CENTERS FOR DISEASE CONTROL

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MORBIDITY AND MORTALITY WEEKLY REPORT

International Notes

Vaccinia Outbreak — Newfoundland

Six cases of contact vaccinia infection were identified in January 1981 in western Newfoundland. They resulted from exposure to a recently vaccinated female member of the Canadian Forces on leave over the Christmas-New Year season.

The Preventive Medicine Directorate, Surgeon General's Office, Department of National Defence, reported that the vaccinee was an 18-year-old female recruit at Canadian Forces Base (CFB) Cornwallis, Nova Scotia, who had had a good "primary" reaction following smallpox vaccination on December 12, 1980. While on leave in Newfoundland, she was seen by a physician on December 22 because of discomfort in her arm and a vaccinial lesion on her lower lip. Within 24 hours, further satellite lesions had developed—6 on the abdomen and 2 on the left thigh.

By January 14, 1981, after she had returned to her base, scab lesions were present on her face, but the peripheral lesions had healed. Discomfort persisted at the vaccination site.

Secondary transmission of infection was first recognized in a 15-year-old female who had shared a bed with the vaccinee on the night of December 29. She sought medical attention on January 8 for a "pimple" on her chin that had appeared 3 days earlier. She was given an antibiotic, but when she was reexamined on January 12, her family physician identified the 1-cm lesion as a vaccinia skin lesion; the lesion was raised on a red indurated base with pus formation and central scab formation. Regional lymphadenitis was present. Provincial public-health authorities were informed, and scrapings from the scab, plus swabs from the lesion base, were obtained. These were positive in viral culture and identified by electronmicroscopy as poxvirus by the Virology Laboratory in Halifax, Nova Scotia. The first patient's 17-year-old sister was also seen on January 12 because she had developed similar lesions in the form of 2 facial papules (chin and forehead) 2 days earlier. She had not experienced as close contact with the vaccinee as had the 15 year old, but admitted having touched the lesion on her sister's face. Laboratory tests of scrapings from her lesions were also positive for poxvirus.

The third patient was an 18-year-old female neighbor of the vaccinee. She had had regular contact with the vaccinee over the holiday season and had lent her some clothing. This young woman developed a facial "pimple" on January 3, and a pustule formed but she did not seek medical attention because she recognized the lesion as being identical to that of her friend. When she was examined on January 13, a 1-cm pustular lesion, similar to that described above, was present, and over the next 24 hours 7 satellite lesions—each 2-3 mm in diameter—developed in the immediate area of the original lesion.

The fourth patient was a 40-year-old aunt of the vaccinee. She had been seen at a community nursing station on January 6 with a 7-day history of a lesion on her left

Vaccinia Outbreak — Continued

cheek, with an associated left preauricular lymphadenitis and periorbital swelling. She was treated with an antibiotic, but later investigation showed that the lesion was a typical vaccinia infection. She admitted having touched her niece's facial lesion on at least 1 occasion.

Surveillance by public-health authorities identified 2 additional cases. A 25-year-old male had attended a party on the night of January 11 where the third patient (the 18-year-old) was present, and he had kissed her several times. Two days later he developed 2 facial papules, which underwent pustule formation within 48 hours. When examined on January 21, he had 2 lesions (chin and corner of mouth) that were typical of a resolving vaccinia eruption.

At the same time, a 19-year-old male, who had attended the same party and had also had contact with the third patient, developed facial papules that evolved into pustules with scab formation. When examined on January 21, he had 4 lesions, 2 on the chin and 2 on the right neck area, which were typical of resolving vaccinia lesions. The results of scrapings and swabs taken from the lesions of these latter contacts have not yet been reported.

None of these 6 patients had been vaccinated for smallpox.

Reported by W Bavington, MD, International Grenfell Assoc, St. Anthony, D Chaulk, MD, Corner Brook, K Hogan, MD, Medical Officer of Health, Newfoundland Dept of Health, Newfoundland; HJ Whitehood, Canadian Forces Station Shelburne, J Culver-James, MD, Canadian Forces Base Cornwallis, S Hansen, MD, Canadian Forces Hospital Halifax, Nova Scotia, in the Canada Diseases Weekly Report 1981;7:29-30. International Health Program Office, Epidemiology Program Office, CDC.

Editorial Note: This report of extended transmission of vaccinia indicates the relative ease of person-to-person transmission among unvaccinated persons and the potential for spread of vaccinia from recently vaccinated military personnel. Although these cases were mild, vaccinia infection can be fatal.

Cases of vaccinia infection transmitted by military personnel have also been reported in the United Kingdom. In 1980, of 9 reports of vaccinia lesions, 2 cases appeared to have involved spread from military personnel. One patient was a young woman evaluated for genital lesions 3 weeks after her soldier husband had been vaccinated. The second was a soldier who had taken part in a boxing match (*1*). The United Kingdom recently discontinued the routine smallpox vaccination requirement for members of its armed services (*2*).

In the United States, the largest group being routinely vaccinated are Department of Defense (DOD) military personnel. Active-duty personnel of the Army, Navy, Air Force, and Marine Corps; the National Guard; and the Reserves are routinely vaccinated when they enter the service and are revaccinated at 3-year intervals. There are more than 4 million personnel in the DOD; more than 1 million military personnel are vaccinated each year. In July 1981, the DOD 1) extended the interval for revaccination for smallpox to 5 years and 2) recommended that smallpox boosters for reserve personnel be given at the beginning of their 2-week annual training to reduce the risk of infection for their household contacts. These 2 steps should reduce the risk of spread of vaccinia from military personnel.

For the United States civilian population, smallpox vaccination is recommended "... only for laboratory workers directly involved with smallpox virus or closely related orthopox viruses (e.g., monkeypox, vaccinia)" (*3*). Smallpox vaccinations are still being given to travelers to foreign countries more frequently than necessary. Only 2 countries in the world require smallpox vaccination as a condition of entry—Chad and the Democratic Republic of Kampuchea (formerly Cambodia). The World Health Organization has recommended that waiver letters rather than smallpox vaccination be given to inter-

Vaccinia Outbreak – Continued

national travelers. Smallpox vaccine is still being used in treating for herpes infections and other conditions. There is no scientific indication that such treatment is effective.

References

1. Communicable Disease Surveillance Centre. Complications of smallpox vaccination 1980. Communicable Disease Report 1981;2:1.
2. Communicable Disease Surveillance Centre. Smallpox vaccination. Communicable Disease Report 1981;23:1.
3. Immunization Practices Advisory Committee. Smallpox vaccine. MMWR 1980;29:417-20.

Surveillance Summary

Measles Importations – United States

In the 18-month period December 30, 1979, through July 4, 1981,* 146 cases of measles were reported to have been imported into the United States.† These cases represent 0.9% of the provisional total of 15,853 cases of measles reported to CDC in that period. An average of 1.8 measles importations were reported each week without distinct seasonal variation (Figure 1). The proportion of measles cases reported as being imported increased from 0.7% (95/13,506) in 1980 to 2.2% (51/2,347) during the first 26 weeks of 1981. However, the number of importations has remained roughly the same, averaging 1.8 importations per week in 1980 and 2.0 importations per week in 1981.

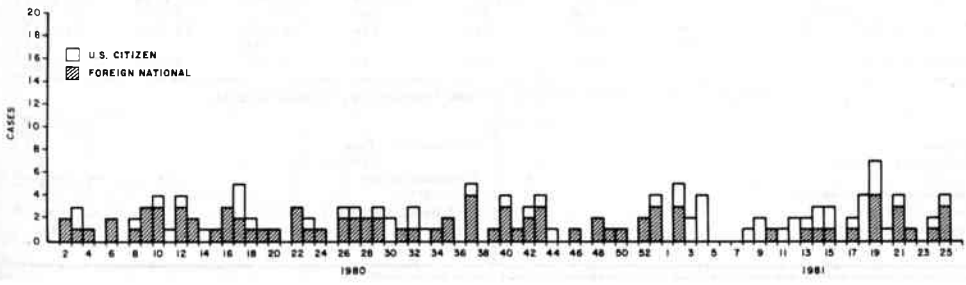
The 146 persons with imported measles were travelers who arrived in the United States from 37 different countries. However, 8 countries accounted for 58.9% (86/146) of the importations: Mexico 28 (19.2%), Canada 15 (10.3%), England 13 (8.9%), Malaysia 8 (5.5%), India 7 (4.8%), Germany 5 (3.4%), Philippines 5 (3.4%), and Spain 5 (3.4%). The other 29 countries each contributed 4 or less importations during the 18-month period.

Although 32 states, New York City, and the District of Columbia reported measles importations (Figure 2), 5 areas accounted for more than half (53.4%) the cases reported: California 25 (17.1%), Upstate New York 24 (16.4%), Florida 11 (7.5%), Connecticut 9 (6.2%), and New York City 9 (6.2%). Seventy importations, 47.9% of the total, were reported from within 150 miles of 4 major port cities: Los Angeles, Miami, New York, and San Francisco. All measles cases reported from Alabama, the District of

*Week 1 of 1980 through week 26 of 1981.

†A case is considered to be imported if a person has onset of rash <15 days after arriving in the United States from a foreign country.

FIGURE 1. Measles importations, by reporting week, United States, December 30, 1979-July 4, 1981



Measles – Continued

Columbia, Idaho, Iowa, Missouri, and Vermont during the first 26 weeks of 1981 were imported cases.

Returning U.S. citizens (vs foreign nationals) have begun to account for an increasing proportion of importations (Figure 1). In 1980, 33 (34.7%) of 95 imported measles cases were among U.S. citizens, compared with 33 (64.7%) of 51 imported cases reported the first 26 weeks of 1981.

Immunity status was determined for 91 patients, including 48 who were U.S. citizens (52.7%) and 43 who were foreign nationals (47.3%). Of these 91 persons, 12 U.S. citizens and 18 foreign nationals who were ≥15 months of age and were born after 1957 had no evidence of measles immunity.* These 30 cases (33.0%) could probably have been prevented had the persons been vaccinated. The remaining 61 (67.0%) cases would have been difficult to prevent if current recommendations were followed. Thirty-nine patients were <15 months of age, the age when measles vaccine is routinely recommended, and 9 patients were born before 1957 and would generally have been thought to be immune. Finally, 13 patients had adequate documentation of measles vaccination with live vaccine on or after the first birthday or of physician-documented measles disease. The immunity status of 55 (37.7%) of the 146 persons who had imported measles is not known.

*Measles immunity consists of either documented physician-diagnosed measles or receipt of live measles vaccine on or after the first birthday.

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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	36th WEEK ENDING		MEDIAN 1976-1980	CUMULATIVE, FIRST 36 WEEKS		
	September 12 1981	September 6 1980		September 12 1981	September 6 1980	MEDIAN 1976-1980
Aseptic meningitis	340	349	249	5,180	4,251	3,527
Brucellosis	4	–	5	103	130	130
Chickenpox	234	450	217	166,640	157,618	157,618
Diphtheria	–	–	–	3	2	59
Encephalitis: Primary (arthropod-borne & unspec.)	71	65	44	805	657	657
Post-infectious	1	3	3	59	153	159
Hepatitis, Viral: Type B	352	345	252	13,921	11,993	10,399
Type A	390	570	535	17,065	19,113	20,357
Type unspecified	193	230	186	7,558	7,841	6,063
Malaria	37	35	13	972	1,417	484
Measles (rubeola)	18	36	53	2,649	12,825	23,744
Meningococcal infections: Total	43	32	20	2,568	1,962	1,794
Civilian	42	32	20	2,558	1,948	1,772
Military	1	–	–	10	14	17
Mumps	55	52	69	3,115	7,061	13,367
Pertussis	38	51	49	802	1,107	1,040
Rubella (German measles)	22	39	45	1,733	3,235	10,650
Tetanus	–	3	2	41	58	50
Tuberculosis	522	419	470	18,462	18,594	20,120
Tularemia	13	8	2	174	147	112
Typhoid fever	5	9	10	338	319	319
Typhus fever, tick-borne (Rky. Mt. spotted)	34	34	27	1,022	920	851
Venereal diseases:						
Gonorrhea: Civilian	16,932	18,876	18,876	680,554	677,108	677,783
Military	466	841	562	19,631	19,113	19,113
Syphilis, primary & secondary: Civilian	519	564	364	20,645	18,170	16,686
Military	7	–	5	255	224	216
Rabies in animals	151	119	76	5,091	4,661	2,198

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1981		CUM. 1981
Anthrax	–	Poliomyelitis: Total	3
Botulism (Tex. 1, Calif. 1)	40	Paralytic	3
Cholera	3	Psittacosis (N.Mex. 1)	76
Congenital rubella syndrome	7	Rabies in man	1
Leprosy (Calif. 1)	178	Trichinosis (Upstate N.Y. 1, N.J. 1)	108
Leptospirosis (Hawaii 2)	29	Typhus fever, flea-borne (endemic, murine)	36
Plague	9		

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

TABLE III. Cases of specified notifiable diseases, United States, weeks ending September 12, 1981 and September 6, 1980 (36th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1981	1981	1981	1981	CUM. 1981	1981	1980	1981	1981	1981	1981	1981	CUM. 1981
UNITED STATES	340	4	234	–	3	71	65	1	352	390	193	37	972
NEW ENGLAND	12	–	19	–	–	1	1	–	23	14	6	1	50
Maine	2	–	6	–	–	–	–	–	–	–	–	–	1
N.H.	–	–	–	–	–	–	–	–	1	–	–	–	3
Vt.	–	–	–	–	–	–	–	–	–	–	–	–	3
Mass.	4	–	5	–	–	–	1	–	9	13	3	1	30
R.I.	1	–	2	–	–	–	–	–	–	1	–	–	2
Conn.	5	–	6	–	–	1	–	–	13	–	3	–	11
MID. ATLANTIC	43	–	28	–	–	2	15	–	65	45	19	2	117
Upstate N.Y.	18	–	1	–	–	–	4	–	13	20	4	–	31
N.Y. City	4	–	27	–	–	1	–	–	22	12	9	2	38
N.J.	12	–	NN	–	–	–	1	–	30	13	6	–	35
Pa.	9	–	–	–	–	1	10	–	NA	NA	NA	–	13
E.N. CENTRAL	51	–	74	–	–	46	30	1	35	42	16	1	45
Ohio	26	–	9	–	–	39	15	–	11	13	6	–	7
Ind.	10	–	9	–	–	3	7	1	2	2	2	–	6
Ill.	–	–	8	–	–	–	3	–	4	12	3	–	14
Mich.	13	–	11	–	–	4	–	–	17	12	4	1	18
Wis.	2	–	37	–	–	–	5	–	1	3	1	–	–
W.N. CENTRAL	15	–	20	–	–	1	1	–	9	13	9	1	27
Minn.	–	–	–	–	–	–	–	–	–	2	2	–	10
Iowa	1	–	9	–	–	1	1	–	1	1	5	1	4
Mo.	11	–	1	–	–	–	–	–	7	7	2	–	3
N. Dak.	1	–	2	–	–	–	–	–	–	–	–	–	1
S. Dak.	–	–	6	–	–	–	–	–	–	1	–	–	1
Nebr.	2	–	–	–	–	–	–	–	–	–	–	–	1
Kans.	–	–	2	–	–	–	–	–	1	2	–	–	7
S. ATLANTIC	53	1	25	–	1	11	10	–	50	45	24	4	115
Del.	–	–	1	–	–	–	–	–	1	2	1	–	1
Md.	6	–	–	–	–	2	–	–	14	2	2	1	26
D.C.	–	–	–	–	–	–	–	–	2	–	–	–	9
Va.	20	–	1	–	–	1	3	–	8	4	3	3	23
W. Va.	5	–	6	–	–	5	2	–	2	1	–	–	3
N.C.	8	–	NN	–	–	2	4	–	4	4	4	–	7
S.C.	1	–	2	–	–	–	–	–	2	2	–	–	1
Ga.	2	–	1	–	–	–	–	–	5	10	–	–	8
Fla.	11	1	14	–	1	1	1	–	12	20	14	–	37
E.S. CENTRAL	53	2	7	–	–	4	1	–	30	34	12	–	10
Ky.	28	–	2	–	–	1	–	–	7	6	2	–	–
Tenn.	10	1	NN	–	–	3	–	–	2	9	1	–	–
Ala.	14	1	4	–	–	–	–	–	17	8	9	–	9
Miss.	1	–	1	–	–	–	1	–	4	11	–	–	1
W.S. CENTRAL	17	1	12	–	–	4	1	–	24	52	44	3	77
Ark.	–	–	–	–	–	–	–	–	1	3	2	–	5
La.	1	1	NN	–	–	–	–	–	3	11	8	–	5
Okla.	–	–	–	–	–	1	–	–	4	3	8	–	6
Tex.	16	–	12	–	–	3	1	–	16	35	26	3	61
MOUNTAIN	13	–	3	–	1	2	2	–	14	32	15	–	30
Mont.	1	–	–	–	1	–	1	–	1	–	–	–	1
Idaho	4	–	–	–	–	–	–	–	–	6	–	–	2
Wyo.	–	–	–	–	–	–	–	–	–	–	–	–	–
Colo.	4	–	1	–	–	1	–	–	3	9	2	–	14
N. Mex.	–	–	–	–	–	–	–	–	3	8	1	–	2
Ariz.	–	–	NN	–	–	–	1	–	1	6	8	–	4
Utah	4	–	–	–	–	1	–	–	2	–	1	–	4
Nev.	–	–	2	–	–	–	–	–	4	3	3	–	3
PACIFIC	83	–	46	–	1	–	4	–	102	113	48	25	501
Wash.	14	–	34	–	–	–	1	–	14	6	3	–	24
Oreg.	–	–	–	–	–	–	–	–	9	20	4	2	15
Calif.	65	–	3	–	–	–	3	–	76	86	41	23	454
Alaska	2	–	–	–	1	–	–	–	1	1	–	–	1
Hawaii	2	–	9	–	–	–	–	–	2	–	–	–	7
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	1
P.R.	–	–	4	–	–	–	–	–	4	8	1	1	10
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	4
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 September 12, 1981 and September 6, 1980 (36th 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	18	2,645	12,825	43	2,568	1,962	55	3,115	38	22	1,733	41
NEW ENGLAND	–	77	672	1	181	111	9	152	10	1	105	2
Maine	–	5	33	–	20	5	–	29	2	–	33	–
N.H.	–	6	331	1	23	7	–	18	7	1	36	–
Vt.	–	1	226	–	6	13	–	6	–	–	–	–
Mass.	–	57	58	–	56	38	4	38	–	–	24	–
R.I.	–	–	2	–	16	7	1	21	1	–	–	–
Conn.	–	8	22	–	60	41	4	40	–	–	12	2
MID. ATLANTIC	8	805	3,764	9	364	344	3	549	5	5	208	2
Upstate N.Y.	–	211	686	4	121	112	1	105	3	4	100	1
N.Y. City	–	73	1,176	–	59	85	–	74	1	1	51	1
N.J.	2	57	829	1	80	74	–	83	1	–	46	–
Pa.	6	464	1,073	4	104	73	2	287	–	–	11	–
E.N. CENTRAL	–	79	2,410	3	303	248	13	861	8	4	353	7
Ohio	–	16	376	2	114	73	4	139	2	–	3	1
Ind.	–	8	91	1	42	36	2	98	2	3	127	2
Ill.	–	23	334	–	74	71	–	171	–	–	83	–
Mich.	–	30	235	–	68	55	–	299	–	–	34	3
Wis.	–	2	1,374	–	5	13	7	154	4	1	106	1
W.N. CENTRAL	–	6	1,329	4	111	77	5	171	1	–	75	3
Minn.	–	2	1,095	2	39	18	–	8	–	–	6	2
Iowa	–	1	20	1	19	9	3	46	1	–	4	–
Mo.	–	1	64	–	34	36	–	15	–	–	2	1
N. Dak.	–	–	–	1	2	1	–	–	–	–	–	–
S. Dak.	–	–	–	–	4	4	–	1	–	–	–	–
Nebr.	–	1	83	–	–	–	–	3	–	–	1	–
Kans.	–	1	67	–	13	9	2	98	–	–	62	–
S. ATLANTIC	3	363	1,878	15	581	469	7	445	1	1	138	8
Del.	–	–	3	–	4	2	–	10	–	–	1	–
Md.	–	5	71	–	40	45	1	83	–	–	1	–
D.C.	–	1	–	–	3	1	–	3	–	–	–	–
Va.	–	7	300	1	73	45	–	118	–	1	9	–
W. Va.	–	9	9	–	23	15	2	78	–	–	22	–
N.C.	–	4	128	2	85	89	–	15	–	–	5	2
S.C.	–	2	159	2	75	53	1	11	–	–	8	2
Ga.	3	112	810	3	97	79	–	33	–	–	35	1
Fla.	–	223	398	7	181	140	3	94	1	–	57	3
E.S. CENTRAL	–	4	330	1	184	172	2	77	1	1	37	2
Ky.	–	–	55	–	52	53	1	38	1	1	21	–
Tenn.	–	2	169	–	50	45	–	20	–	–	15	–
Ala.	–	2	22	1	58	47	1	16	–	–	1	2
Miss.	–	–	84	–	24	27	–	3	–	–	–	–
W.S. CENTRAL	5	932	940	8	417	206	6	186	3	4	154	9
Ark.	–	1	16	–	22	17	–	3	1	–	2	1
La.	–	2	11	3	102	75	1	5	–	–	9	2
Okla.	–	6	774	–	34	18	–	–	–	–	–	1
Tex.	5	923	139	5	259	96	5	178	2	4	143	5
MOUNTAIN	–	33	462	1	104	72	2	111	1	2	84	2
Mont.	–	–	2	1	7	3	1	10	–	–	4	–
Idaho	–	1	–	–	3	4	–	4	–	–	3	–
Wyo.	–	–	–	–	1	2	–	1	–	1	10	–
Colo.	–	9	24	–	35	19	–	42	–	–	27	–
N. Mex.	–	8	11	–	7	8	–	–	–	–	5	–
Ariz.	–	5	370	–	19	12	1	25	1	1	20	1
Utah	–	–	47	–	5	3	–	16	–	–	5	1
Nev.	–	10	8	–	27	21	–	13	–	–	10	–
PACIFIC	2	350	1,040	1	323	263	8	563	8	4	579	6
Wash.	–	3	177	–	60	47	3	138	2	–	89	–
Oreg.	–	4	–	–	50	46	–	62	–	1	50	–
Calif.	–	339	852	1	202	162	4	335	6	2	428	6
Alaska	–	–	5	–	7	8	–	7	–	–	1	–
Hawaii	2	4	6	–	4	–	1	21	–	1	11	–
Guam	NA	4	6	–	–	1	NA	6	NA	NA	1	–
P.R.	5	267	132	–	10	9	4	113	–	–	3	3
V.I.	NA	25	6	–	1	1	NA	5	NA	NA	1	–
Pac. Trust Terr.	NA	1	7	–	–	–	NA	9	NA	NA	1	–

NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 12, 1981 and September 6, 1980 (36th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1981	CUM. 1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	1981	CUM. 1981	CUM. 1980	1981	CUM. 1981	CUM. 1980	CUM. 1981
UNITED STATES	522	18,462	174	5	338	34	1,022	16,932	680,554	677,108	519	20,645	18,170	5,091
NEW ENGLAND	11	537	1	1	14	–	9	357	16,625	16,870	1	404	365	29
Maine	2	36	–	–	1	–	–	16	876	974	–	4	5	13
N.H.	–	14	–	–	–	–	–	15	600	616	–	11	2	4
Vt.	2	18	–	–	–	–	–	4	281	400	–	13	5	–
Mass.	4	307	–	1	8	–	5	164	6,625	7,041	–	256	212	7
R.I.	2	37	–	–	–	–	2	51	976	1,102	–	24	24	–
Conn.	1	125	1	–	5	–	2	107	7,267	6,737	1	96	117	5
MID. ATLANTIC	88	2,930	10	2	56	–	37	1,920	80,900	72,873	60	3,015	2,550	75
Upstate N.Y.	21	529	10	–	11	–	13	544	13,966	13,512	–	281	217	55
N.Y. City	30	1,130	–	1	30	–	3	592	32,697	27,378	27	1,777	1,663	–
N.J.	15	609	–	–	10	–	9	257	15,695	13,918	12	426	305	14
Pa.	22	662	–	1	5	–	12	527	18,542	18,065	21	531	365	6
E.N. CENTRAL	75	2,427	1	–	24	–	45	1,831	100,102	105,213	26	1,395	1,701	684
Ohio	3	465	–	–	5	–	36	393	32,721	27,512	4	201	257	54
Ind.	15	245	–	–	–	–	2	357	8,769	10,801	16	169	137	72
Ill.	37	951	–	–	11	–	6	264	26,587	33,376	–	697	962	458
Mich.	14	631	1	–	6	–	1	587	22,610	23,646	4	259	281	12
Wis.	6	135	–	–	2	–	–	230	9,415	9,878	2	69	64	88
W.N. CENTRAL	15	657	22	–	13	3	41	855	32,723	31,505	9	428	229	2,124
Minn.	–	115	–	–	2	–	1	65	4,911	5,259	3	148	77	370
Iowa	1	71	–	–	3	–	5	116	3,594	3,459	–	16	14	683
Mo.	8	291	18	–	3	3	23	495	15,361	13,666	6	229	113	185
N. Dak.	–	23	–	–	–	–	–	4	419	446	–	8	3	317
S. Dak.	4	48	–	–	1	–	–	39	916	965	–	2	2	260
Nebr.	–	19	3	–	2	–	3	52	2,488	2,432	–	5	6	151
Kans.	2	90	1	–	2	–	9	84	5,034	5,278	–	20	14	158
S. ATLANTIC	105	4,054	14	1	48	22	588	4,101	170,373	169,400	152	5,539	4,317	373
Del.	–	54	1	–	–	–	2	40	2,697	2,412	1	11	10	1
Md.	11	411	–	–	14	3	53	371	19,498	18,360	12	407	315	24
D.C.	4	250	–	–	1	–	–	200	9,820	11,989	19	446	317	–
Va.	7	418	2	–	1	1	99	344	15,594	15,161	3	474	392	75
W. Va.	2	127	–	–	5	–	5	72	2,575	2,295	–	16	15	17
N.C.	20	718	4	–	1	16	256	634	26,256	24,150	5	418	298	9
S.C.	5	370	3	–	–	1	97	384	16,527	15,991	6	358	240	26
Ga.	27	676	4	–	4	–	67	814	35,479	32,605	35	1,415	1,240	160
Fla.	29	1,030	–	1	22	1	9	1,242	41,927	46,437	71	1,994	1,490	61
E.S. CENTRAL	43	1,626	7	–	7	7	115	1,427	57,469	55,202	33	1,380	1,477	326
Ky.	6	411	2	–	–	–	2	88	7,042	8,102	3	68	103	99
Tenn.	16	546	5	–	3	5	74	604	21,832	19,869	15	515	619	162
Ala.	12	431	–	–	2	1	16	518	17,680	16,280	9	400	309	65
Miss.	9	238	–	–	2	1	23	217	10,915	10,951	6	397	446	–
W.S. CENTRAL	71	2,099	80	1	49	2	155	2,746	90,875	86,207	146	5,092	3,608	866
Ark.	6	225	42	–	5	–	31	144	6,738	6,782	1	111	123	117
La.	25	387	2	–	2	–	–	438	15,615	15,694	57	1,195	876	30
Okla.	3	244	24	1	4	1	93	239	9,822	8,642	1	114	69	173
Tex.	37	1,243	12	–	38	1	31	1,925	58,700	55,089	87	3,672	2,540	546
MOUNTAIN	6	520	33	–	22	–	27	589	26,198	26,353	18	534	437	184
Mont.	–	27	5	–	4	–	12	21	968	1,010	–	11	2	89
Idaho	1	7	4	–	–	–	5	47	1,212	1,139	–	17	15	3
Wyo.	–	9	1	–	–	–	6	32	638	775	–	7	8	13
Colo.	1	56	8	–	8	–	–	170	7,054	7,109	5	158	115	28
N. Mex.	3	103	3	–	–	–	–	48	2,837	3,251	1	94	74	27
Ariz.	1	237	–	–	9	–	–	103	7,733	7,092	12	135	154	15
Utah	–	40	11	–	1	–	1	31	1,295	1,297	–	21	11	6
Nev.	–	41	1	–	–	–	3	137	4,461	4,680	–	91	58	3
PACIFIC	108	3,612	6	–	105	–	5	3,106	105,289	113,485	74	2,858	3,486	430
Wash.	3	274	1	–	3	–	1	292	8,817	9,609	–	94	176	12
Oreg.	5	135	–	–	4	–	–	224	6,409	7,645	5	68	71	8
Calif.	93	3,058	5	–	97	–	4	2,435	85,203	91,256	68	2,640	3,118	396
Alaska	–	44	–	–	–	–	–	68	2,703	2,722	–	9	7	14
Hawaii	7	101	–	–	1	–	–	87	2,157	2,253	1	47	114	–
Guam	NA	7	–	NA	–	NA	–	NA	47	89	NA	–	4	–
P.R.	–	219	–	–	4	–	–	75	2,130	1,888	19	449	413	54
V.I.	NA	1	–	NA	6	NA	–	NA	131	108	NA	15	10	–
Pac. Trust Terr.	NA	38	–	NA	–	NA	–	NA	257	282	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 September 12, 1981 (36th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	597	409	128	31	11	18	48
Boston, Mass.	181	107	48	16	5	5	22
Bridgeport, Conn.	55	37	10	2	2	4	12
Cambridge, Mass.	28	22	6	–	–	–	2
Fall River, Mass.	18	14	4	–	–	–	1
Hartford, Conn.	41	24	10	3	2	2	–
Lowell, Mass.	21	15	5	1	–	–	–
Lynn, Mass.	13	9	3	1	–	–	–
New Bedford, Mass.	21	16	4	1	–	–	4
New Haven, Conn.	40	26	12	1	–	1	–
Providence, R.I. §	60	56	–	2	–	2	4
Somerville, Mass.	14	8	6	–	–	–	2
Springfield, Mass.	37	25	5	2	2	3	–
Waterbury, Conn.	28	20	6	–	–	–	1
Worcester, Mass.	40	30	7	2	–	1	–
MID. ATLANTIC	2,272	1,479	457	149	62	61	83
Albany, N.Y.	56	39	11	2	2	2	1
Allentown, Pa.	17	14	3	–	–	–	–
Buffalo, N.Y. §	125	112	–	4	3	4	11
Camden, N.J.	25	16	5	–	2	2	–
Elizabeth, N.J.	29	19	10	–	–	–	–
Erie, Pa.†	22	14	5	3	–	–	1
Jersey City, N.J.	61	43	12	3	3	–	–
N.Y. City, N.Y.	1,290	837	291	100	37	25	40
Newark, N.J.	49	25	9	7	3	5	3
Paterson, N.J.	21	13	5	1	–	2	2
Philadelphia, Pa.†	192	117	41	14	6	14	8
Pittsburgh, Pa.†	77	50	21	3	–	3	2
Reading, Pa.	24	22	2	–	–	–	–
Rochester, N.Y.	93	65	18	5	4	1	7
Schenectady, N.Y.	24	18	5	1	–	–	–
Scranton, Pa.†	12	7	4	–	1	–	2
Syracuse, N.Y.	51	21	4	1	–	2	3
Trenton, N.J.	30	23	4	1	1	1	–
Utica, N.Y.	14	10	3	1	–	–	3
Yonkers, N.Y.	21	14	4	3	–	–	–
E.N. CENTRAL	2,015	1,258	475	154	58	74	42
Akron, Ohio	85	51	20	8	1	5	2
Canton, Ohio	31	20	10	–	–	1	1
Chicago, Ill.	510	314	109	50	22	15	10
Cincinnati, Ohio	68	53	12	1	–	2	4
Cleveland, Ohio	158	92	46	10	3	7	4
Columbus, Ohio	139	83	35	5	7	9	3
Dayton, Ohio	95	66	16	5	3	5	–
Detroit, Mich.	223	136	51	22	7	7	3
Evansville, Ind.	45	35	9	–	1	–	1
Fort Wayne, Ind.	30	16	11	1	–	2	3
Gary, Ind.	9	5	2	1	–	1	–
Grand Rapids, Mich.	40	30	4	4	–	2	–
Indianapolis, Ind.	143	83	35	16	2	7	1
Madison, Wis.	31	20	6	4	–	1	1
Milwaukee, Wis.	121	81	28	6	4	2	–
Peoria, Ill.	35	23	7	3	1	1	–
Rockford, Ill.	46	28	12	5	1	–	3
South Bend, Ind.	43	28	8	2	2	3	2
Toledo, Ohio	110	59	35	7	3	2	4
Youngstown, Ohio	57	35	15	4	1	2	–
W.N. CENTRAL	626	397	144	28	28	29	18
Des Moines, Iowa	44	32	10	1	1	–	–
Duluth, Minn.	8	6	–	1	–	1	–
Kansas City, Kans.	26	12	10	2	2	–	1
Kansas City, Mo.	119	74	29	5	3	8	5
Lincoln, Nebr.	22	15	4	2	–	1	1
Minneapolis, Minn.	65	45	13	3	1	3	1
Omaha, Nebr.	67	44	15	4	1	3	3
St. Louis, Mo.	155	101	29	6	11	8	2
St. Paul, Minn.	60	38	19	1	2	–	–
Wichita, Kans.	60	30	15	3	7	5	5

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	955	549	253	83	44	30	34
Atlanta, Ga.	112	58	29	15	8	2	2
Baltimore, Md.	101	59	25	10	4	3	4
Charlotte, N.C.	48	28	12	4	2	2	2
Jacksonville, Fla.	93	59	20	6	3	5	3
Miami, Fla.	124	60	45	12	1	6	2
Norfolk, Va.	67	43	10	7	4	3	2
Richmond, Va.	62	40	15	–	3	–	6
Savannah, Ga.	33	18	11	3	–	1	6
St. Petersburg, Fla.	60	49	5	3	3	–	1
Tampa, Fla.	61	33	20	3	3	2	4
Washington, D.C.	152	73	48	16	11	4	2
Wilmington, Del.	46	29	9	4	2	2	–
E.S. CENTRAL	524	303	126	34	26	35	24
Birmingham, Ala.	80	55	10	7	3	5	3
Chattanooga, Tenn.	43	26	13	–	2	2	5
Knoxville, Tenn.	38	19	11	4	4	–	2
Louisville, Ky.	65	38	21	4	1	1	3
Memphis, Tenn.	163	93	36	10	6	18	6
Mobile, Ala.	37	20	12	3	1	1	2
Montgomery, Ala.	19	11	4	1	2	1	1
Nashville, Tenn.	79	41	19	5	7	7	2
W.S. CENTRAL	576	358	245	74	47	52	38
Austin, Tex.	44	25	10	3	4	2	5
Baton Rouge, La.	42	25	13	1	3	–	2
Corpus Christi, Tex.	41	21	10	1	5	4	–
Dallas, Tex.	152	81	36	22	6	7	–
El Paso, Tex.	38	24	11	–	2	1	2
Fort Worth, Tex.	87	52	17	3	1	14	6
Houston, Tex.	151	79	45	14	10	3	2
Little Rock, Ark.	50	30	9	3	3	5	5
New Orleans, La.	123	71	31	12	4	5	2
San Antonio, Tex.	126	69	34	11	5	7	7
Shreveport, La.	57	41	13	3	–	–	2
Tulsa, Okla.	65	40	16	1	4	4	5
MOUNTAIN	602	326	134	63	47	32	23
Albuquerque, N.Mex.	108	32	17	18	30	11	4
Colo. Springs, Colo.	28	15	9	2	2	–	5
Denver, Colo.	104	53	26	17	4	4	2
Las Vegas, Nev.	65	29	20	8	3	5	4
Ogden, Utah	17	11	5	–	–	1	–
Phoenix, Ariz.	123	81	28	6	3	5	2
Pueblo, Colo.	28	20	4	3	–	1	5
Salt Lake City, Utah	50	32	5	8	3	2	–
Tucson, Ariz.	79	53	20	1	2	3	1
PACIFIC	1,298	800	304	99	53	40	52
Berkeley, Calif.	8	6	–	2	–	–	–
Fresno, Calif.	62	38	11	4	7	2	3
Glendale, Calif.	6	5	1	–	–	–	–
Honolulu, Hawaii	59	33	16	4	5	1	5
Long Beach, Calif.	69	35	19	5	1	5	–
Los Angeles, Calif.	267	169	54	26	12	6	5
Oakland, Calif.	53	25	15	10	–	3	2
Pasadena, Calif.	37	24	8	3	–	2	1
Portland, Oreg.	114	74	28	2	6	4	1
Sacramento, Calif.	67	42	16	4	2	3	4
San Diego, Calif.	126	72	31	11	4	6	5
San Francisco, Calif.	115	78	23	9	4	1	2
San Jose, Calif.	121	73	33	8	6	1	9
Seattle, Wash.	99	63	24	9	2	1	1
Spokane, Wash.	60	32	19	1	4	4	7
Tacoma, Wash.	35	27	6	1	–	1	7
TOTAL	9,874††	6,079	2,266	715	376	371	362

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

**Pneumonia and influenza

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

††Total includes unknown ages.

§Data not available this week. Figures are estimates based on average percent of regional totals.

Measles – Continued

Transmission of measles to persons in the United States was documented for 37 (25.3%) of the 146 importations. Large measles outbreaks occurred in Florida, New York (*1*), Utah, and Virginia (*2*). However, in most instances transmission was limited.

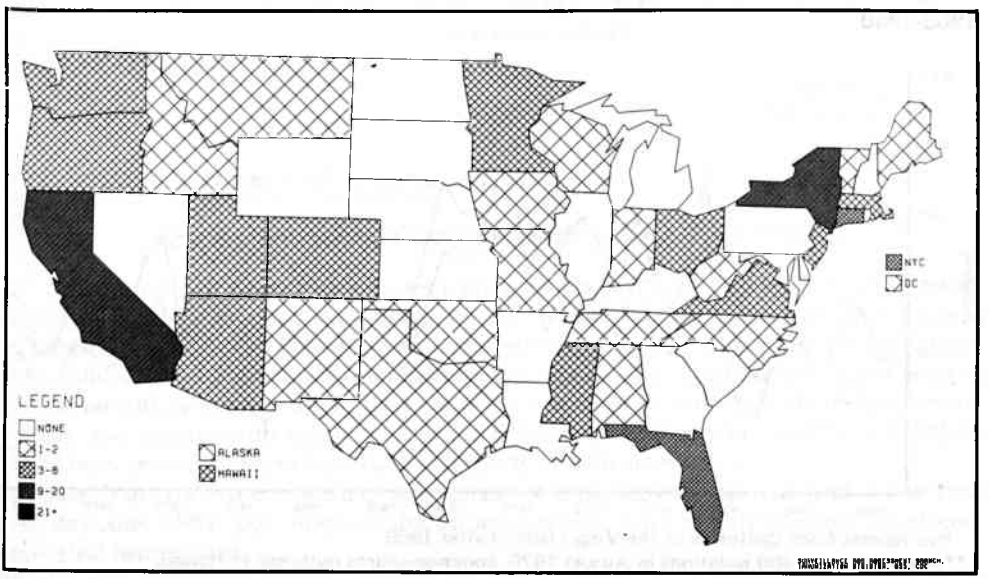
Reported by Quarantine Div, Immunization Div, Center for Prevention Svcs, CDC.

Editorial Note: Measles importations have been a continuing source of reported measles cases in the United States. In the 18-month period discussed here, the substantial decline in total measles cases led to a rise in the proportion of imported cases. However, the risk of measles from foreign sources appears to be low and relatively constant throughout the year. Figure 2 indicates the widespread reports of importations in the United States. Communities can protect themselves against transmission from imported measles by achieving and maintaining high immunization levels (*3*). Continuing intensive surveillance and rapid response to importations are also important.

A rising proportion of imported cases have occurred among U.S. citizens returning from travel abroad. Therefore, it is suggested that U.S. residents be immune to measles before they travel outside the United States. Measles vaccine is particularly indicated for persons ≥15 months of age who were born after 1956 and who do not have adequate evidence of measles immunity (*4*). When risk of exposure abroad is considered great, infants as young as 6 months of age may be vaccinated. Children who were vaccinated before their first birthday should be revaccinated when they are approximately 15 months of age.

Every state requires that a child be immune to measles before he/she enters school. Proof consisting of a written record is needed at the time children are enrolled (*5*). Therefore, children who enter the United States and plan to enroll in school should be vaccinated against measles (unless contraindicated), and retain written documentation. It is suggested that children who do not plan to enroll in school (e.g., tourists, preschoolers) also be immune to measles before entering the United States.

FIGURE 2. Number of measles importations, by reporting area, United States, December 30, 1979-July 4, 1981



Measles – Continued

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Shigellosis – United States, 1980

The number of *Shigella* isolates reported to CDC's *Shigella* Surveillance Activity each year has continued to decline from the most recent peak in 1978 (Figure 3).

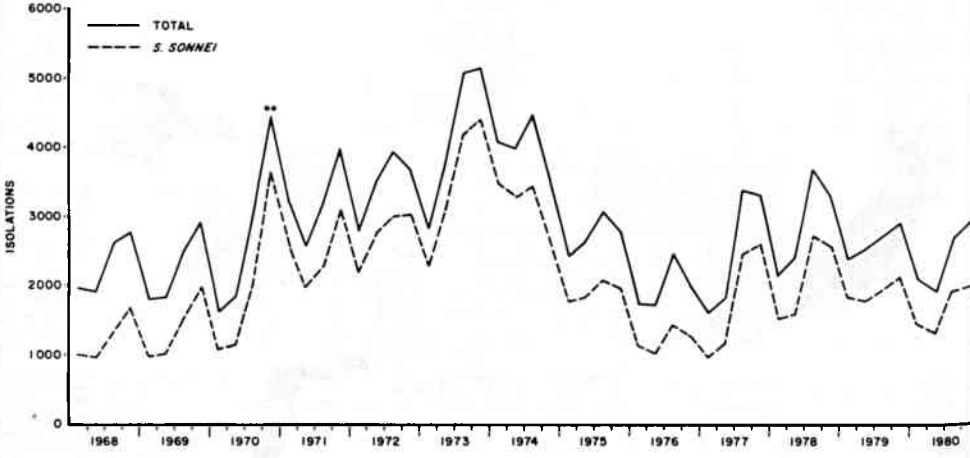
In 1980, the highest rate of reported *Shigella* isolations was for 2-year-old children (Figure 4). A higher isolation rate was reported for women than men in the 20-29 year age group; otherwise, the isolation rates by sex were similar. Isolations peaked in the fall months.

Of the isolates reported by week and/or month in 1980,* 69.4% were *S. sonnei*; 27.0%, *S. flexneri*; 1.9%, *S. boydii*; and 0.8%, *S. dysenteriae*. *S. flexneri* 2a and 3a comprised 46.2% of all *S. flexneri* subtyped.

Because certain population groups have recurrent problems with shigellosis, available national data were tabulated separately for some institutions (including such facilities as nursing homes and other resident-care centers) and American Indian reservations. Forty-eight percent of reports included data on residence of the patient at the time of onset of illness; of these, 1.4% lived in institutions, 1.5% on Indian reservations, and the rest in other types of communities. Ninety-three percent of the isolates from residents of institutions were *S. sonnei*, and 7%, *S. flexneri*. In contrast, only 41% of the isolates

*Excluding California, which reports only yearly totals.

FIGURE 3. *Shigella* – **reported isolations from humans, by quarter, United States,* 1968-1980**



*No reports from California or the Virgin Islands after 1969.

**Approximately 400 isolations in August 1970, common-source outbreak in Hawaii.

Shigellosis – Continued

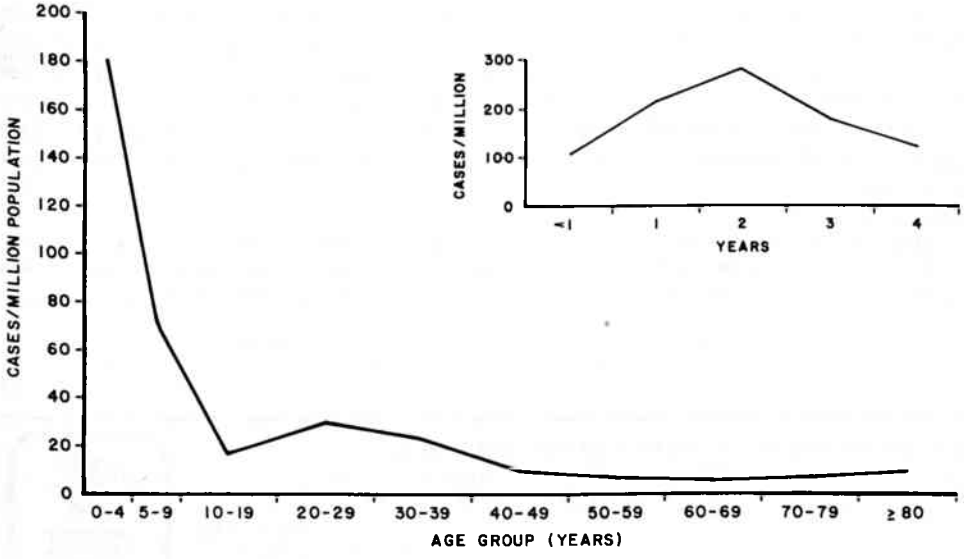
from residents of Indian reservations were *S. sonnei,* and 58% were *S. flexneri.* Seventy-four percent of the isolates from residents of other communities were *S. sonnei,* and 23%, *S. flexneri.*

For the years 1977 through 1980, the number of reported isolations each year, including those from California, were 14,019, 15,336, 15,265, and 14,168, respectively.

Reported by Enteric Diseases Div, Bacterial Diseases Div, Center for Infectious Diseases, CDC.

Editorial Note: This report is based on CDC's *Shigella* Surveillance Activity, a passive, laboratory-based system that receives reports from the 50 states and the District of Columbia. These reports do not distinguish between clinical or sub-clinical infections or between chronic or convalescent carriers.

FIGURE 4. Rate of reported isolates of *Shigella*, by age, United States,* 1980



*Excludes California.

Epidemiologic Notes and Reports

Acute Hemorrhagic Conjunctivitis – Key West, Florida

An outbreak of acute hemorrhagic conjunctivitis (AHC) in Key West, Florida, a city of 24,292 people, is under investigation by county and state health officials. In the period September 4-14, 1981, 60 cases were reported—many among school-age and pre-school-age children. The 1 practicing ophthalmologist in Key West described the illness as being characterized by sudden onset, bilateral involvement, often with subconjunctival hemorrhage, and usually with recovery after a 3-5 day course. Secondary cases in households have been common. There have been no reports of radiculomyelitis.

Health officials report that a large outbreak of conjunctivitis also occurred in Key West in May-June 1981, but illness in the earlier outbreak was not characterized by subconjunctival hemorrhage.

Hemorrhagic Conjunctivitis — Continued

Reported by HL Stewart, MD, Key West; H Johnson, RN, I Stanley, RN, R Petrov, RN, HO Garcia, MD, Monroe County Health Unit, RA Gunn, MD, MPH, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs; Viral Diseases Div, Center for Infectious Diseases, Field Services Div, Epidemiology Program Office, CDC.

Editorial Note: This outbreak may represent a northward extension of the large outbreak of hemorrhagic conjunctivitis recently reported from the following countries in South and Central America (*1*): Belize, Brazil, Colombia, Cuba, Guyana, Honduras, Surinam, Guatemala, and Trinidad and Tobago. In this area of the Western Hemisphere, AHC was first recognized in Macapá at the mouth of the Amazon River in Brazil in late February 1981. It soon spread to the cities of Belém and Manaus. The attack rate for affected populations was greater than 40%. Concurrent with outbreaks in the Western Hemisphere, extensive epidemics of AHC were occurring in India and Pakistan in May and June.

Serologic tests of 20 pairs of acute- and convalescent-phase serum specimens from Belém and Macapá, Brazil, revealed 3 with a 4-fold rise in hemagglutination-inhibition titer to adenovirus 8, 1 with seroconversion to adenovirus 7, and 6 with a 4-fold rise in serum neutralization titer to enterovirus 70. Three of 9 convalescent-phase serum specimens from northern Honduras showed high titers (80) to enterovirus 70. These results, although preliminary, suggest that these outbreaks may be caused by more than 1 viral agent (*2*).

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