

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Epidemiologic Notes and Reports

Animal Anthrax — Texas

One hundred sixty cattle and horses died of confirmed or presumptive anthrax in northwestern Foard County and northeastern Cottle County, Texas, in the period July 22-September 10, 1976. The Texas Animal Health Commission instituted a program of quarantine and vaccination on all affected and adjacent premises following bacteriologic confirmation, and by September 10 no more animal deaths were reported. There was no evidence of human illness associated with the epizootic.

Anthrax has not been reported from the affected area during its 75 to 100 years of recorded history, but animal anthrax has reportedly occurred in surrounding counties on at least 3 previous occasions.

Thirteen premises (11 ranches, a feedlot, and an isolated pasture) were affected. All but 3 of these were geographically contiguous. One ranch was located approximately 10 miles from the majority of affected sites, and the feedlot and the isolated pasture contained cattle which had been transferred from the epizootic area.

Deaths peaked on August 29 and 30 (Figure 1). The earlier cases were diagnosed in retrospect because the relative inaccessibility of certain areas caused delays in bacteriologic confirmation until August 26. The highest attack rate for the 10 ranches where investigation was possible was 23.6% (26 of 110 cattle). The overall attack rate for these 10 ranches was 5.3% (160 of 3,025), and included 7 of 762 calves (< 1 year), 17 of 67 bulls, 127 of 845 cows, 4 of 1,336 steers, and 5 of 15 horses.

Animals on 17 premises were vaccinated with Sterne strain vaccine in connection with the quarantine; deaths stopped by the eighth day after vaccination on all affected ranches. Analyses of soil types, climatic features, management practices, and other factors which may have contributed to the outbreak are in progress.

Reported by GD Lindsey, DVM, HQ Sibley, DVM, JB Young, DVM, Texas Animal Health Commission, Austin; LN Brown, DVM, PhD,

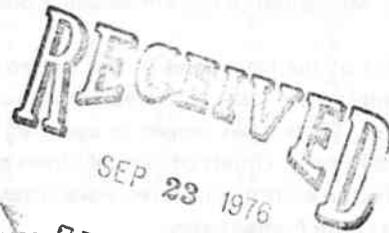
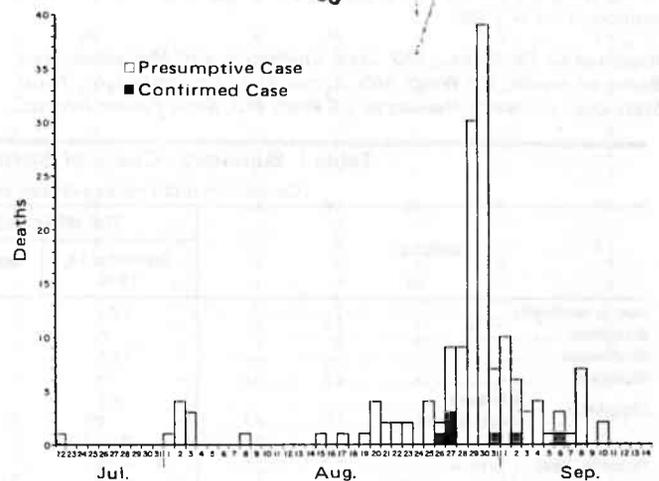


FIGURE 1. Anthrax animal deaths, Texas, 1976



WL Sippel, VMD, PhD, Texas A&M Veterinary Medical Diagnostic Laboratories, Amarillo and College Station; LJ Benson, MD, MPH, Texas Dept of Health Resources; Bacterial Zoonoses Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Appropriate bacteriologic samples should be collected by a veterinarian as soon as possible in all cases of unexplained, sudden deaths in animals in known anthrax endemic areas. This would allow early recognition of potential anthrax epizootics so appropriate control measures could be instituted to limit animal losses and to decrease the risk of human illness. In all cases of suspected anthrax standard precautionary measures should be strictly followed with regard to collection of specimens.

The rapid response of the Texas Animal Health Commission to the positive identification of *Bacillus anthracis* and the cooperation of the ranchers in the affected areas both contributed to the resolution of this epizootic.

Current Trends

St. Louis Encephalitis — United States

As of September 15, 1976, 157 cases of St. Louis Encephalitis (96 confirmed and 61 presumptive)* were reported in the United States (Table 1). There were 8 deaths. The largest clusters of cases were reported in Tuscaloosa County, Alabama (9 confirmed and 13 presumptive), Harris County, Texas (14 confirmed and 7 presumptive), Coahoma County, Mississippi, (4 confirmed and 3 presumptive) and Hinds County, Mississippi (5 confirmed and 1 presumptive).

Almost one-third of the total cases in the United States resided in Mississippi; these were scattered throughout the state in 21 counties. These cases ranged in age from 14 to 89 years (median 64 years). Onsets of clinical illness peaked in mid-August. Vector control measures were intensified, particularly in areas with human cases.

*A confirmed case has a 4-fold change in serum antibody titers to St. Louis Encephalitis virus. A presumptive case has a complement fixing antibody titer $\geq 1:16$ and/or a hemagglutination inhibition antibody titer $\geq 1:80$.

Reported by DL Blakey, MD, State Epidemiologist, Mississippi State Board of Health; CR Webb, MD, Acting State Epidemiologist, Texas State Dept of Health Resources; FS Wolf, MD, State Epidemiologist,

TABLE 1. St. Louis Encephalitis, United States, 1976

State	Cases		Deaths	
	Confirmed	Presumptive	Confirmed	Presumptive
Alabama	14	16	1	2
Arizona	2	0	0	0
Arkansas	1	0	0	0
California	1	0	0	0
Illinois	4	0	0	0
Indiana	3	1	0	0
Louisiana	4	2	0	0
Maryland	1**	0	0	0
Mississippi	26	24	2	2
Missouri	5†	2	0	0
Ohio	3	1	0	0
South Dakota	1	0	0	0
Tennessee	7	4	0	0
Texas	23	11	0	1
Virginia	1	0	0	0
Totals	96	61	3	5

** imported case

† 1 case contracted out of state

Alabama State Dept of Health; Field Surveillance Br, Field Services Div, and Enteric and Neurotropic Viral Diseases Br, Viral Diseases Div, Bur of Epidemiology, CDC.

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

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

DISEASE	37th WEEK ENDING		MEDIAN 1971-1975	CUMULATIVE, FIRST 37 WEEKS		
	September 18, 1976	September 13, 1975		September 18, 1976	September 13, 1975	MEDIAN 1971-1975
Aseptic meningitis	122	171	189	1,912	2,364	2,461
Brucellosis	4	11	6	180	158	133
Chickenpox	265	286	---	147,071	117,034	---
Diphtheria	-	6	3	125	215	126
Encephalitis	41	123	39	726	951	951
Post-Infectious	1	3	4	203	238	221
Type B	284	226	198	10,372	8,172	6,502
Hepatitis, Viral	498	722	1,031	23,957	24,770	35,881
Type A	138	158	---	6,146	5,680	---
Type unspecified	17	7	11	324	293	293
Malaria	91	53	96	34,501	21,236	24,207
Measles (rubeola)	16	18	17	1,146	1,083	1,061
Meningococcal infections, total	16	18	16	1,137	1,058	1,036
Civilian	-	-	1	9	25	26
Military	183	285	303	32,532	46,978	55,454
Mumps	16	30	---	685	1,085	---
Pertussis	49	78	98	10,629	14,826	20,884
Rubella (German measles)	1	3	3	41	63	64
Tetanus	573	674	---	23,770	23,528	---
Tuberculosis	5	-	3	98	88	109
Tularemia	9	12	10	278	229	244
Typhoid fever	31	27	13	722	693	546
Typhus, tick-borne (Rky. Mt. spotted fever)						
Venereal Diseases:						
Gonorrhea	19,451	20,985	---	710,669	695,811	---
Civilian	617	448	---	21,290	21,326	---
Military	421	525	---	16,972	18,113	---
Syphilis, primary and secondary	5	6	---	250	251	---
Civilian	57	38	49	1,990	1,779	2,600
Military						
Rabies in animals						

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	2	Poliomyelitis, total:	8
Botulism: Alaska 3	24	Paralytic:	7
Congenital rubella syndrome:	17	Paittacosis: Wisc. 1	53
Leprosy: *Calif. 1	97	Rabies in man: Tex. 1	2
Leptospirosis: *Mich. 1	35	Trichinosis: N.J. 1, Pa. 1, Kans. 1	70
Plague:	14	Typhus, murine: Tex. 1	41

*Delayed reports: Leprosy NYC 2, Leptospirosis: Va. delete 2

Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending September 18, 1976 and September 13, 1975 - 37th 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		
						1976	CUM. 1976	1976	1975	1976	1976		
UNITED STATES	122	4	265	-	125	41	123	1	284	498	138	17	324
NEW ENGLAND	2	-	33	-	-	2	1	-	4	12	22	-	13
Maine	-	-	3	-	-	-	-	-	-	-	-	-	-
New Hampshire	1	-	-	-	-	-	-	-	1	1	-	-	-
Vermont*	-	-	-	-	-	-	-	-	-	2	2	-	-
Massachusetts	-	-	15	-	-	1	1	-	2	3	16	-	6
Rhode Island	-	-	8	-	-	-	-	-	1	-	-	-	3
Connecticut	1	-	7	-	-	1	-	-	-	6	4	-	4
MIDDLE ATLANTIC	22	-	18	-	-	1	12	-	53	64	27	10	73
Upstate New York	3	-	2	-	-	1	1	-	5	22	3	3	15
New York City	3	-	13	-	-	-	-	-	19	10	-	4	31
New Jersey*	13	-	NN	-	-	-	3	-	26	25	23	-	14
Pennsylvania	3	-	3	-	-	-	8	-	3	7	1	3	13
EAST NORTH CENTRAL	14	-	60	-	-	8	27	-	73	100	14	-	16
Ohio	4	-	3	-	-	7	14	-	12	29	-	7	7
Indiana	5	-	7	-	-	-	-	-	1	3	4	-	-
Illinois	1	-	-	-	-	-	1	-	30	22	5	-	2
Michigan	4	-	13	-	-	1	7	-	25	37	5	-	6
Wisconsin	-	-	37	-	-	-	5	-	5	9	-	-	1
WEST NORTH CENTRAL	8	-	42	-	4	6	26	-	4	24	3	1	19
Minnesota	2	-	-	-	-	2	-	-	-	4	-	-	3
Iowa	-	-	20	-	-	-	4	-	1	4	-	-	-
Missouri*	6	-	-	-	1	3	11	-	1	11	3	-	9
North Dakota	-	-	12	-	-	-	3	-	-	4	-	-	-
South Dakota	-	-	-	-	3	1	8	-	-	-	-	-	3
Nebraska	-	-	-	-	-	-	-	-	-	-	-	-	2
Kansas	-	-	10	-	-	-	-	-	2	1	-	1	2
SOUTH ATLANTIC	14	-	43	-	-	3	11	-	43	95	23	3	58
Delaware*	-	-	1	-	-	-	-	-	1	2	-	-	-
Maryland	1	-	-	-	-	1	5	-	18	6	4	-	11
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	9
Virginia*	2	-	1	-	-	-	-	-	1	7	10	-	8
West Virginia	1	-	28	-	-	-	-	-	2	8	-	-	3
North Carolina	4	-	NN	-	-	2	3	-	4	11	1	2	6
South Carolina	-	-	2	-	-	-	1	-	1	3	4	-	1
Georgia	-	-	-	-	-	-	-	-	-	25	-	1	5
Florida	6	-	11	-	-	-	2	-	16	33	4	-	15
EAST SOUTH CENTRAL	9	2	7	-	-	6	34	1	16	33	2	-	2
Kentucky*	-	-	7	-	-	-	21	-	-	-	-	-	-
Tennessee	7	2	NN	-	-	2	3	-	12	20	-	-	-
Alabama	1	-	-	-	-	-	5	-	1	4	2	-	1
Mississippi	1	-	-	-	-	4	5	1	3	9	-	-	1
WEST SOUTH CENTRAL	19	2	24	-	1	11	2	-	13	36	12	1	15
Arkansas	2	-	-	-	-	1	1	-	1	12	2	-	-
Louisiana	5	1	NN	-	-	-	-	-	11	12	5	-	1
Oklahoma	-	-	3	-	-	1	-	-	1	12	5	-	2
Texas*	12	1	21	-	1	9	1	-	-	-	-	1	12
MOUNTAIN	13	-	24	-	4	3	5	-	17	43	9	2	13
Montana*	1	-	4	-	-	-	-	-	-	-	-	-	-
Idaho	1	-	5	-	-	-	-	-	-	1	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	10	-	4	-	3	1	4	-	5	8	1	2	9
New Mexico*	-	-	-	-	1	-	1	-	-	11	1	-	1
Arizona	-	-	NN	-	-	2	-	-	9	15	3	-	2
Utah	1	-	11	-	-	-	-	-	3	4	4	-	-
Nevada*	-	-	-	-	-	-	-	-	-	4	-	-	1
PACIFIC	21	-	14	-	116	1	5	-	61	91	26	-	115
Washington	1	-	8	-	110	-	-	-	9	12	6	-	2
Oregon	1	-	-	-	-	-	4	-	6	11	4	-	5
California	16	-	-	-	1	1	1	-	45	66	16	-	107
Alaska*	1	-	1	-	4	-	-	-	-	-	-	-	-
Hawaii	2	-	5	-	1	-	-	-	1	2	-	-	1
Guam*	-	-	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	-	-	22	-	1	-	-	-	-	10	-	-	1
Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-	-

NN: Not Notifiable

*Delayed reports: Asep. Meng.: N.J. delete 1, Tex. add 49; Brucellosis: N. Mex. add 1; Chickenpox: Guam add 2; Diphtheria: Alaska delete 1; Enceph.: Mo. add 1; Hep. B: Vt. delete 2, Mo. delete 1; Hep. A: Vt. delete 1, Mo. delete 2, Del. delete 1, Va. delete 1, Mont. add 1, Nev. add 3, Guam add 9; Hep. unsp.: Mo. delete 1, Del. delete 1, Ky. delete 1, Mont. delete 1, Guam add 1

Table III-Continued
 Cases of Specified Notifiable Diseases: United States
 Weeks Ending September 12, 1976 and September 13, 1975 -- 37th Week

REPORTING AREA	MEASLES (Rubella)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1976	CUMULATIVE		1976	CUMULATIVE		1976	CUM. 1976	1976	1976	CUM. 1976	CUM. 1976
		1975	1976		1975	1976						
UNITED STATES	91	34,501	21,236	16	1,146	1,083	183	32,532	16	49	10,629	41
NEW ENGLAND	-	387	312	-	50	61	10	1,278	-	2	278	1
Maine	-	7	14	-	1	6	-	114	-	2	7	-
New Hampshire	-	9	22	-	4	2	-	25	-	-	11	-
Vermont	-	41	49	-	3	-	-	7	-	-	1	-
Massachusetts*	-	37	111	-	14	21	4	157	-	-	135	1
Rhode Island	-	14	3	-	5	3	-	447	-	-	5	-
Connecticut	-	279	113	-	23	29	6	528	-	-	119	-
MIDDLE ATLANTIC	8	6,995	1,761	2	168	110	18	3,035	4	4	2,284	4
Upstate New York	1	2,934	578	1	63	34	4	384	1	1	502	2
New York City*	2	454	144	-	45	29	5	1,606	2	2	142	1
New Jersey	2	600	460	1	23	18	3	497	-	-	1,339	-
Pennsylvania	3	3,007	579	-	37	29	6	548	1	1	201	1
EAST NORTH CENTRAL	29	14,626	6,336	3	145	148	61	13,414	2	20	3,955	2
Ohio*	-	572	106	1	61	43	21	1,922	1	1	278	1
Indiana	4	3,272	386	-	6	6	3	1,445	-	12	726	-
Illinois	6	1,574	1,813	-	17	19	1	1,758	-	-	1,168	-
Michigan	3	5,842	3,015	-	50	61	6	4,834	1	5	1,370	1
Wisconsin	16	3,366	1,016	2	11	19	30	3,455	-	2	413	-
WEST NORTH CENTRAL	7	1,132	4,971	-	67	66	14	3,293	1	3	392	6
Minnesota	6	420	182	-	12	15	-	546	-	1	27	1
Iowa	1	34	574	-	9	6	12	1,185	-	-	84	-
Missouri*	-	18	268	-	24	33	1	323	-	2	38	2
North Dakota	-	3	1,051	-	3	-	-	123	-	-	3	1
South Dakota	-	4	356	-	1	1	-	7	-	-	19	1
Nebraska	-	55	395	-	5	2	-	99	-	-	3	-
Kansas	-	598	2,145	-	13	9	1	1,010	1	-	218	1
SOUTH ATLANTIC	6	2,268	341	4	214	224	17	2,501	1	3	1,283	8
Delaware	-	128	35	1	7	6	-	59	-	1	34	-
Maryland*	-	829	48	-	18	26	6	684	-	-	3	3
District of Columbia	-	12	1	-	2	5	-	105	-	-	45	-
Virginia	1	764	37	1	28	18	-	197	-	-	234	1
West Virginia	2	190	153	-	7	5	4	755	-	2	298	-
North Carolina	-	17	2	1	40	41	3	376	1	-	17	-
South Carolina	-	4	-	-	36	34	-	45	-	-	590	-
Georgia	-	2	40	-	20	14	-	-	-	-	2	-
Florida	3	322	25	1	56	75	4	280	-	-	60	4
EAST SOUTH CENTRAL	6	835	272	3	106	158	14	2,770	2	3	358	7
Kentucky*	2	750	83	-	19	66	5	959	-	-	159	2
Tennessee	4	68	178	3	46	50	3	1,486	-	3	187	4
Alabama	-	-	3	-	30	29	5	268	1	-	1	1
Mississippi	-	17	8	-	11	13	1	57	1	-	11	-
WEST SOUTH CENTRAL	7	706	303	3	182	171	19	2,312	3	4	523	8
Arkansas	-	-	-	-	11	9	-	77	-	-	190	-
Louisiana	3	202	1	-	36	30	-	22	2	-	86	2
Oklahoma	2	293	125	1	21	9	5	649	-	4	68	-
Texas	2	211	177	2	114	123	14	1,564	1	-	179	6
MOUNTAIN	1	5,073	1,403	-	40	34	10	1,118	-	4	476	1
Montana	-	204	50	-	4	7	-	21	-	-	235	-
Idaho	-	2,020	12	-	5	5	1	442	-	-	18	-
Wyoming	-	4	1	-	-	-	-	1	-	-	2	-
Colorado	-	307	1,158	-	11	9	2	223	-	-	23	-
New Mexico	-	15	13	-	4	4	-	127	-	-	31	-
Arizona	-	226	76	-	10	1	-	-	-	-	-	1
Utah	1	2,234	66	-	4	7	7	190	-	4	148	-
Nevada	-	63	27	-	2	1	-	114	-	-	19	-
PACIFIC	27	2,479	5,537	1	174	111	20	2,811	3	6	1,080	4
Washington	6	340	289	-	29	17	-	851	1	-	163	1
Oregon	1	163	196	1	17	5	5	354	-	-	134	1
California	20	1,969	4,988	-	107	83	14	1,550	2	6	762	2
Alaska	-	4	-	-	18	5	-	23	-	-	1	-
Hawaii	-	3	64	-	3	1	1	33	-	-	20	-
Guam*	-	12	31	-	1	2	-	13	-	-	5	-
Puerto Rico	4	364	619	-	3	1	5	659	-	-	9	5
Virgin Islands	-	11	8	-	-	-	-	26	-	-	8	1

*Delayed reports: Measles: Mass. delete 1, Maryland delete 114, Ky. delete 1, Guam add 1; Men. Inf: Mo. add 1; Mumps: Guam add 1; Pertussis: Ohio add 2; Rubella: NYC add 2, Mo. add 1

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending September 18, 1976 and September 13, 1975 - 37th Week

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS CUM. 1976
	1976	CUM. 1976	CUM. 1976	1976	CUM. 1976	1976	CUM. 1976	GONORRHEA		SYPHILIS (Pri. & Sec.)		CUM. 1976		
								CUMULATIVE		1975	CUMULATIVE			
								1976	1975		1976		1975	
UNITED STATES	573	23,770	98	9	278	31	722	19,451	710,669	695,811	421	16,972	18,113	1,990
NEW ENGLAND	25	851	1	-	20	-	7	596	19,913	18,953	26	565	625	55
Maine	-	60	-	-	-	-	-	51	1,653	1,495	2	17	21	28
New Hampshire	-	34	-	-	2	-	-	23	574	520	-	7	13	1
Vermont	1	24	-	-	-	-	-	13	487	476	-	8	5	-
Massachusetts	9	506	1	-	13	-	4	223	9,472	8,792	23	406	400	20
Rhode Island	3	62	-	-	-	-	2	56	1,352	1,521	-	17	16	4
Connecticut	12	165	-	-	5	-	1	230	6,375	6,149	1	110	170	2
MIDDLE ATLANTIC	124	4,508	3	1	44	3	45	2,634	83,232	81,935	86	2,856	3,313	32
Upstate New York	8	705	2	-	8	-	19	803	13,106	14,394	7	171	315	11
New York City	39	1,829	1	1	22	1	5	896	37,672	35,601	55	1,774	1,903	-
New Jersey	23	882	-	-	9	-	9	481	12,715	11,506	10	422	519	3
Pennsylvania	54	1,092	-	-	5	2	12	454	19,739	20,434	14	499	576	18
EAST NORTH CENTRAL	66	3,343	1	-	26	1	17	2,524	112,200	113,800	53	1,493	1,490	118
Ohio	12	639	-	-	11	1	14	722	27,790	31,461	16	350	357	12
Indiana	1	382	-	-	-	-	-	80	11,012	9,736	1	78	118	21
Illinois	19	1,171	1	-	6	-	-	803	38,817	39,359	32	821	715	19
Michigan*	27	963	-	-	8	-	3	678	23,910	22,219	2	167	238	6
Wisconsin	7	188	-	-	1	-	-	241	10,671	11,025	2	77	62	60
WEST NORTH CENTRAL	25	863	25	-	14	-	22	1,206	37,170	34,623	10	309	455	486
Minnesota	3	156	3	-	7	-	-	121	6,498	7,169	-	70	90	114
Iowa	3	78	1	-	1	-	3	179	4,677	4,881	1	34	24	102
Missouri*	7	427	17	-	3	-	10	467	15,079	12,510	5	125	210	47
North Dakota	1	24	-	-	-	-	-	28	571	544	-	-	5	97
South Dakota	1	37	1	-	1	-	3	40	1,058	1,359	-	4	5	55
Nebraska	2	39	-	-	1	-	-	95	3,160	3,074	3	26	15	12
Kansas	8	102	3	-	1	-	6	276	6,127	5,086	1	50	106	59
SOUTH ATLANTIC	126	5,057	6	2	38	22	367	4,619	172,225	172,262	110	4,938	5,652	332
Delaware	4	59	-	-	-	-	1	115	2,443	2,517	2	53	68	16
Maryland*	8	708	1	1	4	-	20	806	23,039	20,765	8	405	407	11
District of Columbia	-	210	-	-	-	-	-	301	10,052	9,971	7	432	492	-
Virginia	11	783	2	-	4	5	84	341	18,056	16,953	10	482	430	53
West Virginia	9	206	-	-	4	-	8	45	2,199	2,135	-	19	41	12
North Carolina	30	923	3	-	1	6	159	645	25,184	24,308	21	906	700	12
South Carolina	16	387	-	-	4	6	47	428	16,260	15,997	11	283	392	3
Georgia	10	618	-	-	2	5	46	770	33,167	32,283	26	555	747	153
Florida	38	1,163	-	1	19	-	2	1,168	41,825	47,333	25	1,803	2,375	72
EAST SOUTH CENTRAL	52	2,018	14	3	12	4	135	1,946	63,114	59,046	17	682	794	100
Kentucky	-	425	1	1	6	2	30	332	8,210	7,769	1	95	123	49
Tennessee	27	622	13	2	6	2	83	811	25,291	23,362	4	236	299	33
Alabama	18	601	-	-	-	-	9	506	17,644	16,251	1	141	185	18
Mississippi	7	370	-	-	-	-	13	297	11,969	11,664	11	210	187	-
WEST SOUTH CENTRAL	83	2,830	34	-	13	1	120	2,441	90,772	84,835	54	2,011	1,549	459
Arkansas	8	347	17	-	4	-	19	172	8,548	8,784	4	68	46	113
Louisiana	9	475	2	-	2	-	-	251	12,998	15,643	6	412	357	5
Oklahoma	18	268	7	-	1	1	88	333	8,780	8,266	3	76	60	104
Texas	48	1,740	8	-	6	-	13	1,685	60,446	52,142	41	1,455	1,086	237
MOUNTAIN	13	659	4	-	19	-	4	934	27,639	27,398	18	574	420	116
Montana	2	39	2	-	2	-	1	45	1,461	1,467	-	8	4	64
Idaho	-	18	-	-	1	-	1	81	1,544	1,361	-	29	10	-
Wyoming	1	16	1	-	-	-	-	35	565	646	-	8	10	1
Colorado*	3	111	-	-	5	-	1	265	7,322	6,832	2	117	71	10
New Mexico*	-	116	-	-	1	-	1	167	5,353	4,913	12	203	111	3
Arizona	6	300	-	-	9	-	-	264	8,107	7,479	4	165	160	23
Utah	1	35	1	-	1	-	-	53	1,474	1,750	-	18	12	15
Nevada	-	24	-	-	-	-	-	24	1,813	2,950	-	26	42	-
PACIFIC	59	3,641	10	3	92	-	5	2,551	104,404	102,959	47	3,544	3,815	292
Washington	-	281	2	-	4	-	3	223	8,755	9,386	-	92	142	5
Oregon	4	139	1	-	-	-	-	183	7,451	7,810	4	80	99	8
California	49	2,711	7	3	86	-	2	2,028	82,807	81,503	41	3,280	3,535	238
Alaska*	-	60	-	-	-	-	-	67	2,949	2,512	2	16	5	40
Hawaii	6	450	-	-	2	-	-	50	2,442	1,748	-	76	34	-
Guam*	-	32	-	-	-	-	-	-	218	294	-	1	12	-
Puerto Rico	13	304	-	-	1	-	-	36	2,017	2,061	14	432	504	36
Virgin Islands	-	5	-	-	-	-	-	8	188	135	1	47	28	-

*Delayed reports: TB: Mich delete 2, Mo. delete 5, Md. delete 4, N. Max. add 2, Alaska add 11, Guam add 2; Typhoid fever: Mo. add 1, Guam add 1; GC: Guam add 10; Syphilis: Guam add 1
 An. rabies: Colo. add 38

Table IV
Deaths in 121 United States Cities
Week Ending September 18, 1976 - 37th 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	
NEW ENGLAND	606	364	165	45	18	30	SOUTH ATLANTIC ...	497	532	296	80	46	29
Boston, Mass.	176	110	44	14	6	7	Atlanta, Ga.	132	67	38	21	2	3
Bridgeport, Conn.	35	15	11	6	1	2	Baltimore, Md.	184	93	59	11	12	5
Cambridge, Mass.	24	11	9	4	-	1	Charlotte, N. C.	40	23	12	3	-	1
Fall River, Mass.	25	18	4	2	-	1	Jacksonville, Fla.	39	19	10	2	5	1
Hartford, Conn.	63	33	19	4	5	1	Miami, Fla.	145	70	50	9	9	2
Lowell, Mass.	14	10	4	-	-	-	Norfolk, Va.	47	26	13	3	3	2
Lynn, Mass.	15	8	4	1	-	-	Richmond, Va.	73	37	18	9	6	4
New Bedford, Mass.	27	18	4	4	1	2	Savannah, Ga.	48	26	13	4	1	1
New Haven, Conn.	39	21	11	4	-	-	St. Petersburg, Fla.	71	55	12	2	2	1
Providence, R.I.	60	35	23	2	-	5	Tampa, Fla.	63	34	19	5	3	5
Somerville, Mass.	9	7	2	-	-	-	Washington, D. C.	109	56	40	8	2	4
Springfield, Mass.	48	27	14	2	3	3	Wilmington, Del.	46	26	12	3	1	-
Waterbury, Conn.	32	25	6	-	1	6							
Worcester, Mass.	39	26	10	2	1	3							
MIDDLE ATLANTIC ...	2,806	1,687	758	204	73	123	EAST SOUTH CENTRAL ...	680	384	212	38	28	30
Albany, N. Y.	59	41	14	2	2	-	Birmingham, Ala.	108	50	35	8	12	5
Allentown, Pa.	20	15	5	-	-	4	Chattanooga, Tenn.	49	29	17	2	-	4
Buffalo, N. Y.	110	61	37	8	2	10	Knoxville, Tenn.	49	34	12	2	-	2
Camden, N. J.	29	13	12	2	1	-	Louisville, Ky.	108	56	43	4	3	7
Elizabeth, N. J.	27	18	6	3	-	-	Memphis, Tenn.	156	107	36	8	2	4
Erie, Pa.	20	14	4	-	1	3	Mobile, Ala.	68	37	19	1	7	1
Jersey City, N. J.	57	35	14	1	2	1	Montgomery, Ala.	33	15	15	1	1	3
Newark, N. J.	72	35	21	8	1	1	Nashville, Tenn.	109	56	35	12	3	4
New York City, N. Y.	1,403	849	367	109	38	48	WEST SOUTH CENTRAL ...	1,298	705	372	79	85	35
Paterson, N. J.	35	21	4	6	2	2	Austin, Tex.	50	29	15	3	2	1
Philadelphia, Pa.	402	217	133	35	13	23	Baton Rouge, La.	27	16	9	1	1	1
Pittsburgh, Pa.	172	106	40	12	3	9	Corpus Christi, Tex.	56	31	10	5	6	2
Reading, Pa.	26	18	6	1	-	3	Dallas, Tex.	189	95	61	13	16	2
Rochester, N. Y.	118	82	24	3	6	6	El Paso, Tex.	54	31	11	4	7	4
Schenectady, N. Y.	24	17	7	-	-	2	Fort Worth, Tex.	78	39	18	10	6	-
Scranton, Pa.	49	32	14	2	-	2	Houston, Tex.	356	179	113	23	25	8
Syracuse, N. Y.	85	53	20	7	1	1	Little Rock, Ark.	71	36	21	3	6	4
Trenton, N. J.	46	28	15	1	1	3	New Orleans, La.	133	71	44	7	4	-
Utica, N. Y.	19	13	5	1	-	1	San Antonio, Tex.	128	91	23	7	-	3
Yonkers, N. Y.	33	19	10	3	-	4	Shreveport, La.	68	33	27	1	7	2
							Tulsa, Okla.	88	54	20	2	5	8
EAST NORTH CENTRAL ...	2,333	1,368	642	160	68	54	MOUNTAIN	466	256	113	38	29	10
Akron, Ohio	56	36	9	2	9	-	Albuquerque, N. Mex.	55	24	15	9	1	4
Canton, Ohio	52	35	14	1	1	-	Colorado Springs, Colo.	33	24	6	1	1	3
Chicago, Ill.	529	282	153	51	19	14	Denver, Colo.	120	64	31	12	6	-
Cincinnati, Ohio	143	86	41	7	-	2	Las Vegas, Nev.	16	9	4	2	1	-
Cleveland, Ohio	203	112	67	11	2	2	Ogden, Utah	14	9	3	1	-	1
Columbus, Ohio	137	73	49	7	4	1	Phoenix, Ariz.	100	58	23	7	8	-
Dayton, Ohio	101	67	24	4	3	1	Pueblo, Colo.	15	6	9	-	-	-
Detroit, Mich.	274	159	67	21	8	5	Salt Lake City, Utah	61	29	10	3	9	2
Evansville, Ind.	49	37	10	2	-	8	Tucson, Ariz.	52	33	12	3	3	-
Fort Wayne, Ind.	60	40	12	3	-	2							
Gary, Ind.	20	3	12	3	-	-	PACIFIC	1,659	999	435	112	57	39
Grand Rapids, Mich.	67	40	20	3	3	4	Berkeley, Calif.	18	14	1	2	-	-
Indianapolis, Ind.	172	100	46	15	6	3	Fresno, Calif.	51	26	16	6	2	1
Madison, Wis.	42	26	12	1	1	3	Glendale, Calif.	36	23	9	3	1	-
Milwaukee, Wis.	143	90	37	9	6	3	Honolulu, Hawaii	60	28	23	4	1	4
Peoria, Ill.	30	18	10	2	-	-	Long Beach, Calif.	83	50	20	8	4	1
Rockford, Ill.	57	33	10	9	3	3	Los Angeles, Calif.	487	294	128	36	14	12
South Bend, Ind.	38	31	5	1	-	2	Oakland, Calif.	74	44	19	2	6	-
Toledo, Ohio	104	64	30	3	3	1	Pasadena, Calif.	33	22	5	3	1	1
Youngstown, Ohio	56	36	14	5	-	-	Portland, Oreg.	137	80	36	10	8	-
							Sacramento, Calif.	85	54	22	3	3	2
WEST NORTH CENTRAL ...	762	484	173	40	29	22	San Diego, Calif.	144	84	35	11	2	3
Des Moines, Iowa	65	38	12	6	2	1	San Francisco, Calif.	159	92	45	13	4	-
Duluth, Minn.	25	18	6	1	-	-	San Jose, Calif.	53	41	8	3	-	2
Kansas City, Kans.	40	28	6	3	-	1	Seattle, Wash.	161	97	46	5	8	5
Kansas City, Mo.	130	88	25	6	8	1	Spokane, Wash.	46	28	12	3	3	7
Lincoln, Nebr.	29	21	7	1	-	2	Tacoma, Wash.	32	22	10	-	-	1
Minneapolis, Minn.	107	67	25	4	9	2							
Omaha, Nebr.	91	63	17	2	4	1							
St. Louis, Mo.	172	99	50	10	4	6							
St. Paul, Minn.	55	31	12	6	-	3							
Wichita, Kans.	48	31	13	1	2	5							
TOTAL	11,607	6,779	3,166	796	433	372	Expected Number	11,608	6,849	3,071	792	412	367

The Morbidity and Mortality Weekly Report, circulation 52,000, 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.

Send mailing list additions, deletions, and address changes to: Center for Disease Control, Attn.: Distribution Services, GSO, 1-SB-36, Atlanta, Georgia 30333. When requesting changes be sure to give your former address, including zip code and mailing list code number, or send an old address label.

Epidemiologic Notes and Reports

Rubella — Texas

A case of rubella in a Texas high school senior was reported to the City of Houston Department of Public Health in late March 1976. After serologic confirmation, a survey was conducted in the high school to detect other cases. Any student or teacher with a 3-day illness characterized by rash and either fever or arthralgia in the 2 preceding weeks was considered to have rubella. One hundred forty three additional cases were identified, with the highest attack rate in the senior class. Review of school immunization records revealed declining immunization levels with each increasing grade (Table 2).

All senior and junior high schools in the district were then surveyed in similar fashion for rubella-like illness. A total of 659 cases were identified, 378 in junior high school students and 281 in senior high school students. Cases were found in all but 1 of the junior and senior high schools in the district. There was 1 case in a female teacher. There were no reported cases among elementary school children. The health department instituted an educational program to inform post-pubertal females of their risk and to suggest appropriate precautionary measures.

Surveillance Summary

In 1975, 328 cases of human brucellosis were reported to the Center for Disease Control, an increase of 82 cases over the 246 reported in 1974 and the largest number recorded since 1964 (Figure 2). Sixty percent of the cases occurred in people working in the meat processing industry.

For the first year since 1959, the number of cases acquired from cattle exceeded the number acquired from swine. The increase in cattle-associated cases continues a trend which first became apparent in 1972.

Thirty-six states reported cases in 1975 compared with 35 states and the District of Columbia in 1974. Five states, Florida, Georgia, Iowa, Texas, and Virginia, each reported more than 20 cases and together accounted for 56% of the 1975 total. Iowa reported the greatest increase in total cases (33), while Illinois reported the greatest decrease (18). Brucellosis cases by state for the decade 1965-1974 indicate that only 2 states, Delaware and Nevada, recorded no cases for this period.

Signs and symptoms were specified for 272 confirmed and presumptive cases reported in 1975. Fever, malaise, chills, sweating, weakness, body aches, headache, weight loss, and anorexia were most commonly reported.

Therapy data were received on 258 (83%) of 309 cases for which reports were received. Tetracycline was administered alone or in combination with streptomycin to 240 (93%) of the 258 patients.

While onset of illness was more commonly reported in the summer months, the seasonal variation was not striking. As in the past, brucellosis predominantly affected adult males. Of 308 cases in which sex was specified, 261 (85%) were in males. Of 293 cases in which age was given, 260 (89%) were in persons between 20 and 60 years of age —

TABLE 2. Rubella immunization levels and attack rates for rubella-like illness in a senior high school — Texas 1976

Class	Number of Students	Number with History of Immunization	Percent Immunized	Number of Cases	Attack Rate (%)
Senior	507	70	13.8	57	11.2
Junior	535	113	21.1	31	5.8
Sophomore	617	250	40.5	37	6.0
Freshman	593	507	85.5	19	3.2
Total	2252	940	41.7	144	6.4

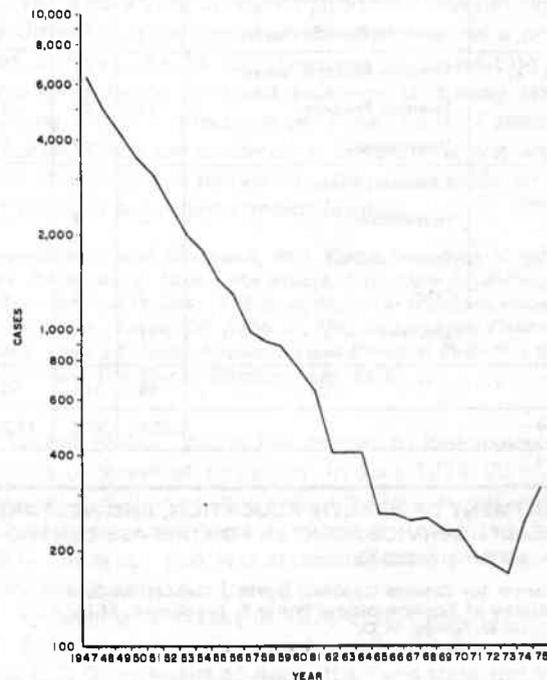
Reported by R McLean, MD, A Randall, MD, City of Houston Dept of Public Health; Field Services Div, Bur of Epidemiology, CDC.

Editorial Note: In 1969 the City Health Department had launched a rubella immunization campaign aimed at students in kindergarten through third grade. Since 1971 Texas law has required rubella immunization for all school children up to age 12 years.

This may explain the higher immunization levels and lower attack rates among students in the lower grades. This outbreak illustrates the continuing need to immunize susceptible, nonpregnant women of childbearing age as an adjunct to routine immunization in early childhood.

Brucellosis — United States, 1975

FIGURE 2. Human Brucellosis, United States, 1947-1975



the age category of the working force in the United States and the population at greatest risk of acquiring brucellosis in the meat packing and livestock industries.

Contact with infected cattle resulted in 104 human cases (34%) and replaced swine as the most common source of infection for the first time since 1959 (Table 3). Contact with infected domestic swine was responsible for 94 cases (30%), and 4 cases occurred in hunters who killed and butchered feral swine. An additional 53 cases (17%) resulted

from contact with either cattle or swine. Of 24 cases (8%) attributed to the ingestion of unpasteurized dairy products, 8 were traced to milk produced in the United States and consumed by farm families. Sixteen cases were attributed to foreign dairy products, including raw milk or cheese from Mexico (10 cases), Greece (2 cases), Italy (2 cases), India (1 case), and Thailand (1 case). There were no human *Brucella canis* infections reported in 1975.

In 1975, 185 (60%) of the 309 cases on which reports were received were in individuals working in packing plants. The source of infection was swine in 79 (43%) and cattle in 53 (29%) of these cases; in 49 cases (26%) the source was either cattle or swine. Of 90 cases for which work location was specified, 58 persons (64%) worked in the "kill" area, 12 (13%) worked in finished product preparation areas,

8 (9%) performed maintenance work, 8 (9%) worked in rendering areas, and 4 (4%) worked in non-processing areas. Infection in 4 of the 185 cases was recrudescent.

A review of brucellosis cases in the United States from 1966 to 1975 emphasizes the importance of abattoirs in the epidemiology of brucellosis. In 7 of the last 10 years more than half of reported cases occurred in people associated with the meat-processing industry. Of 2,132 cases on which reports were received in the 10-year period, 1,155 (54%) were in abattoir personnel.

Reported by the Bacterial Zoonoses Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

▲ A copy of the report from which these data were derived is available on request from Center for Disease Control, Attn: Bacterial Zoonoses Branch, Bacterial Diseases Division, Bureau of Epidemiology, Atlanta, Georgia 30333.

Table 3
309 Cases of Brucellosis by Occupation and Most Probable Source of Infection, United States, 1975

CLASSIFICATION	OCCUPATION	MOST PROBABLE SOURCE OF INFECTION												Total	% of Total
		Domestic Animals				Wild Animals			Unpasteurized Dairy Products		Accidents		Unknown		
		Swine	Cattle	Swine or Cattle	Unspecified Farm Animals	Deer	Caribou	Feral Swine	Domestic	Foreign	Strain 19 Vaccine	Laboratory			
Meat Processing Industry	Packing House Employee	77	47	44	2	-	-	-	-	-	-	-	-	170	55.2
	Government Inspector	2	6	4	1	-	-	-	-	-	-	-	-	13	4.2
	Rendering Plant Employee	-	-	1	1	-	-	-	-	-	-	-	-	2	0.6
Livestock Industry	Livestock Market Employee	-	1	-	-	-	-	-	-	-	-	-	-	1	0.3
	Livestock Producer	11	39	1	-	-	-	-	2	-	1	-	-	54	17.5
	Veterinarian	-	2	1	-	-	-	-	-	-	1	-	-	4	1.3
Other Categories	Laboratory Worker	-	-	-	-	-	-	-	-	-	-	1	-	1	0.3
	Homemaker	-	1	-	-	-	-	-	2	1	-	-	1	5	1.6
	Student or Child	-	2	-	2	-	-	-	2	5	-	-	3	14	4.5
	Other	3	6	2	-	-	1	4	2	9	-	-	9	36	11.6
	Unknown	1	-	-	-	1	-	-	-	1	-	-	6	9	2.9
Total		94	104	53	6	1	1	4	8	16	2	1	19	309	100.0
% of Total		30.5	33.7	17.2	1.9	0.3	0.3	1.3	2.6	5.2	0.6	0.3	6.1	100.0	

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