CENTERS FOR DISEASE CONTROL

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MMWR

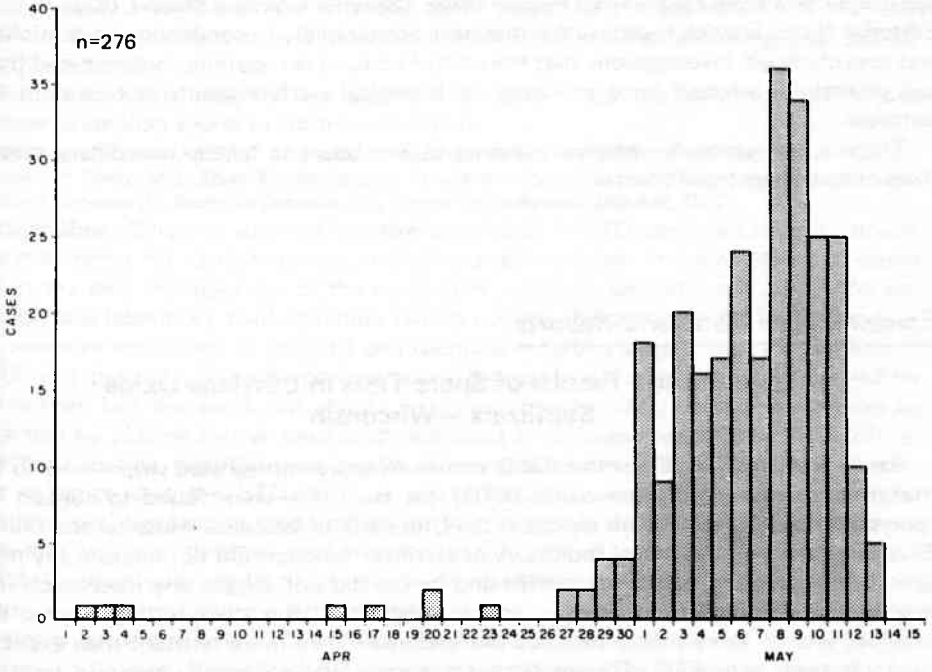
MORBIDITY AND MORTALITY WEEKLY REPORT

International Notes

Atypical Pneumonia — Spain

Early in May 1981, Spanish health authorities noted an abrupt increase in numbers of hospitalizations for atypical pneumonia in communities on the outskirts of Madrid. Systematic hospital-based surveillance of this syndrome was promptly initiated, and clusters of cases were subsequently reported from 8 of Spain's other 51 provinces. As of May 22, 1,029 patients with atypical pneumonia were hospitalized in Madrid province, and another 345 were known to be hospitalized elsewhere in the country. The number of persons reported to be newly hospitalized with this illness on May 22 was 132 in

FIGURE 1. Hospitalized cases of atypical pneumonia and related illness by date of onset* of first symptoms, Spain, April 1-May 15, 1981



*Date of onset not known for 24 persons.

Atypical Pneumonia — Continued

Madrid and 49 elsewhere. On the basis of official recommendations from Spanish authorities, patients with atypical pneumonia have been treated with erythromycin, or, in some instances, patients recently treated have been given tetracycline. The fatality rate for hospitalized patients is approximately 1%.

Information on chest X rays is available for 219 (73%) of the first 300 cases considered by reporting hospitals to be associated with the outbreak. Of 188 patients with definitely abnormal chest films, 91% had fever, 63% dry cough, 61% headache, 42% dyspnea, 33% chest pain, 29% vomiting, 22% rash, 21% productive cough, 14% diarrhea, and 11% obtundation. Gastrointestinal bleeding and evidence of hepatic or renal disease were rare. Twenty-one percent of these patients felt that they were gravely ill. Of the 300 patients, 130 (43%) were male.

The age distribution of the cases was similar for both sexes, with 228 (76%) persons in the age range of 5-44 years. The distribution of reported cases by date of onset, although influenced by the implementation of the surveillance system on May 9, suggests a marked upsurge in the incidence of atypical pneumonia at the beginning of May (Figure 1). Multiple apparently co-primary cases have been reported in numerous families. Provisional data suggest that attack rates in Madrid province have been higher in the suburbs and outlying towns than in the capital.

Results of initial viral and bacterial cultures, serologic tests, and electron microscopy of tissue specimens, in Spain, suggest that *Mycoplasma pneumoniae* may play a role in the outbreak, but additional diagnostic studies of clinical and autopsy material are in progress.

Reported by L Valenciano, MD, Director General of Public Health, Ministry of Labor, Health and Social Security, Madrid; Epidemiology Program Office, Center for Infectious Diseases, CDC.

Editorial Note: Spanish health authorities have acted rapidly in conducting epidemiologic and microbiologic investigations that have dispelled rumors regarding contaminated fruits and vegetables, infected birds and dogs, or biological warfare agents as factors in this outbreak.

There is no reason for persons planning to visit Spain to take extraordinary precautions or to change travel plans.

Epidemiologic Notes and Reports

False-Positive Results of Spore Tests in Ethylene Oxide Sterilizers — Wisconsin

Between August and December 1980, numerous spore-impregnated strips—used to test the effectiveness of ethylene oxide (ETO) gas sterilizers—were found to contain live spores after routine equipment checks at the University of Wisconsin Hospital and Clinics. Graphic records and chemical indicators of sterilizer function did not indicate any problems, and inspection of the equipment and its use did not suggest any mechanical malfunction or human error. However, epidemiologic and laboratory testing showed that multiple lots of spore-strip indicators (Surgispore®) were more resistant than expected to sterilization with ETO. The implicated lots were later voluntarily removed from the market by the manufacturer.

False-Positive Results – Continued

The hospital routinely monitors every ETO sterilization cycle with 2 sets (4 spore strips) of commercial biologic indicators. In early December, hospital infection-control personnel noted that 10 sets of spore strips from 9 ETO sterilization cycles were positive. Items that had been processed in these sterilization cycles were recalled, and other parameters of autoclave function were evaluated; no malfunctions or errors were apparent. Over the next week, additional sets of spore strips from ETO sterilization cycles also were positive. All positive spore strips identified in this period were from Surgispore® lot STS-6. Review of records of positive ETO sterilization cycles from previous months indicated that from August 1980 until the investigation in December all positive spore strips had also been from lot STS-6; strips from other lots tested in the same period had all been negative. When spore strips from lot STS-6 were examined, the lot number and expiration date were not stamped on each glassine envelope containing the spore strip, as was usual, and the spore-impregnated strips were much thinner and smoother than usual. Microbiologic tests showed that the spore strips contained *Bacillus subtilis* var. *niger*, although the colonial morphology was unusually heterogeneous.

Prospective studies over the next 3 weeks were done to compare the in-use performance of spore strips from Surgispore® lots STS-6, T-10, and T-12, all of which had unusual characteristics, with the performance of typical Surgispore® strips and of strips made by other manufacturers. In 28 of 45 (62%) ETO sterilization cycles, 1 or more spore strips from the atypical lots and none from the control lots were positive. Overall, 38 of 90 (42%) spore strips from the atypical lots were positive, a significantly different result from that obtained with the control strips ($p << 0.001$).

In January 1981, after reviewing the accumulated evidence, the manufacturer voluntarily recalled 10 lots of the defective spore strips. All the implicated lots had been made for the manufacturer by a new subcontractor; all lots had passed routine quality-control inspection.

Preliminary study suggests that spores in the implicated lots were more resistant to ethylene oxide than spores in control lots tested.

Reported by DG Maki, MD, C Alvarado, C Hassemer, University of Wisconsin Hospital and Clinics, Madison; JP Davis, MD, State Epidemiologist, Wisconsin State Dept of Health and Social Services; Hospital Infections Br, Bacterial Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: Single or sporadic positive spore tests in ETO sterilizers are not unusual. They may occur for various reasons, including slight variation in the resistance of spores used in the test, improper use of the equipment, improper selection and use of the test material, and laboratory contamination during culture. If the mechanical (time, temperature, pressure indicators, or records) and chemical monitors suggest that the sterilizer is functioning properly, a single positive spore test probably does not indicate sterilizer malfunction, but the spore test should be repeated immediately. Repeat testing can be performed by placing several spore-strip indicators in different packages in the sterilizer.

In the situation reported here, results of spore tests were repeatedly positive despite other evidence that the ETO sterilizer was functioning and being used properly. An epidemiologic investigation suggested an intrinsic defect in the manufacture of the spore strips that was not detected with routine quality-control procedures; this hypothesis was substantiated with results of comparative in-use tests.

The Joint Commission on Accreditation of Hospitals (*1*) and CDC (*2*) recommend that steam autoclaves and ETO sterilizers be tested at least once a week with appropriate spore indicators. Every load containing implantable devices should be checked with a spore test, and the implantable objects should not be used in surgery until results of

False-Positive Results — Continued

the spore test are negative at 48 hours. More frequent biological monitoring of sterilizers is not usually necessary. If spores are not killed in routine tests, the sterilizer needs to be tested immediately for proper use and function; objects other than implantable devices need not be recalled if results of a spore test are positive unless the sterilizer is defective or has been improperly used. If spore tests remain positive after proper use of the sterilizer is documented, the sterilizer unit should not be used again until it has been serviced, and all material processed in the period in which the sterilizer was not functioning properly should be recalled insofar as possible. However, hospital infection-control personnel should remain aware of the potential problem caused by misleading results obtained with a defective biologic indicator and of the need to initiate an appropriate investigation if such a situation exists.

References

1. Joint Commission on Accreditation of Hospitals. Accreditation manual for hospitals. Chicago: Joint Commission on Accreditation of Hospitals, 1981:77.
2. CDC. Guidelines for the prevention and control of nosocomial infections. Atlanta: CDC, 1981.

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

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

DISEASE	20th WEEK ENDING		MEDIAN	CUMULATIVE, FIRST 20 WEEKS		
	May 23 1981	May 17 1980	1976-1980	May 23 1981	May 17 1980	MEDIAN 1976-1980
Aseptic meningitis	67	63	56	1,298	1,215	774
Brucellosis	–	15	8	52	69	72
Chickenpox	6,978	6,104	6,125	129,908	115,417	118,598
Diphtheria	–	–	–	3	2	2
Encephalitis: Primary (arthropod-borne & unspec.)	17	10	12	273	225	224
Post-infectious	3	8	7	35	75	75
Hepatitis, Viral: Type B	240	367	290	7,268	6,193	5,839
Type A	282	552	562	9,385	10,374	11,333
Type unspecified	132	215	196	4,198	4,211	3,395
Malaria	7	56	17	482	603	178
Measles (rubeola)	135	828	1,337	1,532	8,519	14,625
Meningococcal infections: Total	48	49	49	1,750	1,292	1,118
Civilian	48	49	49	1,746	1,282	1,108
Military	–	–	–	4	10	8
Mumps	77	351	526	2,049	5,432	9,162
Pertussis	10	20	20	375	407	407
Rubella (German measles)	33	126	724	1,156	2,128	7,932
Tetanus	1	3	1	19	19	19
Tuberculosis	375	582	602	9,897	9,936	10,731
Tularemia	5	1	3	54	41	41
Typhoid fever	7	8	8	171	125	132
Typhus fever, tick-borne (Rky. Mt. spotted)	30	37	36	145	92	95
Venereal diseases:						
Gonorrhea: Civilian	16,084	17,717	19,246	366,561	362,034	362,034
Military	392	568	509	10,918	10,450	10,450
Syphilis, primary & secondary: Civilian	497	469	469	11,285	10,031	9,313
Military	5	6	4	133	135	117
Rabies in animals	125	192	82	2,692	2,471	1,142

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	–	Poliomyelitis: Total	–
Botulism	21	Paralytic	–
Cholera	–	Psittacosis (Upstate N.Y. 1, Ohio 2)	37
Congenital rubella syndrome	4	Rabies in man	–
Leprosy	78	Trichinosis (N.J. 2)	75
Leptospirosis	15	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	8
Plague	4		

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 May 23, 1981 and May 17, 1980 (20th 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	67	–	6,978	–	3	17	10	3	240	282	132	7	482
NEW ENGLAND	3	–	953	–	–	–	–	–	16	9	9	1	25
Maine	–	–	182	–	–	–	–	–	–	1	–	–	1
N.H.	–	–	24	–	–	–	–	–	–	–	–	–	3
Vt.	–	–	79	–	–	–	–	–	1	–	–	–	2
Mass.	–	–	349	–	–	–	–	–	8	5	9	1	12
R.I.	3	–	116	–	–	–	–	–	1	–	–	–	1
Conn.	–	–	203	–	–	–	–	–	6	3	–	–	6
MID. ATLANTIC	4	–	143	–	–	1	3	–	9	6	2	2	48
Upstate N.Y.	3	–	90	–	–	1	1	–	9	6	2	1	12
N.Y. City	NA	NA	NA	NA	–	NA	1	–	NA	NA	NA	NA	19
N.J.	–	–	NN	–	–	–	–	–	–	–	–	–	11
Pa.	1	–	53	–	–	–	1	–	NA	NA	NA	1	6
E.N. CENTRAL	5	–	3,521	–	–	2	1	–	36	33	9	–	17
Ohio	1	–	352	–	–	–	–	–	8	10	3	–	4
Ind.	2	–	472	–	–	2	–	–	5	5	2	–	6
Ill.	–	–	885	–	–	–	–	–	6	6	1	–	3
Mich.	2	–	945	–	–	–	1	–	15	11	3	–	4
Wis.	–	–	867	–	–	–	–	–	2	1	–	–	–
W.N. CENTRAL	6	–	907	–	–	1	1	1	14	24	11	–	13
Minn.	–	–	1	–	–	1	–	1	3	–	2	–	4
Iowa	1	–	344	–	–	–	–	–	2	3	–	–	2
Mo.	4	–	7	–	–	–	–	–	5	6	5	–	1
N. Dak.	–	–	160	–	–	–	–	–	–	–	–	–	1
S. Dak.	–	–	13	–	–	–	–	–	–	–	–	–	1
Nebr.	–	–	3	–	–	–	1	–	–	–	–	–	–
Kans.	1	–	379	–	–	–	–	–	4	15	4	–	4
S. ATLANTIC	16	–	650	–	1	2	1	–	85	63	27	1	54
Del.	–	–	10	–	–	–	–	–	–	2	–	–	–
Md.	–	–	91	–	–	1	–	–	7	4	8	–	7
D.C.	–	–	1	–	–	–	–	–	1	–	–	–	1
Va.	2	–	58	–	–	1	–	–	19	2	4	–	10
W. Va.	–	–	227	–	–	–	–	–	1	7	1	–	3
N.C.	–	–	NN	–	–	–	1	–	14	5	2	–	4
S.C.	–	–	11	–	–	–	–	–	3	4	2	–	1
Ga.	–	–	18	–	–	–	–	–	20	7	–	–	7
Fla.	14	–	234	–	1	–	–	–	20	32	10	1	21
E.S. CENTRAL	9	–	172	–	–	5	–	2	28	28	12	1	3
Ky.	–	–	137	–	–	–	–	2	6	10	3	–	–
Tenn.	3	–	NN	–	–	1	–	–	14	12	4	–	–
Ala.	4	–	33	–	–	1	–	–	4	2	5	1	2
Miss.	2	–	2	–	–	3	–	–	4	4	–	–	1
W.S. CENTRAL	23	–	303	–	–	4	–	–	37	82	43	–	33
Ark.	–	–	2	–	–	–	–	–	2	5	6	–	1
La.	3	–	NN	–	–	–	–	–	10	10	7	–	2
Okla.	7	–	–	–	–	1	–	–	2	6	2	–	3
Tex.	13	–	301	–	–	3	–	–	23	61	28	–	27
MOUNTAIN	1	–	5	–	1	1	–	–	3	24	15	1	15
Mont.	–	–	–	–	1	–	–	–	–	1	–	–	–
Idaho	–	–	–	–	–	–	–	–	1	4	1	–	–
Wyo.	–	–	1	–	–	–	–	–	–	–	–	–	–
Colo.	–	–	–	–	–	–	–	–	2	9	3	1	5
N. Mex.	1	–	–	–	–	–	–	–	–	4	4	–	1
Ariz.	–	–	NN	–	–	1	–	–	–	1	–	–	4
Utah	–	–	–	–	–	–	–	–	–	–	1	–	2
Nev.	–	–	4	–	–	–	–	–	–	5	6	–	3
PACIFIC	–	–	324	–	1	1	4	–	12	13	4	1	274
Wash.	–	–	292	–	–	–	–	–	4	6	–	1	17
Oreg.	–	–	–	–	–	–	–	–	–	3	3	–	8
Calif.	NA	NA	NA	NA	–	NA	2	–	NA	NA	NA	NA	246
Alaska	–	–	7	–	1	–	2	–	1	–	–	–	1
Hawaii	–	–	25	–	–	1	–	–	7	4	1	–	2
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
P.R.	–	–	20	–	–	–	–	–	2	6	2	–	4
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	1
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 May 23, 1981 and May 17, 1980 (20th 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	135	1,532	8,519	48	1,750	1,292	77	2,049	10	33	1,156	19
NEW ENGLAND	12	63	540	3	118	79	5	102	-	7	87	1
Maine	1	5	25	-	18	3	1	20	-	-	32	-
N.H.	-	5	246	1	12	5	-	10	-	2	21	-
Vt.	-	1	217	-	5	8	-	4	-	-	-	-
Mass.	11	46	31	1	28	27	3	30	-	4	24	-
R.I.	-	-	2	1	11	6	-	17	-	-	-	-
Conn.	-	6	19	-	44	30	1	21	-	1	10	1
MID. ATLANTIC	47	424	2,647	5	215	222	6	248	1	-	131	1
Upstate N.Y.	3	185	504	-	79	79	1	57	1	-	55	-
N.Y. City	NA	30	683	-	29	64	NA	35	NA	NA	31	1
N.J.	2	44	543	2	55	44	5	69	-	-	41	-
Pa.	42	165	917	3	52	35	-	87	-	-	4	-
E.N. CENTRAL	1	68	1,202	8	198	144	27	618	-	6	260	4
Ohio	-	15	152	3	67	56	2	88	-	-	-	-
Ind.	-	6	70	-	31	26	-	77	-	3	91	-
Ill.	-	20	194	3	49	18	9	109	-	1	62	-
Mich.	1	26	183	2	47	36	8	246	-	2	31	3
Wis.	-	1	603	-	4	8	8	98	-	-	76	1
W.N. CENTRAL	-	6	596	1	74	56	8	167	-	-	69	2
Minn.	-	3	800	-	27	15	-	5	-	-	6	1
Iowa	-	1	19	-	14	5	2	38	-	-	1	-
Mo.	-	-	60	1	19	25	-	26	-	-	3	1
N. Dak.	-	-	-	-	1	1	-	-	-	-	-	-
S. Dak.	-	-	-	-	2	4	-	1	-	-	-	-
Nebr.	-	1	59	-	-	-	-	3	-	-	1	-
Kans.	-	1	58	-	11	6	6	94	-	-	58	-
S. ATLANTIC	2	280	1,415	8	427	310	17	276	4	8	117	2
Del.	-	-	1	-	4	2	-	5	-	-	-	-
Md.	-	1	32	1	26	30	3	52	-	-	1	-
D.C.	-	1	-	-	1	1	-	-	-	-	-	-
Va.	-	3	237	3	55	26	2	63	-	2	7	-
W. Va.	-	7	7	-	17	11	4	54	1	-	17	-
N.C.	-	4	97	-	62	61	5	10	-	-	4	-
S.C.	-	-	131	-	53	40	-	6	-	-	6	1
Ga.	-	91	623	1	72	61	2	27	2	6	35	-
Fla.	2	173	287	3	137	78	1	59	1	-	47	1
E.S. CENTRAL	-	-	221	5	138	124	4	59	1	-	22	1
Ky.	-	-	39	1	42	43	3	27	-	-	12	-
Tenn.	-	-	104	2	40	28	1	19	1	-	10	-
Ala.	-	-	17	1	42	32	-	12	-	-	-	1
Miss.	-	-	61	1	14	21	-	1	-	-	-	-
W.S. CENTRAL	70	475	772	14	312	138	8	131	3	10	91	3
Ark.	-	-	13	-	20	10	-	-	-	1	1	1
La.	-	-	7	6	76	48	-	3	-	-	9	-
Okla.	-	6	647	-	25	12	-	-	-	-	-	1
Tex.	70	469	105	8	191	68	8	128	3	9	81	1
MOUNTAIN	3	24	179	2	59	47	-	79	-	1	53	1
Mont.	-	-	1	-	5	1	-	5	-	-	3	-
Idaho	1	1	-	-	3	3	-	4	-	-	2	-
Wyo.	-	-	-	-	-	2	-	1	-	-	1	-
Colo.	-	5	9	-	27	13	-	37	-	-	25	-
N. Mex.	1	5	9	-	4	6	-	-	-	-	2	-
Ariz.	1	3	118	-	12	7	-	12	-	-	11	1
Utah	-	-	39	-	4	2	-	9	-	-	3	-
Nev.	-	10	3	2	4	13	-	11	-	1	6	-
PACIFIC	-	192	547	2	209	172	2	369	1	1	326	4
Wash.	-	1	142	1	39	29	2	113	1	-	52	-
Oreg.	-	1	-	1	28	33	-	43	-	-	19	-
Calif.	NA	188	396	-	134	108	NA	200	NA	NA	250	4
Alaska	-	-	5	-	4	2	-	4	-	-	-	-
Hawaii	-	2	4	-	4	-	-	9	-	1	5	-
Guam	NA	1	3	-	-	1	NA	1	NA	NA	-	-
P.R.	4	156	60	-	5	7	1	66	-	-	3	-
V.I.	NA	4	5	-	-	1	NA	4	NA	NA	-	-
Pac. Trust Terr.	NA	-	5	-	-	-	NA	4	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 May 23, 1981 and May 17, 1980 (20th 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	375	9,897	54	7	171	30	145	16,084	366,561	362,034	497	11,285	10,031	2,692
NEW ENGLAND	7	274	–	1	9	1	2	550	9,130	9,349	7	246	213	10
Maine	2	22	–	–	–	–	–	25	465	551	–	1	4	6
N.H.	–	2	–	–	–	–	–	22	337	312	–	7	1	1
Vt.	–	9	–	–	–	–	–	12	157	234	–	13	3	–
Mass.	3	153	–	1	7	1	2	210	3,694	3,816	6	156	119	1
R.I.	–	17	–	–	–	–	–	23	458	549	–	16	13	–
Conn.	2	71	–	–	2	–	–	258	4,019	3,887	1	53	73	2
MID. ATLANTIC	76	1,654	10	1	30	–	3	1,383	42,504	39,483	41	1,720	1,436	11
Upstate N.Y.	4	278	10	1	6	–	1	316	7,172	7,071	13	158	111	10
N.Y. City	NA	635	–	NA	18	NA	2	NA	17,252	15,487	NA	1,057	935	–
N.J.	43	370	–	–	2	–	–	673	8,699	7,270	17	229	190	–
Pa.	29	371	–	–	4	–	–	394	9,381	9,655	11	276	200	1
E.N. CENTRAL	31	1,312	1	3	13	–	1	3,267	55,337	56,977	36	677	969	334
Ohio	6	233	–	–	–	–	1	1,511	20,632	15,513	8	108	159	26
Ind.	6	120	–	–	–	–	–	549	5,278	5,738	6	73	86	18
Ill.	–	537	–	2	6	–	–	364	12,478	17,765	21	319	532	264
Mich.	16	356	1	1	5	–	–	600	11,928	12,415	1	139	151	1
Wis.	3	66	–	–	2	–	–	243	5,021	5,546	–	38	41	25
W.N. CENTRAL	17	342	4	1	6	–	5	962	17,576	15,673	15	206	117	1,156
Minn.	3	50	–	1	2	–	–	200	2,796	2,778	6	78	41	206
Iowa	–	38	–	–	2	–	–	68	1,781	1,775	–	9	8	374
Mo.	10	155	3	–	1	–	2	519	8,088	6,419	9	100	59	97
N. Dak.	–	16	–	–	–	–	–	13	237	239	–	3	1	177
S. Dak.	4	28	–	–	1	–	–	19	506	484	–	2	1	136
Nebr.	–	9	1	–	–	–	–	50	1,355	1,327	–	3	3	86
Kans.	–	46	–	–	–	–	3	93	2,813	2,651	–	11	4	80
S. ATLANTIC	109	2,230	6	–	24	22	72	4,738	91,620	88,299	129	3,026	2,397	153
Del.	–	30	1	–	–	–	–	68	1,352	1,200	–	7	6	–
Md.	20	229	–	–	7	4	10	519	10,030	9,136	10	236	165	1
D.C.	10	131	–	–	1	–	–	294	5,813	6,315	9	264	168	–
Va.	9	230	–	–	1	6	11	415	8,364	7,469	10	298	214	26
W. Va.	3	75	–	–	3	1	2	65	1,376	1,185	2	9	9	7
N.C.	15	389	1	–	1	8	20	793	14,339	13,008	16	230	176	1
S.C.	22	210	2	–	–	2	22	357	8,675	8,437	11	210	118	11
Ga.	–	346	2	–	2	–	6	1,000	18,314	16,721	43	773	724	75
Fla.	30	590	–	–	9	1	1	1,227	23,357	24,828	28	999	817	32
E.S. CENTRAL	68	877	2	–	5	3	17	1,177	30,523	29,484	38	764	791	178
Ky.	13	233	2	–	–	–	2	90	3,853	4,210	2	35	60	53
Tenn.	27	291	–	–	1	3	9	585	11,528	10,341	15	306	320	103
Ala.	15	240	–	–	2	–	1	216	9,455	8,795	5	198	162	22
Miss.	13	113	–	–	2	–	5	286	5,687	6,138	16	225	249	–
W.S. CENTRAL	27	1,034	21	1	15	3	42	2,710	49,868	46,471	227	2,793	1,943	530
Ark.	6	101	12	–	–	2	12	179	3,453	3,415	7	57	64	77
La.	14	215	2	–	–	–	–	554	7,966	8,222	74	627	465	15
Okla.	3	123	5	–	3	1	23	328	5,143	4,586	1	70	29	88
Tex.	4	595	2	1	12	–	7	1,649	33,306	30,248	145	2,039	1,385	350
MOUNTAIN	29	289	8	–	10	1	3	821	14,921	13,914	2	279	214	61
Mont.	2	22	2	–	4	–	–	8	518	522	–	8	1	43
Idaho	–	5	2	–	–	–	1	53	630	656	1	3	8	–
Wyo.	–	2	1	–	–	–	1	17	331	403	–	4	7	2
Colo.	10	32	2	–	3	–	–	237	3,985	3,703	–	90	59	1
N. Mex.	5	59	–	–	–	–	–	140	1,661	1,749	–	60	40	10
Ariz.	5	122	–	–	3	–	–	253	4,663	3,851	–	51	62	3
Utah	–	16	1	–	–	–	–	37	699	648	1	8	5	–
Nev.	7	31	–	–	–	1	1	76	2,434	2,382	–	55	32	2
PACIFIC	11	1,885	2	–	59	–	–	476	55,082	62,384	2	1,574	1,951	259
Wash.	8	168	1	–	3	–	–	232	4,714	5,107	–	55	100	–
Oreg.	3	67	–	–	3	–	–	160	3,839	4,304	2	39	44	2
Calif.	NA	1,577	1	NA	53	NA	–	NA	43,954	50,143	NA	1,445	1,733	244
Alaska	–	15	–	–	–	–	–	62	1,479	1,468	–	4	2	13
Hawaii	–	58	–	–	–	–	–	22	1,096	1,362	–	31	72	–
Guam	NA	–	–	NA	–	NA	–	NA	14	52	NA	–	2	–
P.R.	–	105	–	–	3	–	–	69	1,268	1,013	20	278	208	27
V.I.	NA	1	–	NA	1	NA	–	NA	45	74	NA	3	8	–
Pac. Trust Terr.	NA	21	–	NA	–	NA	–	NA	113	166	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 May 23, 1981 (20th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	604	409	123	41	14	17	40
Boston, Mass.	175	103	44	18	6	4	30
Bridgeport, Conn.	39	27	9	1	2	–	1
Cambridge, Mass.	21	18	3	–	–	–	–
Fall River, Mass.	28	22	4	2	–	–	–
Hartford, Conn.	49	29	10	5	1	4	–
Lowell, Mass.	20	18	1	1	–	–	–
Lynn, Mass.	25	22	2	1	–	–	–
New Bedford, Mass.	25	24	1	–	–	–	1
New Haven, Conn.	40	21	9	7	2	1	2
Providence, R.I.	60	41	11	3	2	3	2
Somerville, Mass.	7	4	2	–	1	–	–
Springfield, Mass.	30	17	10	1	–	2	1
Waterbury, Conn.	28	22	6	–	–	–	–
Worcester, Mass.	57	41	11	2	–	3	3
MID. ATLANTIC	2,596	1,678	610	179	57	69	88
Albany, N.Y.	40	27	7	3	2	1	–
Allentown, Pa.	21	15	6	–	–	–	–
Buffalo, N.Y.	150	109	24	8	5	4	3
Camden, N.J.	35	20	8	3	–	4	3
Elizabeth, N.J.	37	20	12	4	–	1	1
Erie, Pa.†	40	28	8	1	1	2	2
Jersey City, N.J.	39	22	11	4	–	2	–
N.Y. City, N.Y.	1,452	948	335	107	33	29	45
Newark, N.J.	58	31	18	4	2	2	5
Paterson, N.J.	34	17	8	2	–	5	2
Philadelphia, Pa.	296	174	79	20	11	12	13
Pittsburgh, Pa.†	67	45	15	6	1	–	5
Reading, Pa.	36	27	7	2	–	–	–
Rochester, N.Y.	98	62	29	5	–	2	2
Schenectady, N.Y.	11	10	1	–	–	–	–
Scranton, Pa.†	30	27	3	–	–	–	4
Syracuse, N.Y.	78	48	20	6	1	3	2
Trenton, N.J.	31	22	6	1	1	1	1
Utica, N.Y.	14	7	5	1	–	1	–
Yonkers, N.Y.	29	19	8	2	–	–	–
E.N. CENTRAL	2,126	1,311	556	113	63	83	53
Akron, Ohio	45	27	12	6	–	–	1
Canton, Ohio	27	18	7	1	1	–	1
Chicago, Ill.	509	302	139	29	17	22	13
Cincinnati, Ohio	124	76	34	5	5	4	5
Cleveland, Ohio	159	90	44	9	6	10	1
Columbus, Ohio	136	87	33	5	7	4	4
Dayton, Ohio	88	51	27	2	4	4	1
Detroit, Mich.	258	155	65	21	8	9	8
Evansville, Ind.	47	25	16	4	–	2	2
Fort Wayne, Ind.	56	40	8	2	3	3	1
Gary, Ind.	16	9	5	2	–	–	–
Grand Rapids, Mich.	60	40	14	1	1	4	2
Indianapolis, Ind.	138	95	33	6	2	2	1
Madison, Wis.	39	22	10	2	2	3	6
Milwaukee, Wis.	140	99	33	3	3	2	–
Peoria, Ill.	37	17	13	3	1	3	3
Rockford, Ill.	42	32	4	4	–	2	1
South Bend, Ind.	52	32	15	3	–	2	1
Toledo, Ohio	84	49	26	4	1	4	2
Youngstown, Ohio	69	45	18	1	2	3	–
W.N. CENTRAL	740	459	169	37	30	45	34
Des Moines, Iowa	64	40	18	3	3	–	1
Duluth, Minn.	32	21	8	2	1	–	6
Kansas City, Kans.	30	16	7	2	1	4	–
Kansas City, Mo.	97	58	28	3	5	3	3
Lincoln, Nebr.	23	17	5	–	1	–	2
Minneapolis, Minn.	83	44	18	5	5	11	2
Omaha, Nebr.	97	63	21	4	3	6	2
St. Louis, Mo.	177	109	39	9	4	16	16
St. Paul, Minn.	72	56	10	3	2	1	–
Wichita, Kans.	65	35	15	6	5	4	2

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	>65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,033	589	276	91	34	41	42
Atlanta, Ga.	131	67	35	18	5	6	6
Baltimore, Md.	129	62	34	18	9	5	2
Charlotte, N.C.	69	32	23	6	2	5	4
Jacksonville, Fla.	112	67	28	11	4	2	3
Miami, Fla.	99	68	21	7	2	1	6
Norfolk, Va.	56	22	20	3	5	6	1
Richmond, Va.	60	33	16	3	4	4	4
Savannah, Ga.	20	10	7	3	–	–	1
St. Petersburg, Fla.	107	85	18	2	–	2	6
Tampa, Fla.	86	56	23	4	1	2	7
Washington, D.C.	130	65	42	14	1	8	2
Wilmington, Del.	34	22	9	2	1	–	–
E.S. CENTRAL	729	418	203	51	28	29	31
Birmingham, Ala.	107	55	33	7	7	5	1
Chattanooga, Tenn.	74	48	15	5	4	2	5
Knoxville, Tenn.	44	28	10	5	–	1	1
Louisville, Ky.	115	54	45	8	3	5	5
Memphis, Tenn.	173	99	47	11	9	7	8
Mobile, Ala.	65	37	17	6	3	2	4
Montgomery, Ala.	43	31	8	1	–	3	3
Nashville, Tenn.	108	66	28	8	2	4	4
W.S. CENTRAL	1,334	746	354	107	79	48	39
Austin, Tex.	43	18	15	5	3	2	–
Baton Rouge, La.	57	33	15	7	2	–	5
Corpus Christi, Tex.	35	21	8	1	3	2	–
Dallas, Tex.	176	93	52	16	8	7	3
El Paso, Tex.	40	30	4	2	3	1	5
Fort Worth, Tex.	81	44	29	3	3	2	3
Houston, Tex.	350	189	83	37	29	12	8
Little Rock, Ark.	68	35	20	6	6	1	3
New Orleans, La.	155	94	37	13	6	5	–
San Antonio, Tex.	181	107	53	9	10	2	6
Shreveport, La.	47	19	13	4	3	8	2
Tulsa, Okla.	101	63	25	4	3	6	4
MOUNTAIN	604	364	148	46	24	22	26
Albuquerque, N. Mex.	56	37	13	4	2	–	10
Colo. Springs, Colo.	43	20	18	2	2	1	2
Denver, Colo.	121	70	34	10	3	4	5
Las Vegas, Nev.	59	35	14	4	5	1	1
Ogden, Utah	25	16	2	4	1	2	1
Phoenix, Ariz.	150	85	36	16	2	11	3
Pueblo, Colo.	20	18	1	–	–	1	1
Salt Lake City, Utah	44	25	14	2	2	1	–
Tucson, Ariz.	86	58	16	4	7	1	3
PACIFIC	1,722	1,102	401	104	59	56	56
Berkeley, Calif.	13	11	2	–	–	–	–
Fresno, Calif.	76	42	21	4	7	2	4
Glendale, Calif.	24	19	4	1	–	–	–
Honolulu, Hawaii	47	23	21	1	–	2	–
Long Beach, Calif.	99	65	24	5	2	3	1
Los Angeles, Calif.	430	263	104	32	19	12	14
Oakland, Calif.	91	52	20	7	8	4	8
Pasadena, Calif.	30	24	5	1	–	–	1
Portland, Oreg.	124	95	21	3	1	4	–
Sacramento, Calif.	81	48	21	5	–	7	4
San Diego, Calif.	138	93	26	9	6	4	1
San Francisco, Calif.	146	99	26	9	6	6	4
San Jose, Calif.	168	104	43	10	4	7	11
Seattle, Wash.	158	98	42	10	5	3	2
Spokane, Wash.	60	40	11	6	1	2	4
Tacoma, Wash.	37	26	10	1	–	–	2
TOTAL	11,488††	7,076	2,840	769	388	410	409

*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 3 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.

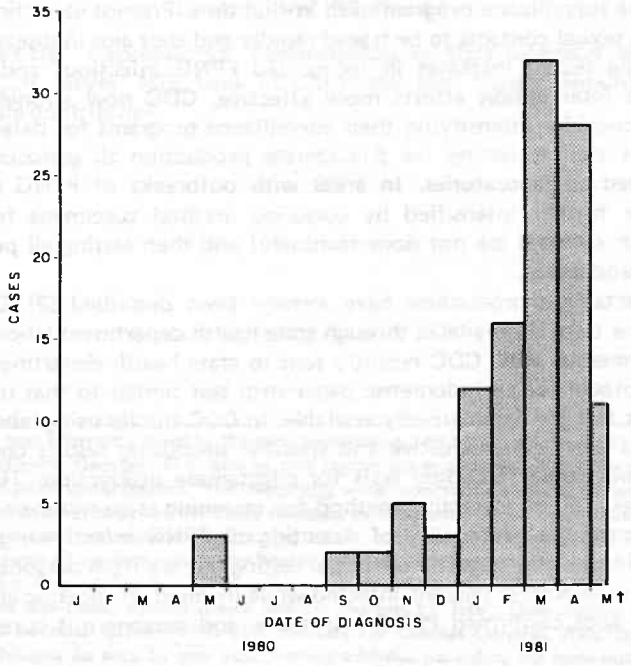
Infections Due to Penicillinase-Producing *Neisseria gonorrhoeae* — Florida

From January 1 through May 15, 1981, 99 infections due to penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were reported in Florida—a marked increase over the number of cases in previous years. Only 3 cases had been reported from 1976 through 1979. Fifteen cases were reported in 1980: 3 in May and 12 from September through December (Figure 2).*

The increase in reported cases in 1981 coincided with a change in laboratory surveillance for PPNG strains. The Office of Laboratory Services, Florida State Department of Health and Rehabilitative Services, first began testing gonococcal isolates for β-lactamase production in 1976. However, before mid-December, 1980, testing was limited to post-treatment isolates from patients not cured by their initial therapy. Because of the apparent increase in PPNG cases in late 1980, all gonococcal isolates in cultures submitted to state branch laboratories were tested, as of mid-December, for β-lactamase production. Because of the large numbers of isolates to be tested, laboratories used a modification of a published, inexpensive iodometric paper-strip test for β-lactamase production (*1*). From January 1 through May 14, 1981, 16,289 isolates were tested; 0.6% were positive.

*Although there is no epidemiologic or other reason to believe these isolates are spectinomycin resistant, they have not yet been tested for sensitivity to this drug.

FIGURE 2. Reported PPNG infections, Florida, January 1, 1980-May 15, 1981



†Through May 15.

PPNG Infections – Continued

The Florida cases were reported in 7 widely distributed counties in 1981, although the majority were concentrated in Dade County (Miami) (52 cases), Palm Beach County (22), and Orange County (Orlando) (15).* Of the 11 cases reported from May 1-15, 9 were in Dade County. In contrast with 1980, when 7 of 15 persons with PPNG infections named sexual contacts outside of Florida, only 7 of the 99 persons with PPNG infections in 1981 had out-of-state contacts.

In addition to the increased laboratory surveillance for PPNG strains, control efforts have included an intensified process of identifying and locating the sexual partners of persons with PPNG infections. Of the 99 PPNG infections in 1981, 35 were identified through this contact-tracing process. Private physicians and private laboratories in Florida have also been alerted to the presence of PPNG within the state.

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Editorial Note: The recent increase in recognized PPNG infections in Florida is part of a national trend. Excluding Florida, PPNG cases reported in the United States rose from 138 during the first quarter of 1980 to 408 during the same period in 1981—a 196% increase.

As has been the case in other areas, establishing a laboratory program for testing all gonococcal isolates for β-lactamase production appears to have been an important step in identifying Florida's PPNG cases. The absence of epidemiologic links between most of the recent Florida cases and cases in other states or countries suggests that the original cases were introduced into Florida before December 1980, but most were not detected with the surveillance program used at that time. Prompt identification of PPNG infections allows sexual contacts to be traced rapidly and thus aids in disease control.

Because of the recent increases in recognized PPNG infections and because early detection makes intervention efforts more effective, CDC now strongly advises that all laboratories consider intensifying their surveillance programs for detection of PPNG strains. The first step is testing for β-lactamase production all gonococcal isolates in cultures submitted to laboratories. In areas with outbreaks of PPNG infections, surveillance can be further intensified by culturing urethral specimens from men with urethritis (if such cultures are not done routinely) and then testing all positive cultures for β-lactamase production.

Tests for β-lactamase production have already been described (*2*). Descriptions of methods for these tests are available through state health department laboratories and are included in commercial kits. CDC recently sent to state health department laboratories a provisional protocol for an iodometric paper-strip test similar to that used in Florida. Reagents for this test are commercially available. In CDC studies using laboratory strains, the strip test has been quite sensitive and specific, producing results comparable with those obtained with other accepted tests for β-lactamase production. The low cost of the strip test makes it an attractive method for screening large numbers of gonococcal isolates. To increase the probability of detecting all PPNG infections, gonococcal isolates which are β-lactamase negative on initial testing but are from persons who are likely to have PPNG (for example, persons infected while living in an endemic area, sexual contacts of persons with confirmed PPNG infections, and persons not cured by penicillin

*The other counties were Broward (5 cases), Duval (1), Hillsborough (1), and Leon (3).

PPNG Infections – Continued

therapy) can be retested with another method. Consultation about the choice of test method can be obtained from state health laboratories and CDC.

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2. Thornsberry C, Gavan TL, Gerlach EH. New developments in antimicrobial agent susceptibility testing. Cumitech 1977;6:1-2.

Notice to Readers

Quarantine Measures

The list of Quarantine Measures published in Vol. 30, No. 19 (pp. 233-236) was for Vol. 28 of the supplement, "Health Information for International Travel," not for Vol. 29, as intended. *Please disregard these measures.* The correct ones for Vol. 29 will appear in an upcoming issue.

Erratum, Vol. 30, No. 17

p199. In the article "Reproductive Abnormalities in Male Chemical Workers – Kentucky," CR Meyer, MD, Univ of Cincinnati Med Center, should have been included as a contributor.

The Morbidity and Mortality Weekly Report, circulation 118,223, is published by the Centers for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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

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