



*Epidemiologic Notes and Reports*

**Follow-up on Mycobacterial Contamination of Porcine Heart Valve Prostheses — United States**

In February 1977, CDC reported the mycobacterial contamination of remnants of porcine heart valve prostheses produced by 1 manufacturer (1). At that time, contaminated remnants of 14 valves had been reported by 6 hospitals, but no valve-associated illness due to mycobacteria had been documented. Following these findings, the manufacturer, Hancock Laboratories Incorporated, Anaheim, California, voluntarily withdrew from the market all unimplanted valves processed during the 9-month period—October 1, 1975, through July 31, 1976—when the manufacturer's quality-assurance system had detected a high incidence of contamination of valve remnants.

Since that report, 2 patients who had had remnant-culture positive valves (processed prior to July 31, 1976) implanted\* have developed infection, 1 with mycobacteria and the other with acid-fast bacilli presumed to be mycobacteria (2,3). In addition, remnants of 11 valves processed before, during, and after the 9-month period covered by the withdrawal have since been reported to be contaminated: 1 hospital has identified 1 remnant-culture-positive valve processed before October 1, 1975, 1 hospital has identified

\*Because of the problem of potential contamination of valves, remnants generally are not removed from the packaging and cultured until the time of valve implantation.

2 remnant-culture-positive valves processed during the 9-month period, and 3 hospitals have identified 8 remnant-culture-positive valves processed after July 31, 1976. Thus, to date, 10 medical centers have identified 25 valves with contaminated remnants—all manufactured by Hancock Laboratories—and 2 of the 24 patients who received these valves (1 patient received 2 valves) have developed putative valve-associated mycobacterial disease. Brief case histories of these 2 patients follow.

Case 1: The first patient developed a small pericardial effusion about 2 months after she had received a valve whose attached tissue remnant, cultured at the time of valve implantation, subsequently grew *Mycobacterium chelonae*. A skin test with PPD-tuberculin was read as negative, and she was treated with corticosteroids. She later developed cardiac tamponade, and pericardiectomy was performed. Acid-fast bacilli were seen on a smear of pericardial fluid, and isolates from the fluid were identified at CDC as *M. chelonae* with the same characteristics as the organism isolated from the remnant of her implanted valve. Histologic examination of an excised segment of pericardium revealed no granulomas. The valve was not removed. She

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

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	10th WEEK ENDING		MEDIAN 1973-1977 ††	CUMULATIVE, FIRST 10 WEEKS		
	March 11, 1978	March 12, 1977 †		March 11, 1978	March 12, 1977 †	MEDIAN 1973-1977 ††
Aseptic meningitis	42	34	34	379	356	356
Brucellosis	5	3	3	29	34	25
Chickenpox	4,577	7,248	6,215	35,747	56,357	50,917
Diphtheria	—	2	9	20	10	50
Encephalitis	Primary	18	13	104	121	148
	Post-Infectious	5	3	24	20	37
Hepatitis, Viral	Type B	282	331	203	2,773	2,985
	Type A	511	732	818	5,090	6,436
	Type unspecified	145	211	—	1,625	1,816
Malaria	7	12	6	70	58	51
Measles (rubeola)	939	1,987	943	4,093	12,878	6,490
Meningococcal infections, total	56	60	45	512	431	350
Civilian	55	60	45	508	429	340
Military	1	—	—	4	2	4
Mumps	470	614	1,738	3,788	5,764	14,263
Pertussis	52	17	—	397	137	—
Rubella (German measles)	401	868	469	1,953	4,146	2,790
Tetanus	2	1	—	7	8	8
Tuberculosis	563	662	617	4,883	5,373	5,373
Tularemia	2	3	1	14	17	17
Typhoid fever	11	5	7	67	59	59
Typhus, tick-borne (Rky. Mt. spotted fever)	2	4	—	9	16	10
Venerereal Diseases:						
Gonorrhea	19,021	18,217	17,699	174,696	180,613	180,613
Civilian	419	432	675	4,370	5,252	5,834
Military	387	507	487	3,763	4,345	4,917
Syphilis, primary and secondary	8	3	3	60	59	68
Civilian	—	—	—	—	—	—
Military	8	3	3	60	59	68
Rabies in animals	48	55	54	430	440	440

**Table II. Notifiable Diseases of Low Frequency: United States**

	CUM.		CUM.
Anthrax:	—	Poliomyelitis, total:	—
Botulism: Calif. 2	4	Paralytic:	—
Congenital rubella syndrome:	7	Psittacosis: *Mich. 1, Ga. 1, Oreg. 6	14
Leprosy: Calif. 4	14	Rabies in man:	—
Leptospirosis:	6	Trichinosis: Ariz. 1	7
Plague:	—	Typhus, murine:	7

†Delayed reports received for calendar year 1977 are used to update last year's weekly and cumulative totals.

††Medians for Gonorrhea and Syphilis are based on data for 1975-1977

\*Delayed reports: Leptospirosis: Okla. 1 (1977); Plague: Oreg. 1 (1977); Psittacosis: Oreg. 1 (1977)

**Table III**  
**Cases of Specified Notifiable Diseases: United States**  
*Weeks Ending March 11, 1978 and March 12, 1977 - 10th Week*

AREA REPORTING	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified		
						1978	1977 <sup>†</sup>	1978	1978	1978	1978		
UNITED STATES .....	42	5	4,577	-	20	18	13	5	282	511	145	7	70
NEW ENGLAND .....	5	-	445	-	-	5	-	-	9	22	7	-	5
Maine*	1	-	90	-	-	-	-	-	-	1	-	-	1
New Hampshire*	-	-	15	-	-	-	-	-	1	1	-	-	1
Vermont .....	-	-	6	-	-	-	-	-	2	2	-	-	-
Massachusetts .....	2	-	191	-	-	1	-	-	1	5	7	-	1
Rhode Island .....	-	-	38	-	-	-	-	-	1	4	-	-	-
Connecticut .....	2	-	105	-	-	4	-	-	4	9	-	-	2
MIDDLE ATLANTIC .....	5	-	322	-	-	4	3	-	37	34	15	1	21
Upstate New York .....	-	-	195	-	-	-	-	-	5	9	1	-	1
New York City .....	-	-	59	-	-	1	1	-	11	9	11	1	12
New Jersey*	1	-	NN	-	-	-	1	-	21	16	3	-	2
Pennsylvania .....	4	-	68	-	-	3	1	-	NA	NA	NA	-	6
EAST NORTH CENTRAL ..	2	-	1,897	-	-	-	-	2	41	75	13	-	2
Ohio .....	-	-	126	-	-	-	-	1	9	23	-	-	-
Indiana .....	-	-	226	-	-	-	-	-	3	1	3	-	-
Illinois*	-	-	307	-	-	-	-	-	3	15	2	-	2
Michigan .....	2	-	826	-	-	-	-	-	23	32	7	-	-
Wisconsin*	-	-	412	-	-	-	-	1	3	4	1	-	-
WEST NORTH CENTRAL ..	-	-	825	-	-	-	1	-	16	33	5	1	7
Minnesota .....	-	-	-	-	-	-	-	-	4	5	-	-	1
Iowa .....	-	-	239	-	-	-	-	-	4	1	-	-	-
Missouri*	-	-	164	-	-	-	-	-	2	8	1	1	4
North Dakota .....	-	-	9	-	-	-	-	-	-	2	-	-	-
South Dakota .....	-	-	22	-	-	-	-	-	1	9	1	-	-
Nebraska .....	-	-	42	-	-	-	1	-	-	-	-	-	1
Kansas .....	-	-	349	-	-	-	-	-	5	8	3	-	1
SOUTH ATLANTIC .....	6	3	350	-	-	4	1	2	42	64	11	3	13
Delaware*	-	-	4	-	-	-	-	-	3	-	-	-	1
Maryland .....	2	-	10	-	-	2	1	-	11	6	2	2	4
District of Columbia ..	1	-	1	-	-	-	-	-	1	1	1	-	-
Virginia*	1	2	43	-	-	1	-	1	7	6	-	-	1
West Virginia .....	-	-	127	-	-	-	-	-	1	2	-	-	-
North Carolina .....	-	1	NN	-	-	1	-	-	1	11	7	-	-
South Carolina .....	-	-	16	-	-	-	-	-	-	-	1	-	1
Georgia .....	-	-	-	-	-	-	-	-	5	9	-	-	1
Florida .....	2	-	149	-	-	-	-	1	13	29	-	1	5
EAST SOUTH CENTRAL ..	3	2	59	-	-	-	-	1	22	29	3	-	1
Kentucky .....	1	-	18	-	-	-	-	-	7	13	-	-	-
Tennessee .....	1	-	NN	-	-	-	-	1	5	9	-	-	1
Alabama .....	1	-	29	-	-	-	-	-	8	-	3	-	-
Mississippi .....	-	2	12	-	-	-	-	-	2	7	-	-	-
WEST SOUTH CENTRAL ..	2	-	280	-	-	-	2	-	20	58	27	-	3
Arkansas .....	-	-	16	-	-	-	-	-	-	8	5	-	-
Louisiana*	-	-	NN	-	-	-	-	-	3	6	-	-	2
Oklahoma .....	-	-	-	-	-	-	2	-	2	8	3	-	-
Texas*	2	-	264	-	-	-	-	-	15	36	19	-	1
MOUNTAIN .....	1	-	174	-	1	-	-	-	9	37	11	-	1
Montana .....	-	-	29	-	-	-	-	-	-	5	1	-	-
Idaho .....	-	-	25	-	-	-	-	-	-	1	1	-	-
Wyoming*	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado .....	-	-	118	-	-	-	-	-	8	11	3	-	1
New Mexico .....	-	-	-	-	-	-	-	-	1	7	1	-	-
Arizona .....	-	-	NN	-	-	-	-	-	-	10	2	-	-
Utah .....	-	-	-	-	-	-	-	-	-	3	3	-	-
Nevada .....	1	-	2	-	1	-	-	-	-	-	-	-	-
PACIFIC .....	18	-	225	-	19	5	6	-	86	159	53	2	17
Washington .....	-	-	197	-	19	1	-	-	13	28	14	-	1
Oregon .....	3	-	3	-	-	-	1	-	3	15	3	-	-
California*	12	-	-	-	-	4	3	-	68	112	36	2	15
Alaska .....	-	-	4	-	-	-	2	-	1	-	-	-	-
Hawaii .....	3	-	21	-	-	-	-	-	1	4	-	-	1
Guam*	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
Puerto Rico .....	-	-	7	-	-	1	-	-	-	1	1	-	2
Virgin Islands .....	-	-	1	-	-	-	-	-	-	-	-	-	-

NA: Not notifiable

NA: Not available

<sup>†</sup>Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

\*The following delayed reports will be reflected in next week's issue: Bruc.: Mo. -1; Chickennox: Maine -1, N.H. +12, Ill. +188, Calif. +44, Guam +1; Enceph.: Ill. +1; Hep. B: N.J. -2, Ill. +19, Mo. -1, Del. +2, Va. -1, Tex. +1, Wyo. +1; Hep. A: Ill +25, Wis. -1, La. -2, Wyo. -1, Guam +1; Hep. unsp.: N.J. -1, Ill +6, Wis. -1, Va. -1, Tex. -1

**Table III-Continued**  
**Cases of Specified Notifiable Diseases: United States**  
**Weeks Ending March 11, 1978 and March 12, 1977 - 10th Week**

REPORTING AREA	MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1978	CUMULATIVE		1978	CUMULATIVE		1978	CUM. 1978	1978	1978	CUM. 1978	CUM. 1978
		1978	1977 †		1978	1977 †						
<b>UNITED STATES</b> .....	939	4,093	12,878	56	512	431	470	3,788	52	401	1,953	7
<b>NEW ENGLAND</b> .....	43	237	553	4	30	24	36	214	2	32	73	-
Maine .....	3	98	3	-	3	2	25	146	-	31	48	-
New Hampshire .....	1	7	199	1	4	2	2	5	-	-	3	-
Vermont .....	-	5	154	-	1	1	2	2	-	-	-	-
Massachusetts .....	14	67	99	2	6	5	-	21	2	1	18	-
Rhode Island .....	-	-	1	1	7	-	1	9	-	-	1	-
Connecticut .....	25	60	97	-	9	14	6	31	-	-	3	-
<b>MIDDLE ATLANTIC</b> .....	79	352	1,384	9	74	52	7	173	5	70	283	-
Upstate New York .....	71	240	326	-	27	11	5	59	4	7	32	-
New York City .....	3	63	73	3	20	12	1	53	-	3	14	-
New Jersey .....	-	1	28	2	13	16	-	42	-	59	166	-
Pennsylvania .....	5	48	957	4	14	13	1	19	1	1	71	-
<b>EAST NORTH CENTRAL</b> .....	323	1,695	3,328	6	34	43	147	1,345	29	137	787	1
Ohio .....	3	19	155	1	3	21	14	132	-	5	48	-
Indiana .....	4	36	1,725	2	11	-	18	76	27	11	45	1
Illinois* .....	20	242	331	-	-	10	36	444	1	17	36	-
Michigan .....	207	1,204	269	2	17	9	53	460	-	68	485	-
Wisconsin* .....	89	189	848	1	3	3	26	233	1	36	173	-
<b>WEST NORTH CENTRAL</b> .....	3	32	2,563	3	21	18	111	751	1	9	76	1
Minnesota .....	-	1	363	-	3	1	-	10	-	-	1	-
Iowa* .....	-	10	1,494	-	1	2	9	48	-	-	7	-
Missouri* .....	-	1	180	1	12	14	92	391	1	2	19	-
North Dakota .....	-	-	2	-	-	-	-	4	-	-	-	-
South Dakota .....	-	-	9	2	2	1	1	2	-	1	16	-
Nebraska .....	-	-	67	-	-	-	1	5	-	-	-	-
Kansas .....	3	20	448	-	3	-	8	291	-	6	33	1
<b>SOUTH ATLANTIC</b> .....	317	984	542	17	153	88	17	210	2	15	136	2
Delaware .....	-	3	17	-	-	1	1	14	-	-	1	-
Maryland .....	-	1	30	-	4	7	6	23	-	-	1	1
District of Columbia .....	-	-	-	1	1	-	-	-	-	-	1	-
Virginia .....	250	673	295	2	18	4	3	41	-	4	24	-
West Virginia .....	63	206	34	1	5	6	3	39	-	9	91	-
North Carolina .....	-	25	15	2	35	19	-	26	-	-	5	-
South Carolina .....	-	47	66	2	14	7	-	7	-	-	-	-
Georgia* .....	-	2	77	3	20	17	-	3	1	-	17	-
Florida .....	4	27	8	6	56	27	4	57	1	2	13	1
<b>EAST SOUTH CENTRAL</b> .....	76	327	184	5	40	44	37	351	4	18	87	1
Kentucky .....	4	45	82	-	11	17	-	39	-	13	32	1
Tennessee .....	72	252	93	3	14	10	13	205	4	4	41	-
Alabama .....	-	1	-	1	10	12	24	96	-	1	2	-
Mississippi .....	-	29	9	1	5	5	-	11	-	-	12	-
<b>WEST SOUTH CENTRAL</b> .....	48	252	639	4	67	95	85	421	5	48	163	2
Arkansas .....	-	1	4	-	6	5	25	63	1	-	3	1
Louisiana .....	16	131	43	-	19	44	-	19	1	20	51	-
Oklahoma .....	-	6	34	2	7	1	-	4	-	-	3	-
Texas* .....	32	114	558	2	35	45	60	335	3	28	106	1
<b>MOUNTAIN</b> .....	3	40	1,040	-	6	9	-	63	1	9	42	-
Montana .....	3	25	485	-	1	-	-	7	-	4	6	-
Idaho .....	-	1	25	-	1	1	-	11	-	-	3	-
Wyoming .....	-	-	1	-	-	-	-	-	-	-	-	-
Colorado .....	-	7	224	-	-	1	-	21	-	-	6	-
New Mexico .....	-	-	182	-	2	1	-	4	-	-	-	-
Arizona .....	-	4	108	-	2	5	-	2	1	5	13	-
Utah .....	-	1	2	-	-	-	-	18	-	-	13	-
Nevada .....	-	2	13	-	-	1	-	-	-	-	1	-
<b>PACIFIC</b> .....	47	174	2,645	8	87	58	30	260	3	63	306	-
Washington* .....	7	29	182	1	17	8	13	77	1	5	40	-
Oregon .....	19	38	68	-	4	4	1	29	-	5	23	-
California .....	21	102	2,340	7	62	37	15	145	2	53	242	-
Alaska .....	-	-	55	-	3	8	1	4	-	-	-	-
Hawaii .....	-	5	-	-	1	1	-	5	-	-	1	-
Guam .....	NA	1	3	-	-	-	NA	1	NA	NA	-	-
Puerto Rico .....	3	31	125	-	-	-	42	203	-	-	3	1
Virgin Islands .....	4	5	6	-	-	-	-	-	-	-	-	-

NA: Not available

†Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

\*The following delayed reports will be reflected in next week's issue: Measles: Ill. +14, Wis. -4, Tex. -2; Men. inf.: Ill +3, Mo. +1; Mumps: Ill +5, Iowa +2, Ga. +2; Pertussis: Ill. +51, Mo. +1, Wash. +1; Rubella: Ill. +15, Tex. +2.

Table III-Continued  
**Cases of Specified Notifiable Diseases: United States**  
*Weeks Ending March 11, 1978 and March 12, 1977 - 10th Week*

REPORTING AREA	TUBERCULOSIS		TULA-REMLIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)					RABIES IN ANIMALS	
	1978	CUM. 1978	CUM. 1978	1978	CUM. 1978	1978	CUM. 1978	GONORRHEA		SYPHILIS (Pri. & Sec.)			CUM. 1978	
								CUMULATIVE		1978	CUMULATIVE			
								1978	1977 †		1978	1977 †		
UNITED STATES	563	4,883	14	11	67	2	9	19,021	174,696	180,613	387	3,763	4,345	430
NEW ENGLAND	12	121	-	3	15	-	-	403	4,288	4,688	23	131	156	18
Maine	-	8	-	-	-	-	-	21	317	393	-	1	7	18
New Hampshire*	-	6	-	-	5	-	-	26	203	179	-	1	-	-
Vermont	1	7	-	-	-	-	-	3	111	107	-	-	3	-
Massachusetts*	3	48	-	-	2	-	-	158	1,909	2,043	13	88	110	-
Rhode Island*	2	14	-	-	4	-	-	49	266	328	-	4	2	-
Connecticut	6	38	-	3	4	-	-	146	1,482	1,638	10	37	34	-
MIDDLE ATLANTIC	103	776	-	2	10	-	3	2,265	19,684	20,451	47	482	617	8
Upstate New York*	14	91	-	1	3	-	1	565	2,965	2,522	1	28	52	8
New York City	29	376	-	-	4	-	-	613	7,753	9,944	40	346	394	-
New Jersey	39	219	-	-	1	-	-	521	3,796	2,911	3	56	79	-
Pennsylvania	21	90	-	1	2	-	2	566	5,170	5,074	3	52	92	-
EAST NORTH CENTRAL	56	763	-	-	3	-	-	2,658	23,605	27,599	36	320	493	18
Ohio	5	138	-	-	1	-	-	774	6,485	7,370	1	55	135	-
Indiana	17	111	-	-	-	-	-	379	2,785	2,305	7	25	31	2
Illinois*	11	255	-	-	-	-	-	602	6,176	9,383	17	191	259	1
Michigan	15	166	-	-	2	-	-	589	5,826	5,983	7	36	49	-
Wisconsin	8	33	-	-	-	-	-	314	2,333	2,558	4	13	19	15
WEST NORTH CENTRAL	22	163	6	-	4	-	-	805	8,628	9,287	19	82	97	141
Minnesota	2	43	-	-	-	-	-	42	1,625	1,567	16	30	31	50
Iowa	5	17	-	-	2	-	-	68	1,060	1,144	1	7	7	29
Missouri	13	63	5	-	2	-	-	418	3,302	3,961	-	27	29	17
North Dakota	-	4	-	-	-	-	-	30	217	146	-	-	1	27
South Dakota*	2	17	-	-	-	-	-	20	340	241	-	1	1	12
Nebraska	-	2	-	-	-	-	-	91	673	745	-	1	13	-
Kansas	-	17	1	-	-	-	-	136	1,411	1,483	2	16	15	6
SOUTH ATLANTIC	123	1,129	2	-	5	2	3	4,398	42,340	42,316	133	1,048	1,252	47
Delaware	4	5	-	-	-	-	-	49	777	555	-	3	11	-
Maryland	17	217	1	-	-	-	-	717	5,983	5,208	12	76	83	-
District of Columbia	4	62	-	-	-	1	1	267	2,703	2,848	10	88	130	-
Virginia	14	110	-	-	1	-	-	433	3,721	4,430	9	102	117	1
West Virginia	7	54	-	-	-	-	-	66	654	562	2	3	1	1
North Carolina*	21	195	-	-	-	1	1	700	5,519	6,597	12	92	177	-
South Carolina	4	90	-	-	-	-	-	533	3,972	3,916	11	51	56	3
Georgia	15	127	-	-	-	-	1	723	8,000	8,116	33	249	223	36
Florida	37	269	1	-	4	-	-	910	11,011	10,084	44	384	454	6
EAST SOUTH CENTRAL	51	520	3	-	1	-	1	1,675	14,929	15,380	23	180	145	17
Kentucky*	21	105	-	-	1	-	-	272	1,729	2,121	2	19	14	13
Tennessee	12	148	3	-	-	-	1	613	5,316	6,301	13	66	41	2
Alabama	8	118	-	-	-	-	-	350	4,567	4,070	2	25	26	2
Mississippi	10	149	-	-	-	-	-	440	3,317	2,888	6	70	64	-
WEST SOUTH CENTRAL	98	563	2	-	1	-	1	2,794	24,766	23,765	50	586	553	111
Arkansas	4	53	2	-	-	-	-	384	1,801	1,799	1	38	14	14
Louisiana*	24	130	-	-	-	-	-	240	3,847	3,435	2	107	114	2
Oklahoma	9	65	-	-	-	-	-	210	2,168	2,069	-	23	17	32
Texas	61	315	-	-	1	-	1	1,960	16,950	16,462	47	418	408	63
MOUNTAIN	15	140	-	1	2	-	-	848	6,470	7,166	4	82	86	2
Montana	-	15	-	-	-	-	-	43	432	388	-	6	-	-
Idaho	3	4	-	1	1	-	-	24	211	353	-	-	2	-
Wyoming	1	3	-	-	-	-	-	44	154	199	-	3	2	-
Colorado	-	-	-	-	-	-	-	233	1,796	1,878	1	26	27	-
New Mexico	4	27	-	-	-	-	-	103	904	1,043	-	17	15	1
Arizona	7	75	-	-	-	-	-	197	1,594	1,943	1	19	34	1
Utah	-	6	-	-	-	-	-	24	379	421	1	3	4	-
Nevada	-	10	-	-	1	-	-	180	1,000	941	1	8	2	-
PACIFIC	83	768	1	5	26	-	1	3,175	29,986	29,961	52	852	946	68
Washington*	NA	8	-	-	1	-	-	326	2,045	2,189	NA	26	31	-
Oregon	11	35	-	-	1	-	-	263	2,169	2,117	4	21	36	-
California	62	594	1	5	24	-	1	2,430	24,290	24,146	48	794	864	66
Alaska	-	16	-	-	-	-	-	98	922	884	-	4	4	2
Hawaii	10	115	-	-	-	-	-	58	560	625	-	7	11	-
Guam*	NA	7	-	NA	-	NA	-	NA	17	65	NA	-	1	-
Puerto Rico	12	88	-	-	-	-	-	48	534	568	8	82	114	2
Virgin Islands	-	-	-	-	-	-	-	-	44	25	-	4	-	-

NA: Not available

†Delayed reports received for 1977 are not shown below but are used to update last year's weekly and cumulative totals.

The following delayed reports will be reflected in next week's issue: TB: Mass. +19, N.C. -1, Wash. +11; Typhoid fever: Ill. +1; GC: N.H. +2 mil.; Guam +10 civ; Syphilis: R.I. -1, Ill. +48, Ky. -1, La. +1; An rabies: Ups. NY +1, S. Dak. +6, Ky. +1.

**Table IV**  
**Deaths in 121 United States Cities\***  
*Week Ending March 11, 1978 - 10th Week*

REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES	REPORTING AREA	ALL CAUSES					Pneumonia and Influenza ALL AGES
	ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year			ALL AGES	65 Years and Over	45-64 Years	25-44 Years	Under 1 Year	
<b>NEW ENGLAND</b> .....	684	456	162	31	21	47	<b>SOUTH ATLANTIC</b> .....	1,118	689	311	55	31	63
Boston, Mass. ....	190	126	40	10	10	16	Atlanta, Ga. ....	125	74	36	10	1	5
†Bridgeport, Conn. ....	43	30	10	2	1	4	Baltimore, Md. ....	172	105	47	11	2	7
Cambridge, Mass. ....	29	21	6	-	1	2	Charlotte, N. C. ....	68	37	23	4	3	1
Fall River, Mass. ....	31	23	8	-	-	-	Jacksonville, Fla. ....	81	46	23	2	5	4
Hartford, Conn. ....	55	33	15	5	-	2	Miami, Fla. ....	49	24	19	2	4	3
Lowell, Mass. ....	23	14	8	1	-	2	Norfolk, Va. ....	51	33	11	3	1	3
Lynn, Mass. ....	12	9	2	1	-	-	Richmond, Va. ....	72	39	25	2	2	10
New Bedford, Mass. ....	29	24	5	-	-	2	Savannah, Ga. ....	27	18	7	2	-	4
New Haven, Conn. ....	58	32	19	5	1	2	St. Petersburg, Fla. ....	90	76	12	1	-	4
Providence, R.I. ....	62	40	9	3	6	4	Tampa, Fla. ....	68	46	16	3	-	5
Somerville, Mass. ....	16	13	3	-	-	2	Washington, D. C. ....	274	160	84	13	13	17
Springfield, Mass. ....	48	30	14	2	1	6	Wilmington, Del. ....	41	31	8	2	-	-
Waterbury, Conn. ....	35	24	10	1	-	1	<b>EAST SOUTH CENTRAL</b> .....	833	493	228	47	38	36
Worcester, Mass. ....	53	37	13	1	1	4	Birmingham, Ala. ....	130	66	50	7	3	5
<b>MIDDLE ATLANTIC</b> .....	3,017	1,865	803	187	95	117	Chattanooga, Tenn. ....	66	47	12	4	2	3
Albany, N. Y. ....	53	34	13	-	4	1	Knoxville, Tenn. ....	47	33	11	-	-	4
Allentown, Pa. ....	18	11	3	3	-	-	Louisville, Ky. ....	139	87	34	8	8	10
Buffalo, N. Y. ....	123	82	28	7	1	11	Memphis, Tenn. ....	219	135	50	11	14	7
Camden, N. J. ....	29	18	10	-	-	1	Mobile, Ala. ....	59	30	20	4	3	2
Elizabeth, N. J. ....	27	17	10	-	-	2	Montgomery, Ala. ....	36	21	7	6	2	2
Erie, Pa. ....	35	27	8	-	-	1	Nashville, Tenn. ....	137	74	44	7	6	3
Jersey City, N. J. ....	41	24	14	2	1	1	<b>WEST SOUTH CENTRAL</b> .....	1,379	785	362	99	66	47
Newark, N. J. ....	65	39	17	5	-	2	Austin, Tex. ....	38	26	4	4	1	4
New York City, N. Y. ....	1,364	871	339	89	40	52	Baton Rouge, La. ....	43	23	12	5	2	4
Paterson, N. J. ....	30	15	10	3	2	2	Corpus Christi, Tex. ....	34	17	15	1	-	2
Philadelphia, Pa. ....	616	361	175	41	23	22	Dallas, Tex. ....	196	109	51	16	11	3
Pittsburgh, Pa. ....	218	112	74	14	13	7	El Paso, Tex. ....	42	18	14	1	7	-
Reading, Pa. ....	33	23	9	-	1	1	Fort Worth, Tex. ....	108	72	23	4	4	3
Rochester, N. Y. ....	132	91	23	10	4	7	Houston, Tex. ....	344	180	103	29	15	11
Schenectady, N. Y. ....	22	13	8	1	-	2	Little Rock, Ark. ....	80	45	16	6	8	6
Scranton, Pa. ....	36	20	13	2	1	-	New Orleans, La. ....	167	90	52	12	5	-
Syracuse, N. Y. ....	81	47	22	6	5	1	San Antonio, Tex. ....	171	106	36	13	5	2
Trenton, N. J. ....	30	19	7	2	-	1	Shreveport, La. ....	89	58	21	4	5	6
Utica, N. Y. ....	34	26	7	1	-	1	Tulsa, Okla. ....	67	41	15	4	3	6
Yonkers, N. Y. ....	30	15	13	1	-	2	<b>MOUNTAIN</b> .....	566	334	138	40	24	28
<b>EAST NORTH CENTRAL</b> .....	2,347	1,431	635	127	87	94	Albuquerque, N. Mex. ....	67	36	16	8	3	7
Akron, Ohio ....	77	49	23	3	-	-	Colorado Springs, Colo. ....	37	24	7	2	1	-
Canton, Ohio ....	40	26	12	-	2	-	Denver, Colo. ....	110	70	27	7	1	6
Chicago, Ill. ....	551	308	152	40	28	12	Las Vegas, Nev. ....	32	22	6	2	1	3
Cincinnati, Ohio ....	150	95	45	5	2	7	Ogden, Utah ....	19	12	4	1	-	2
Cleveland, Ohio ....	190	109	59	7	14	6	Phoenix, Ariz. ....	146	81	44	10	5	2
Columbus, Ohio ....	131	78	37	8	6	4	Pueblo, Colo. ....	19	14	3	-	-	2
Dayton, Ohio ....	109	62	30	6	4	2	Salt Lake City, Utah ....	59	26	15	3	11	3
Detroit, Mich. ....	275	165	69	21	13	10	Tucson, Ariz. ....	77	49	16	7	2	3
Evansville, Ind. ....	62	40	18	2	1	5	<b>PACIFIC</b> .....	1,864	1,216	422	100	65	64
Fort Wayne, Ind. ....	58	40	16	1	1	2	Berkeley, Calif. ....	21	10	7	2	2	-
Gary, Ind. ....	18	12	2	1	2	1	Fresno, Calif. ....	62	37	15	4	4	4
Grand Rapids, Mich. ....	83	58	21	2	2	12	Glendale, Calif. ....	43	36	6	-	1	1
Indianapolis, Ind. ....	158	97	42	10	2	3	Honolulu, Hawaii ....	73	48	12	4	5	1
Madison, Wis. ....	25	15	7	1	1	3	Long Beach, Calif. ....	113	71	35	2	4	3
Milwaukee, Wis. ....	135	87	35	8	1	5	Los Angeles, Calif. ....	629	411	144	29	24	26
Peoria, Ill. ....	44	27	12	1	2	7	Oakland, Calif. ....	70	30	26	9	5	1
Rockford, Ill. ....	45	29	9	4	1	6	Pasadena, Calif. ....	33	24	4	3	-	-
South Bend, Ind. ....	41	21	14	3	1	4	Portland, Oreg. ....	146	110	24	5	5	4
Toledo, Ohio ....	92	70	16	2	3	2	Sacramento, Calif. ....	73	47	15	5	1	2
Youngstown, Ohio ....	63	43	16	2	1	3	San Diego, Calif. ....	131	92	27	2	4	4
<b>WEST NORTH CENTRAL</b> .....	817	497	194	49	52	39	San Francisco, Calif. ....	162	103	31	16	5	2
Des Moines, Iowa ....	80	41	23	5	4	4	San Jose, Calif. ....	76	47	22	4	-	2
Duluth, Minn. ....	22	10	9	1	1	-	Seattle, Wash. ....	136	87	34	8	1	4
Kansas City, Kans. ....	32	14	10	3	2	2	Spokane, Wash. ....	56	35	12	4	4	6
Kansas City, Mo. ....	153	101	36	7	6	3	Tacoma, Wash. ....	40	28	8	3	-	4
Lincoln, Nebr. ....	43	30	10	2	1	2	<b>TOTAL</b> .....	12,625	7,766	3,255	735	479	535
Minneapolis, Minn. ....	86	56	10	5	13	5	Expected Number .....	12,106	7,472	3,103	717	426	520
Omaha, Nebr. ....	86	47	31	3	3	2							
St. Louis, Mo. ....	176	96	41	18	16	7							
St. Paul, Minn. ....	59	49	5	2	2	5							
Wichita, Kans. ....	80	53	19	3	4	9							

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

†Data not available this week; figures are estimates based on average percent of regional total.

The Morbidity and Mortality Weekly Report, circulation 78,000, is published by the Center for Disease Control, Atlanta, Georgia. 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. Send reports to: Center for Disease Control, Attn.: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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*Mycobacterial contamination — continued*

is being treated with rifampin alone and has had no further complications.

**Case 2:** A second patient in a different hospital had a porcine valve placed in the aortic position as therapy for severe aortic insufficiency caused by Group B streptococcal endocarditis. Tissue remnants, cultured at the time of valve implantation, were subsequently found to be culture-positive with *M. chelonae*. Four months later the patient was found to have increasing aortic insufficiency. At surgery, he was found to have a deep abscess cavity in the subvalvular area between the left coronary cusp and the non-coronary cusp. The porcine valve was removed and replaced with a mechanical prosthetic valve. The hospital reported acid-fast bacilli in stained abscess fluid, but cultures on all routine media (including Loewenstein-Jensen, thioglycollate, Sabourauds, and other fungal media) were negative. The patient had been treated with isoniazid, rifampin, and amikacin for 3 weeks before the second operation<sup>†</sup>. The removed porcine valve was normal on gross examination, and, according to the manufacturer, on histologic examination. After surgery, erythromycin was substituted for amikacin since the hospital found the isolate to be sensitive to erythromycin by disc sensitivity testing. Also, clofazimine<sup>‡</sup> was added to the antibiotic regimen. The patient has continued to receive isoniazid, rifampin, erythromycin, and clofazimine. He has had no further evidence of active infection. Multiple blood cultures from both these cases were negative.

Subcultures of the 2 remnant isolates from these cases plus subcultures of 16 other remnant isolates have been confirmed at CDC as *M. chelonae*. In addition, 4 isolates of mycobacteria obtained by CDC in January 1977 from tissue remnants at the manufacturer's plant have been identified as *M. chelonae*. These latter organisms have identical biochemical patterns to those isolated from tissue remnants in hospitals.

In October 1977 Hancock Laboratories discontinued distribution of tissue remnants with their valves and concomitantly began a new disinfection procedure. They have continued to culture tissue remnants during valve processing to assess the sterility of the valves, however. According to the manufacturer, no remnants of valves processed with the new disinfectant have been found to be contaminated with mycobacteria. By comparison, the mycobacterial contamination frequency for several months prior to institution of the new disinfection procedure was 0.3-4.0%.

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<sup>†</sup>The remnant isolate has been found to be resistant to isoniazid. The minimum inhibitory concentration (MIC) of rifampin was 12.5 mcg/ml, amikacin >15 mcg/ml, and clofazimine < 6 mcg/ml.

**Editorial Note:** *M. chelonae* has been reported as an etiologic agent in sporadic cases of endocarditis associated with non-porcine prosthetic heart valves (4,5) and as the etiologic agent in a nosocomial epidemic of surgical wound infections (6). However, although the source of mycobacteria on porcine prosthetic valves remains unknown, data suggest that the problem is one of intrinsic contamination of valves and not one of in-hospital contamination. No obvious source was found by CDC in a plant investigation in January 1977. Pig hearts used by the manufacturer are obtained from numerous abattoirs across the country. Although *M. avium-intracellulare* infections are endemic among pigs, *M. chelonae* has been reported infrequently (7). An extensive culture survey of pig hearts received by the manufacturer has not been done.

The number of contaminated porcine heart valves sent to hospitals is unknown. CDC has no information on the frequency of culturing by hospitals of remnants of valves distributed by any of the porcine valve manufacturers. At least 2 manufacturers do not distribute remnants with porcine heart valves. It is possible that some hospitals do not culture remnants even when they are available. In addition, hospitals that do culture remnants may vary widely in their culture techniques so that some contaminated valves may not be detected. The degree of correlation between positive cultures from valves and their associated remnants is not completely defined. However, since remnants accompany associated valves through processing, a tissue remnant found to be contaminated with mycobacteria probably indicates an increased risk that its associated valve may also be contaminated.

Although the infection risk is probably small, the 2 cases of disease, in conjunction with the antimicrobial resistance of these organisms, underscore the potential seriousness of having a remnant-culture-positive valve implanted. Long incubation periods and indolent courses of disease, as reported in the 2 patients, may make detection difficult. A study is in progress to assess skin test reactivity to various mycobacteria antigens among Hancock valve recipients and appropriate controls. Results of this study are not yet available.

Porcine prosthetic heart valves are a valuable adjunct in the treatment of aortic, mitral, and pulmonic valvular disease as well as for the repair of various congenital heart defects. When a valve is to be used, hospitals may want to consider the following procedures: 1) culture a tissue remnant, if available, in thioglycollate broth at the time of the operation; 2) when a tissue remnant is not available, culture by membrane filtration either the gluteraldehyde solution in which valves are shipped, the valve rinse solution, or both. It should be pointed out, however, that the efficacy of these latter 2 procedures has not been determined.

When possible, remnant or fluid specimens should be inoculated onto culture media under a laminar-flow hood. In addition, it is suggested that, in sterility testing, control cultures should be run concomitantly with test cultures.

The broth in which remnants are cultured should be incubated at 28 C and held for at least 6 weeks. If this culture is positive, characterization of the organism, including antibiotic sensitivities, may be useful in subsequent clinical management of the patient. All isolates examined so far

*Mycobacterial contamination — continued*

have been resistant to most antimicrobials against which mycobacteria are commonly tested.

Patients who receive these valves should be carefully observed for any evidence of infection. Diagnostic cultures of blood or tissue should include the use of thioglycollate broth medium and should be held for at least 4 weeks. All isolates of mycobacteria associated with porcine heart valves should be reported to the appropriate state health department and CDC.

*References*

1. MMWR 26:42-43, 1977
2. Laskowski LF, Marr JJ, Spernoga JF, Frank NJ, Barner HB,

- Kaiser G, Tyras DH: Fastidious mycobacteria grown from porcine prosthetic heart valve cultures. *N Engl J Med* 297:101-102, 1977
3. Levy C, Curtin JA, Watkins A, Marsh B, Garcia J, Mispireta L: *Mycobacterium chelonae* infection of porcine heart valves. *N Engl J Med* 297:667-668, 1977
4. Altmann G, Horowitz A, Kaplinsky N, Frankl O: Prosthetic valve endocarditis due to *Mycobacterium chelonae*. *J Clin Microbiol* 1:531-533, 1975
5. Repath F, Seabury JH, Sanders CV, Domer J: Prosthetic valve endocarditis due to *Mycobacterium chelonae*. *South Med J* 69: 1244-1246, 1976
6. MMWR 25:242-243, 1976
7. Thoen CO, Himes EM: Isolation of *Mycobacterium chelonae* from a granulomatus lesion in a pig. *J Clin Microbiol* 6:81-83, 1977

*Current Trends***Results of Screening for Gonorrhea — United States, 9-month Period Ending September 1977**

In the 9-month period ending September 1977, a total of 6,400,362 specimens were taken from women as part of gonorrhea screening programs; 294,149 (4.6%) were found to be positive. Table 1 reflects the results of such screening by types of health-care facilities securing the specimen. Although the positivity rates were highest (18.2%) in venereal disease clinics, 89% of all tests were performed in other settings. In these settings culture-positivity rates in women ranged from 1.6% in private family planning groups and industrial screening to 5.4% for women in manpower training

agencies. Among 1,441,752 women tested by private physicians, cultures from 28,757 (2.0%) were positive.

Provisional data indicate that an additional 2,081,597 women were tested at all types of facilities in October, November, and December 1977, or about 693,865 per month. For this period, the overall positivity rate of cultures from all sources was 4.9%.

*Reported by the Evaluation & Statistical Services Section, Venereal Disease Control Div, Bur of State Services, CDC.*

TABLE 1. Results of gonorrhea culture tests on females, United States\*, January 1977 — September 1977

REPORTING SOURCE	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE	REPORTING SOURCE	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Health Care Providers (Excluding VD Clinics) . . . . .	5,675,946	162,082	2.9	Health Care Providers (Excluding VD Clinics—Con't.)			
Health Department Non-VD Clinic . . . . .	1,387,090	44,586	3.2	Private Physicians . . . . .	1,441,752	28,757	2.0
Family Planning . . . . .	973,879	30,348	3.1	Private Family Planning Groups . . . . .	777,621	12,411	1.6
Prenatal, Ob-Gyn . . . . .	139,310	4,154	3.0	Group Health Clinics . . . . .	109,608	2,459	2.2
Cancer Detection . . . . .	18,080	319	1.8	Student Health Centers . . . . .	146,228	2,524	1.7
Combinations or Other . . . . .	255,821	9,765	3.8	Manpower Training Agencies . . . . .	10,480	567	5.4
Public/Private Hospital—Outpatient . . . . .	1,030,498	45,148	4.4	Industrial Screening . . . . .	2,745	44	1.6
Family Planning . . . . .	187,477	6,051	3.2	Military/Dependents . . . . .	57,454	1,575	2.7
Prenatal, Ob-Gyn . . . . .	247,763	7,902	3.2	Correctional or Detention Centers . . . . .	48,845	2,595	5.3
Cancer Detection . . . . .	6,323	159	2.5	Not Specified . . . . .	92,583	4,885	5.3
Combinations or Other . . . . .	588,935	31,036	5.3	Venereal Disease Clinics . . . . .	724,416	132,067	18.2
Public/Private Hospital—Inpatient . . . . .	43,735	1,072	2.5	<b>TOTAL (All Clinics) . . . . .</b>	<b>6,400,362</b>	<b>294,149</b>	<b>4.6</b>
Obstetric . . . . .	2,282	47	2.1				
Gynecologic . . . . .	639	22	3.4				
Combinations or Other . . . . .	40,814	1,003	2.5				
Community Health Centers . . . . .	527,307	15,459	2.9				
Family Planning . . . . .	140,312	2,743	2.0				
Prenatal, Ob-Gyn . . . . .	40,414	1,049	2.6				
Cancer Detection . . . . .	5,590	25	.5				
Combinations or Other . . . . .	340,991	11,642	.5				

\*Excludes Trust Territories

Source: CDC 9-124, CDC, Venereal Disease Control Division, Atlanta, Georgia

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