CENTERS FOR DISEASE CONTROL

December 3, 1982 / Vol. 31 / No. 47

MMWR

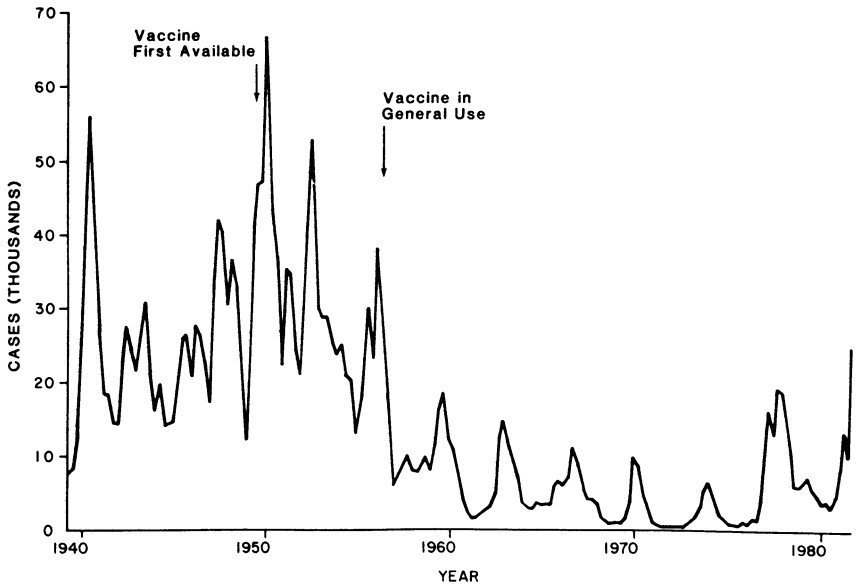
MORBIDITY AND MORTALITY WEEKLY REPORT

International Notes

Pertussis — England and Wales

Pertussis became a notifiable disease in England and Wales in 1940. From 1957 to 1961, following the widespread use of immunization against pertussis, the annual number of cases reported to the Communicable Diseases Surveillance Center (CDSC) declined by approximately two-thirds (Figure 1). However, outbreaks were reported every 3-4 years up to 1974-1975; these outbreaks were substantially smaller than those occurring before the widespread use of pertussis vaccine. From 1967 to 1974, between 76% and 81% of children had completed immunization for pertussis by their second birthdays. Following public controversy about pertussis vaccine reactions, immunization levels dropped dramatically from 77% in 1974 to 30% in 1978. In 1977, reports of pertussis began to increase, culminating in a large outbreak during 1978-1979, the largest since the 1950s. Following this outbreak, vaccination acceptance rose slightly from 30% in 1978 to approximately 45% in 1981. Beginning in 1981, pertussis again reached epidemic levels, and by 1982, the epidemic had become the largest since 1957. In the first 9 months of 1982, 47,508 cases of pertussis were reported.

FIGURE 1. Pertussis cases reported quarterly — England and Wales, 1940-1982



Pertussis — Continued

In the third quarter of 1982, reported cases exceeded those in any quarter since the spring of 1957. Over 3,200 cases were reported for the week ending September 10, 1982, alone.

During both the 1977/1979 and the present 1981/1982 outbreaks, reports of *Bordetella pertussis* isolates received by CDSC followed trends similar to case reports.

Age-specific pertussis incidence rates are shown in Table 1. During the 1970-1975 period, the rate was highest for children under 1 year of age. From 1976 to 1981, following the decline in pertussis immunization acceptance, case reports increased for all age groups. The increase for children under 1 year of age was 2.3-fold; it was 4.4-fold for children age 1-4 years. Incidence rates for 5-9 year olds, some of whom would have been vaccinated before the adverse publicity about pertussis vaccine, increased 1.8-fold.

Pertussis deaths and case-fatality ratios (CFR) are shown in Table 2. From 1955 to 1981, the average annual number of deaths during each 6-year period dropped dramatically. Between 1952 and 1975, the average annual CFR during each 6-year period ranged between 0.11 and 0.13. The average CFR for 1976-1981 decreased to 0.04. Approximately 71% of the deaths from 1952 to 1981 occurred among children less than 1 year old. The average annual CFR for this age group during the same 30-year period was 0.71, about 25 times greater than that of all other ages combined.

Reported by Communicable Disease Report, *1982:41, Public Health Laboratory Svc, Communicable Disease Surveillance Center, London, England.*

Editorial Note: During 1977-1979 a major pertussis epidemic with 102,500 reported cases affected all parts of the United Kingdom (*1*). England and Wales are presently experiencing an even larger epidemic, which began in 1981. Common trends in reported pertussis cases and in *B. pertussis* isolates confirm the epidemics. Both epidemics followed periods of low

TABLE 1. Age-specific incidence rates,* pertussis — England and Wales, 1946-1981

	< 1 year	1-4 years	5-9 years	≥ 10 years
1946-1951	1,649	2,498	1,285	11
1952-1957	1,417	1,963	1,101	10
1958-1963	439	521	359	5
1964-1969	253	310	176	3
1970-1975	198	152	92	2
1976-1981	460	662	168	4

*Per 100,000 population

TABLE 2. Age-specific average annual deaths and case-fatality ratios,* pertussis — England and Wales, 1940-1982

	All ages		Age < 1 year		Age ≥ 1 year	
	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio
1940-1945	1,120	1.20	630	†	489	†
1946-1951	639	0.56	411	3.58	228	0.23
1952-1957	138	0.13	94	0.96	44	0.04
1958-1963	29	0.12	21	0.78	8	0.04
1964-1969	23	0.12	19	0.88	4	0.03
1970-1975	12	0.11	10	0.73	1	0.01
1976-1981	7	0.04	5	0.19	2	0.02
Jan-Sept 1982	11	0.02	8	†	3	†

*Per hundred reported cases

†Not available

Pertussis — Continued

vaccine coverage of children. The timing and magnitude of the epidemics, the age group (1-4 years) primarily affected, the fall in levels of vaccine acceptance, and the rise in the number of reported pertussis cases suggest a direct relationship between the decline in vaccination coverage and the occurrence of these epidemics. No other explanations, including socio-economic factors, satisfactorily account for the 1977-1979 epidemic (*2-5*).

Mortality and CFR during the epidemic periods were low. Most deaths and the highest CFR were among patients less than 1 year of age. Reductions in mortality and in CFR are probably associated with improved care of infants rather than a change in the severity of disease.

Pertussis remains a severe disease for a substantial proportion of affected children. During the 1977-1979 epidemic, 4% of patients reported in 21 health areas of England and Wales were hospitalized and 40% of hospitalized patients were less than 6 months of age (*1*). Among those hospitalized, 1% required intensive care; one-third of these had complications. Twelve percent of patients with complications had pneumonia, and 5% had convulsions. Applying these figures to the entire population of England and Wales indicates that, during the epidemic, as many as 5,000 children were admitted to hospitals; 2,000 of these were less than 6 months old; 50 required intensive care; 200 developed pneumonia; and 83 had convulsions induced by the disease. In both Glasgow and Edinburgh, extra wards were opened to accommodate children with pertussis.

During the 1977-1979 epidemic, the efficacy of three doses of pertussis vaccine, given as DTP, in preventing pertussis was evaluated among children under 6 years old in one-fourth of the health areas of England (*2*). Attack rates among DTP recipients and DT recipients were compared. A pertussis vaccine efficacy of greater than 80% was shown for each 1-year-age cohort. When analysis was restricted to bacteriologically confirmed cases, vaccine efficacy was 93%. This study confirmed that the DTP vaccine used in the United Kingdom was highly effective in protecting individuals against pertussis.

The epidemiology of pertussis and the effect, value, and risks of vaccine were reviewed in 1981 by the Joint Committee on Vaccination and Immunization of the Department of Health and Social Security of Great Britain. The Committee concluded that risk from immunization was slight and outweighed by its advantages and that, with due attention to vaccine contraindications, pertussis vaccine should continue to be recommended as part of the basic course of childhood immunization in the United Kingdom (*6*).

This reassurance and the current major epidemic have led to the recent increase in vaccine acceptance in England. However, acceptance levels are still substantially lower than in 1974, and recent increases are not expected to affect this current outbreak.

The recent epidemics in the United Kingdom have demonstrated that a decline in vaccination coverage in a previously highly vaccinated population can result in epidemics of pertussis. The U.S. Public Health Service Immunization Practices Advisory Committee and the American Academy of Pediatrics, after considering the risks and benefits of pertussis vaccination, continue to recommend routine use of DTP vaccine in the United States (*7,8*).

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Pertussis — Continued

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Epidemiologic Notes and Reports

Spectinomycin-Resistant *Neisseria gonorrhoeae* — Worldwide

Until recently, only eight isolates of spectinomycin-resistant *Neisseria gonorrhoeae* had been reported worldwide; four were penicillinase-producing *N. gonorrhoeae* (PPNG), and four were non-PPNG (*1*). During the last 4 months, however, six additional isolates of

(Continued on page 637)

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

Disease	47th Week Ending			Cumulative, First 47 Weeks		
	November 27, 1982	November 28, 1981	Median 1977-1981	November 27, 1982	November 28, 1981	Median 1977-1981
Aseptic meningitis	165	157	151	8,286	8,806	7,135
Brucellosis	2	4	4	146	160	160
Encephalitis: Primary (arthropod-borne & unspec.)	29	33	25	1,308	1,376	1,095
Post-infectious	-	2	6	56	83	201
Gonorrhea: Civilian	13,634	16,090	16,090	861,158	905,153	905,153
Military	236	382	382	23,655	24,827	24,490
Hepatitis: Type A	379	469	509	20,435	22,785	26,342
Type B	461	400	290	19,433	18,563	14,759
Non A, Non B	59	N	N	2,106	N	N
Unspecified	157	170	185	7,953	9,758	9,391
Legionellosis	22	N	N	488	N	N
Leprosy	3	2	1	184	222	155
Malaria	10	13	12	942	1,258	697
Measles (rubeola)	28	27	124	1,580	2,856	13,206
Meningococcal infections: Total	51	68	47	2,662	3,165	2,328
Civilian	51	68	47	2,649	3,153	2,308
Military	-	-	-	13	12	18
Mumps	58	103	166	4,743	4,084	12,590
Pertussis	10	21	21	1,553	1,116	1,538
Rubella (German measles)	8	18	48	2,170	1,937	11,213
Syphilis (Primary & Secondary): Civilian	540	604	371	29,678	27,997	22,459
Military	9	8	9	402	346	284
Tuberculosis	413	500	471	23,123	24,568	24,647
Tularemia	-	1	3	230	251	176
Typhoid fever	12	1	2	365	522	474
Typhus fever, tick-borne (RMSF)	3	3	4	962	1,155	1,104
Rabies, animal	74	74	65	5,607	6,622	4,599

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1982		Cum. 1982
Anthrax	-	Poliomyelitis: Total	5
Botulism	75	Paralytic	5
Cholera	-	Psittacosis	107
Congenital rubella syndrome	6	Rabies, human	-
Diphtheria	3	Tetanus (Iowa 1)	74
Leptospirosis (Ala. 1)	67	Trichinosis	80
Plague	18	Typhus fever, flea-borne (endemic, murine)	39

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 27, 1982 and November 28, 1981 (47th week)

Reporting Area	Aseptic Meningitis	Brucellosis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1981	1982	1982	1982	1982	1982	Cum. 1982
UNITED STATES	165	146	1,308	56	861,158	905,153	379	461	59	157	22	184
NEW ENGLAND	6	3	51	6	20,883	22,026	3	16	-	11	2	1
Maine	-	-	-	-	1,078	1,187	-	1	-	-	-	-
N.H.	-	-	8	-	675	818	-	1	-	1	2	-
Vt.	-	-	-	-	387	405	-	1	-	-	-	-
Mass.	6	-	21	-	9,358	9,266	3	5	-	10	-	-
R.I.	-	-	-	1	1,398	1,344	-	1	-	-	-	-
Conn.	-	3	22	5	7,987	9,006	-	7	-	-	-	1
MID. ATLANTIC	17	3	134	14	109,364	108,831	47	92	5	15	2	9
Upstate N.Y.	6	3	55	3	18,258	19,028	8	14	5	3	-	1
N.Y. City	6	-	19	-	44,910	44,378	8	17	-	1	2	6
N.J.	2	-	23	-	19,844	20,532	19	40	-	8	-	1
Pa.	3	-	37	11	26,352	24,893	12	21	-	3	-	1
E.N. CENTRAL	18	4	333	12	120,782	134,577	41	43	6	9	11	10
Ohio	4	1	130	5	32,935	42,470	2	5	-	-	11	-
Ind.	3	-	91	3	15,181	11,232	24	24	1	2	-	-
Ill.	-	2	15	2	32,012	38,878	9	10	5	3	-	8
Mich.	11	1	68	-	29,721	29,655	6	4	-	4	-	-
Wis.	-	-	29	2	10,933	12,342	-	-	-	-	-	2
W.N. CENTRAL	26	17	90	4	40,535	43,570	8	43	2	5	2	7
Minn.	-	1	27	1	5,862	6,911	1	1	-	-	-	4
Iowa	2	5	44	1	4,339	4,834	-	1	-	-	2	-
Mo.	20	4	8	-	19,219	20,174	3	41	2	4	-	1
N. Dak.	-	1	-	-	529	546	-	-	-	-	-	-
S. Dak.	-	1	-	1	1,044	1,163	-	-	-	-	-	1
Nebr.	3	2	6	-	2,392	3,248	1	-	-	1	-	1
Kans.	1	3	5	1	7,150	6,694	3	-	-	-	-	-
S. ATLANTIC	25	28	190	8	227,279	223,069	32	93	7	15	3	11
Del.	-	-	-	-	3,764	3,548	-	-	-	-	-	-
Md.	1	-	24	-	28,611	26,173	3	20	-	2	1	4
D.C.	1	-	-	-	13,769	12,684	-	1	-	-	-	-
Va.	7	10	40	1	18,231	20,474	-	4	3	2	1	1
W. Va.	-	-	16	-	2,530	3,304	1	-	-	-	-	-
N.C.	5	-	28	1	35,884	34,611	3	7	-	2	-	-
S.C.	-	2	2	-	21,915	21,524	10	16	1	1	-	-
Ga.	6	3	14	-	45,175	46,240	8	15	-	1	1	1
Fla.	5	13	66	6	57,400	54,511	7	30	3	7	-	5
E.S. CENTRAL	9	12	63	3	74,535	75,906	9	36	4	1	1	-
Ky.	-	-	1	-	10,073	9,490	-	5	1	-	-	-
Tenn.	6	7	29	-	29,631	28,876	7	24	1	1	-	-
Ala.	3	4	17	3	21,466	22,814	-	7	2	-	1	-
Miss.	-	1	16	-	13,365	14,726	2	-	-	-	-	-
W.S. CENTRAL	15	45	203	1	118,221	119,275	64	33	1	50	-	27
Ark.	-	7	19	-	9,731	9,088	-	3	-	9	-	-
La.	3	8	24	-	22,289	20,645	11	5	-	7	-	-
Okla.	5	8	37	-	13,044	13,173	5	1	1	4	-	-
Tex.	7	22	123	1	73,157	76,369	48	24	-	30	-	27
MOUNTAIN	7	3	55	2	29,175	35,825	46	20	4	26	-	2
Mont.	-	2	-	-	1,225	1,300	1	1	-	-	-	-
Idaho	-	1	-	-	1,388	1,569	-	-	-	-	-	1
Wyo.	-	-	1	-	878	944	-	-	-	-	-	-
Colo.	4	-	19	1	7,796	9,654	3	6	1	1	-	-
N. Mex.	-	-	1	-	3,996	4,021	8	1	-	-	-	-
Ariz.	-	-	11	-	7,606	10,563	22	4	1	21	-	-
Utah	3	-	18	1	1,437	1,780	7	3	1	2	-	1
Nev.	-	-	5	-	4,849	5,994	5	5	1	2	-	-
PACIFIC	42	31	189	6	120,384	142,074	129	85	30	25	1	117
Wash.	2	1	13	-	10,417	11,849	2	7	3	1	1	9
Oreg.	-	-	4	-	7,207	8,399	5	4	3	-	-	1
Calif.	34	29	158	6	97,310	115,382	121	73	24	24	-	75
Alaska	-	1	10	-	3,120	3,703	-	-	-	-	-	1
Hawaii	6	-	4	-	2,330	2,741	1	1	-	-	-	31
Guam	U	-	-	1	106	108	U	U	U	U	U	1
P.R.	-	-	1	3	2,336	2,933	6	5	-	3	-	1
V.I.	U	-	-	-	214	237	U	U	U	U	U	-
Pac. Trust Terr.	U	-	-	-	388	415	U	U	U	U	U	44

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 27, 1982 and November 28, 1981 (47th week)

Reporting Area	Malaria		Measles (Rubeola)			Meningococcal Infections (Total)		Mumps		Pertussis	Rubella		
	1982	Cum. 1982	1982	Cum. 1982	Cum. 1981	1982	Cum. 1982	1982	Cum. 1982	1982	1982	Cum. 1982	Cum. 1981
UNITED STATES	10	942	28	1,580	2,856	51	2,662	58	4,743	10	8	2,170	1,937
NEW ENGLAND	2	49	-	16	84	2	146	5	188	2	-	21	120
Maine	-	-	-	-	5	1	10	1	43	-	-	-	33
N.H.	-	2	-	3	7	-	18	-	18	-	-	11	51
Vt.	-	-	-	2	3	-	11	-	7	-	-	-	-
Mass.	1	28	-	5	59	1	41	2	81	2	-	4	23
R.I.	-	3	-	-	-	-	16	1	17	-	-	1	-
Conn.	1	16	-	6	10	-	50	1	22	-	-	5	13
MID. ATLANTIC	2	157	-	167	937	10	479	4	317	3	1	104	226
Upstate N.Y.	-	29	-	114	218	3	165	3	88	1	1	50	111
N.Y. City	1	61	-	43	102	1	93	-	47	-	-	35	55
N.J.	-	31	-	6	58	3	97	1	52	1	-	18	47
Pa.	1	36	-	4	559	3	124	-	130	1	-	1	13
E.N. CENTRAL	-	84	-	77	90	7	346	21	2,372	1	-	193	411
Ohio	-	13	-	1	20	-	121	6	1,637	1	-	2	3
Ind.	-	3	-	2	9	3	36	1	43	-	-	29	137
Ill.	-	36	-	24	25	3	88	4	201	-	-	72	112
Mich.	-	26	-	50	33	1	78	10	371	-	-	49	37
Wis.	-	6	-	-	3	-	23	-	120	-	-	41	122
W.N. CENTRAL	2	31	-	49	10	7	136	6	617	1	-	60	79
Minn.	1	4	-	-	3	-	32	-	454	-	-	6	8
Iowa	-	8	-	-	1	-	12	6	51	-	-	-	4
Mo.	1	10	-	2	1	5	40	-	20	-	-	38	2
N. Dak.	-	2	-	-	-	-	6	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	1	8	-	1	-	-	1	-
Nebr.	-	4	-	3	4	-	14	-	1	-	-	-	1
Kans.	-	3	-	44	1	1	24	-	90	1	-	15	64
S. ATLANTIC	2	127	18	168	471	8	556	4	284	-	-	93	141
Del.	-	4	-	-	-	1	1	-	12	-	-	1	1
Md.	-	20	-	4	5	1	40	-	30	-	-	34	1
D.C.	-	4	-	1	1	-	4	-	-	-	-	-	-
Va.	-	39	-	14	9	2	67	1	39	-	-	13	6
W. Va.	-	7	-	3	9	-	10	1	98	-	-	3	22
N.C.	1	8	-	1	3	1	108	-	20	-	-	2	5
S.C.	-	4	-	-	2	1	66	-	17	-	-	1	8
Ga.	-	16	-	-	111	2	109	2	22	-	-	17	37
Fla.	1	25	18	145	331	-	151	-	46	-	-	22	61
E.S. CENTRAL	-	9	-	9	5	2	160	1	63	-	-	47	38
Ky.	-	5	-	1	1	-	25	-	20	-	-	29	24
Tenn.	-	-	-	6	2	1	70	1	25	-	-	2	13
Ala.	-	1	-	2	2	1	52	-	9	-	-	-	1
Miss.	-	3	-	-	-	-	13	-	9	-	-	16	-
W.S. CENTRAL	-	64	9	170	871	9	308	10	227	-	1	120	180
Ark.	-	4	-	-	23	-	15	-	7	-	-	1	7
La.	-	5	9	11	4	1	63	-	6	-	-	1	9
Okla.	-	8	-	30	6	2	30	-	-	-	-	3	2
Tex.	-	47	-	129	838	6	200	10	214	-	1	115	162
MOUNTAIN	-	30	-	28	37	2	116	3	108	-	1	82	96
Mont.	-	1	-	-	-	1	7	1	5	-	-	5	3
Idaho	-	2	-	-	1	-	7	-	4	-	-	7	4
Wyo.	-	-	-	1	1	-	5	-	2	-	-	7	12
Colo.	-	12	-	7	10	-	48	1	18	-	-	6	30
N. Mex.	-	3	-	-	8	-	15	-	-	-	-	6	5
Ariz.	-	8	-	17	7	-	21	1	51	-	-	16	22
Utah	-	4	-	3	-	1	11	-	20	-	1	23	9
Nev.	-	-	-	-	10	-	2	-	8	-	-	12	11
PACIFIC	2	391	1	896	351	4	415	4	567	3	5	1,450	646
Wash.	1	24	-	42	3	-	49	-	79	2	-	40	93
Oreg.	-	14	-	24	5	-	75	-	-	-	-	6	53
Calif.	-	345	1	824	336	4	276	4	457	1	5	1,390	484
Alaska	-	1	-	1	-	-	11	-	11	-	-	5	1
Hawaii	1	7	-	5	7	-	4	-	20	-	-	9	15
Guam	U	1	U	6	6	U	2	U	3	U	U	2	2
P.R.	-	4	1	134	297	-	8	-	81	-	-	12	5
V.I.	U	-	U	-	24	U	-	U	3	U	U	2	1
Pac. Trust Terr.	U	-	U	1	1	U	5	U	6	U	U	-	1

U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending November 27, 1982 and November 28, 1981 (47th week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Tuberculosis		Tula-remia	Typhoid Fever		Typhus Fever (Tick-borne) (RMSF)		Rabies, Animal
	Cum. 1982	Cum. 1981	1982	Cum. 1982	Cum. 1982	1982	Cum. 1982	1982	Cum. 1982	Cum. 1982
UNITED STATES	29,678	27,997	413	23,123	230	12	365	3	962	5,607
NEW ENGLAND	540	528	15	653	7	-	18	-	11	42
Maine	7	5	-	53	-	-	-	-	-	26
N.H.	5	14	-	26	-	-	-	-	1	1
Vt.	4	17	-	10	-	-	2	-	-	2
Mass.	367	338	8	412	7	-	14	-	6	7
R.I.	22	32	-	28	-	-	-	-	2	-
Conn.	135	122	7	124	-	-	2	-	2	6
MID. ATLANTIC	3,964	4,025	98	3,923	7	1	64	1	45	193
Upstate N.Y.	395	406	9	669	7	-	9	-	16	107
N.Y. City	2,364	2,381	47	1,508	-	1	35	-	3	-
N.J.	582	570	11	765	-	-	12	1	14	17
Pa.	623	668	31	981	-	-	8	-	12	69
E.N. CENTRAL	1,709	2,125	55	3,511	1	1	34	-	84	564
Ohio	292	289	8	566	-	-	12	-	76	79
Ind.	190	274	5	425	-	-	2	-	2	71
Ill.	880	1,145	24	1,533	-	-	7	-	6	289
Mich.	257	333	16	792	-	1	10	-	-	6
Wis.	90	84	2	195	1	-	3	-	-	119
W.N. CENTRAL	500	614	7	691	36	-	16	-	34	1,119
Minn.	124	178	1	126	-	-	8	-	-	189
Iowa	31	24	-	69	3	-	1	-	4	365
Mo.	271	356	6	332	23	-	4	-	13	117
N. Dak.	7	11	-	15	-	-	-	-	-	91
S. Dak.	2	2	-	30	1	-	-	-	4	95
Nebr.	14	10	-	29	4	-	2	-	2	120
Kans.	51	33	-	90	5	-	1	-	11	142
S. ATLANTIC	8,141	7,459	78	4,783	13	2	45	1	515	1,153
Del.	24	13	1	42	-	-	-	-	-	2
Md.	446	535	6	551	1	-	10	-	49	60
D.C.	439	599	-	235	-	-	-	-	-	-
Va.	563	648	-	533	5	-	4	-	73	651
W. Va.	30	25	2	140	-	-	4	-	8	45
N.C.	667	594	20	707	-	-	3	1	222	65
S.C.	514	511	11	466	6	-	3	-	106	65
Ga.	1,690	1,811	23	773	-	-	-	-	51	198
Fla.	3,768	2,723	15	1,336	1	2	21	-	6	67
E.S. CENTRAL	2,067	1,829	42	2,103	8	-	20	1	96	610
Ky.	126	98	6	550	-	-	4	-	1	124
Tenn.	582	647	17	688	6	-	4	-	59	339
Ala.	773	543	16	574	-	-	9	1	17	140
Miss.	586	541	3	291	2	-	3	-	19	7
W.S. CENTRAL	7,850	6,731	43	2,784	117	-	39	-	157	1,094
Ark.	204	148	7	327	72	-	8	-	22	150
La.	1,714	1,534	10	434	3	-	3	-	2	31
Okla.	167	159	7	302	32	-	3	-	76	185
Tex.	5,765	4,890	19	1,721	10	-	25	-	57	728
MOUNTAIN	751	694	12	649	31	-	14	-	14	267
Mont.	5	11	1	40	4	-	-	-	5	85
Idaho	25	18	-	28	1	-	-	-	4	11
Wyo.	16	17	-	6	5	-	-	-	1	21
Colo.	204	204	3	90	7	-	3	-	1	48
N. Mex.	181	125	-	109	3	-	-	-	1	23
Ariz.	204	170	8	272	-	-	8	-	-	57
Utah	21	27	-	41	11	-	2	-	-	18
Nev.	95	122	-	63	-	-	1	-	2	4
PACIFIC	4,156	3,992	63	4,026	10	8	115	-	6	565
Wash.	146	176	9	249	1	-	7	-	-	8
Oreg.	104	110	2	177	2	-	4	-	1	5
Calif.	3,791	3,625	51	3,276	6	8	100	-	5	473
Alaska	15	12	-	80	1	-	1	-	-	79
Hawaii	100	69	1	244	-	-	3	-	-	-
Guam	1	-	U	38	-	U	-	U	-	-
P.R.	724	574	-	419	-	-	3	-	-	48
V.I.	24	16	U	1	-	U	-	U	-	-
Pac. Trust Terr.	-	-	U	114	-	U	1	U	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending November 27, 1982 (47th week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	612	407	148	24	12	20	55
Boston, Mass.	187	109	56	9	5	8	21
Bridgeport, Conn.	49	36	7	3	-	3	4
Cambridge, Mass.	24	14	7	2	-	1	4
Fall River, Mass.	29	23	5	1	-	-	-
Hartford, Conn.	48	34	9	3	1	1	1
Lowell, Mass.	18	12	3	1	2	-	-
Lynn, Mass.	17	13	3	-	1	-	-
New Bedford, Mass.	14	12	2	-	-	-	-
New Haven, Conn.	35	17	14	2	-	2	1
Providence, R.I.	45	32	9	1	1	2	8
Somerville, Mass.	10	7	3	-	-	-	-
Springfield, Mass.	45	29	9	2	1	3	4
Waterbury, Conn.	34	26	7	-	1	-	6
Worcester, Mass.	57	43	14	-	-	-	6
MID. ATLANTIC	2,236	1,483	483	154	56	60	74
Albany, N.Y.	40	32	1	5	1	1	2
Allentown, Pa.	19	15	4	-	-	-	-
Buffalo, N.Y.	114	71	31	5	4	3	6
Camden, N.J.	31	19	6	2	3	1	2
Elizabeth, N.J.	23	14	7	1	1	-	1
Erie, Pa.†	37	26	6	2	-	3	1
Jersey City, N.J.	59	31	13	6	7	2	3
N.Y. City, N.Y.	1,229	814	268	98	30	19	29
Newark, N.J.	40	20	16	2	-	2	2
Paterson, N.J.	31	22	6	3	-	-	2
Philadelphia, Pa.†	196	112	45	15	5	19	15
Pittsburgh, Pa.†	52	29	15	4	3	1	1
Reading, Pa.	20	15	3	1	-	1	3
Rochester, N.Y.	103	81	14	6	-	2	2
Schenectady, N.Y.	46	37	6	2	-	1	2
Scranton, Pa.†	21	15	6	-	-	-	-
Syracuse, N.Y.	86	63	17	2	1	3	1
Trenton, N.J.	28	21	5	-	1	1	2
Utica, N.Y.	20	16	4	-	-	-	-
Yonkers, N.Y.	41	30	10	-	-	1	-
E.N. CENTRAL	1,850	1,163	416	122	66	82	52
Akron, Ohio	33	18	11	2	-	2	-
Canton, Ohio	31	22	8	1	-	-	3
Chicago, Ill	460	272	110	35	19	24	15
Cincinnati, Ohio	96	61	20	6	8	1	7
Cleveland, Ohio	156	90	39	16	3	8	-
Columbus, Ohio	177	94	56	12	6	9	5
Dayton, Ohio	62	44	11	-	4	3	2
Detroit, Mich.	214	127	53	22	5	7	3
Evansville, Ind.	32	22	5	1	2	2	-
Fort Wayne, Ind.	43	26	8	4	4	1	4
Gary, Ind.	15	10	4	1	-	-	-
Grand Rapids, Mich.	33	23	7	-	-	3	1
Indianapolis, Ind.	147	85	41	11	5	5	1
Madison, Wis.	24	15	2	2	2	3	1
Milwaukee, Wis.	77	62	9	2	-	4	2
Peoria, Ill.	30	18	6	1	1	4	2
Rockford, Ill.	35	23	6	2	2	2	2
South Bend, Ind.	28	20	6	-	2	-	1
Toledo, Ohio §	106	97	1	2	2	3	2
Youngstown, Ohio	51	34	13	2	1	1	1
W.N. CENTRAL	601	388	124	36	17	36	28
Des Moines, Iowa	44	29	13	-	-	2	4
Duluth, Minn.	29	21	4	-	1	3	-
Kansas City, Kans.	41	23	9	4	3	2	2
Kansas City, Mo.	104	72	21	2	1	8	6
Lincoln, Nebr.	32	20	6	2	2	2	1
Minneapolis, Minn.	62	43	7	6	2	4	3
Omaha, Nebr.	69	43	16	7	-	3	6
St. Louis, Mo.	115	69	27	10	2	7	3
St. Paul, Minn.	56	39	10	2	-	5	1
Wichita, Kans.	49	29	11	3	6	-	2

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,037	591	277	87	46	30	26
Atlanta, Ga.	111	60	36	12	3	-	-
Baltimore, Md.	135	71	38	21	3	2	2
Charlotte, N.C.	59	39	10	4	3	3	2
Jacksonville, Fla.	67	35	15	4	6	2	-
Miami, Fla.	140	80	42	7	4	7	3
Norfolk, Va.	42	29	7	1	3	1	5
Richmond, Va.	66	34	19	4	3	6	4
Savannah, Ga.	40	16	18	5	1	-	2
St. Petersburg, Fla.	64	53	7	-	4	-	1
Tampa, Fla.	51	31	11	5	3	1	2
Washington, D.C.	201	112	54	18	10	7	4
Wilmington, Del.	61	31	20	6	3	1	1
E.S. CENTRAL	545	339	111	40	18	37	28
Birmingham, Ala.	70	46	11	4	6	3	6
Chattanooga, Tenn.	48	35	9	3	1	-	3
Knoxville, Tenn.	52	34	7	5	1	5	1
Louisville, Ky.	65	46	14	3	-	2	2
Memphis, Tenn.	146	72	35	13	7	19	5
Mobile, Ala.	74	50	15	6	1	2	4
Montgomery, Ala.	27	19	5	1	-	2	2
Nashville, Tenn.	63	37	15	5	2	4	5
W.S. CENTRAL	771	454	187	64	34	32	25
Austin, Tex.	17	10	5	1	-	1	-
Baton Rouge, La.	60	41	11	7	-	1	6
Corpus Christi, Tex.	63	39	10	6	5	3	1
Dallas, Tex.	146	80	44	10	8	4	1
El Paso, Tex.	46	20	14	2	2	8	4
Fort Worth, Tex.	58	41	12	1	-	4	2
Houston, Tex.	67	34	19	6	5	3	2
Little Rock, Ark.	35	13	15	4	2	1	2
New Orleans, La.	88	51	18	11	4	4	-
San Antonio, Tex.	104	68	26	5	3	2	4
Shreveport, La.	23	19	2	1	-	1	-
Tulsa, Okla.	64	38	11	10	5	-	3
MOUNTAIN	510	305	127	49	15	14	31
Albuquerque, N.Mex.	49	27	14	7	1	-	2
Colo. Springs, Colo.	34	19	9	2	2	2	5
Denver, Colo.	97	62	22	7	3	3	5
Las Vegas, Nev.	68	36	17	12	2	1	3
Ogden, Utah	10	-	9	1	-	-	2
Phoenix, Ariz.	108	70	25	10	2	1	3
Pueblo, Colo.	22	15	4	1	2	-	4
Salt Lake City, Utah	54	34	7	5	2	6	2
Tucson, Ariz.	68	42	20	4	1	1	5
PACIFIC	1,637	1,096	348	112	33	43	76
Berkeley, Calif.	29	21	7	1	-	-	2
Fresno, Calif.	57	36	10	4	5	2	4
Glendale, Calif.	25	19	6	-	-	-	2
Honolulu, Hawaii	26	15	6	1	3	1	3
Long Beach, Calif.	95	64	20	9	2	-	4
Los Angeles, Calif.	561	361	127	55	3	13	16
Oakland, Calif.	49	31	13	2	1	1	1
Pasadena, Calif.	16	10	4	-	1	1	-
Portland, Oreg.	161	109	32	11	5	3	12
Sacramento, Calif.	56	40	14	1	-	1	3
San Diego, Calif.	54	40	11	2	-	1	2
San Francisco, Calif.	126	85	29	5	2	5	2
San Jose, Calif.	152	102	29	8	7	6	9
Seattle, Wash.	129	88	26	10	3	2	5
Spokane, Wash.	49	29	14	1	-	5	6
Tacoma, Wash. §	52	46	-	2	1	2	5
TOTAL	9,799††	6,226	2,221	688	297	354	395

* 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.

Neisseria gonorrhoeae – Continued

spectinomycin-resistant gonococci have been identified and reported. Available details on these cases highlight the potential magnitude of the problem.

Non-PPNG case: A 21-year-old U.S. airman stationed at Osan Air Force Base, Republic of Korea, was seen at the Osan hospital clinic July 20, 1982, with a 3-day history of purulent urethral discharge that began 3 days after sexual exposure to a prostitute. A Gram stain was consistent with gonorrhea, and he was treated with spectinomycin 2 g intramuscularly (IM). Cultures of the discharge grew beta-lactamase-negative *N. gonorrhoeae* susceptible to penicillin and spectinomycin.

On July 27, the patient returned for a scheduled test of cure. He remained symptomatic with purulent urethral discharge on examination, and the gram-stain smear was again consistent with gonorrhea. He was given 4 g of spectinomycin IM. Cultures of the urethral exudate grew beta-lactamase negative *N. gonorrhoeae* susceptible to penicillin but resistant to spectinomycin.

Symptoms persisted until July 30, when the patient was hospitalized for further evaluation and definitive therapy. A gram-stain smear was still consistent with gonorrhea. Urethral cultures were positive for *N. gonorrhoeae* susceptible to penicillin but resistant to spectinomycin. He was given 4.8 million units of procaine penicillin IM and 1 g of probenecid orally. His symptoms resolved, and cultures of post-treatment urethral specimens were negative.

PPNG cases: Since a September 17 report (*1*), five additional cases of infection with PPNG resistant to spectinomycin have been reported. A spectinomycin-resistant PPNG isolate was obtained in Detroit from a 25-year-old male whose last sexual exposure was to a 30-year-old female in London between July 23 and August 7, 1982. A pretreatment isolate on September 8 was beta-lactamase negative and susceptible to penicillin and spectinomycin. Treatment with tetracycline, followed by ampicillin and probenecid, did not cure the infection. Subsequent urethral cultures grew beta-lactamase-positive, spectinomycin-resistant *N. gonorrhoeae*. The patient was successfully treated with cefotaxime 1 g IM.

Two cases were reported from London in males aged 30 years and 23 years (*2*); Asian-type plasmids were found in both. Two other cases have recently been reported to the Venereal Disease Reference Laboratory in London (*3*).

Reported by AJ Patefield, MD, USAF Hospital, Osan, Korea; WG Westbrook III, MD, USAF Hospital, Yokata, Japan; NA Johnston, Venereal Diseases Reference Laboratory, London; Sexually Transmitted Diseases Laboratory Program, Center for Infectious Diseases, Venereal Diseases Div, Center for Prevention Svcs, CDC.

Editorial Note: Although still uncommon, seven apparently unrelated spectinomycin-resistant gonococcal infections have been identified since summer of 1982. Fourteen cases of spectinomycin-resistant gonorrhea (nine PPNG and five non-PPNG) have been noted worldwide since the first report in 1973 (*4*). Although the increase may reflect only improved surveillance, there is no evidence that surveillance has recently changed in London, where most of the cases have occurred.

The emergence of spectinomycin resistance could be the result of selection associated with increased use of spectinomycin worldwide. However, induction of resistance is another possibility. Pre-treatment isolates were susceptible to spectinomycin, but post-treatment isolates were resistant, emphasizing that resistance may emerge in a single treatment period.

Health care personnel should be aware that not all patients treated with spectinomycin will be cured of gonorrhea. Post-treatment cultures should be an integral part of patient management. All PPNG isolates and isolates from patients with positive cultures after spectinomycin therapy should be tested for spectinomycin susceptibility using a provisional disc-diffusion method (*4*). Patients should be treated with cefoxitin 2 g IM in a single injection plus

Neisseria gonorrhoeae — Continued

probenecid 1 g orally, or cefotaxime 1 g IM in a single injection (*5*).

References

1. CDC. Spectinomycin-resistant β-lactamase-producing *Neisseria gonorrhoeae*—England. MMWR 1982;31:495-6, 501.
2. Spectinomycin-resistant β-lactamase-producing *Neisseria gonorrhoeae*. Communicable Disease Report (London) Sept. 17, 1982.
3. Veneral Disease Reference Laboratory. Unpublished data.
4. Reyn A, Schmidt H, Trier M, Bentzon MW. Spectinomycin hydrochloride (Trobicin) in the treatment of gonorrhoea. Observation of resistant strains of *Neisseria gonorrhoeae*. Br J Vener Dis 1973;49:54-9.
5. CDC. Sexually transmitted diseases, treatment guidelines 1982. MMWR 1982;31 (supplement 2S):35S-60S.

Influenza A(H3N2) Virus Isolations — United States

Type A(H3N2) influenza virus, isolated in Alaska earlier this season (*1*), has now been isolated from a woman in New York City, an infant in Oregon, and a 4-year-old child who became ill after returning to Virginia from Hawaii. The woman, a 26-year-old resident of New York City, had onset of influenza on November 17. She had not recently traveled outside the metropolitan area. The male infant, who lived in Corvallis, Oregon, had onset on November 2 of an illness initially suspected to be caused by enteroviral infection. The 4-year-old had returned to Virginia with his family on October 19, after a 7-day vacation to Honolulu, and developed high fever, cough, and malaise on October 20. His illness worsened, and he was lethargic when admitted to a District of Columbia hospital on October 22. The child improved rapidly and was discharged on October 26. On October 18, just before departing from Hawaii, the child's mother had onset of influenze-like illness, and a younger sister had an influenza-like illness concurrent with her brother, but specimens for virus isolation were not collected from either.

Public health officials representing the jurisdictions where these three cases occurred have not reported indications of increased influenza-like illnesses.

Reported by M Helfaer, MD, H Kim, MD, Children's Hospital, M Levy, MD, State Epidemiologist, District of Columbia Dept of Human Svcs; A Valdes Dapena, MD, Bethesda Naval Hospital; T Sayvetz, MD, G Miller, Jr, MD, State Epidemiologist, Virginia State Dept of Health; M Bomgaars, MD, Acting State Epidemiologist, Hawaii State Dept of Health; J Middaugh, MD, State Epidemiologist, Alaska State Dept of Health and Social Svcs; I Spigland, MD, Montefiore Hospital, S Friedman, MD, New York City Dept of Health; W Murphey, PhD, J Googins, MD, State Epidemiologist, Oregon Dept of Human Resources; Influenza Br, Center for Infectious Diseases, CDC.

Reference

1. CDC. Influenza—Alaska. MMWR 1982;31:588.

Notice to Readers

Announcement of International Public Health Symposium

The First International Symposium on Public Health in Asia and the Pacific Basin will be held in Honolulu at the University of Hawaii, March 7-9, 1983. Work sessions will continue March 10-11. The symposium, which begins what will become a series of meetings conducted every 3 to 4 years, is being organized through cooperation of the World Health

Public Health Symposium — Continued

Organization, the Centers for Disease Control and the Public Health Service, the East-West Center, the Association of Schools of Public Health, and the University of Hawaii.

For further information, contact:

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First International Symposium on Public Health
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Erratum, Vol. 31, No. 44

p. 602. In the article, "Urban Rat Control—United States, Second Quarter, Fiscal Year 1982," the data for Regions I-III were incorrectly positioned in the table. They should have appeared as below. Additionally, in Region V, the total for "Previously reporting programs" should be 3,173, instead of as published.

Program community	Target-area blocks				Environmentally improved blocks*	
	Total	In attack phase	In maintenance phase		New this quarter	Cumulative
			< 12 months	≥ 12 months		
REGION I	478	240	223	15	59	1,213
Bridgeport	220	120	85	15	0	0
Hartford	258	120	138	0	59	372
Previously reporting programs						841
REGION II	3,395	1,241	993	759	29	5,670
Atlantic City	202	17	78	32	0	0
Camden	332	134	60	38	0	119
Jersey City	183	51	94	38	0	260
Newark	174	16	24	9	27	170
New York City	1,134	412	292	430	0	1,219
Rochester	174	76	71	27	0	494
Yonkers	80	60	20	0	0	145
Aguadilla, P.R.	199	143	50	6	2	256
Arecibo, P.R.	102	36	66	0	0	291
Guayama, P.R.	176	121	55	0	0	40
Mayaguez, P.R.	155	67	72	16	0	239
Ponce, P.R.	226	39	23	62	0	378
San Juan, P.R.	258	69	88	101	0	405
Previously reporting programs						1,654
REGION III	2,421	1,063	704	358	119	8,272
"War on Rats"	852	354	250	67	63	1,385
Chester	160	57	60	43	0	116
N.E. Pa. V.C. Assn.†	526	207	84	120	5	1,369
Philadelphia	883	445	310	128	51	1,697
Previously reporting programs						3,705

The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and distributed by the National Technical Information Service, Springfield, Virginia. The data in this report are provisional, based on weekly telegrams to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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HHS Publication No. (CDC) 83-8017