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MORBIDITY AND MORTALITY WEEKLY REPORT

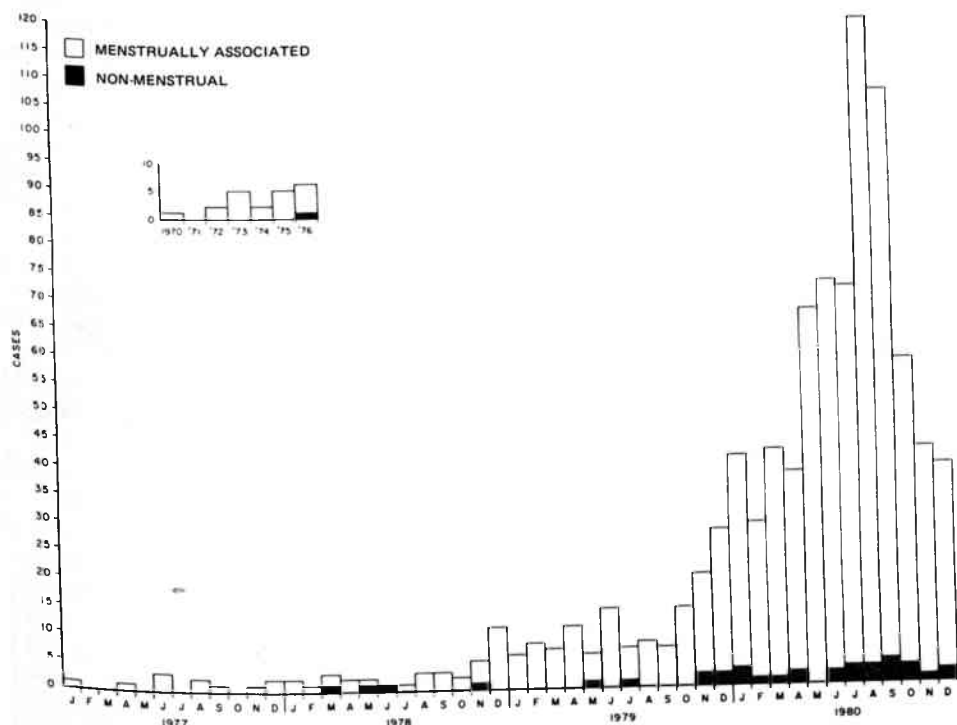
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Epidemiologic Notes and Reports

Toxic-Shock Syndrome — United States, 1970-1980

To date, 941 confirmed cases of toxic-shock syndrome (TSS)* have been reported to CDC. The dates of onset for these cases, which range from 1970 through 1980, are shown in Figure 1. Probable cases (those reported to state health departments that are missing one of the major criteria) have a similar distribution. Of the confirmed cases, 928 (99%) were in women; 905 (98%) of these women had onset during a menstrual period. Eleven cases occurred in the postpartum period.

FIGURE 1. Reported cases of toxic-shock syndrome, by date of onset, United States, January 1970 through December 1980



*The case definition requires 4 major criteria (fever, hypotension, rash, and desquamation), involvement of 3 organ systems, and absence of evidence for other etiologies (1).

Toxic-Shock Syndrome – Continued

The age range for female patients was 6-61 years, with a mean of 23 years. One-third of all cases occurred in women 15-19 years old. The age range for male patients was 6-58 years, with a mean of 23 years. Seven cases occurred in blacks, 3 in Asians, 3 in Hispanics, and 2 in American Indians. Seventy-three cases resulted in death (case-fatality ratio = 7.8%). The case definition for fatal cases is identical to that for surviving cases, except that desquamation is not required.

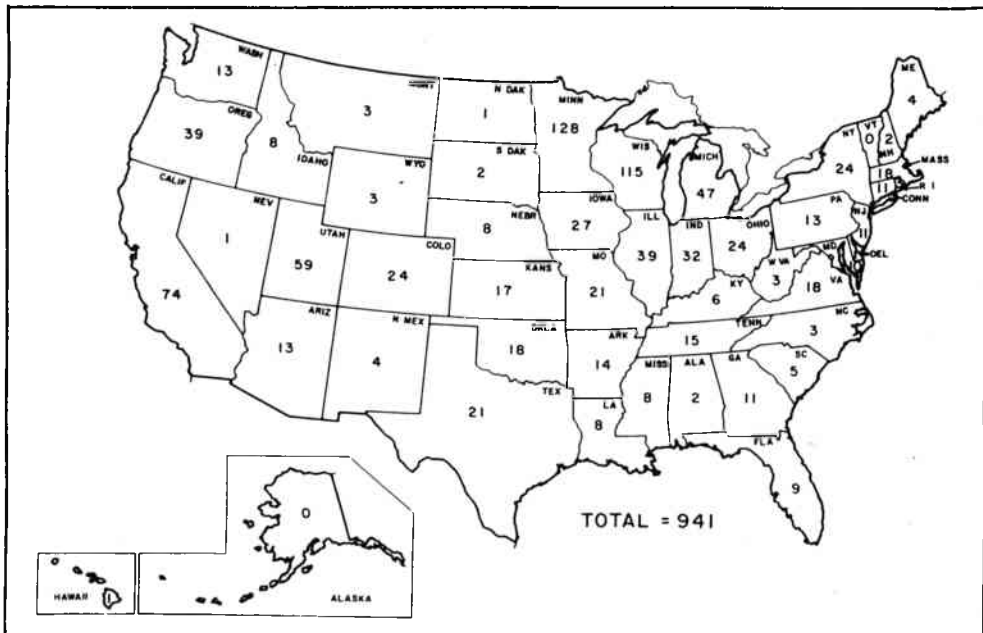
Cases have been reported from 48 states (Figure 2). The marked variability in the reported number of cases per state may be due in part to real differences in the prevalence of TSS among geographic areas, but much of this variability—in particular, the high numbers in Minnesota, Wisconsin, and Utah—undoubtedly reflects the interest of local investigators, including state epidemiologists. Initially, these cases were reported directly to CDC, but since September 1980 a national surveillance system has been in operation; under this system, cases are reported to CDC through state health departments. Cases have also occurred in Canada (see related story), Great Britain, Sweden, Germany, and the Netherlands.

Reported by State and Territorial Epidemiologists; Field Services Div, Epidemiology Program Office; Toxic-Shock Syndrome Task Force, Bacterial Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: Figure 1 illustrates the sporadic occurrence of reported cases of TSS before 1978, an increased number of cases beginning in late 1978, a rapidly increasing upward trend continuing through August 1980, and a sudden decrease thereafter.

The medical community was first alerted to TSS with the publication of an article in November 1978 (2); the finding of an unusually high occurrence of TSS among menstruating women, however, was not published until May 1980 (3). Widespread awareness

FIGURE 2. Distribution of reported cases of toxic-shock syndrome, United States, January 1970 through December 1980



Toxic-Shock Syndrome — Continued

of the problem followed, enhanced by a report in June that TSS was tampon-associated (7). The observed increase in the number of cases is in part a result of improved recognition of the disease and better (and more current) reporting (i.e., most cases have been reported retrospectively, and recall decreases over time). However, the substantial rise in the number of cases before May 1980 makes it likely that a real increase in the disease was the major factor responsible for the seemingly sudden appearance of TSS (1-4). The decrease since September is of interest because the number of reported cases of a disease usually increases as a result of publicity, and further articles on TSS were published in September, November, and December (4-7).

There are several possible explanations for the decrease in reported cases that began in September 1980. First, there is an inherent lag from the time of onset of a case to the time it is confirmed by a state health department. This delay in reporting is an unlikely cause for the observed decrease, however, because the distribution of cases over time has not changed substantially during the past 4 months of reporting. Moreover, the same trend can be seen in individual states, where close communication between the state health department and practicing physicians insures minimal reporting delay. To assure that delay in reporting of cases from state health departments to CDC since initiation of the new surveillance system is not a factor, CDC investigators telephoned each state during the week before this report. Nor does initiation of the national surveillance system appear to be a factor because the same temporal trends are noted when only those cases reported through state health departments are examined.

A second possibility is that the recent decrease in the number of cases can be attributed to diminished interest in the reporting of the disease due to waning media attention. Cases of non-menstrually associated TSS with onset dates since September, however, have continued to be reported at the same rate, suggesting that there is still increased awareness and interest in the disease. A third possible explanation—that there is seasonal variation for this syndrome—is not supported by the distribution of cases with onset before 1980 (Figure 1).

Another conceivable reason for the recent decrease is that publicity concerning TSS has made women progressively more aware of the disease. Thus, women with early symptoms of TSS may have removed their tampons and sought the attention of physicians more quickly. These measures would reduce the incidence of shock, and, as a result, fewer patients would meet the strict case definition for TSS, which requires hypotension (a systolic blood pressure of 90 mm Hg or below). These factors are undoubtedly important. However, the fact that there has not been a coincident increase in the number of probable cases does not support the conjecture that increasing awareness accounts for the decrease in cases.

Because most cases of TSS are menstrually associated, the most likely explanation for the distribution of cases illustrated in Figure 1 is that women have changed their tampon-wearing habits. Data based on telephone interviews by tampon manufacturers indicate that as recently as July 1980, 70% of the women in the United States used tampons. By November/December 1980, this figure had dropped to approximately 55%. This percentage decrease of 21% in the use of tampons, however, is not sufficient to explain the large decrease in reported cases. It is unlikely that changes in the use of highly absorbent tampons have had a major effect on the incidence of TSS, because additional data from tampon manufacturers indicate no decrease in the past 3 months in the percentage of tampon users who use "super" or "super-plus" tampons.

Toxic-Shock Syndrome - Continued

Finally, a large number of American women discontinued using Rely brand tampons after the Procter and Gamble Company announced the removal of the product from the market on September 22, 1980. This brand, which was shown to be associated with an increased risk of TSS in earlier studies (4,8), was initially introduced to a large part of the country in August 1978 as a first step in a national marketing program (although it had been introduced in test markets in 1974). Rely had shown a steady increase in overall percentage of tampon sales nationally until the time of its withdrawal.

Additional studies will be needed to clarify the importance of various potential mechanisms underlying the apparent decrease in cases occurring in the last 3 months of 1980, and further observation will be necessary to determine whether these trends will persist. Non-menstrually associated cases will undoubtedly continue to occur, albeit at a low rate. Menstrually associated cases, which have occurred in women using all brands of tampons, will also presumably continue to occur. It is still true that women can almost entirely eliminate their risk of TSS by not using tampons and that women who choose to use tampons can reduce their risk by using them intermittently during each menstrual period. Also, informing women about TSS and advising them to remove their tampons and seek medical attention if they develop symptoms of the disease are still warranted as public health measures.

(Continued on page 33)

TABLE I. Summary - cases of specified notifiable diseases, United States
[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	3rd WEEK ENDING		MEDIAN 1976-1980	CUMULATIVE, FIRST 3 WEEKS		
	January 24, 1981	January 17, 1980		January 24, 1981	January 17, 1980	MEDIAN 1976-1980
Aseptic meningitis	39	60	44	189	175	123
Brucellosis	2	1	1	5	3	4
Chickenpox	4,767	4,785	4,785	12,079	10,023	12,583
Diphtheria	-	-	1	-	-	3
Encephalitis: Primary (arthropod-borne & unsp.)	20	11	10	39	28	28
Post-infectious	2	2	1	4	4	4
Hepatitis, Viral: Type B	325	281	281	946	729	747
Type A	520	519	548	1,240	1,224	1,415
Type unspecified	240	178	178	590	460	468
Malaria	22	47	9	79	71	21
Measles (rubeola)	24	80	211	95	160	595
Meningococcal infections: Total	92	76	46	189	142	103
Civilian	91	76	46	188	140	103
Military	1	-	-	1	2	-
Mumps	127	256	384	272	579	948
Pertussis	13	17	26	33	40	88
Rubella (German measles)	51	42	174	117	111	405
Tetanus	1	3	2	4	4	3
Tuberculosis	427	410	502	1,111	995	1,187
Tularemia	-	1	1	4	5	8
Typhoid fever	4	2	4	25	7	13
Typhus fever, tick-borne (Rky. Mt. spotted)	-	-	-	4	1	2
Venereal diseases:						
Gonorrhea: Civilian	21,145	19,639	18,832	58,055	51,757	52,877
Military	603	525	418	1,793	1,257	1,531
Syphilis, primary & secondary: Civilian	562	480	489	1,656	1,379	1,354
Military	7	11	8	19	29	17
Rabies in animals	90	83	50	240	220	134

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	-	Poliomyelitis: Total	-
Botulism Utah 1	3	Paralytic	-
Cholera	-	Psittacosis	-
Congenital rubella syndrome	-	Rabies in man	4
Leprosy Calif. 1	7	Trichinosis N.J. 1, Alaska 8	-
Leptospirosis Hawaii 1	2	Typhus fever, flea-borne (endemic, murine)	11
Plague	-		-

All delayed reports and corrections will be included in the following week's cumulative totals.

TSS Cases

(7)

	1980 -- <u>725</u>	1979 -- <u>135</u>
Jan	41	6
Feb	29	8
Mar	42	7
Apr	38	11
May	67	6
Jun	72	14
Jui	71	7
Aug	119	8
Sep	106	7
Oct	58	14
Nov	42	20
Dec	39	28
Death	<u>45</u>	<u>13</u>

1978 -- 36

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TABLE III. Cases of specified notifiable diseases, United States, weeks ending January 24, 1981, and January 19, 1980 (3rd week)

REPORTING AREA	ASEPTIC MENIN- GITIS	BRU- CEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-in- fectious	B	A	Unspecified		
						1981	1980	1981	1981	1981	1981		
UNITED STATES	39	2	4,767	-	-	20	11	2	325	520	240	22	79
NEW ENGLAND	-	-	443	-	-	2	1	-	11	11	10	1	2
Maine	-	-	139	-	-	-	-	-	2	2	-	-	1
N.H.	-	-	10	-	-	-	-	-	-	-	-	-	-
Vt.	-	-	21	-	-	-	-	-	1	-	-	-	-
Mass.	-	-	164	-	-	1	-	-	3	6	10	1	1
R.I.	-	-	32	-	-	-	-	-	5	3	-	-	-
Conn.	-	-	77	-	-	1	1	-	-	-	-	-	-
MID. ATLANTIC	8	-	212	-	-	1	4	-	44	55	20	1	10
Upstate N.Y.	3	-	127	-	-	-	-	-	24	26	9	-	3
N.Y. City	2	-	48	-	-	1	1	-	13	20	6	1	7
N.J.	2	-	NN	-	-	-	-	-	7	9	5	-	-
Pa.	1	-	37	-	-	-	3	-	-	-	-	-	-
E.N. CENTRAL	1	-	1,956	-	-	3	-	-	17	53	14	1	3
Ohio	-	-	172	-	-	-	-	-	-	1	3	-	-
Ind.	-	-	278	-	-	1	-	-	-	22	4	-	-
Ill.	-	-	330	-	-	-	-	-	2	16	3	-	-
Mich.	1	-	695	-	-	2	-	-	15	13	4	1	3
Wis.	-	-	473	-	-	-	-	-	-	1	-	-	-
W.N. CENTRAL	1	-	1,143	-	-	-	-	-	16	34	5	-	1
Minn.	-	-	2	-	-	-	-	-	1	3	1	-	-
Iowa	1	-	295	-	-	-	-	-	-	12	1	-	-
Mo.	-	-	23	-	-	-	-	-	12	14	3	-	1
N. Dak.	-	-	22	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	64	-	-	-	-	-	-	1	-	-	-
Nebr.	-	-	-	-	-	-	-	-	1	1	-	-	-
Kans.	-	-	737	-	-	-	-	-	2	3	-	-	-
S. ATLANTIC	6	1	424	-	-	5	1	2	67	38	29	1	5
Del.	-	-	7	-	-	-	-	-	1	2	1	-	-
Md.	-	-	-	-	-	-	-	-	4	-	1	-	-
D.C.	-	-	-	-	-	-	-	-	4	-	1	-	-
Va.	-	-	-	-	-	-	-	-	4	-	1	-	-
W. Va.	1	1	28	-	-	4	-	2	9	3	11	-	2
N.C.	-	-	192	-	-	-	-	-	6	3	3	-	-
S.C.	1	-	NN	-	-	1	1	-	10	4	3	-	-
Ga.	2	-	15	-	-	-	-	-	9	2	-	-	-
Fla.	2	-	39	-	-	-	-	-	11	11	-	1	2
	2	-	143	-	-	-	-	-	13	13	9	-	1
E.S. CENTRAL	6	-	89	-	-	-	-	-	17	40	5	-	-
Ky.	2	-	53	-	-	-	-	-	2	4	-	-	-
Tenn.	1	-	NN	-	-	-	-	-	3	15	3	-	-
Ala.	3	-	34	-	-	-	-	-	11	9	2	-	-
Miss.	-	-	2	-	-	-	-	-	1	12	-	-	-
W.S. CENTRAL	4	-	304	-	-	3	1	-	33	95	50	1	2
Ark.	-	-	33	-	-	-	-	-	-	4	1	-	1
La.	-	-	NN	-	-	-	-	-	5	10	3	1	1
Okla.	-	-	-	-	-	1	-	-	4	1	5	-	-
Tex.	4	-	271	-	-	2	1	-	24	80	41	-	-
MOUNTAIN	1	-	43	-	-	-	1	-	16	40	29	-	2
Mont.	1	-	-	-	-	-	-	-	-	2	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	2	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	2	-	-	-
Colo.	-	-	-	-	-	-	-	-	-	-	-	-	-
N. Mex.	-	-	34	-	-	-	1	-	10	19	2	-	1
Ariz.	-	-	-	-	-	-	-	-	1	6	1	-	-
Utah	-	-	NN	-	-	-	-	-	1	7	16	-	1
Nev.	-	-	3	-	-	-	-	-	2	2	5	-	-
	-	-	6	-	-	-	-	-	2	2	5	-	-
PACIFIC	12	1	153	-	-	6	3	-	104	154	78	17	54
Wash.	2	-	136	-	-	1	1	-	6	30	7	2	2
Oreg.	1	-	-	-	-	2	-	-	12	10	4	-	-
Calif.	6	-	-	-	-	3	2	-	86	112	67	15	52
Alaska	-	1	-	-	-	-	-	-	-	-	-	-	-
Hawaii	3	-	15	-	-	-	-	-	-	2	-	-	-
Guam	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
P.R.	NA	NA	8	NA	-	NA	-	-	NA	2	-	NA	-
V.I.	NA	NA	NA	NA	-	NA	-	-	NA	NA	NA	NA	-
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 January 24, 1981, and January 19, 1980 (3rd 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	24	95	160	92	189	142	127	272	13	51	117	4
NEW ENGLAND	-	3	16	6	19	6	7	15	-	6	20	-
Maine	-	-	-	-	-	-	1	3	-	-	12	-
N.H.	-	2	5	1	1	-	1	1	-	5	5	-
Vt.	-	1	10	-	-	-	-	1	-	-	-	-
Mass.	-	-	-	3	8	3	3	6	-	1	3	-
R.I.	-	-	1	1	2	-	-	-	-	-	-	-
Conn.	-	-	-	1	8	3	2	4	-	-	-	-
MID. ATLANTIC	11	31	24	12	24	15	4	23	2	16	27	-
Upstate N.Y.	8	18	6	5	9	9	2	7	2	9	11	-
N.Y. City	1	5	18	-	1	3	-	4	-	1	3	-
N.J.	2	5	-	1	9	2	-	5	-	6	11	-
Pa.	-	3	-	6	6	1	2	7	-	-	2	-
E.N. CENTRAL	-	5	24	9	14	17	35	69	-	10	19	1
Ohio	-	-	2	5	5	8	13	15	-	-	-	-
Ind.	-	-	-	-	3	3	5	11	-	5	10	-
Ill.	-	-	2	1	1	2	4	7	-	2	2	-
Mich.	-	5	15	3	5	4	10	25	-	2	3	1
Wis.	-	-	5	-	-	-	3	11	-	1	4	-
W.N. CENTRAL	-	-	25	7	11	5	22	28	2	2	5	2
Minn.	-	-	8	5	7	1	-	-	2	-	-	1
Iowa	-	-	-	2	3	-	3	6	-	-	-	-
Mo.	-	-	15	1	1	3	-	-	-	-	-	1
N. Dak.	-	-	-	-	-	1	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	2	-	-	-	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	19	22	-	2	5	-
S. ATLANTIC	7	10	11	29	47	33	16	37	4	2	9	1
Del.	-	-	-	1	2	-	-	2	-	-	-	-
Md.	-	-	1	-	-	7	4	7	-	-	-	-
D.C.	-	-	-	-	1	-	-	-	-	-	-	-
Va.	-	-	1	5	5	4	6	8	-	-	5	-
W. Va.	1	1	-	1	3	2	1	9	-	1	1	-
N.C.	-	-	1	3	6	7	2	2	-	1	2	-
S.C.	-	-	-	1	5	3	-	1	1	-	-	1
Ga.	5	6	-	7	11	3	-	2	2	-	-	-
Fla.	1	3	8	11	14	7	3	6	1	1	1	-
E.S. CENTRAL	-	-	17	2	14	14	2	10	2	-	3	-
Ky.	-	-	8	-	5	5	-	5	1	-	2	-
Tenn.	-	-	-	2	8	2	-	3	1	-	1	-
Ala.	-	-	-	-	-	7	2	2	-	-	-	-
Miss.	-	-	9	-	1	-	-	-	-	-	-	-
W.S. CENTRAL	-	5	3	13	24	9	9	18	-	4	7	-
Ark.	-	-	1	1	4	2	-	-	-	-	-	-
La.	-	-	-	1	1	1	-	-	-	-	-	-
Okl.	-	1	-	-	-	-	-	-	-	-	-	-
Tex.	-	4	2	11	19	6	9	18	-	4	7	-
MOUNTAIN	-	4	9	8	17	14	3	8	1	-	-	-
Mont.	-	-	-	1	1	1	-	-	-	-	-	-
Idaho	-	-	-	-	1	-	1	1	-	-	-	-
Wyo.	-	-	-	-	-	1	-	1	-	-	-	-
Colo.	-	-	-	1	3	6	1	5	-	-	-	-
N. Mex.	-	-	-	1	4	1	-	1	1	-	-	-
Ariz.	-	-	8	5	6	2	-	1	-	-	-	-
Utah	-	-	-	-	2	1	-	-	-	-	-	-
Nev.	-	4	1	-	-	2	1	1	-	-	-	-
PACIFIC	6	37	31	6	19	29	29	64	2	11	27	-
Wash.	-	-	1	1	3	5	14	26	1	4	4	-
Oreg.	-	-	-	-	-	3	2	4	-	-	-	-
Calif.	6	36	28	2	13	21	12	32	1	7	23	-
Alaska	-	-	-	1	1	-	-	-	-	-	-	-
Hawaii	-	1	2	2	2	-	1	2	-	-	-	-
Guam	NA	-	-	-	-	-	NA	-	NA	NA	-	-
P.R.	3	3	-	-	-	-	3	3	1	-	-	-
V.I.	NA	-	-	-	-	-	NA	-	NA	NA	-	-
Pac. Trust Terr.	NA	-	1	-	-	-	NA	-	NA	NA	-	-

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 January 24, 1981, and January 19, 1980 (3rd week)

REPORTING AREA	TUBERCULOSIS		TULA- REMIA	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	
UNITED STATES	427	1,111	4	4	25	-	4	21,145	58,055	51,757	562	1,656	1,379	240
NEW ENGLAND	13	34	-	-	1	-	-	644	1,541	1,601	20	36	30	-
Maine	1	4	-	-	-	-	-	19	73	102	1	1	-	-
N.H.	-	-	-	-	-	-	-	21	63	58	-	-	-	-
Vt.	1	1	-	-	-	-	-	14	32	52	-	-	-	-
Mass.	7	23	-	-	1	-	-	268	603	601	11	24	16	-
R.I.	-	-	-	-	-	-	-	30	75	64	-	1	2	-
Conn.	4	6	-	-	-	-	-	292	695	724	8	10	12	-
MID. ATLANTIC	51	183	-	1	3	-	-	1,893	5,589	5,921	95	254	219	-
Upstate N.Y.	7	32	-	1	1	-	-	339	506	460	11	25	6	-
N.Y. City	30	66	-	-	2	-	-	700	2,325	2,637	56	151	162	-
N.J.	6	55	-	-	-	-	-	135	1,099	1,144	10	29	19	-
Pa.	8	30	-	-	-	-	-	719	1,659	1,680	18	49	32	-
E.N. CENTRAL	78	143	-	1	1	-	-	5,098	9,153	8,835	36	77	144	24
Ohio	18	31	-	-	-	-	-	2,664	3,922	3,113	7	28	29	-
Ind.	1	1	-	-	-	-	-	489	804	613	3	7	16	2
Ill.	20	70	-	1	1	-	-	943	1,746	2,606	23	23	78	7
Mich.	37	37	-	-	-	-	-	708	1,876	1,705	2	9	14	-
Wis.	2	4	-	-	-	-	-	294	805	798	1	10	7	15
W.N. CENTRAL	8	20	-	1	1	-	1	1,116	3,105	2,356	9	27	10	99
Minn.	-	-	-	-	-	-	-	354	484	397	3	5	1	15
Iowa	4	8	-	-	-	-	-	100	293	296	-	-	2	36
Mo.	-	-	-	-	-	-	1	386	1,441	946	5	17	7	10
N. Dak.	4	4	-	-	-	-	-	6	35	33	-	-	-	26
S. Dak.	-	4	-	1	1	-	-	31	88	70	-	-	-	-
Nebr.	-	-	-	-	-	-	-	85	246	194	-	2	-	4
Kans.	-	4	-	-	-	-	-	154	518	420	1	3	-	8
S. ATLANTIC	107	253	2	-	2	-	2	5,485	14,081	12,615	155	388	283	14
Del.	1	1	1	-	-	-	-	85	270	202	-	1	1	-
D.C.	7	20	-	-	-	-	-	515	1,185	911	7	30	28	-
Va.	9	18	-	-	-	-	-	379	881	772	17	44	21	-
W. Va.	11	24	-	-	-	-	-	756	1,524	1,139	13	24	21	3
N.C.	1	11	-	-	2	-	-	44	182	170	-	-	-	1
S.C.	31	69	-	-	-	2	903	2,450	1,975	11	39	19	-	
Ga.	5	20	1	-	-	-	324	1,261	1,411	7	26	5	-	
Fla.	8	25	-	-	-	-	1,103	3,128	2,491	33	102	85	7	
	34	65	-	-	-	-	1,376	3,200	3,544	67	122	103	3	
E.S. CENTRAL	31	101	1	-	1	-	1	1,099	4,679	4,191	27	146	114	10
Ky.	11	24	1	-	-	-	-	131	617	636	3	8	11	3
Tenn.	13	32	-	-	-	-	1	493	1,679	1,729	3	47	56	3
Ala.	7	45	-	-	1	-	-	185	1,365	903	6	51	15	4
Miss.	-	-	-	-	1	-	-	290	1,018	923	15	40	32	-
W.S. CENTRAL	30	66	-	-	-	-	-	2,474	9,491	6,448	126	437	295	55
Ark.	-	-	-	-	-	-	-	152	440	480	6	6	3	16
La.	7	21	-	-	-	-	-	519	1,316	573	41	76	67	5
Okla.	3	20	-	-	-	-	-	302	889	790	9	12	2	10
Tex.	20	25	-	-	-	-	-	1,501	6,846	4,605	70	343	223	24
MOUNTAIN	10	20	1	-	-	-	-	716	2,040	1,977	20	33	23	5
Mont.	-	1	-	-	-	-	-	26	71	90	-	-	-	5
Idaho	3	3	-	-	-	-	-	27	61	84	2	2	1	-
Wyo.	-	-	-	-	-	-	-	11	56	71	1	1	2	-
Colo.	3	4	1	-	-	-	-	273	676	498	5	12	10	-
N. Mex.	3	9	-	-	-	-	-	96	264	348	7	7	5	-
Ariz.	-	-	-	-	-	-	-	183	498	445	-	-	-	-
Utah	-	-	-	-	-	-	-	38	89	101	-	-	2	-
Nev.	1	3	-	-	-	-	-	62	325	340	5	11	3	-
PACIFIC	99	291	-	1	16	-	-	2,620	8,376	7,813	74	258	261	33
Wash.	1	17	-	-	-	-	-	287	713	801	-	-	18	-
Oreg.	3	10	-	-	-	-	-	191	545	472	3	7	6	-
Calif.	94	261	-	1	14	-	-	2,011	6,739	6,257	65	241	233	31
Alaska	-	-	-	-	-	-	-	80	192	195	-	2	1	2
Hawaii	1	3	-	-	2	-	-	51	187	98	6	8	3	-
Guam	NA	-	-	NA	-	NA	-	NA	-	12	NA	-	-	-
P.R.	-	-	-	-	-	-	-	70	171	51	5	15	11	2
V.I.	NA	-	-	NA	-	NA	-	NA	-	5	NA	-	3	-
Pac. Trust Terr.	NA	-	-	NA	-	NA	-	NA	-	42	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
January 24, 1981 (3rd week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL	REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P & I** TOTAL
	ALL AGES	>65	45-64	25-44	<1			ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	916	640	187	44	25	108	S. ATLANTIC	1,339	846	340	81	37	91
Boston, Mass.	268	163	61	19	11	44	Atlanta, Ga.	229	135	64	20	7	13
Bridgeport, Conn.	54	37	13	4	-	-	Baltimore, Md.	22	14	8	-	-	1
Cambridge, Mass.	27	22	4	1	-	6	Charlotte, N.C.	88	49	30	5	1	8
Fall River, Mass.	39	33	6	-	-	-	Jacksonville, Fla.	117	73	32	6	3	6
Hartford, Conn.	65	41	17	2	4	-	Miami, Fla.	160	97	35	15	9	11
Lowell, Mass.	54	42	11	1	-	4	Norfolk, Va.	64	42	16	3	3	9
Lynn, Mass.	29	20	8	1	-	-	Richmond, Va.	86	50	22	6	3	14
New Bedford, Mass.	31	26	3	2	-	1	Savannah, Ga.	65	41	15	3	2	5
New Haven, Conn.	83	62	15	2	2	11	St. Petersburg, Fla.	146	127	11	3	1	6
Providence, R.I.	84	65	11	5	2	11	Tampa, Fla.	85	46	30	4	3	8
Somerville, Mass.	10	7	3	-	-	-	Washington, D.C.	192	112	59	11	5	3
Springfield, Mass.	49	32	10	3	3	5	Wilmington, Del.	85	60	18	5	-	7
Waterbury, Conn.	56	42	10	1	2	12							
Worcester, Mass.	67	48	15	3	1	14							
							E.S. CENTRAL	924	596	211	51	34	64
MID. ATLANTIC	3,133	2,121	677	175	75	199	Birmingham, Ala.	110	76	24	6	2	3
Albany, N.Y.	53	32	13	2	5	3	Chattanooga, Tenn.	78	54	19	4	1	4
Allentown, Pa.	26	19	7	-	-	2	Knoxville, Tenn.	74	57	12	-	-	1
Buffalo, N.Y.	147	102	30	8	1	25	Louisville, Ky.	127	86	23	7	4	12
Camden, N.J.	67	48	14	2	-	3	Memphis, Tenn.	238	145	57	16	12	22
Elizabeth, N.J.	33	19	12	1	-	2	Mobile, Ala.	112	65	29	5	8	11
Erie, Pa.†	51	36	10	2	-	6	Montgomery, Ala.	52	36	13	1	1	-
Jersey City, N.J.	56	30	21	3	2	1	Nashville, Tenn.	133	77	34	12	6	11
Newark, N.J.	79	38	26	6	4	6							
N.Y. City, N.Y.	1,713	1,180	346	114	35	85	W.S. CENTRAL	1,417	868	321	92	62	99
Paterson, N.J.	42	19	10	1	8	-	Austin, Tex.	58	38	11	6	1	3
Philadelphia, Pa.†	277	171	70	18	9	18	Baton Rouge, La.	66	42	15	5	1	8
Pittsburgh, Pa.†	87	53	28	3	2	4	Corpus Christi, Tex.	23	11	6	1	5	-
Reading, Pa.	46	27	11	3	1	6	Dallas, Tex.	237	139	65	12	6	15
Rochester, N.Y.	160	123	26	5	3	20	El Paso, Tex.	83	46	17	5	8	11
Schenectady, N.Y.	29	24	5	-	-	4	Fort Worth, Tex.	129	93	23	8	-	11
Scranton, Pa.†	44	29	13	1	-	4	Houston, Tex.	193	97	49	18	17	-
Syracuse, N.Y.	99	73	18	3	3	2	Little Rock, Ark.	99	68	20	5	2	13
Trenton, N.J.	49	34	8	3	1	2	New Orleans, La.	142	79	31	11	11	5
Utica, N.Y.	44	35	7	-	1	4	San Antonio, Tex.	229	142	55	12	7	18
Yonkers, N.Y.	31	29	2	-	-	2	Shreveport, La.	71	44	17	5	3	5
							Tulsa, Okla.	87	69	12	4	1	10
E.N. CENTRAL	2,845	1,850	677	165	72	149	MOUNTAIN	706	436	176	48	21	44
Akron, Ohio	74	50	22	2	-	-	Albuquerque, N. Mex.	63	36	12	8	2	5
Canton, Ohio	50	36	10	1	1	3	Colo. Springs, Colo.	51	39	9	3	-	5
Chicago, Ill.	649	411	149	50	23	21	Denver, Colo.	164	108	36	9	4	14
Cincinnati, Ohio	160	116	33	8	2	25	Las Vegas, Nev.	52	29	20	2	-	1
Cleveland, Ohio	198	113	65	7	6	3	Ogden, Utah	26	19	3	1	3	2
Columbus, Ohio	176	121	32	11	7	10	Phoenix, Ariz.	182	113	45	14	6	7
Dayton, Ohio	130	82	36	10	2	7	Pueblo, Colo.	20	13	6	1	-	5
Detroit, Mich.	347	214	80	26	9	23	Salt Lake City, Utah	63	32	17	2	6	2
Evansville, Ind.	46	29	15	2	-	2	Tucson, Ariz.	85	47	28	8	-	3
Fort Wayne, Ind.	57	38	15	2	-	3							
Gary, Ind.	32	14	13	5	-	-	PACIFIC	2,330	1,621	456	131	61	153
Grand Rapids, Mich.	71	50	17	1	2	5	Berkeley, Calif.	23	15	6	1	1	3
Indianapolis, Ind.	267	173	68	7	5	11	Fresno, Calif.	81	53	16	4	4	3
Madison, Wis.	40	25	11	1	3	8	Glendale, Calif.	43	33	6	2	1	-
Milwaukee, Wis.	168	121	26	12	3	4	Honolulu, Hawaii	70	41	20	5	3	2
Peoria, Ill.	71	44	16	4	3	2	Long Beach, Calif.	144	102	33	4	3	7
Rockford, Ill.	51	29	12	6	2	4	Los Angeles, Calif.	909	636	167	56	19	56
South Bend, Ind.	54	41	11	1	-	5	Oakland, Calif.	76	54	13	5	3	8
Toledo, Ohio	139	97	30	7	3	12	Pasadena, Calif.	25	22	3	-	-	5
Youngstown, Ohio	65	46	16	2	1	1	Portland, Oreg.	150	109	30	7	3	5
							Sacramento, Calif.	76	51	10	5	7	15
W.N. CENTRAL	959	681	177	47	30	83	San Diego, Calif.	138	99	25	6	3	7
Des Moines, Iowa	88	62	18	4	2	3	San Francisco, Calif.	176	124	36	8	6	5
Duluth, Minn.	39	36	2	1	-	4	San Jose, Calif.	165	110	37	9	2	19
Kansas City, Kans.	43	28	8	3	2	3	Seattle, Wash.	148	91	41	11	3	9
Kansas City, Mo.	134	94	25	9	4	14	Spokane, Wash.	59	45	8	4	2	7
Lincoln, Nebr.	36	27	6	-	2	2	Tacoma, Wash.	47	36	5	4	1	2
Minneapolis, Minn.	111	80	16	5	6	10							
Omaha, Nebr.	106	79	17	5	2	12							
St. Louis, Mo.	234	165	47	13	5	14							
St. Paul, Minn.	85	60	13	5	4	6	TOTAL	14,569	9,659	3,222	834	417	990
Wichita, Kans.	83	50	25	2	3	15							

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

†Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

*Toxic-Shock Syndrome – Continued**References*

1. CDC. Follow-up on toxic-shock syndrome. MMWR 1980;29:297-9.
2. Todd J, Fishaut M, Kapral F, Welch T. Toxic-shock syndrome associated with phage-group-I staphylococci. Lancet 1978;2:1116-8.
3. CDC. Toxic-shock syndrome – United States. MMWR 1980;29:229-30.
4. CDC. Follow-up on toxic-shock syndrome. MMWR 1980;29:441-5.
5. McKenna UG, Meadows JA III, Brewer NS, Wilson WR, Perrault J. Toxic-shock syndrome, a newly recognized entity: report of 11 cases. Mayo Clin Proc 1980;55:663-72.
6. Shands KN, Schmid GP, Dan BB, et al. Toxic-shock syndrome in menstruating women: its association with tampon use and *Staphylococcus aureus* and the clinical features in 52 cases. N Engl J Med 1980;303:1436-42.
7. Davis JP, Chesney PJ, Wand PJ, et al. Toxic-shock syndrome: epidemiologic features, recurrence, risk factors, and prevention. N Engl J Med 1980;303:1429-35.
8. CDC. Toxic-shock syndrome – Utah. MMWR 1980;29:495-6.

*Current Trends***Availability of Human Rabies Immune Globulin**

Currently, there is a shortage of Cutter Laboratories' Rabies Immune Globulin (Hyperab). This shortage is likely to continue until early March 1981. Until then, Cutter will release Hyperab for use only on a case-by-case basis; it will not be supplied in larger quantities to replace depleted stocks.

Should health departments or private physicians be unable to obtain Hyperab through usual channels for rabies postexposure treatment, they should contact the nearest regional office of Cutter Laboratories (listed below) for assistance.

Chattanooga, Tennessee: 615-624-4661

New Orleans, Louisiana: 504-469-8479

Dallas, Texas: 214-661-5850

Los Angeles, California: 213-968-8561

San Francisco, California: 415-276-8200

Seattle, Washington: 206-575-0490

Ogden (Salt Lake City), Utah: 801-393-8401

Chicago, Illinois: 312-595-3620

New York, New York: 201-238-0140

Reported by Viral Diseases Div, Center for Infectious Diseases, CDC.

Influenza – United States

Since November 1980, a total of 40 states and the District of Columbia have reported influenza A(H3N2) isolates. In addition to earlier reports (1), the virus has been isolated in Maine, Rhode Island, Ohio, Iowa, South Dakota, Nebraska, Kansas, Delaware, North Carolina, South Carolina, Florida, Alabama, Arkansas, Texas, Washington, Alaska, and Hawaii.*

*Texas, Washington, Alaska, and Hawaii also reported isolates in the July-October period.

Influenza — Continued

With the addition of 6 states—Connecticut, Pennsylvania, Michigan, Wisconsin, South Dakota, and Tennessee—a total of 9 states and the District of Columbia have reported the isolate of virus similar to A/Brazil/78(H1N1) (7). For the week ending January 17, 1981, 13 states reported widespread influenza outbreaks and 24 reported regional outbreaks of the disease. Deaths due to pneumonia and influenza, recorded in 121 cities, were elevated for the seventh consecutive week since December 13, 1980.

Reported by participating State Epidemiologists; Immunization Div, Center for Prevention Services, Virology Div, Center for Infectious Diseases, Consolidated Surveillance and Communications Activity, Epidemiology Program Office, CDC.

Reference

1. CDC. Influenza — United States. MMWR 1980;29:615-6.

Measles Mortality — United States, 1960-1980

CDC has received reports of 6 deaths attributed to measles in 1980; 3 occurred in preschool children and 3 in adults (Table 1). The patients ranged in age from 11 months to 33 years and lived in 4 states: 1 in California, 2 in Minnesota, 2 in New Jersey, and 1 in Oklahoma. Four patients, including all 3 preschool children, had pneumonia; the remaining 2 adults had encephalitis. Two patients had underlying illnesses: 1 preschool child had leukemia, and 1 adult had psychomotor retardation. Four of the 6 cases occurred during large measles outbreaks; none of the cases had a documented history of measles vaccination.

From 1960 to 1980, there was a significant decrease in reported measles cases and reported measles deaths in the United States (Figure 3). In 1960-1962—the 3 years preceding licensure of measles vaccine—there was an annual average of 450,051 reported measles cases and 407 measles deaths. For 1980, the provisional number of measles cases was 13,430—a record low and <3% of the average number reported in 1960-1962. The provisional total of 6 measles deaths is 1.5% of the average number reported for 1960-1962.

The reported number of measles deaths has been <100 per year since 1967 and has been ≤20 per year since 1972. The lowest official total for reported measles deaths is 11 in 1978, the last year for which final data are available from the National Center for Health Statistics.

Reported by J Chin, MD, State Epidemiologist, California Dept of Health Services; A Dean, MD, State Epidemiologist, Minnesota State Dept of Health; Immunization Program, and WE Parkin, DVM, State Epidemiologist, New Jersey State Dept of Health; Immunization Div, Center for Prevention Services, CDC.

TABLE 1. Epidemiologic features of fatal measles cases, United States, 1980

Age (Years)	Sex	Complication	Underlying condition	Vaccine history
1	M	Pneumonia	None	Unvaccinated
2	F	Pneumonia	None	Unvaccinated
4	F	Pneumonia	Leukemia	Unvaccinated
19	F	Pneumonia	Psychomotor retardation	Unvaccinated
22	F	Encephalitis	None	Unvaccinated
33	F	Encephalitis	None	Unvaccinated

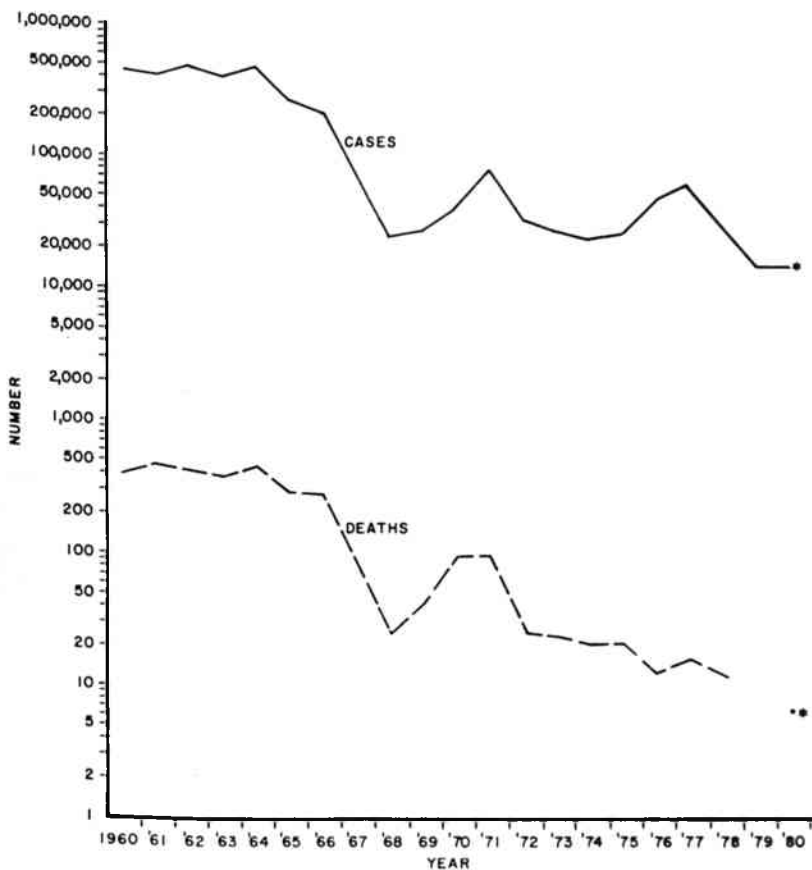
Measles - Continued

Editorial Note: The 6 measles deaths in 1980 illustrate that the characteristics of fatal measles cases are the same now as they were in the prevaccination era: pneumonia and encephalitis are the most common causes of death (1), and underlying illnesses such as leukemia increase the risk of death. Measles case-fatality ratios are highest for preschool children and adults (2). The most frequent cause of death for young children is pneumonia, while neurologic complications account for a greater proportion of deaths of older individuals (1). None of the 1980 deaths occurred in school-age children (5-18 years) for whom measles case-fatality ratios are low (2). This age group has also received special attention in the effort to eliminate measles through vigorous enforcement of school immunization laws.

References

1. Barkin RM. Measles mortality analysis of the primary cause of death. *Am J Dis Child* 1975;129:307-9.
2. Englehardt J, Halsey NA, Curtis AR, Eddins DL, Hinman AR. Measles mortality in the United States 1971-1975. *Am J Public Health* 1980;70:1166-9.

FIGURE 3. Reported measles cases and deaths, by year, United States, 1960-1980*



*Reported measles cases are provisional for 1980. Reported measles deaths are not yet available for 1979 and are provisional for 1980.

International Notes**Toxic-Shock Syndrome – Canada**

As of January 15, 1981, 17 confirmed and 5 suspected cases of toxic-shock syndrome (TSS) had been reported in Canada (Table 2). The 2 most recent cases—both suspected—were from Manitoba; one was the first Canadian fatality associated with TSS.

TABLE 2. Reported cases of toxic-shock syndrome, Canada, as of January 15, 1981

Province	Confirmed cases	Suspected cases
British Columbia	10	2
Quebec	4	0
Ontario	2	1
Manitoba	1	2
TOTAL	17	5

The Laboratory Centre for Disease Control (LCDC) has sent information packets and case-report forms to the Provincial Epidemiologists. Physicians encountering suspected cases are being urged to contact their Provincial Epidemiologist or the LCDC Bureau of Epidemiology. A letter on TSS and epidemiologic studies of this syndrome in Canada has also been sent to all physicians.

To date, there appears to have been no change in the purchasing habits of Canadian women with regard to tampons. The Federal Health and Welfare Minister has announced that, as of December 1, 1980, manufacturers of tampons are required to have warning labels on the outside of all packages sold in Canada and to include an information package insert.

Reported by J Peacocke, Communicable Disease Div, Bur of Epidemiology, LCDC, Ottawa, as reported in the Canada Diseases Weekly Report (1).

Reference

1. Laboratory Centre for Disease Control. Toxic-shock syndrome. Canada Diseases Weekly Report 1980;6:241-2.

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