CENTER FOR DISEASE CONTROL

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MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Measles — United States

There has been a 62% increase in reported cases of measles in the United States in the last year – 39,585 cases in 1976, as compared to 24,374 in 1975. During the first 12 weeks of 1977, 16,348 cases of measles have been reported, a 62% increase over the 10,075 cases reported during the corresponding 12-week period in 1976. During 1976, 3 states—Idaho, Utah, and Wisconsin—reported a measles incidence of over 250 cases per 100,000 population less than 18 years of age. Idaho had the highest incidence (722.8 cases per 100,000), more than 12 times the national average (59.0 per 100,000). Five states—North Dakota, North Carolina, South Carolina, Georgia, and Alabama—reported a measles incidence of less than 2 cases per 100,000. Such variation among states may be explained, at least in part, by differences in surveillance techniques employed and by the expected cyclic fluctuation of measles activity within a given state.

States with school immunization laws have continued to maintain lower measles incidence than states without such laws (Table 1). As of September 1976, 3 states – Idaho, Iowa, and Wyoming – had neither school laws nor required immunization regulations on a state or local basis.

Data from those states which report measles by age reveal a recent shift to a greater proportion of cases in older age groups. In 1973, 35.0% of cases reported by age occurred in children 10 years of age or older compared with 48.8% in 1975 (Table 2). A comparison of rates in the early 1960s to those in the 1970s reveals a decreased incidence of measles in all age groups; the largest reduction is in the 1- to 4 and 5- to 9-year-old age groups (Table 3).

From 1963, when measles vaccine was licensed, through 1976, 88.5 million net doses of live measles vaccine were distributed in the United States – 18.9 million doses of Edmonston B vaccine and 69.6 million doses of the further attenuated strains. Since 1973, more than 7 million doses have been distributed per year. (Births have averaged 3.2 million annually.) The 1975 United States Immunization Survey revealed that 68.6% of the population 1-13 years of age had a history of measles immunization, an increase of 4.9% since 1973 (*1*). Immunization levels have increased in all age, race, and socioeconomic groups during the 3-year period from 1973 to 1975. Immunization levels, however, may vary widely from community to community and within communities.

TABLE 2. Distribution of reported measles cases by age, United States, 1973-1975

Age Group	1973 Cases With Known Age	%	1974 Cases With Known Age	%	1975 Cases With Known Age	%
0-4	4,165	27.2	3,855	26.8	3,047	19.9
5-9	5,788	37.8	3,527	24.4	4,794	31.3
10-14	3,789	24.7	5,106	35.3	4,996	32.7
15+	1,573	10.3	1,953	13.5	2,458	16.1
Total with Known Age	15,315	100.0	14,471	100.0	15,295	100.0
Unknown Age	11,375		7,623		9,079	

Of 1,248 cases from 14 recently investigated outbreaks, 511 (40.9%) gave a history of previous measles vaccination. The majority (59.1%) had no history of prior measles illness or measles immunization. Vaccine efficacy studies have continued to reveal efficacies of about 90% in epidemic situations (*2*).

Reported by Immunization Div, Bur of State Services, and Field Services Div, Bur of Epidemiology, CDC.

Editorial Note: The observation that an apparently large proportion of measles cases occurred among persons who were vaccinated does not necessarily suggest any problem with vaccine potency, inadequate immunologic response, or waning immunity. On the contrary, the only direct measurement of protection conferred by immunization is the

TABLE 1. Measles incidence and school-entry immunization requirement for measles, September 1973-September 1974, United States

	1973				1974			
	Number	Population <18 years (thousands)	Number of Cases in 1974**	Rate/100,000 Population <18 years	Number	Population <18 years (thousands)	Number of Cases in 1975	Rate/100,000 Population <18 years
States with laws*	35	51,789	13,745	26.5	40	57,812	19,139	33.1
States without laws	16	15,477	8,349	53.9	11	9,454	5,235	55.4
Total	51	67,266	22,094	32.8	51	67,266	24,374	36.2

*Includes District of Columbia
**Includes cases of all ages

TABLE 3. Incidence of reported measles cases per 100,000 population by 5-year age groups in 5 U.S. areas reporting for the years 1960-1964 and 1971-1975*

Age Group	1960-1964 Total Cases	1960-1964 % Total	1960-1964 Cases/100,000 Population	1971-1975 Total Cases	1971-1975 % Total	1971-1975 Cases/100,000 Population	% Decrease in Cases/ 100,000 from 1960-1964 to 1971-1975
0-4	93,653	37.2	3,830.2	9,092	34.6	436.6	88.6
5-9	132,956	52.8	6,184.3	8,904	33.8	381.0	93.8
10-14	16,403	6.5	845.3	4,735	18.0	199.1	76.4
15+	8,635	3.4	50.1	3,581	13.6	19.2	61.7
Total	251,647	100.0		26,312	100.0		

*New York City, Illinois (exclusive of Chicago), The District of Columbia, Massachusetts, and Chicago.

computation of a "vaccine efficacy rate" derived by comparing attack rates among the vaccinated with attack rates among the unvaccinated in measles epidemics. Results of such computations for recent epidemics demonstrate efficacy rates of 90% or more indicating that measles vaccine is highly effective, though not perfect (*2*).

The reason for the increasing number of measles cases is complex and not entirely clear. There is no evidence of a change in virus. Rising overall national immunization levels and high annual measles vaccine dose distribution may not reflect true immunity levels in subpopulations.

Approximately 95% of children inoculated at the appropriate age with live, further-attenuated, measles vaccine develop antibodies. Recent studies indicate that these antibodies persist for at least 14 years (*3*).

Perhaps the most important cause for increased incidence in older children is the gradual accumulation of susceptibles over the years during which measles transmission has been significantly suppressed. Explanations for observed vaccine "failures" include vaccinating: (1) at less than the optimal age (when maternal antibodies may interfere), (2) with simultaneous use of gamma globulin and further attenuated measles vaccine (when similar interference occurs), or (3) with an impotent vaccine after improper vaccine storage or handling. A cause of apparent vaccine "failure" is inaccurate parental recall of the vaccination history, in which an unvaccinated child is alleged to have been vaccinated (*4,5*).

In recent studies, lower rates of seropositivity have been observed among persons vaccinated at 12 months of age than among those vaccinated at 14 months of age or older (*6*). These data have prompted both the Public Health Service Advisory Committee on Immunization Practices and the Committee on Infectious Diseases of the American Aca-

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

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

DISEASE	13th WEEK ENDING April 2, 1977	13th WEEK ENDING April 3, 1976	MEDIAN 1972–1976	CUMULATIVE, FIRST 13 WEEKS April 2, 1977	CUMULATIVE, FIRST 13 WEEKS April 3, 1976	CUMULATIVE, FIRST 13 WEEKS MEDIAN 1972–1976
Aseptic meningitis	43	34	34	467	464	458
Brucellosis	6	2	3	45	60	28
Chickenpox	6,636	5,727	—	76,571	71,574	—
Diphtheria	4	1	3	18	85	60
Encephalitis: Primary	14	16	16	154	196	196
Encephalitis: Post-Infectious	2	12	6	26	66	60
Hepatitis, Viral: Type B	293	269	189	3,897	3,500	2,421
Hepatitis, Viral: Type A	652	678	792	8,374	9,000	11,085
Hepatitis, Viral: Type unspecified	197	194		2,397	2,222	
Malaria	6	4	4	77	79	68
Measles (rubeola)	2,363	1,503	1,178	18,646	11,578	9,191
Meningococcal infections, total	31	41	41	579	502	448
Civilian	31	41	41	576	498	435
Military	-	-	1	3	4	13
Mumps	656	1,376	1,738	7,564	16,298	22,060
Pertussis	6	24	---	164	281	---
Rubella (German measles)	916	495	619	7,029	4,574	4,574
Tetanus	1	-	2	8	7	14
Tuberculosis	581	720	---	7,195	7,805	---
Tularemia	-	1	2	15	27	26
Typhoid fever	5	7	7	82	85	85
Typhus, tick-borne (Rky. Mt. spotted fever)	5	2	1	24	7	12
Venereal Diseases:						
Gonorrhea: Civilian	15,785	17,454	---	230,341	241,078	---
Gonorrhea: Military	508	465	---	6,492	7,349	---
Syphilis, primary and secondary: Civilian	339	475	---	5,530	6,569	---
Syphilis, primary and secondary: Military	6	15	---	75	97	---
Rabies in animals	53	71	84	573	537	695

Table II. Notifiable Diseases of Low Frequency: United States

	CUM.		CUM.
Anthrax:	-	Poliomyelitis, total:	2
Botulism: Calif. 1	10	Paralytic:	2
Congenital rubella syndrome:	2	Psittacosis: Ariz. 1	11
Leprosy: Hawaii 2	28	Rabies in man:	-
Leptospirosis:	10	Trichinosis: Mass. 1, N.J. 5, Iowa 1	31
Plague:	1	Typhus, murine: Hawaii 1	10

demy of Pediatrics to recommend that routine measles vaccination be postponed until 15 months of age (*7*).

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Epidemiologic Notes and Reports

Follow-up on Legionnaires' Disease

CDC Report: One strain of the bacterial agent of Legionnaires' disease has been tested at CDC *in vitro* for sensitivity to antimicrobial agents using an agar dilution technique. Three different inocula (10^4, 10^5, 10^6 colony-forming units) were plated on Mueller-Hinton agar supplemented with 1% hemoglobin and 1% IsoVitaleX in addition to the antimicrobial agent. Minimum inhibitory concentrations (MICs) were determined after 3-days' growth (Table 4). The inoculum effect on the MIC was minimal. The MICs for several antimicrobics are shown in the enclosed table. Growth in liquid media was inadequate to permit tube dilution testing.

In general, all drugs except vancomycin, tetracycline, and methicillin are within what is generally considered to be a "susceptible range." On the basis of the MICs, the organism would be considered resistant to vancomycin and of borderline resistance to tetracycline and methicillin. These results should be interpreted with caution because the results of *in vitro* testing do not always correlate with the *in vivo* response to treatment.

Reported by the Antimicrobics Investigation Section, Bacteriology Div, Bur of Laboratories, and Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The medical records of 94 hospitalized patients with Legionnaires' disease, including those of all 26 Legionnaires who died, have been reviewed. The case-fatality rate was higher in those treated with cephalothin or steroids; however, these patients had initial physical and laboratory findings which reflected severe illness and probability of death. This suggests that these drugs were used in cases with poor prognosis. The case-fatality rates in patients treated with tetracycline (6%) or erythromycin (8%) were relatively low, but a confounding effect of milder clinical illness in these patients could not be excluded.

Although available clinical and *in vitro* testing results with erythromycin are encouraging, data are insufficient for a firm recommendation yet regarding the best choice of antibiotics to treat infection with the agent of Legionnaires' disease.

Michigan Report: A bacterium closely related or identical to the agent of Legionnaires' disease was isolated by a hospital laboratory from the pleural fluid of a 39-year-old woman from Flint, Michigan, who subsequently died. This is the first report of the direct *in vitro* isolation of this organism from a patient.

The woman, on a maintenance dose of 60 mg/day of prednisone because of systemic lupus erythematosis, was admitted to the hospital for abdominal pain and suspected cholecystitis on December 10, 1976. No etiology for the abdominal pain could be found, but she improved clinically and was discharged 6 days later. She remained at home for the next week except for several shopping trips in Flint. On December 23, 1976, she developed chills, chest pain, cough, and fever of 105 F; she was admitted to the hospital 2 days later.

TABLE 4. Minimum inhibitory concentrations of antimicrobics to the Legionnaires' disease agent in agar dilution testing

Antimicrobic	MIC (μg/ml)
Penicillin	1.0
Ampicillin	1.0
Methicillin	4.0
Carbenicillin	≤16.0
Cephalothin	≤8.0
Cefamandole	8.0
Cefoxitin	≤8.0
Chloramphenicol	≤0.5
Erythromycin	≤0.5
Clindamycin	1.0
Tetracycline	4.0
Minocycline	≤1.0
Amikacin	≤0.5
Gentamicin	≤0.5
Kanamycin	0.5
Streptomycin	≤2.0
Tobramycin	≤0.5
Colistin	4.0
Rifampin	≤0.25
Sulfamethoxazole-trimethoprim	≤2.4/0.12
Vancomycin	8.0

She had findings of delirium and a unilateral pneumonia. Electrolytes were normal; BUN was 14 mg/dl, hemoglobin was 17 gm/dl, WBC count was 14,400/mm^3 with 76% neutrophils, 2% bands, and 22% lymphocytes. Left lower lobe consolidation was seen on chest X-ray. Sputum and blood cultures were obtained and cephalothin administered. A lumbar puncture revealed 3 neutrophils/mm^3; protein, 17 mg/dl; and glucose, 101 mg/dl. Within the next 3 days she developed extensive bilateral pulmonary consolidation with a pleural effusion on the left. She became progressively more hypoxic and required mechanical ventilation. A thoracentesis on the fourth hospital day yielded a few milliliters of bloody fluid. Despite continued ventilatory support, she expired on the sixth hospital day. Cultures of the blood were sterile, and sputum yielded normal flora. From a culture of pleural fluid, 2 types of colonies of fastidious organisms were recovered: 1 was lost; the other, a slowly growing gram-negative bacillus, was difficult to characterize. The isolate was submitted to the Michigan state laboratory and to CDC for identification. A similar organism was also isolated from lung tissue at autopsy.

These organisms were isolated on a commercially prepared chocolate agar (Gibco). The medium contained an enrichment similar to that used in the medium on which the agent of Legionnaires' disease was first cultured (MMWR 26[12], 1977).

The growth requirements, colonial morphology, production of pigment, and other gross and microscopic characteristics of the Flint isolate are similar to those of previous isolates from cases of Legionnaires' disease. In a fluorescent antibody test employing well characterized sera from a Legionnaire case, the Flint isolate stained with the same brightness and in the same titer as the reference Legionnaire strains. The results of inoculation of guinea pigs and yolk sacs with the Flint isolate are pending.

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Editorial Note: Previous isolations of the agent of Legionnaires' disease have employed passage of tissue suspensions through guinea pigs before successful growth on artificial media. Direct culture of pleural fluid on a commercially available medium in this case was the first instance in which the agent was successfully isolated *in vitro*.

The mode of spread and natural reservoir of the agent of Legionnaires' disease is unknown. The patient had not recently traveled to areas of previous outbreaks attributed to the agent of Legionnaires' disease: Philadelphia, the District of Columbia, and Pontiac, Michigan. None of her family contacts had had a compatible clinical illness. CDC is aware of 4 other patients with pneumonia and diagnostic rises in antibody to the agent of Legionnaires' disease who had not traveled to known areas of presumed risk. (No organisms were recovered in these 4 cases.) In these non-outbreak associated cases, no common risk factors have been identified.

Influenza B — Nashville, Tennessee

An outbreak of influenza B occurred during January among students attending Vanderbilt University in Nashville, Tennessee (MMWR 26 [3,4], 1977). A telephone survey of 196 randomly selected students, conducted during the first week of February concerning a recent influenza-like illness, found that 59 (30%) reported symptoms consistent with influenza.

From January 10 to February 5, influenza B/Hong Kong was isolated from 75 students visiting the Vanderbilt Student Health Center. The specimens were collected by throat washings and grown on a continuous canine kidney cell line at Vanderbilt's Pediatric Virology Laboratory. Ten of these students were interviewed (Table 5). Their median length of illness was 4.5 days with a range of 3 to 8 days.

For survey purposes, a case of influenza was defined as an individual having any 2 of the 4 following symptoms during the period December 25-February 2: fever, cough, myalgia, and sore throat. Fifity-nine (30%) of the 196 students fit the case definition (Table 5). Of the other 137 students, 18 reported illness which did not fit the case definition, and 119 had had no illness. Among cases, 22 (37%) saw a doctor during their illness. The median length of illness was 6 days with a range of 2 to 22 days.

The dates of onset for the cases were rather evenly distributed over the last 3 weeks of January (Figure 1).

TABLE 5. Frequency of symptoms among known influenza B patients and patients with influenza-like illness, Tennessee, December 25, 1976 — February 2, 1977

Symptom	% in Confirmed Influenza B Cases (N=10)	% in Influenza Survey Cases (N=59)
Malaise	70	90
Cough	80	86
Rhinitis	63*	86
Headache	80	75
Fever	100	61
Myalgia	80	59
Chills	70	49
Sore Throat	80	69
Arthalgia	50	41
Nausea or Vomiting	20	24
Diarrhea	0	24

*1 case did not respond to this question

On-campus residents were at a significantly higher risk of having an influenza-like illness than off-campus students (Table 6) ($p < .05$ by chi square). There was no significant difference between sexes. Out of 102 household contacts of cases, 48 (47%) had had a similar illness.

Of the 196 students, 87 gave a history of monovalent A/New Jersey immunization, and 2 remembered getting B/Hong Kong immunizations within the preceding year. These 2 were not cases.

TABLE 6. Distribution of influenza cases, by residence

Place of Residents	Cases	Total No. of Students in Survey	Attack Rate (%)
Dorm	40	108	37
Off-Campus	19	88	22
Total	**59**	**196**	**30**

$p < .05$

FIGURE 1. Distribution of influenza B cases by 2-day interval of onset, Vanderbilt University students, 1976-1977.

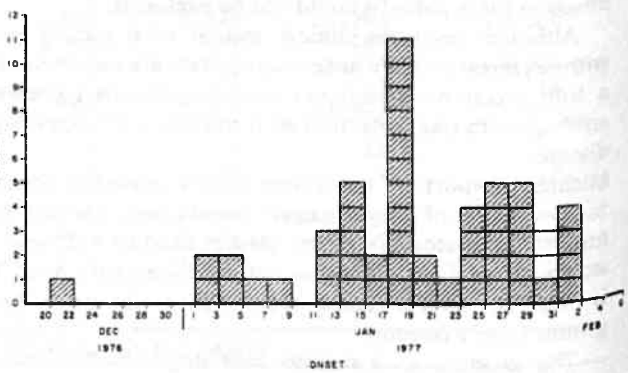

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Table III
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 2, 1977 and April 3, 1976 — 13th Week

AREA REPORTING	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS Primary: Arthropod-borne and Unspecified		ENCEPHALITIS Post Infectious	HEPATITIS, VIRAL Type B	HEPATITIS, VIRAL Type A	HEPATITIS, VIRAL Type Unspecified	MALARIA	
	1977	1977	1977	1977	CUM. 1977	1977	1976	1977	1977	1977	1977	1977	CUM. 1977
UNITED STATES	43	6	6,636	4	18	14	16	2	293	652	197	6	77
NEW ENGLAND	–	–	791	–	–	1	2	–	8	16	12	–	4
Maine	–	–	7	–	–	–	–	–	–	–	–	–	–
New Hampshire*	–	–	20	–	–	–	–	–	–	1	–	–	–
Vermont	–	–	–	–	–	–	–	–	–	1	–	–	–
Massachusetts	–	–	289	–	–	1	2	–	1	2	10	–	2
Rhode Island	–	–	208	–	–	–	–	–	2	5	–	–	1
Connecticut	–	–	267	–	–	–	–	–	5	7	2	–	1
MIDDLE ATLANTIC	3	–	481	–	5	5	–	1	55	64	34	2	18
Upstate New York	1	–	263	–	–	1	–	1	11	24	7	–	5
New York City	–	–	122	–	5	1	–	–	24	18	12	1	10
New Jersey	–	–	NN	–	–	–	–	–	10	10	12	1	2
Pennsylvania	2	–	96	–	–	3	–	–	10	12	3	–	1
EAST NORTH CENTRAL	2	–	2,633	–	–	2	6	1	33	85	13	–	5
Ohio	–	–	86	–	–	–	4	–	1	15	–	–	3
Indiana	–	–	283	–	–	–	–	–	9	11	7	–	–
Illinois	–	–	674	–	–	2	–	–	14	38	–	–	1
Michigan	1	–	892	–	–	–	2	–	6	18	6	–	1
Wisconsin*	1	–	698	–	–	–	–	1	3	3	–	–	–
WEST NORTH CENTRAL	6	3	985	–	–	2	2	–	19	30	–	–	6
Minnesota	–	–	–	–	–	–	2	–	6	5	–	–	2
Iowa	–	3	306	–	–	2	–	–	–	–	–	–	–
Missouri*	6	–	41	–	–	–	–	–	5	10	–	–	3
North Dakota	–	–	33	–	–	–	–	–	1	8	–	–	–
South Dakota	–	–	8	–	–	–	–	–	–	3	–	–	–
Nebraska	–	–	184	–	–	–	–	–	7	3	–	–	–
Kansas	–	–	413	–	–	–	–	–	–	1	–	–	1
SOUTH ATLANTIC	1	1	470	–	–	–	1	–	37	93	24	1	14
Delaware*	–	–	14	–	–	–	–	–	–	–	1	–	–
Maryland	–	–	19	–	–	–	–	–	12	9	4	–	5
District of Columbia	–	–	2	–	–	–	–	–	2	1	–	–	1
Virginia	–	1	20	–	–	–	–	–	7	9	6	–	3
West Virginia	–	–	74	–	–	–	–	–	–	3	–	–	–
North Carolina*	1	–	NN	–	–	–	–	–	3	9	4	1	2
South Carolina*	–	–	11	–	–	–	–	–	1	1	–	–	–
Georgia	–	–	44	–	–	–	–	–	4	31	–	–	1
Florida*	–	–	286	–	–	–	1	–	8	30	9	–	2
EAST SOUTH CENTRAL	1	1	78	–	–	2	–	–	22	39	7	–	3
Kentucky	–	–	71	–	–	1	–	–	–	–	–	–	3
Tennessee	–	1	NN	–	–	–	–	–	8	30	1	–	–
Alabama	1	–	5	–	–	–	–	–	13	6	6	–	–
Mississippi	–	–	2	–	–	1	–	–	1	3	–	–	–
WEST SOUTH CENTRAL	3	1	316	–	1	1	1	–	21	76	29	–	4
Arkansas	–	–	2	–	–	1	–	–	4	2	1	–	–
Louisiana	–	–	NN	–	–	–	–	–	2	6	3	–	–
Oklahoma	–	–	39	–	–	–	1	–	3	12	4	–	–
Texas*	3	1	275	–	1	–	–	–	12	56	21	–	4
MOUNTAIN	–	–	214	–	–	–	–	–	6	44	8	–	5
Montana	–	–	55	–	–	–	–	–	–	4	–	–	–
Idaho	–	–	11	–	–	–	–	–	–	2	1	–	–
Wyoming	–	–	3	–	–	–	–	–	–	–	–	–	–
Colorado	–	–	122	–	–	–	–	–	–	6	3	–	4
New Mexico	–	–	14	–	–	–	–	–	3	9	–	–	–
Arizona	–	–	NN	–	–	–	–	–	2	22	4	–	1
Utah	–	–	4	–	–	–	–	–	1	1	–	–	–
Nevada	–	–	5	–	–	–	–	–	–	–	–	–	–
PACIFIC	27	–	668	4	12	1	4	–	92	205	70	3	18
Washington*	1	–	617	4	11	1	–	–	3	12	3	–	–
Oregon	–	–	2	–	–	–	–	–	9	25	2	–	1
California*	22	–	–	–	–	–	4	–	80	133	64	3	13
Alaska	–	–	25	–	1	–	–	–	–	28	1	–	–
Hawaii	4	–	24	–	–	–	–	–	–	7	–	–	4
Guam*	NA	NA	NA	NA	–	NA	–	–	–	NA	NA	NA	–
Puerto Rico	–	–	18	–	–	–	–	–	–	15	–	–	–
Virgin Islands	–	–	–	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable
NA: Not available
*Delayed reports: Asep. Meng.: Wisc. add 1 (1977); Chickenpox: N. Hamp. add 5, S. Car. add 10, Tex. add 327, Wash. add 119, Calif. add 46, Guam add 16 (1977); Hep. B: Dela. add 1, N. Car. add 1, Fla. delete 1 (1977); Hep A: N. Hamp. add 5, Wisc. delete 8, Mo. delete 2, Dela. delete 1, N. Car. delete 1, Fla. delete 3, Tex. delete 2 (1977); Hep. unsp.: N. Hamp. add 1, Wisc. delete 1, Guam add 2 (1977)

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 2, 1977 and April 3, 1976 – 13th Week

REPORTING AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1977	CUMULATIVE 1977	CUMULATIVE 1976	1977	CUMULATIVE 1977	CUMULATIVE 1976	1977	CUM. 1977	1977	1977	CUM. 1977	CUM. 1977
UNITED STATES	2,363	18,646	11,578	31	579	502	656	7,564	6	916	7,029	8
NEW ENGLAND	178	862	125	1	33	25	28	382	–	74	296	–
Maine	–	3	3	–	2	–	–	21	–	1	13	–
New Hampshire*	37	205	2	–	5	2	–	63	–	21	49	–
Vermont	40	207	–	–	2	1	–	5	–	8	35	–
Massachusetts*	50	201	2	1	8	7	6	62	–	42	132	–
Rhode Island	1	6	14	–	–	4	5	31	–	–	13	–
Connecticut	50	240	104	–	16	11	17	200	–	2	54	–
MIDDLE ATLANTIC	338	2,219	2,418	5	84	58	26	495	2	335	1,833	–
Upstate New York	144	603	824	1	25	23	11	77	2	263	1,016	–
New York City	6	98	89	–	15	15	8	199	–	13	106	–
New Jersey*	1	55	204	2	22	9	3	130	–	22	603	–
Pennsylvania	187	1,463	1,301	2	22	11	4	89	–	37	108	–
EAST NORTH CENTRAL ..	519	4,616	4,495	3	52	61	229	2,665	–	89	1,757	–
Ohio	93	273	149	–	24	17	2	408	–	15	466	–
Indiana	279	2,327	878	1	3	4	19	158	–	36	555	–
Illinois	25	462	418	–	6	7	46	298	–	5	120	–
Michigan	19	436	1,460	–	13	27	72	876	–	20	432	–
Wisconsin*	103	1,118	1,590	2	6	6	90	925	–	13	184	–
WEST NORTH CENTRAL ..	233	3,532	240	–	37	40	219	1,791	–	25	196	1
Minnesota	55	530	62	–	15	8	–	3	–	–	5	–
Iowa	126	2,118	8	–	2	7	42	953	–	8	91	–
Missouri*	45	275	5	–	14	10	16	300	–	–	14	1
North Dakota	2	4	1	–	1	–	–	5	–	–	–	–
South Dakota	–	10	1	–	4	2	–	15	–	–	–	–
Nebraska	–	85	36	–	–	2	1	15	–	–	1	–
Kansas*	5	510	127	–	1	11	160	500	–	17	85	–
SOUTH ATLANTIC	306	1,051	761	10	125	99	25	301	–	86	631	2
Delaware	–	18	89	–	1	–	7	56	–	1	8	–
Maryland	91	121	368	1	9	7	2	20	–	–	–	–
District of Columbia ...	–	1	2	–	–	2	–	2	–	–	–	–
Virginia	142	590	20	–	6	11	1	39	–	14	114	1
West Virginia	4	44	92	1	7	3	2	75	–	2	43	–
North Carolina*	–	17	–	3	34	20	2	13	–	41	261	–
South Carolina	1	75	–	–	10	13	1	8	–	–	148	–
Georgia	67	178	–	4	24	7	1	7	–	14	30	–
Florida	1	7	190	1	34	36	9	81	–	14	27	1
EAST SOUTH CENTRAL ..	52	348	296	5	63	35	23	410	3	168	987	1
Kentucky	8	98	285	–	17	5	15	56	–	3	24	1
Tennessee	38	235	5	2	17	15	7	234	3	165	959	–
Alabama	4	4	–	1	20	10	1	112	–	–	3	–
Mississippi	2	11	6	2	9	5	–	8	–	–	1	–
WEST SOUTH CENTRAL ..	175	993	330	5	104	85	50	664	1	29	344	3
Arkansas	–	1	–	–	5	3	–	5	–	–	–	–
Louisiana	2	55	21	4	42	12	–	26	–	1	8	1
Oklahoma	2	41	204	–	2	15	31	264	–	3	19	–
Texas*	171	896	105	1	55	55	19	369	1	25	317	2
MOUNTAIN	60	1,143	2,326	2	15	19	10	282	–	12	232	–
Montana	49	673	72	2	2	2	–	2	–	–	6	–
Idaho	–	27	898	–	1	1	1	63	–	–	–	–
Wyoming	–	1	–	–	–	–	–	–	–	–	1	–
Colorado	6	314	37	–	1	8	1	101	–	9	181	–
New Mexico	–	5	3	–	5	1	8	70	–	–	1	–
Arizona	3	87	189	–	5	3	–	–	–	–	–	–
Utah	–	3	1,113	–	–	4	–	45	–	3	40	–
Nevada	2	33	14	–	1	–	–	1	–	–	3	–
PACIFIC	502	3,882	587	–	66	80	46	574	–	98	753	1
Washington*	37	228	63	–	11	14	16	123	–	19	212	–
Oregon	1	75	12	–	5	5	6	127	–	1	46	–
California	464	3,530	510	–	40	55	23	299	–	78	490	1
Alaska	–	48	–	–	9	4	–	17	–	–	–	–
Hawaii	–	1	2	–	1	2	1	8	–	–	5	–
Guam*	NA	3	5	–	–	1	NA	–	NA	NA	2	–
Puerto Rico	43	249	55	–	–	1	34	204	–	4	8	3
Virgin Islands	–	6	1	–	–	–	2	118	–	–	–	–

NA: Not available

*Delayed reports: Measles: N. Hamp. add 16, Mass. delete 6, Wisc. delete 5, Kans. delete 3 (1977); Men. Inf.: N. Hamp. delete 1 (1977); Mumps: N. Car. add 1, Wash. add 1 (1977); Pertussis: Mo. delete 1, N. Car. delete 1 (1977); Rubella: N.J. add 104, Tex. delete 1, Wash. add 4, Guam add 1 (1977)

Table III-Continued
Cases of Specified Notifiable Diseases: United States
Weeks Ending April 2, 1977 and April 3, 1976 — 13th Week

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (RMSF)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
									CUMULATIVE			CUMULATIVE		
	1977	CUM. 1977	CUM. 1977	1977	CUM. 1977	1977	CUM. 1977	1977	1977	1976	1977	1977	1976	CUM. 1977
UNITED STATES	581	7,195	15	5	82	5	24	15,785	230,341	241,078	339	5,530	6,569	573
NEW ENGLAND	18	253	1	1	3	–	–	424	5,977	6,677	11	194	192	8
Maine	–	18	–	–	–	–	–	38	510	562	–	7	7	8
New Hampshire*......	1	7	–	–	–	–	–	22	227	159	–	–	3	–
Vermont	–	10	–	–	–	–	–	15	154	134	–	3	2	–
Massachusetts	11	136	1	1	2	–	–	172	2,581	3,120	11	143	136	–
Rhode Island	–	15	–	–	–	–	–	36	444	453	–	2	9	–
Connecticut	6	67	–	–	1	–	–	141	2,061	2,249	–	39	35	–
MIDDLE ATLANTIC	104	1,107	–	2	17	1	2	1,830	25,978	25,219	58	796	1,131	6
Upstate New York	–	150	–	1	2	1	2	488	3,738	4,279	8	65	73	5
New York City	54	374	–	1	8	–	–	888	11,864	10,431	27	496	736	–
New Jersey	18	289	–	–	5	–	–	127	3,778	4,062	10	111	156	1
Pennsylvania	32	294	–	–	2	–	–	327	6,598	6,447	13	124	166	–
EAST NORTH CENTRAL ..	81	1,210	2	–	9	–	–	2,368	33,770	38,701	28	613	613	17
Ohio	9	202	1	–	2	–	–	552	8,626	9,828	3	160	146	–
Indiana	8	132	–	–	–	–	–	187	2,786	3,550	1	38	31	1
Illinois	33	444	–	–	1	–	–	709	11,363	13,742	17	329	325	2
Michigan*	31	378	–	–	6	–	–	602	7,733	7,917	6	62	80	1
Wisconsin	–	54	1	–	–	–	–	318	3,262	3,664	1	24	31	13
WEST NORTH CENTRAL ..	24	228	3	–	5	1	4	893	12,113	12,290	13	125	123	124
Minnesota	5	43	–	–	1	–	–	152	2,118	2,332	4	40	29	48
Iowa	2	25	–	–	–	–	–	119	1,483	1,625	–	9	16	15
Missouri	9	94	2	–	2	–	3	341	5,025	4,736	5	42	49	11
North Dakota	2	7	–	–	–	–	–	22	193	196	–	–	–	16
South Dakota*	–	11	1	–	–	–	–	18	318	358	–	1	2	24
Nebraska	1	10	–	–	–	–	–	117	1,019	1,037	1	15	8	–
Kansas	5	38	–	–	2	1	1	124	1,957	2,006	3	18	19	10
SOUTH ATLANTIC	131	1,676	5	1	14	1	10	4,004	55,133	57,747	84	1,558	1,919	70
Delaware	–	15	–	–	–	–	–	19	681	829	1	12	16	–
Maryland	24	247	–	–	–	–	–	538	6,896	7,978	7	104	156	–
District of Columbia ...	8	80	–	–	–	–	–	202	3,013	3,690	14	164	167	–
Virginia	1	166	–	–	5	1	2	490	5,789	6,315	11	151	167	2
West Virginia*........	5	71	–	–	2	–	–	77	758	718	–	1	12	3
North Carolina*	24	304	–	–	1	–	6	552	8,594	8,523	11	218	395	2
South Carolina*	13	160	2	–	–	–	–	330	5,078	5,488	4	76	111	–
Georgia	22	199	3	–	–	–	2	645	10,714	10,835	17	284	219	52
Florida	34	434	–	1	6	–	–	1,151	13,610	13,371	19	548	676	11
EAST SOUTH CENTRAL ..	75	627	–	–	1	1	5	1,305	19,662	21,889	14	188	274	19
Kentucky	16	142	–	–	–	–	1	134	2,753	2,813	–	19	48	9
Tennessee	18	208	–	–	–	1	3	338	7,778	8,500	9	54	110	6
Alabama	17	168	–	–	1	–	1	527	5,483	6,242	4	37	47	4
Mississippi	24	109	–	–	–	–	–	306	3,648	4,334	1	78	69	–
WEST SOUTH CENTRAL ..	58	798	1	–	–	1	3	1,563	29,735	33,689	34	759	758	231
Arkansas	11	78	–	–	–	–	–	120	2,321	3,126	2	18	25	21
Louisiana	5	160	–	–	–	–	–	162	4,041	4,795	6	147	164	1
Oklahoma	7	81	–	–	–	–	1	208	2,695	3,143	–	18	35	95
Texas*	35	479	1	–	–	1	2	1,073	20,678	22,625	26	576	534	114
MOUNTAIN	9	190	3	–	8	–	–	789	9,520	9,623	10	126	183	10
Montana	–	5	1	–	–	–	–	26	488	490	–	–	3	10
Idaho	1	13	–	–	–	–	–	49	474	498	–	2	6	–
Wyoming	–	4	–	–	–	–	–	41	278	205	–	7	5	–
Colorado	–	33	2	–	6	–	–	207	2,435	2,423	3	34	50	–
New Mexico	4	32	–	–	–	–	–	114	1,427	1,980	2	24	54	–
Arizona	4	88	–	–	1	–	–	228	2,702	2,736	5	52	52	–
Utah*.............	–	6	–	–	1	–	–	46	539	561	–	5	1	–
Nevada	–	9	–	–	–	–	–	78	1,177	730	–	2	12	–
PACIFIC	81	1,106	–	1	25	–	–	2,609	38,453	35,243	87	1,171	1,376	88
Washington*	6	38	–	–	–	–	–	275	2,814	3,002	8	29	29	–
Oregon	4	49	–	–	2	–	–	118	2,766	2,573	1	43	47	–
California	62	852	–	1	22	–	–	1,986	30,851	27,943	77	1,083	1,276	79
Alaska	–	8	–	–	–	–	–	157	1,223	1,006	1	5	2	9
Hawaii	9	159	–	–	1	–	–	73	799	719	–	11	22	–
Guam*	NA	11	–	NA	–	NA	–	NA	62	111	NA	1	1	–
Puerto Rico	4	78	–	–	2	–	–	109	762	633	20	146	132	10
Virgin Islands*..........	–	1	–	–	–	–	–	3	32	61	–	1	25	–

NA: Not available
*Delayed reports: TB: N. Hamp. add 1, Mich. delete 2, W. Va. add 3, N.Car. delete 1, Wash. add 22, Guam add 5 (1977); Typhoid fever: Guam add 1 (1977); GC: S. Car. add 425 (1976), Guam add 5, V.I. add 3 (1977); Syphilis: S. Car. delete 2 (1976), Utah delete 1, Wash. add 20 (1977); An. rabies: S. Dak. add 8, Tex. add 7 (1977)

Table IV
Deaths in 121 United States Cities*
Week Ending April 2, 1977 — 13th Week

REPORTING AREA	ALL CAUSES ALL AGES	ALL CAUSES 65 Years and Over	ALL CAUSES 45-64 Years	ALL CAUSES 25-44 Years	ALL CAUSES Under 1 Year	Pneumonia and Influenza ALL AGES
NEW ENGLAND	620	400	157	29	21	30
Boston, Mass.	190	113	51	15	4	10
Bridgeport, Conn.	43	25	14	1	3	2
Cambridge, Mass.	17	14	3	–	–	1
Fall River, Mass.	12	10	2	–	–	–
Hartford, Conn.	60	32	21	5	–	2
Lowell, Mass.	25	16	7	1	–	2
Lynn, Mass.	24	17	7	–	–	–
New Bedford, Mass.	23	16	6	1	–	–
New Haven, Conn.	46	28	11	1	4	1
Providence, R.I.	67	42	15	3	6	5
Somerville, Mass.	4	4	–	–	–	1
Springfield, Mass.	40	32	5	–	3	3
Waterbury, Conn.	17	10	6	1	–	–
Worcester, Mass.	52	41	9	1	1	3
MIDDLE ATLANTIC	2,836	1,789	718	175	77	123
Albany, N. Y.	56	37	13	3	1	–
Allentown, Pa.	21	18	2	–	1	2
Buffalo, N. Y.	119	73	31	7	3	12
Camden, N. J.	33	18	6	2	4	1
Elizabeth, N. J.	20	11	6	2	1	–
Erie, Pa.	42	27	9	3	3	1
Jersey City, N. J.	58	43	8	2	4	–
Newark, N. J.	49	27	17	4	1	1
New York City, N. Y.	1,361	871	338	90	24	41
Paterson, N. J.	28	17	5	–	4	3
Philadelphia, Pa.	409	236	119	30	12	22
Pittsburgh, Pa.	211	120	67	9	10	12
Reading, Pa.	41	30	9	2	–	2
Rochester, N. Y.	157	112	28	9	4	10
Schenectady, N. Y.	25	20	5	–	–	1
Scranton, Pa.	34	22	11	1	–	2
Syracuse, N. Y.	65	38	20	3	2	1
Trenton, N. J.	51	28	13	6	3	3
Utica, N. Y.	23	19	3	–	–	7
Yonkers, N. Y.	33	22	8	2	–	2
EAST NORTH CENTRAL	2,231	1,294	637	140	82	71
Akron, Ohio	60	36	14	1	6	2
Canton, Ohio	35	20	11	3	–	2
Chicago, Ill.	564	293	174	50	18	14
Cincinnati, Ohio	147	88	44	6	6	3
Cleveland, Ohio	149	78	46	15	3	5
Columbus, Ohio	133	84	36	4	5	8
Dayton, Ohio	97	66	23	3	3	2
Detroit, Mich.	251	149	68	22	7	4
Evansville, Ind.	47	32	12	2	1	1
Fort Wayne, Ind.	64	39	15	7	1	1
Gary, Ind.	21	11	8	1	1	2
Grand Rapids, Mich.	57	41	12	1	2	3
Indianapolis, Ind.	157	91	43	8	7	5
Madison, Wis.	32	17	9	3	1	4
Milwaukee, Wis.	136	90	38	4	4	5
Peoria, Ill.	39	26	9	–	3	2
Rockford, Ill.	42	24	11	1	2	3
South Bend, Ind.	32	23	6	1	1	4
Toledo, Ohio	103	51	37	7	5	1
Youngstown, Ohio	65	35	21	1	6	–
WEST NORTH CENTRAL	748	477	167	31	43	19
Des Moines, Iowa	73	47	14	4	5	1
Duluth, Minn.	12	9	1	1	–	1
Kansas City, Kans.	36	22	12	–	1	–
Kansas City, Mo.	136	84	27	6	12	3
Lincoln, Nebr.	30	19	9	1	–	1
Minneapolis, Minn.	87	54	16	7	7	2
Omaha, Nebr.	80	52	16	3	7	1
St. Louis, Mo.	163	100	40	6	9	4
St. Paul, Minn.	69	46	18	1	1	2
Wichita, Kans.	62	44	14	2	1	4

REPORTING AREA	ALL CAUSES ALL AGES	ALL CAUSES 65 Years and Over	ALL CAUSES 45–64 Years	ALL CAUSES 25–44 Years	ALL CAUSES Under 1 Year	Pneumonia and Influenza ALL AGES
SOUTH ATLANTIC	1,101	664	297	55	49	49
Atlanta, Ga.	144	82	44	6	–	7
Baltimore, Md.	192	110	59	9	10	1
Charlotte, N. C.	45	22	16	3	–	3
Jacksonville, Fla.	91	60	16	9	1	5
Miami, Fla.	102	55	34	7	5	3
Norfolk, Va.	72	38	22	4	6	5
Richmond, Va.	82	47	21	3	10	3
Savannah, Ga.	48	34	13	–	–	7
St. Petersburg, Fla.	107	91	11	4	1	1
Tampa, Fla.	61	35	19	3	1	9
Washington, D. C.	102	58	23	6	13	3
Wilmington, Del.	55	32	19	1	2	2
EAST SOUTH CENTRAL	758	451	201	47	23	52
Birmingham, Ala.	143	76	47	9	4	8
Chattanooga, Tenn.	68	41	16	5	1	5
Knoxville, Tenn.	39	27	9	1	–	1
Louisville, Ky.	109	67	30	5	3	7
Memphis, Tenn.	153	103	26	11	3	9
Mobile, Ala.	63	31	18	6	5	2
Montgomery, Ala.	51	35	15	–	–	11
Nashville, Tenn.	132	71	40	10	7	9
WEST SOUTH CENTRAL	1,207	711	321	82	39	53
Austin, Tex.	47	27	12	6	–	3
Baton Rouge, La.	47	29	9	5	3	3
Corpus Christi, Tex.	36	27	7	1	1	–
Dallas, Tex.	178	116	46	7	2	7
El Paso, Tex.	41	20	10	3	3	10
Fort Worth, Tex.	110	69	21	7	3	2
Houston, Tex.	227	118	72	17	7	2
Little Rock, Ark.	51	29	15	5	2	3
New Orleans, La.	167	92	52	13	5	1
San Antonio, Tex.	135	75	37	9	7	4
Shreveport, La.	74	44	20	6	2	9
Tulsa, Okla.	94	65	20	3	4	9
MOUNTAIN	599	357	138	40	35	19
Albuquerque, N. Mex.	55	31	12	6	1	2
Colorado Springs, Colo.	27	16	8	1	2	1
Denver, Colo.	130	79	31	8	4	5
Las Vegas, Nev.	35	11	16	3	1	2
Ogden, Utah	28	20	4	2	–	5
Phoenix, Ariz.	149	88	32	7	19	2
Pueblo, Colo.	15	10	4	–	–	2
Salt Lake City, Utah	70	43	15	4	6	–
Tucson, Ariz.	90	59	16	9	2	–
PACIFIC	1,561	949	425	81	56	46
Berkeley, Calif.	25	15	7	2	1	–
Fresno, Calif.	58	38	13	4	1	–
Glendale, Calif.	26	19	6	1	–	1
Honolulu, Hawaii	59	37	15	3	1	2
Long Beach, Calif.	99	59	29	5	2	3
Los Angeles, Calif.	421	246	118	29	18	15
Oakland, Calif.	87	47	26	4	6	2
Pasadena, Calif.	37	28	7	1	–	1
Portland, Oreg.	110	73	28	3	4	1
Sacramento, Calif.	51	29	12	1	4	1
San Diego, Calif.	150	82	50	8	4	7
San Francisco, Calif.	151	87	40	14	4	3
San Jose, Calif.	45	29	13	1	–	1
Seattle, Wash.	164	97	49	4	11	3
Spokane, Wash.	48	38	8	–	–	5
Tacoma, Wash.	30	25	4	1	–	1
TOTAL	11,661	7,092	3,061	680	425	462
Expected Number	12,123	7,458	3,127	748	382	513

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

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Tularemia — Colorado

On September 23, 1976, a 33-year-old male was bitten on the right hand by an 8-week-old kitten. The patient, who lived on a small ranch in La Plata County, Colorado, presented to his physician on September 27, complaining of fever, chills, severe pain in his right hand, and right axillary lymphadenopathy. He initially received a course of cephalexin and parenteral penicillin with no improvement. He was hospitalized on October 5, at which time parenteral penicillin followed by nafcillin was administered. The patient had gradual improvement and was discharged from the hospital on October 15 on oral dicloxicillin. The lymphadenopathy persisted with spontaneous rupture on November 5. Since that time, the patient has done well with no further therapy.

A small non-motile, gram-negative rod, which was isolated from an aspirate of the swollen right axillary node at the time of the patient's hospitalization, was identified as *Francisella tularensis* on November 12 by antisera typing and FA analysis. An ascending titer to *F. tularensis* was demonstrated by the standard tube agglutination test (STA) on 4 serial specimens collected during the course of the illness.

The patient claimed no direct contact with rabbits or other wild animals during the month immediately preceding his illness. At the time of the cat bite, the patient had noticed the mother cat bringing wild rabbit to her litter for food. A cottontail rabbit (*Sylvilagus sp.*) and its fleas (*Cediopsylla inaequalis* and *Hoplopsyllus affinis*), obtained at the patient's ranch area early in December, were negative for tularemia.

The biting kitten was also submitted as a specimen; tissue and mouth swab cultures were negative for *F. tularensis*. A serum sample, however, demonstrated an STA titer of 1:64 against *F. tularensis.*

Reported by B Wilson, MD, Durango, Colorado; RW Quenzer, MD, ST Mostow, MD, Wen Lan Lou Wang, PhD, VA Hospital, Denver; T Englert, JK Emerson, DVM, Colorado Dept of Health; Clinical Bacteriology Br, Bacteriology Div, Plague Br, Vector-borne Diseases Div, Bur of Laboratories, and Bacterial Zoonoses Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Although transmission of *F. tularensis* by cat bite has been reported previously, its occurrence is rare. The more common modes of transmission in the United States are contact with blood or tissues of infected animals, or the introduction of microorganisms by blood-sucking vectors, such as ticks. The diagnosis of tularemia is confirmed by isolation of the organism from culture material. In the absence of cultures, the fluorescent antibody (FA) test and/or serology can be useful. A 4-fold rise in the STA test titer on serial samples is considered diagnostic of tularemia infection. A single titer of $\geqslant$1:160 may indicate either current or past infection. The treatment of choice for tularemia remains streptomycin. Tetracycline or chloramphenicol may be used only as alternative drugs.

Botulism — Michigan

The largest outbreak of botulism reported in the United States is under investigation by local, state, and federal health officials in Michigan.

On March 31, 1977, the Michigan State Department of Public Health learned that 2 employees of a hospital in Pontiac, Michigan, had been admitted to the hospital with signs and symptoms compatible with botulism. Both individuals had in common a food exposure at a Mexican restaurant located near the hospital in Pontiac. By the next morning, 12 additional probable cases had been identified. All 14 patients had eaten at the implicated restaurant on March 28 or 29. The only food item eaten by all of the patients was a hot sauce prepared with red tomato sauce and home-canned green jalapeño peppers.

The restaurant usually used fresh peppers and had only begun to use home-canned peppers on March 28. A sample of the home-canned peppers and stools from ill persons were found to contain type B botulinal toxin. By April 5, 39 persons with neurological signs compatible with botulism were identified among the several hundred persons who had eaten at the restaurant. No deaths had occurred. Most of the patients were residents of Michigan, but 1 was a visitor from Ohio who became ill after leaving Michigan.

All patients with clinical findings consistent with botulism were treated with trivalent (ABE) antitoxin. County officials closed the restaurant on March 31.

Reported by L Glass, MD, Bloomfield Hills; R Locey, MD, A Markowitz, MD, Oakland County Health Dept, Michigan; the staff of the following hospitals: St. Joseph Mercy Hospital, Pontiac; Crittenton Hospital, Rochester; William Beaumont Hospital, Royal Oak; Little Traverse Hospital, Petoskey; and St. Lawrence Hospital, Lansing, Michigan; and Medical College of Ohio Hospital, Toledo, Ohio; NS Hayner, MD, State Epidemiologist, Michigan State Dept of Public Health; TJ Halpin, MD, State Epidemiologist, Ohio State Dept of Health; Food and Drug Administration; Enterobacteriology Br, Bacteriology Div, Bur of Laboratories, Field Services Div, and Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The largest previous outbreak of botulism occurred in 1921 in Michigan and affected 29 persons, 3 of whom died. That outbreak of type A botulism was caused by commercially canned spinach.

Current Trends

Follow-up on Reye Syndrome — United States

From January 1 through March 31, 1977, 220 cases of Reye syndrome have been reported to CDC by 33 states and the District of Columbia. Thirty-one case investigation forms with reasonably complete information have been received to date, revealing that 25 of 28 children were white, 22 of 30 were male, and 17 of 31 were 10 years of age or older. In 30 of these cases, the outcome of the patient was known; 19 died, 2 survived with residual neurologic damage, and 9 recovered completely.

Reported by Field Services Div, Bur of State Services, and Viral Diseases Div, Bur of Epidemiology, CDC.

Primary and Secondary Syphilis – United States, January 1977

Reported cases of primary and secondary syphilis numbered 1,769 in January 1977, down 19.0% from the number reported in January 1976 (Table 7). This represents the tenth consecutive month in which a decline of cases has been reported. Also, early latent (less than 1 year duration) syphilis declined from 1,614 cases reported in January 1976 to 1,372 in January 1977, down 15.0%.

Reported by the Venereal Disease Control Div, Bur of State Services, CDC.

TABLE 7. Summary of reported primary and secondary syphilis cases by reporting area: January 1977 and January 1976 – Provisional Data

Reporting Area by HEW Regions	January		Calendar Year Cumulative January–January	
	1977	1976	1977	1976
Connecticut	15	15	15	15
Maine	2	6	2	6
Massachusetts	42	35	42	35
New Hampshire	0	0	0	0
Rhode Island	1	2	1	2
Vermont	2	1	2	1
REGION I TOTAL	62	59	62	59
New Jersey	39	42	39	42
New York (Excl. NYC)	24	21	24	21
New York City	147	243	147	243
REGION II TOTAL	210	306	210	306
Delaware	5	6	5	6
District of Columbia	61	50	61	50
Maryland (Excl. Baltimore)	16	16	16	16
Baltimore	24	39	24	39
Pennsylvania (Excl. Phila.)	13	15	13	15
Philadelphia	24	15	24	15
Virginia	42	54	42	54
West Virginia	0	2	0	2
REGION III TOTAL	185	197	185	197
Alabama	10	12	10	12
Florida	190	273	190	273
Georgia (Excl. Atlanta)	59	49	59	49
Atlanta*	35	45	35	45
Kentucky	6	8	6	8
Mississippi	17	15	17	15
North Carolina	96	94	96	94
South Carolina	29	44	29	44
Tennessee	22	41	22	41
REGION IV TOTAL	464	581	464	581
Illinois (Excl. Chicago)	21	14	21	14
Chicago	92	90	92	90
Indiana (Excl. Indianapolis)	1	9	1	9
Indianapolis*	4	2	4	2
Michigan	22	24	22	24
Minnesota	12	14	12	14
Ohio	58	36	58	36
Wisconsin	9	9	9	9
REGION V TOTAL	219	198	219	198
Arkansas	3	8	3	8
Louisiana	54	48	54	48
New Mexico	8	17	8	17
Oklahoma	9	13	9	13
Texas	119	138	119	138
REGION VI TOTAL	193	224	193	224
Iowa	4	2	4	2
Kansas	6	6	6	6
Missouri	13	31	13	31
Nebraska	1	3	1	3
REGION VII TOTAL	24	42	24	42
Colorado	15	21	15	21
Montana	0	1	0	1
North Dakota	0	1	0	1
South Dakota	0	0	0	0
Utah	2	1	2	1
Wyoming	2	4	2	4
REGION VIII TOTAL	19	28	19	28
Arizona	11	17	11	17
California (Excl. LA & SF)	161	189	161	189
Los Angeles*	105	228	105	228
San Francisco*	83	74	83	74
Hawaii	3	4	3	4
Nevada	1	6	1	6
REGION IX TOTAL	364	518	364	518
Alaska	1	0	1	0
Idaho	2	3	2	3
Oregon	16	14	16	14
Washington	10	15	10	15
REGION X TOTAL	29	32	29	32
UNITED STATES TOTAL	1,769	2,185	1,769	2,185
Puerto Rico	54	35	54	35
Virgin Islands	1	4	1	4
United States, Including Outlying Areas	1,824	2,224	1,824	2,224

*County Data

Note: Cumulative totals include revised and delayed reports through previous months.

Source: CDC 9.98, HEW-CDC-BSS-VD Control Division, Atlanta, Georgia

International Notes

Quarantine Measures

The following changes should be made in the *Supplement–Health Information for International Travel,* MMWR, Vol. 25, October 1976:

CHRISTMAS ISLAND

Smallpox – Delete all information. Insert code II 1 yr. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

ECUADOR

Smallpox – Change code to II.

BARBADOS

Smallpox – Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

GREENLAND

Smallpox – Insert code II.

JAMAICA

Smallpox – Delete all information. Insert code II. Insert: A Certificate is ALSO required from travelers arriving from:
Africa: Afars and the Issas, French Territory of, Ethiopia, Kenya, Somali;
Asia: Bangladesh, India, Pakistan

ISRAEL

Smallpox – Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

MALAWI

Smallpox – Delete all information. Insert code II. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

VIET-NAM, SOUTH, REPUBLIC OF
CHANGE NAME TO VIET-NAM, SOCIALIST REPUBLIC OF

FALKLAND (MALVINAS) ISLANDS

Smallpox – Change code to II. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

ZAMBIA

Smallpox – Change code to II > 6 mos. Insert: A Certificate is ALSO required from travelers who within the preceding 14 days have been in a country any part of which is infected.

Current Trends

Mortality from Carbon Monoxide — Georgia

A review of death certificates filed during the period 1961-1973 revealed that 802 persons in Georgia died as the result of exposure to carbon monoxide. A total of 464 (57.9%) of the cases were classified as accidental, 335 (48.8%) as suicidal, 1 as homocidal, and 2 as unspecified.

Of the cases categorized as being accidental, 279 (39.4%) involved blacks. The data on suicidal involvement reflected a different pattern. Of the total number of suicides, 329 (98.2%) involved whites, whereas only 6 (1.8%) involved black individuals. The resulting race-specific rates were 1.0 per 10,000 for whites and 0.1 per 10,000 for blacks. Within the races, the rates were higher for males — 1.1 per 10,000 white males (183 in the survey), and 2.2 per 10,000 black males (123) as compared to 0.6 per 10,000 white females (96) and 1.0 per 10,000 black females (60).

Of the 802 persons who died from carbon monoxide poisoning, 423 (52.7%) were married. A comparison of the suicidal cases with those of accidental origin showed that 70.1% of the suicide victims were married, whereas only 40.1% of the victims involved in accidental exposures were married.

Editorial Note: This review illustrates that fatal intoxication by carbon monoxide represents a subtle but preventable aspect of mortality in Georgia. It also reinforces earlier reports that carbon monoxide is a frequent suicidal agent of white males (*1*).

The need for health authorities to implement programs to advise the public on the hazards associated with prolonged exposure to carbon monoxide is evident.

Reported by Environmental Health Services Div, Bur of State Services, CDC.

Reference

1. National Center for Health Statistics: Vital Statistics of the United States, 1972. Vol. II (Mortality), part A. Rockville, Maryland, Health Resources Administration, 1976, pp 1-167

International Notes

Imported Malaria — Europe

In 1975, 2,402 cases of malaria were imported into areas of Europe where indigenous malaria has not been reported for many years or where it had been eradicated. This is a marked increase compared with the previous 4 years, when the yearly average of reported cases was 1,677 (Table 8). If one takes into account the information provided only by countries which have reported for each of the years under review (that is, 1971 to 1975), the number of cases imported in 1975 was 2.3 times higher than in 1971 (2,364 cases versus 1,047).

TABLE 8. Cases of imported malaria in Europe, 1971-1975

Country	Year				
	1971	1972	1973	1974	1975
Albania	2	1	—	0	0
Austria	6	12	—	—	—
Belgium	12	3	22	3	1
Bulgaria	9	8	13	32	45
Czechoslovakia	10	7	2	8	9
Denmark	13	28	38	59	62
Finland	8	4	4	16	4
France	10	3	21	11	13
German Democratic Rep.	—	—	3	6	11
Germany, Federal Rep. of	81	112	138	100	161
Greece	25	37	20	21	27
Hungary	4	4	6	5	8
Ireland	0	1	2	2	1
Italy	39	*31	*31	60	28
Malta	—	0	0	0	2
Netherlands	26	*12	32	27	54
Norway	2	—	13	*0	25
Poland	2	3	8	12	18
Portugal	473	584	594	903	971
Romania	1	8	3	3	10
Spain	23	19	34	20	30
Sweden	25	27	49	52	59
Switzerland	4	5	11	37	85
USSR	307	211	226	—	—
United Kingdom	269	366	539	660	765
Yugoslavia	13	14	13	16	13
Total	1,364	1,470	1,822	2,053	2,402

*First semester — = No report

TABLE 9. Area of origin of malaria cases imported in Europe, 1971-1975

Area	Percentage of Cases, by Year				
	1971	1972	1973	1974	1975
Africa	89.0	83.6	79.3	73.0	65.5
Asia	10.2	15.9	20.1	26.6	33.5
America	0.8	0.5	0.6	0.4	1.0
Total	100.0	100.0	100.0	100.0	100.0

Most of the cases imported from 1971 to 1975 came from Africa, mainly from south of the Sahara (Table 9). The relative decrease in the proportion of cases coming from Africa in 1974 and 1975 probably results from steady increases in cases in Asia because of progressive deterioration of the malaria control program in that continent.

The most common malaria species was *Plasmodium vivax*, which accounted for 55%-62% of the imported cases during the 5-year period. *P. falciparum* accounted for approximately one-third of all other infections. There were 151 fatal cases reported during the 5-year period.

Reported by the World Health Organization in the Weekly Epidemiological Record 52(9):89-90, 1977.

Current Trends

Influenza – United States

Isolates of influenza A virus from sporadic cases in pediatric patients ill in mid-March were reported from Connecticut (1 H3N2 influenza A virus as yet uncharacterized) and Hawaii (2 A/Texas/1/77-like isolates). Further investigation to determine the extent of A/Texas/1/77-like activity in Hawaii is underway.

Antigenic analysis of recent influenza A virus isolates from Texas, Colorado, Alaska, and Hawaii revealed them to be a related but heterogenous group of viruses with moderate drift away from the A/Victoria/3/75 vaccine strain. The strains generally resemble a virus, A/England/864/75, isolated occasionally in Europe and the Far East during the winter of 1975-76. Several similar viruses were isolated in the Caribbean area last winter and one in the U.S.A. The A/Texas-like strains all have a low reactivity with A/Victoria/3/75 ferret antisera. Findings with strain-specific ferret antisera are substantiated by hemagglutination-inhibition (HI) tests with human sera. In December 1976, the cumulative percentages of Atlanta residents 20 to 50 years of age with HI titers $\geq$20 for A/Victoria/3/75 and A/Texas/1/77 were 21 and 3, respectively.

With the decrease of influenza activity, particularly in the eastern United States, several states have terminated their influenza surveillance programs. All states in which influenzal illness is occurring should continue surveillance activities and report surveillance data to CDC. Because of the recent discovery of the A/Texas/1/77-like variant it is especially important that virus surveillance continue so the prevalence and extent of illness due to variant viruses may be defined. Where possible, influenza virus surveillance should continue uninterrupted throughout the year.

Reported by JN Lewis, MD, State Epidemiologist, Connecticut Dept of Health; NH Wiebenga, State Epidemiologist, MD, Hawaii Dept of Health; Virology Div, Bur of Laboratories, and the National Influenza Immunization Program, CDC.

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