKS		
	August 22 1981	August 16 1980	1976-1980	August 22 1981	August 16 1980	MEDIAN 1976-1980
Aseptic meningitis	399	311	301	4,081	3,207	2,567
Brucellosis	1	5	8	92	125	125
Chickenpox	319	412	308	165,886	156,564	156,564
Diphtheria	–	–	1	3	2	56
Encephalitis: Primary (arthropod-borne & unspec.)	63	40	50	647	512	512
Post-infectious	–	7	5	52	144	145
Hepatitis, Viral: Type B	355	381	346	12,825	10,890	9,522
Type A	415	569	600	15,887	17,441	18,587
Type unspecified	193	240	180	7,112	7,138	5,594
Malaria	40	55	18	908	1,297	419
Measles (rubeola)	27	54	148	2,608	12,722	23,371
Meningococcal infections: Total	47	32	29	2,410	1,869	1,699
Civilian	47	31	29	2,398	1,855	1,677
Military	–	1	–	12	14	16
Mumps	36	66	98	3,014	6,925	13,103
Pertussis	41	76	44	720	974	874
Rubella (German measles)	22	33	64	1,680	3,151	10,526
Tetanus	1	3	2	37	53	42
Tuberculosis	486	543	566	17,011	17,079	18,537
Tularemia	7	6	3	142	128	98
Typhoid fever	17	14	11	317	287	287
Typhus fever, tick-borne (Rky. Mt. spotted)	52	49	49	894	808	730
Venereal diseases:						
Gonorrhea: Civilian	20,266	21,885	21,277	629,285	615,927	616,951
Military	464	446	451	18,401	17,135	17,135
Syphilis, primary & secondary: Civilian	621	559	502	18,993	16,481	15,254
Military	5	6	4	236	202	190
Rabies in animals	151	133	88	4,653	4,322	2,018

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	–	Poliomyelitis: Total	3
Botulism (Calif. 3)	37	Paralytic	3
Cholera	3	Psittacosis (Calif. 1)	76
Congenital rubella syndrome	7	Rabies in man	1
Leprosy (Calif. 6)	163	Trichinosis	104
Leptospirosis (Tex. 1)	26	Typhus fever, flea-borne (endemic, murine) (Calif. 2)	33
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 22, 1981 and August 16, 1980 (33rd week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1981	1981	1981	1981	CUM. 1981	1981	1980	1981	1981	1981	1981	1981	CUM. 1981
UNITED STATES	299	1	315	–	3	63	40	–	359	415	193	40	908
NEW ENGLAND	31	–	20	–	–	–	–	–	11	6	11	–	45
Maine	2	–	1	–	–	–	–	–	2	–	–	–	1
N.H.	–	–	1	–	–	–	–	–	–	–	–	–	3
Vt.	–	–	3	–	–	–	–	–	–	–	–	–	3
Mass.	–	–	–	–	–	–	–	–	3	3	10	–	26
R.I.	24	–	7	–	–	–	–	–	2	1	–	–	2
Conn.	5	–	8	–	–	–	–	–	4	2	1	–	10
MID. ATLANTIC	45	–	22	–	–	6	9	–	45	23	19	7	108
Upstate N.Y.	8	–	8	–	–	2	1	–	11	6	1	1	30
N.Y. City	11	–	14	–	–	1	–	–	5	6	–	–	33
N.J.	12	–	NN	–	–	2	3	–	29	11	18	6	34
Pa.	14	–	–	–	–	1	5	–	–	–	–	–	11
E.N. CENTRAL	87	–	97	–	–	29	22	–	39	64	12	2	44
Ohio	38	–	12	–	–	12	11	–	11	8	4	–	7
Ind.	22	–	20	–	–	12	5	–	2	13	5	–	6
Ill.	2	–	14	–	–	–	1	–	14	12	–	–	14
Mich.	25	–	14	–	–	–	3	–	11	29	3	2	17
Wis.	–	–	37	–	–	5	2	–	1	2	–	–	–
W.N. CENTRAL	18	–	9	–	–	6	2	–	28	18	3	1	25
Minn.	–	–	–	–	–	–	–	–	10	4	1	–	9
Iowa	–	–	5	–	–	1	1	–	6	3	–	–	3
Mo.	17	–	2	–	–	4	–	–	11	9	2	–	3
N. Dak.	–	–	2	–	–	–	–	–	–	–	–	–	1
S. Dak.	–	–	–	–	–	–	–	–	–	1	–	–	1
Nebr.	–	–	–	–	–	–	1	–	–	–	–	–	1
Kans.	1	–	–	–	–	1	–	–	1	1	–	1	7
S. ATLANTIC	69	–	28	–	1	7	1	–	94	54	25	4	110
Del.	1	–	1	–	–	–	–	–	5	–	1	–	1
Md.	3	–	–	–	–	2	–	–	11	4	2	–	25
D.C.	–	–	–	–	–	–	–	–	1	1	–	–	8
Va.	14	–	2	–	–	1	–	–	7	6	1	2	20
W. Va.	4	–	3	–	–	2	–	–	4	1	–	–	3
N.C.	11	–	NN	–	–	1	–	–	7	3	10	–	7
S.C.	1	–	–	–	–	–	–	–	8	–	4	–	1
Ga.	2	–	–	–	–	–	–	–	29	9	–	–	8
Fla.	33	–	22	–	1	1	1	–	22	30	7	2	37
E.S. CENTRAL	59	–	106	–	–	8	4	–	15	15	1	–	10
Ky.	4	–	101	–	–	–	–	–	–	4	1	–	–
Tenn.	52	–	NN	–	–	6	2	–	8	9	–	–	–
Ala.	3	–	5	–	–	2	–	–	3	–	–	–	9
Miss.	–	–	–	–	–	–	2	–	4	2	–	–	1
W.S. CENTRAL	38	1	22	–	–	–	–	–	29	69	55	3	65
Ark.	2	–	–	–	–	–	–	–	1	3	3	–	5
La.	3	–	NN	–	–	–	–	–	10	13	5	–	3
Okla.	9	–	–	–	–	–	–	–	3	6	1	1	6
Tex.	24	1	22	–	–	–	–	–	15	47	46	2	51
MOUNTAIN	3	–	–	–	1	–	1	–	25	43	23	1	29
Mont.	–	–	–	–	1	–	1	–	1	2	–	–	1
Idaho	–	–	–	–	–	–	–	–	–	2	–	1	2
Wyo.	–	–	–	–	–	–	–	–	–	3	–	–	–
Colo.	3	–	–	–	–	–	–	–	7	10	3	–	13
N. Mex.	–	–	–	–	–	–	–	–	–	5	1	–	2
Ariz.	–	–	NN	–	–	–	–	–	4	7	13	–	4
Utah	–	–	–	–	–	–	–	–	–	–	1	–	4
Nev.	–	–	–	–	–	–	–	–	13	14	5	–	3
PACIFIC	49	–	15	–	1	7	1	–	73	123	44	22	472
Wash.	4	–	8	–	–	–	–	–	4	3	1	–	26
Oreg.	2	–	–	–	–	–	–	–	1	5	–	–	12
Calif.	41	–	–	–	–	5	1	–	67	114	42	22	426
Alaska	1	–	4	–	1	2	–	–	–	–	–	–	1
Hawaii	1	–	3	–	–	–	–	–	1	1	1	–	7
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	1
P.R.	–	–	4	–	–	–	–	–	2	6	3	–	9
V.I.	–	–	1	–	–	–	–	–	–	–	–	–	4
Pac. Trust Terr.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–

NN: 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 22, 1981 and August 16, 1980 (33rd week)

REPORTING AREA	MEASLES (RUBEOLA)			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	27	2,608	12,722	47	2,410	1,869	36	3,014	41	22	1,680	37
NEW ENGLAND	–	75	669	4	150	110	2	146	–	–	105	2
Maine	–	5	33	–	19	5	1	28	–	–	33	–
N.H.	–	4	331	–	17	6	–	17	–	–	35	–
Vt.	–	1	226	–	6	13	–	6	–	–	–	–
Mass.	–	57	55	1	34	38	1	40	–	–	25	–
R.I.	–	–	2	–	14	7	–	20	–	–	–	–
Conn.	–	8	22	3	60	41	–	35	–	–	12	2
MID. ATLANTIC	6	752	3,740	10	336	321	8	540	12	4	202	2
Upstate N.Y.	1	209	677	5	108	106	5	102	3	4	96	1
N.Y. City	1	70	1,165	3	59	78	–	70	1	–	49	1
N.J.	–	55	825	1	77	70	–	83	–	–	46	–
Pa.	4	458	1,073	1	92	67	3	285	8	–	11	–
E.N. CENTRAL	1	78	2,388	4	291	238	4	838	9	2	348	7
Ohio	–	15	373	–	108	72	2	133	2	–	3	1
Ind.	–	8	90	–	40	36	–	94	3	1	123	2
Ill.	–	23	332	3	72	64	2	168	3	–	83	–
Mich.	–	30	234	1	67	53	–	297	–	–	34	3
Wis.	1	2	1,359	–	4	13	–	146	1	1	105	1
W.N. CENTRAL	–	6	1,327	1	109	73	1	164	–	–	75	3
Minn.	–	2	1,093	–	37	18	–	8	–	–	6	2
Iowa	–	1	20	–	18	9	–	41	–	–	4	–
Mo.	–	1	64	1	36	32	–	15	–	–	2	1
N. Dak.	–	–	–	–	1	1	–	–	–	–	–	–
S. Dak.	–	–	–	–	4	4	–	1	–	–	–	–
Nebr.	–	1	83	–	–	–	–	3	–	–	1	–
Kans.	–	1	67	–	13	9	1	96	–	–	62	–
S. ATLANTIC	7	353	1,858	14	546	441	3	427	5	2	133	7
Del.	–	–	3	–	4	2	–	9	–	–	1	–
Md.	–	4	71	2	40	44	–	81	–	–	1	–
D.C.	–	1	–	–	2	1	–	2	–	–	–	–
Va.	–	6	298	–	65	42	–	116	–	–	7	–
W. Va.	–	8	9	–	23	14	1	72	–	–	22	–
N.C.	–	4	128	3	80	82	–	14	–	–	5	2
S.C.	–	–	157	1	70	53	–	10	–	–	8	2
Ga.	–	109	799	4	92	72	–	33	3	–	35	1
Fla.	7	221	393	4	170	131	2	90	2	2	54	2
E.S. CENTRAL	–	4	328	2	178	169	3	74	3	1	30	2
Ky.	–	–	53	–	48	53	3	36	–	1	19	–
Tenn.	–	2	169	2	50	44	–	20	3	–	10	–
Ala.	–	2	22	–	57	45	–	15	–	–	1	2
Miss.	–	–	84	–	23	27	–	3	–	–	–	–
W.S. CENTRAL	8	922	932	6	405	197	2	172	5	3	148	6
Ark.	–	1	16	–	22	16	–	1	–	–	2	1
La.	–	2	11	–	99	72	–	4	–	–	9	2
Okla.	–	6	770	–	33	17	–	–	1	–	–	1
Tex.	8	913	135	6	251	92	2	167	4	3	137	2
MOUNTAIN	–	33	455	4	81	69	–	107	2	2	80	2
Mont.	–	–	2	–	6	3	–	9	–	–	4	–
Idaho	–	1	–	–	3	4	–	4	–	–	3	–
Wyo.	–	–	–	–	1	2	–	1	–	–	7	–
Colo.	–	9	23	3	35	17	–	42	–	–	27	–
N. Mex.	–	8	11	–	6	8	–	–	1	–	5	–
Ariz.	–	5	364	1	19	12	–	24	–	–	19	1
Utah	–	–	47	–	5	2	–	16	1	1	5	1
Nev.	–	10	8	–	6	21	–	11	–	1	10	–
PACIFIC	5	345	1,025	2	314	251	13	546	5	8	559	6
Wash.	–	3	174	–	59	47	–	137	–	–	94	–
Oreg.	1	4	–	–	47	43	–	61	–	1	32	–
Calif.	4	336	840	2	197	154	13	321	5	7	422	6
Alaska	–	–	5	–	7	7	–	7	–	–	1	–
Hawaii	–	2	6	–	4	–	–	20	–	–	10	–
Guam	NA	4	5	–	–	1	NA	6	NA	NA	1	–
P.R.	4	262	117	–	10	9	2	109	–	–	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 22, 1981 and August 16, 1980 (33rd week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	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	486	17,011	142	17	317	52	894	20,266	629,285	615,927	621	18,993	16,481	4,653
NEW ENGLAND	12	481	1	–	12	–	8	503	15,539	15,340	7	385	330	26
Maine	1	29	–	–	1	–	–	19	795	882	–	2	4	12
N.H.	–	13	–	–	–	–	–	NA	547	546	–	11	1	2
Vt.	–	15	–	–	–	–	–	5	264	333	–	13	5	–
Mass.	8	283	–	–	7	–	5	232	6,360	6,367	5	256	191	7
R.I.	1	29	–	–	–	–	1	29	848	991	–	21	19	–
Conn.	2	112	1	–	4	–	2	218	6,725	6,221	2	82	110	5
MID. ATLANTIC	61	2,665	10	1	52	2	34	3,125	75,125	66,126	110	2,834	2,353	60
Upstate N.Y.	14	491	10	–	11	–	12	556	12,665	12,138	–	249	200	44
N.Y. City	31	1,035	–	–	27	1	3	1,100	31,610	25,161	74	1,712	1,542	–
N.J.	–	545	–	1	10	1	9	709	14,340	12,257	16	391	287	12
Pa.	16	594	–	–	4	–	10	760	16,510	16,570	20	482	324	4
E.N. CENTRAL	31	2,201	1	2	22	9	44	2,331	93,833	94,583	49	1,289	1,527	632
Ohio	24	445	–	1	3	8	36	950	31,492	25,008	26	193	236	50
Ind.	3	214	–	–	–	–	2	151	8,174	9,272	9	131	119	64
Ill.	–	851	–	1	11	1	5	586	25,592	29,832	–	673	871	439
Mich.	–	571	1	–	6	–	1	442	20,089	21,475	10	229	242	8
Wis.	4	120	–	–	2	–	–	202	8,486	8,996	4	63	59	71
W.N. CENTRAL	14	611	17	1	12	2	38	757	29,927	28,205	19	392	205	1,575
Minn.	3	108	–	–	2	–	1	71	4,628	4,667	–	134	74	343
Iowa	4	66	–	1	3	1	5	86	3,253	3,098	2	16	12	625
Mo.	6	271	15	–	2	1	20	361	13,937	12,184	15	209	100	170
N. Dak.	–	23	–	–	–	–	–	9	402	408	–	8	3	309
S. Dak.	1	44	–	–	1	–	–	31	817	863	–	2	2	236
Nebr.	–	19	2	–	2	–	3	84	2,322	2,257	–	5	6	149
Kans.	–	80	–	–	2	–	9	115	4,568	4,728	2	18	8	143
S. ATLANTIC	105	3,753	10	1	44	30	509	5,813	155,828	154,173	175	5,031	3,886	298
Del.	4	54	1	–	–	–	2	131	2,486	2,151	1	8	10	1
Md.	8	378	–	–	13	2	48	777	17,958	16,265	4	372	273	14
D.C.	5	237	–	–	1	–	–	276	9,225	10,762	19	408	289	–
Va.	10	387	–	–	1	8	86	774	14,252	13,805	15	446	358	50
W. Va.	2	120	–	–	4	1	5	110	2,354	2,054	1	16	15	15
N.C.	24	671	2	–	1	9	217	966	24,122	21,879	16	385	269	6
S.C.	11	348	3	–	–	3	84	747	15,207	14,695	11	330	217	19
Ga.	23	608	4	1	4	7	59	1,068	31,980	29,658	43	1,295	1,107	137
Fla.	18	950	–	–	20	–	8	964	38,244	42,904	65	1,771	1,348	56
E.S. CENTRAL	59	1,497	5	1	7	5	94	1,504	52,320	50,070	64	1,265	1,360	299
Ky.	11	387	2	–	–	–	2	146	6,535	7,421	2	60	91	93
Tenn.	26	498	3	1	3	5	60	812	19,859	18,053	29	478	576	155
Ala.	5	400	–	–	2	–	13	260	15,787	14,601	16	356	282	51
Miss.	17	212	–	–	2	–	19	286	10,139	9,995	17	371	411	–
W.S. CENTRAL	69	1,933	68	1	44	4	137	2,703	83,349	79,344	114	4,577	3,258	801
Ark.	9	204	39	–	4	2	31	288	6,158	6,059	6	89	101	110
La.	22	342	2	–	2	–	–	672	14,218	14,396	–	1,062	794	26
Okla.	6	228	15	–	3	–	77	370	8,950	7,884	3	106	59	156
Tex.	32	1,159	12	1	35	2	29	1,373	54,023	51,005	105	3,320	2,304	509
MOUNTAIN	20	486	25	–	21	–	25	775	24,595	23,902	10	488	385	151
Mont.	5	27	5	–	4	–	12	21	893	903	–	11	1	82
Idaho	–	6	4	–	–	–	5	26	1,098	1,056	–	17	14	1
Wyo.	–	7	1	–	–	–	5	11	564	702	–	7	8	12
Colo.	–	50	5	–	6	–	–	273	6,671	6,406	3	149	103	19
N. Mex.	3	92	1	–	–	–	–	53	2,641	2,954	4	92	64	21
Ariz.	9	230	–	–	10	–	–	207	7,448	6,520	–	105	129	12
Utah	1	35	8	–	1	–	1	32	1,152	1,133	–	17	11	1
Nev.	2	39	1	–	–	–	2	152	4,128	4,228	3	90	55	3
PACIFIC	115	3,384	5	10	103	–	5	2,755	98,769	104,184	73	2,732	3,177	411
Wash.	2	249	1	–	3	–	1	338	7,992	8,710	–	94	162	10
Oreg.	–	121	–	–	4	–	–	212	5,866	7,016	2	63	67	7
Calif.	111	2,879	4	10	95	–	4	2,093	80,463	83,888	70	2,520	2,833	380
Alaska	–	44	–	–	–	–	–	58	2,476	2,496	–	9	7	14
Hawaii	2	91	–	–	1	–	–	54	1,972	2,074	1	46	108	–
Guam	NA	7	–	NA	–	NA	–	NA	47	86	NA	–	4	–
P.R.	4	187	–	–	4	–	–	63	2,055	1,624	16	430	358	53
V.I.	–	1	–	–	6	–	–	2	131	108	–	15	10	–
Pac. Trust Terr.	NA	38	–	NA	–	NA	–	NA	211	264	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 22, 1981 (33rd week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	637	414	152	36	13	22	48
Boston, Mass.	175	97	53	13	5	7	26
Bridgeport, Conn.	47	31	9	3	1	3	1
Cambridge, Mass.	19	15	4	–	–	–	1
Fall River, Mass.	36	28	7	–	–	1	–
Hartford, Conn.	65	45	13	3	2	2	1
Lowell, Mass.	30	23	4	1	2	–	–
Lynn, Mass.	27	24	3	–	–	–	–
New Bedford, Mass.	24	17	5	2	–	–	2
New Haven, Conn.	37	15	13	4	2	3	–
Providence, R.I. §	61	41	15	3	–	2	4
Somerville, Mass.	2	1	1	–	–	–	–
Springfield, Mass.	32	24	7	–	–	1	2
Waterbury, Conn.	25	16	6	2	1	–	2
Worcester, Mass.	57	37	12	5	–	3	9
MID. ATLANTIC	2,278	1,463	525	141	73	75	72
Albany, N.Y.	59	41	9	2	3	4	–
Allentown, Pa. §	18	15	3	–	–	–	–
Buffalo, N.Y.	100	76	13	3	2	5	9
Camden, N.J.	33	17	8	3	4	1	2
Elizabeth, N.J.	23	14	6	2	1	–	–
Erie, Pa.†	29	19	8	–	–	2	1
Jersey City, N.J.	46	27	15	2	1	1	–
N.Y. City, N.Y.	1,277	797	301	87	49	43	34
Newark, N.J.	62	30	15	13	2	2	3
Paterson, N.J.	30	20	5	–	–	5	–
Philadelphia, Pa.†	160	99	43	8	4	6	7
Pittsburgh, Pa.†	62	38	16	5	–	3	2
Reading, Pa.	33	27	5	1	–	–	1
Rochester, N.Y.	129	95	21	6	4	3	7
Schenectady, N.Y.	37	26	9	1	1	–	1
Scranton, Pa.†	30	23	6	1	–	–	1
Syracuse, N.Y.	76	50	22	3	1	–	1
Trenton, N.J.	32	18	11	2	1	–	2
Utica, N.Y.	24	21	3	–	–	–	–
Yonkers, N.Y.	18	10	6	2	–	–	1
E.N. CENTRAL	2,041	1,228	513	153	77	70	62
Akron, Ohio	50	30	13	2	4	1	–
Canton, Ohio	33	21	8	3	1	–	4
Chicago, Ill.	502	293	131	40	19	19	15
Cincinnati, Ohio	119	74	23	10	6	6	8
Cleveland, Ohio	161	94	43	14	6	4	2
Columbus, Ohio	89	53	27	3	4	2	4
Dayton, Ohio	95	58	24	7	2	4	–
Detroit, Mich.	243	129	67	29	9	9	4
Evansville, Ind.	51	34	12	1	2	2	1
Fort Wayne, Ind.	61	40	12	4	2	3	5
Gary, Ind.	20	12	5	2	1	–	2
Grand Rapids, Mich	61	43	12	2	1	3	1
Indianapolis, Ind.	127	74	29	9	11	4	2
Madison, Wis.	38	26	10	–	1	1	1
Milwaukee, Wis.	120	77	31	7	2	3	1
Peoria, Ill.	47	31	7	6	1	2	3
Rockford, Ill.	32	26	2	3	–	1	1
South Bend, Ind.	42	33	8	–	–	1	4
Toledo, Ohio	97	53	32	7	2	3	4
Youngstown, Ohio	53	27	17	4	3	2	–
W.N. CENTRAL	729	437	168	40	39	45	16
Des Moines, Iowa	54	33	15	2	1	3	–
Duluth, Minn.	40	22	9	3	2	4	1
Kansas City, Kans.	37	21	6	3	1	6	2
Kansas City, Mo.	97	61	22	7	3	4	2
Lincoln, Nebr.	34	21	8	3	2	–	1
Minneapolis, Minn.	73	36	19	2	4	12	1
Omaha, Nebr.	95	52	21	8	10	4	3
St. Louis, Mo.	162	93	46	7	10	6	3
St. Paul, Minn.	76	59	9	2	4	2	1
Wichita, Kans.	61	39	13	3	2	4	2

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,112	627	296	99	36	53	35
Atlanta, Ga.	138	72	47	13	2	4	3
Baltimore, Md.	156	87	47	14	5	3	1
Charlotte, N.C.	43	25	14	1	1	2	1
Jacksonville, Fla.	105	70	22	6	2	5	3
Miami, Fla.	101	53	24	13	7	4	1
Norfolk, Va.	57	28	13	4	2	10	4
Richmond, Va.	84	42	26	6	3	6	7
Savannah, Ga.	36	28	6	–	1	1	2
St. Petersburg, Fla.	99	84	12	–	–	3	5
Tampa, Fla.	63	34	19	4	3	3	3
Washington, D.C.	181	74	53	35	9	10	5
Wilmington, Del.	49	30	13	3	1	2	–
E.S. CENTRAL	629	349	170	53	27	30	21
Birmingham, Ala.	75	34	25	7	5	4	–
Chattanooga, Tenn.	56	37	13	2	2	2	3
Knoxville, Tenn.	44	30	10	1	1	2	1
Louisville, Ky.	84	49	19	7	3	6	4
Memphis, Tenn.	159	87	45	15	5	7	9
Mobile, Ala.	75	34	21	9	6	5	1
Montgomery, Ala.	36	26	5	–	2	3	2
Nashville, Tenn.	100	52	32	12	3	1	1
W.S. CENTRAL	1,411	752	364	140	87	68	41
Austin, Tex.	54	37	11	2	2	2	3
Baton Rouge, La.	38	17	10	2	3	6	2
Corpus Christi, Tex.	62	33	10	7	8	4	1
Dallas, Tex.	206	111	51	22	13	9	1
El Paso, Tex.	51	35	12	2	1	1	3
Fort Worth, Tex.	95	52	25	4	3	11	7
Houston, Tex.	400	193	113	49	29	16	6
Little Rock, Ark.	63	33	15	10	2	3	7
New Orleans, La.	132	69	37	11	7	8	–
San Antonio, Tex.	164	93	42	13	13	3	7
Shreveport, La.	40	20	11	6	2	1	–
Tulsa, Okla.	106	59	27	12	4	4	4
MOUNTAIN	571	313	155	45	38	20	8
Albuquerque, N. Mex.	74	27	15	9	20	3	1
Colo. Springs, Colo.	32	15	12	2	3	–	–
Denver, Colo.	112	70	31	9	2	–	1
Las Vegas, Nev.	53	26	17	7	1	2	2
Ogden, Utah	13	6	1	1	2	3	1
Phoenix, Ariz.	151	90	39	8	5	9	–
Pueblo, Colo.	16	11	4	1	–	–	2
Salt Lake City, Utah	50	32	13	3	1	1	–
Tucson, Ariz.	70	36	23	5	4	2	1
PACIFIC	1,509	970	336	112	46	44	52
Berkeley, Calif.	18	14	2	2	–	–	–
Fresno, Calif.	47	31	7	2	4	3	3
Glendale, Calif.	23	20	2	1	–	–	–
Honolulu, Hawaii	42	24	12	3	2	1	2
Long Beach, Calif.	97	50	29	16	1	1	3
Los Angeles, Calif.	412	262	95	28	12	14	10
Oakland, Calif.	72	46	14	7	3	2	5
Pasadena, Calif.	30	23	4	2	1	–	4
Portland, Oreg. §	108	74	21	5	3	5	1
Sacramento, Calif.	53	30	9	3	4	7	3
San Diego, Calif.	72	41	20	4	3	4	–
San Francisco, Calif.	147	91	37	14	3	2	3
San Jose, Calif.	132	86	30	8	6	2	5
Seattle, Wash.	147	101	32	11	2	1	8
Spokane, Wash.	54	38	13	2	1	–	2
Tacoma, Wash.	55	39	9	4	1	2	3
TOTAL	10,917††	6,553	2,679	819	436	427	355

*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.

ACIP Recommendation for Pneumococcal Vaccine – Continued

conferred type-specific protection, significantly reducing the frequency of pneumococcal pneumonia and general respiratory morbidity. When 14-valent vaccine was tested in a native population in New Guinea, where there was a large amount of acute and chronic respiratory disease, much of it caused by the pneumococcus, pneumonia morbidity and mortality was significantly reduced (*8*).

Two randomized, controlled trials of pneumococcal vaccine in older-age adults have been conducted in the United States (*9*). One was in outpatients over 45 years old and the other was in inpatients of a chronic-care psychiatric facility. In neither study was there any difference in the occurrence of respiratory morbidity and mortality between those vaccinated with a polyvalent pneumococcal vaccine and those given a placebo. In the first study, data suggested some vaccine protection against bacteremic pneumococcal disease, but the incidence of pneumococcal disease was low (less than 2.5/1,000 population/year) and may not have enabled a valid assessment of vaccine efficacy. In the other study, there were no fewer cases of radiologically diagnosed pneumonia among vaccinees than among controls.

The data from these 2 trials were analyzed using a case definition based on seroconversion to a vaccine serotype and radiographic documentation of pneumonia. With this case definition, vaccine efficacy of 80%-100% was calculated. However, because persons who have been vaccinated do not show an increase in antibody titer on revaccination, vaccinees may have been unable to seroconvert to a natural infection, making it difficult to document cases in vaccinees. The vaccine efficacy based on this case definition could therefore be overestimated.

There have been only a few studies of pneumococcal vaccine efficacy in children. The vaccine was generally found to be less antigenic for children <2 years old than for other vaccinees. However, in a small, nonrandomized study of children and young adults 2-25 years old who had sickle cell anemia or had had splenectomy, occurrence of bacteremic pneumococcal disease was found to be significantly reduced by immunization with an 8-valent vaccine (*10*).

A recently proposed method to evaluate protection with pneumococcal vaccine compares the distribution of serotypes of pneumococci isolated from the blood or cerebrospinal fluid of vaccinated and unvaccinated patients (*11*). When this method was used to compare 36 vaccinated patients >10 years old—unclassified with respect to underlying medical conditions—with about 10 times that many comparable unvaccinated controls, a vaccine efficacy rate of 49% was found (66%, if only patients with blood isolates were considered.) As more patients become available for evaluation, estimates for specific diagnostic categories can be made, and the broad confidence intervals now associated with the analysis, reduced.

The duration of protection induced by vaccination is unknown. Studies of persistence of elevated antibody titers are ongoing; currently available data show elevation of titers 3-5 years after immunization.

SIDE EFFECTS AND ADVERSE REACTIONS

About half of those given pneumococcal vaccine develop side effects such as erythema and mild pain at the site of injection. Severe adverse effects such as anaphylactoid reactions have been quite rare—about 5/million doses administered.

Severe local and systemic reactions have been common among adults given second doses (*12*). They are thought to result from localized antigen-antibody reactions involving antibody induced by previous vaccination. Whether prior infection with the *S. pneumo-*

ACIP Recommendation for Pneumococcal Vaccine — Continued

niae types represented in the vaccine will result in comparable local reactions after vaccination is unknown. Several studies indicate that pneumococcal vaccine and influenza vaccine can be given at different sites at the same time without an increase in side effects (*13*), but it should be emphasized that pneumococcal vaccine should be given *only once* to adults. Data on revaccination of children are not yet sufficient to provide a basis for comment.

VACCINE USAGE

The currently available 14-valent pneumococcal vaccine (as well as the earlier pneumococcal vaccines) has been shown in selected populations to reduce by approximately 80% the incidence of pneumonia with bacteremia caused by *S. pneumoniae* types represented in the vaccines. In extrapolating this information for recommendations on vaccine use, it is important to recognize that data on effectiveness have come predominantly from studies in groups of adults who were at increased risk of disease but who were not chronically ill. Because age and some chronic illnesses apparently predispose individuals to more severe pneumococcal disease, it would be ideal if recommendations on immunization could be based on definitive clinical trials in groups of elderly patients and patients with chronic illnesses. While data on pneumococcal vaccine effectiveness in chronically ill persons and in others continue to accumulate, they are not yet sufficient for conclusive interpretations. Therefore, the Committee's recommendations that follow are derived from admittedly limited data.

1. On the basis of preliminary evidence, persons >2 years old who have splenic dysfunction or anatomic asplenia should benefit from immunization. Vaccine failures have been reported, perhaps due to impairment of antibody responsiveness, but vaccination is recommended for such patients because they are known to be at high risk of developing fatal bacteremia.
2. Adults and children >2 years old with chronic illnesses which are or appear to be associated with an increased risk of pneumococcal disease or its complications (see above) should be considered candidates for vaccination. Vaccine may be increasingly beneficial as these patients grow older because the elderly are at increased risk of dying from pneumococcal infections. Vaccine efficacy in these groups needs further evaluation and is currently under study.
3. There can be acute outbreaks or a high rate of endemic pneumococcal disease in some populations, such as in nursing homes and other institutions where there is increased risk that the disease will be severe. Under these conditions, vaccination of the entire closed population should be considered.
4. Localized outbreaks of pneumococcal disease caused by types represented in the vaccine can occur in the general population, albeit rarely. In such instances, selective immunization of those at high risk should be considered.
5. There are not yet sufficient data with which to formulate a recommendation on routine use of pneumococcal vaccine in immunization programs for the general population, including the elderly. This should not preclude health-care providers from giving vaccine to unimmunized healthy persons who, in their judgment, might benefit.

PRECAUTIONS

The safety of pneumococcal vaccine in pregnant women has not been evaluated. It should not be given during pregnancy unless the risk of infection is substantially increased.

Because of a marked increase in adverse reactions with reinjection of pneumococcal

ACIP Recommendation for Pneumococcal Vaccine – Continued

vaccine, second or "booster" doses should *not* be given, at least at this time.

Complete records on vaccination can help to avoid repeat doses.

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Erratum, Vol. 30, No. 32

p392. In the article, "Multistate Outbreak of Salmonellosis Caused by Precooked Roast Beef," 3 names from the New Jersey State Dept of Health were incorrectly spelled. They should read: E Feuer, MD, I Guerrero, MD, and D Moulton.

Erratum, Vol. 30, No. 32

p404. The Recommendation of the Immunization Practices Advisory Committee on Diphtheria, Tetanus, and Pertussis: "Guidelines for Vaccine Prophylaxis and Other Preventive Measures," Table 3, contained an error in the third footnote. The footnote should read: "Yes, if wound more than 24 hours old." The following corrected table should be substituted:

CORRECTED

TABLE 3. Summary guide to tetanus prophylaxis in routine wound management, 1981*

History of tetanus immunization (doses)	Clean, minor wounds		All other wounds	
	Td†	TIG	Td†	TIG
Uncertain	Yes	No	Yes	Yes
0-1	Yes	No	Yes	Yes
2	Yes	No	Yes	No‡
3 or more	No§	No	No¶	No

*Important details are in the text.
†For children less than 7 years old DTP (DT, if pertussis vaccine is contraindicated) is preferred to tetanus toxoid alone. For persons 7 years old and older, Td is preferred to tetanus toxoid alone.
‡Yes, if wound more than 24 hours old.
§Yes, if more than 10 years since last dose.
¶Yes, if more than 5 years since last dose. (More frequent boosters are not needed and can accentuate side effects.)

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