

Morbidity and Mortality



U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / PUBLIC HEALTH SERVICE - HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

DATE OF RELEASE: OCTOBER 29, 1971 - ATLANTA, GEORGIA 30333

INTERNATIONAL NOTES

SUSPECTED SMALLPOX CASE - Guantanamo Bay, Cuba

On Sept. 24, 1971, a 45-year-old merchant marine from India aboard a ship in the Gulf of Mexico became ill with a fever and backache. Three days later, he experienced a generalized erythematous maculo-papular rash which became pustular and was concentrated on the extremities. On September 30, he was put ashore at the U.S. Naval Base, Guantanamo Bay, Cuba. Smallpox was considered in the differential diagnosis.

The patient had a history of smallpox vaccination, although no vaccination scar was found. There had been a case of varicella reported aboard ship within the previous 2 months; the patient and crew denied any other contact with persons with a febrile or rash illness. The itinerary of the ship included India (July), Japan (August), the Panama Canal Zone (September 18), and Mobile, Alabama, and Pascagoula, Mississippi (September 23). Because smallpox was a distinct possibility, the patient was quarantined, and scab, pustular,

CONTENTS

International Notes
 Suspected Smallpox Case - Guantanamo Bay, Cuba 383

Epidemiologic Notes and Reports
 Fatal Varicella - Minnesota 384
 Epidemic Keratoconjunctivitis - Alabama 384
 Malaria - Puerto Rico 385
Pasteurella multocida Infection - Oregon 385
 Shigellosis - New York and New Jersey 389

Recommendation of the Public Health Service Advisory Committee on Immunization Practices - Measles Vaccines . . . 386

Surveillance Summary
 Poliomyelitis - United States, 1970 388

and serum specimens were hand-carried from Guantanamo Bay to CDC.

Extensive electron microscopic examination of the specimens did not reveal any virus particles. Agar gel studies on pustular fluid and scab specimens were negative; two egg passages were also negative for virus. The hemagglutination-

(Continued on page 384)

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES (Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	42nd WEEK ENDED		MEDIAN 1966 - 1970	CUMULATIVE, FIRST 42 WEEKS		
	October 23, 1971	October 24, 1970		1971	1970	MEDIAN 1966 - 1970
Aseptic meningitis	145	290	108	4,282	4,939	2,765
Brucellosis	5	4	4	132	169	186
Diphtheria	19	16	5	147	369	158
Encephalitis, primary:						
Arthropod-borne & unspecified	37	58	37	1,237	1,274	1,274
Encephalitis, post-infectious	3	-	3	292	337	405
Hepatitis, serum	219	173	107	6,982	5,839	3,634
Hepatitis, infectious	1,233	1,229	948	49,097	45,423	36,355
Malaria	143	114	78	2,521	2,766	1,874
Measles (rubeola)	271	303	303	70,914	40,740	40,740
Meningococcal infections, total	29	20	32	1,890	2,003	2,161
Civilian	23	19	29	1,684	1,804	1,977
Military	6	1	-	206	199	199
Mumps	1,053	1,155	- - -	103,823	80,595	- - -
Poliomyelitis, total	-	1	1	11	23	28
Paralytic	-	1	1	8	23	24
Rubella (German measles)	816	353	317	40,372	51,146	45,181
Tetanus	1	3	3	87	102	144
Tularemia	2	2	3	158	128	146
Typhoid fever	17	12	10	323	272	314
Typhus, tick-borne (Rky. Mt. spotted fever)	6	4	4	382	325	292
Rabies in animals	73	71	58	3,313	2,510	2,835

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	4	Psittacosis: N.Y. City-1	31
Botulism:	15	Rabies in Man:	1
Leptosy: Calif.-1, Hawaii-2	99	Rubella congenital syndrome: Tex.-1.	45
Leptospirosis: Fla.-1	27	Trichinosis: N.J.-2, N.Y. Ups.-2	77
Plague:	1	Typhus, murine:	18

SMALLPOX — (Continued from front page)

inhibition antibody titer against vaccinia was 1:10, the varicella zoster complement fixation (CF) titer was 1:16, and the herpes simplex CF titer was 1:16. Other laboratory tests revealed 1:560 VDRL, 4+ FTA, and a reactive TPI. Results of spinal fluid examination demonstrated a 3+ FTA and negative VDRL. Because of the negative test for vaccinia-variola viruses and the positive tests for syphilis, a diagnosis of secondary syphilis was made. The patient was treated with penicillin. Quarantine procedures were relaxed after the second

egg passage was negative.

(Reported by Melvin L. Glazer, Lt. Commander, MC, Naval Hospital, Guantanamo Bay, Cuba; John W. Poundstone, Lt. Commander, MC, Community Health Branch, Capt. Charles E. Alexander, Jr., MC, Director, Preventive Medicine Division, Bureau of Medicine and Surgery, Department of the Navy, Washington, D.C.; the VDRL Laboratory, State and Community Services Division, the Laboratory Division, and the Smallpox Eradication Program, CDC.)

 EPIDEMIOLOGIC NOTES AND REPORTS
 FATAL VARICELLA — Minnesota

On July 5, 1971, an 11-year-old girl from Eden Prairie, Minnesota, had onset of cutaneous varicella at the time of a neighborhood outbreak. Four days after she became ill, gross hematuria developed. The following day, when the lesions became purpuric, she complained of a headache and then suddenly collapsed. She was hospitalized in Minneapolis in coma with a fixed, dilated, right pupil. Past history revealed that she had had a smallpox vaccination with a primary take.

Initial laboratory studies showed a prothrombin time of 12.7 seconds (control of 12.0) and a partial thromboplastin time of 20.8 seconds (control of 32.8). Initial platelet count was less than 10,000 per cubic mm. Fibrinogen was 0.22 grams percent (normal 0.2-0.4). The patient was transfused with seven platelet packs, but her platelet count never rose above 18,500. After treatment for several cardiac arrhythmias, she died on July 12 in cardio-pulmonary arrest.

An autopsy revealed no evidence of systemic varicella, underlying disease, or intravascular consumptive coagulation. Petechial hemorrhages were observed in the heart, lungs, kidneys, bladder, and gastrointestinal tract. There was a large, right parietal subarachnoid hemorrhage and a massive right intracerebral hemorrhage. Bone marrow showed megakaryocytes slightly decreased in number with decreased budding. Cultures of specimens from the throat, stool, blood, bone marrow, and pox lesions were negative for virus. The skin

biopsy showed typical intranuclear inclusion bodies consistent with varicella. The clinical and laboratory data suggest that the girl's death was due to thrombocytopenia without other hemorrhagic tendencies. Two of the patient's siblings contracted cutaneous varicella with no complications 2 weeks after contact with her.

(Reported by John D. Tobin, Jr., M.D., Resident in Pediatrics, Hennepin County General Hospital, Minneapolis, Minnesota; Robert W. ten Bonsel, M.D., Associate Professor, Department of Pediatrics, University of Minnesota School of Medicine, Minneapolis, Minnesota; and Henry Bauer, M.D., Director, Division of Medical Laboratories, Minnesota Department of Health.)

Editorial Note

Complications of varicella occur infrequently in otherwise healthy children. Pneumonia, meningoencephalitis, pyogenic infections, and eye, ear, or renal involvement are usually non-fatal. Hemorrhagic varicella (varicella purpura), however, is often fatal. It is a fulminant condition, with sudden and rapidly spreading skin hemorrhages. In most cases, the distribution of lesions in the internal organs gives evidence of vasculitis and generalized viral invasion. Thrombocytopenia alone, however, in association with varicella, as in the present case, is rare.

EPIDEMIC KERATOCONJUNCTIVITIS — Alabama

From May 12 to Aug. 12, 1971, 132 cases of epidemic keratoconjunctivitis (EKC) associated with an industrial plant occurred in Gadsden, Alabama. Symptoms included eye pain, foreign body sensation, diffuse lacrimation, and visual blurring. Early in the course of the illness, examination showed severe conjunctivitis, often follicular in nature, chemosis, and a watery discharge. After 10-15 days of illness, subepithelial corneal infiltrates were seen in about 65 percent of the cases. Adenovirus type 8 was isolated from conjunctival swabs and scrapings from nine patients. Adenovirus type 8 infection was confirmed serologically in 76 patients.

All patients in the early part of the epidemic had been seen in the medical facility at the plant for eye complaints, such as dust or foreign body, 6-17 days (mean 10 days) prior to the onset of symptoms of EKC. Epidemiologic and laboratory evidence suggested that transmission occurred by both ophthalmic solutions and direct hand-to-eye contact. Adenovirus type 8 was isolated from one bottle of saline used as an eye wash. Control of the epidemic was achieved by careful eye care. Widespread community involvement did not occur.

(Reported by Stephen W. Rowe, M.D., Industrial Medicine and General Practice, M. Dale Smith, M.D., Ophthalmologist, Gadsden, Alabama; James R. Collier, M.D., Etowah County Health Officer, Gadsden, Alabama; Frederick S. Wolf, M.D., Director, Bureau of Preventable Diseases, Alabama State Department of Public Health; and a team of EIS Officers.)

Editorial Note

EKC, the "shipyard eye" of the 1940's, is caused by adenovirus, usually type 8. Epidemics are most often traced to ophthalmologists' offices or to eye hospital facilities. An epidemic of this size has not been reported recently in an industrial setting, and isolation of the virus from ophthalmic solutions has not been reported previously.

MALARIA – Puerto Rico

On Sept. 1, 1971, a 42-year-old art teacher from Baltimore, Maryland, who was visiting in San Juan, Puerto Rico, consulted a local physician for fever, chills, myalgia, headache, and malaise. Her illness was diagnosed as grippe, and no specific therapy was given. She returned to the physician on September 4 with more severe symptoms and was admitted to a private hospital.

On admission, the patient had a fever and was jaundiced. She became comatose the following day and passed scanty amounts of dark urine. Examination of a peripheral blood smear revealed heavy parasitemia with *Plasmodium falciparum*, and malignant tertian malaria was diagnosed. Treatment was started with parenteral chloroquine and quinine, as well as heparin and parenteral corticosteroids.

Because of continued coma and oliguria, the patient was transferred to another hospital in San Juan on September 7. Treatment with quinine and chloroquine was continued and daraprim and transfusions with packed red blood cells were also given. By September 10, she was awake, and no parasites were seen on a peripheral blood smear. She remained anemic and icteric, however, with persistently elevated blood urea

nitrogen and creatinine in the presence of large daily urine outputs. Because of suspected disseminated intravascular coagulation, she continued to receive heparin. On September 12-13, the patient underwent peritoneal dialysis for 24 hours. She subsequently appeared well clinically, but was found dead in bed on September 14. The cause of death by gross anatomical examination was massive intra-abdominal hemorrhage.

The patient had been in Tangiers, Morocco, during the early part of August and had later spent 6 days (August 15-21) in Liberia and Ghana, West Africa. She then passed through New York City on August 21 and stopped in Baltimore on August 22-24 on her way to San Juan. It is not known whether she had ever taken antimalarial chemoprophylaxis. She had no history of previous malaria, parenteral drug use, or recent blood transfusions.

(Reported by Alan Rapoport, M.D., private physician, San Juan, Puerto Rico; Lisandro Montalvo-Sánchez, M.D., medical resident, University of Puerto Rico Medical Center, San Juan; Luis Mainardi, M.D., Chief, Communicable Disease Section, Puerto Rico Department of Health; an EIP Officer, and an EIS Officer.)

PASTEURILLA MULTOCIDA INFECTION – Oregon

On July 24, 1971, an infant was born prematurely in a hospital in Portland, Oregon, and died 6 hours later. The placenta was edematous and full of blood clots. On culture, a specimen of placental material grew only coagulase-negative staphylococci and alpha-hemolytic streptococci. Culture of the infant's blood specimen yielded *Pasteurella multocida*.

The 20-year-old mother was seen as an outpatient 6 days after delivery complaining of chills and a foul-smelling vaginal discharge. *P. multocida* was isolated from a cervical smear. She was treated successfully with kanamycin and penicillin.

The woman lives with her husband and daughter in a secluded, rural area in Washington County, Oregon. She said that she was in her 28th week of gestation at the time of delivery and that she had noted a bloody purulent vaginal discharge for the preceding 9 weeks. It is not known when the membranes ruptured. At the time of the infant's death, a goat, dog, cat, and chicken were kept on their property; however, no laboratory studies of these animals were performed. (Reported by Roger W. Carnes, M.D., and James Cross, M.D., resident physicians, Department of Obstetrics and Gynecology, Mary D. Willis, Supervisor, Pediatrics Bacteriology Laboratory, Abdel Rashad, M.D., Ph.D., Chief, Clinical Microbiology Division, Department of Clinical Pathology, Katherine

Chavigny, R.N., M.S., Assistant Professor of Public Health, Department of Public Health and Preventive Medicine, University of Oregon Medical School Hospitals and Clinics, Portland; and Harry Kemp, Director, Washington County Health Department.)

Editorial Note

P. multocida has long been known as an animal pathogen but rarely results in human disease. Isolates from man are usually obtained in association with one of three types of infectious processes: cellulitis following the bite of a cat or other animal, chronic bronchitis or bronchiectasis (often in farmers with occupational exposure to animals), and, less commonly, systemic infection with meningitis or bacteremia (1). A previous report of *P. multocida* infection associated with premature delivery and neonatal death described the isolation of the same organism from a gingival culture of a pet cat belonging to the infant's mother (2).

References

1. DeBoer RG, Dumler M: *Pasteurella multocida* infections. Am J Clin Pathol 40:339-344, 1963
2. Strand CL, Helfman L: *Pasteurella multocida* chorioamnionitis associated with premature delivery and neonatal sepsis and death. Am J Clin Pathol 55:713-716, 1971

RECOMMENDATION OF THE PUBLIC HEALTH SERVICE
ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES

MEASLES VACCINES

INTRODUCTION

Highly effective, safe vaccines are available for eliminating measles in the United States. Collaborative efforts of professional and voluntary medical and public health organizations in vaccination programs have resulted in a dramatic reduction in the incidence of measles.

However, since 1969, a disturbing number of measles outbreaks have occurred involving mostly unvaccinated and some improperly vaccinated children. The number of cases is increasing. A continuing effort to immunize all susceptible children and to reimmunize those now inadequately immunized is necessary if the goal of measles eradication is to be reached.

Measles is often a severe disease. It is frequently complicated by bronchopneumonia, middle ear infection, or encephalitis. Encephalitis, associated with measles in approximately one of every 1,000 cases, often causes permanent brain damage and mental retardation, and it may be fatal.

MEASLES VIRUS VACCINES

Live measles virus vaccines*, the original Edmonston B and the further attenuated strains (Schwarz and Attenuvax), are widely used in the United States. Edmonston B strains are prepared in either chick embryo or dog kidney cell culture; the further attenuated strains are prepared only in chick embryo cell culture.

Measles virus vaccines produce a mild or inapparent, non-communicable infection. Fifteen percent of children receiving either the Edmonston B strain with Measles Immune Globulin (MIG) or the further attenuated strains experience a temperature of 103°F. or more (rectal) beginning about the 6th day after vaccination and lasting up to 5 days. About twice as many (30 percent) of those receiving Edmonston B strain vaccine without MIG have febrile responses. Most reports indicate that children with such fevers are otherwise asymptomatic. Febrile reactions often go unnoticed by parents.

Measles antibodies develop in 95 percent or more of susceptible children given measles vaccine at age 1 year or older. Edmonston B strain vaccine administered without MIG induces antibody responses comparable to natural measles infection. The titers of antibody induced by Edmonston B with MIG or by the further attenuated vaccines are lower. All vaccines appear to confer durable protection, judging from evidence now extending to 10-year follow-up. When children are vaccinated much before 1 year of age, especially if they are only 6-9 months old, or if they receive vaccine with improper doses of MIG, fewer of them than desirable may seroconvert, and their acquired protection may be short-lived.

Experience from more than 44 million doses of vaccine given in the United States by mid-1971 indicates that live measles vaccines continue to have an excellent record of safety. Significant central nervous system reactions have been temporally associated with measles vaccine approximately

once for every million doses. In no case has it been shown that reactions were actually caused by vaccine.

VACCINE USAGE

General Recommendations

All susceptible children — those who have not had natural measles or measles vaccine — should be vaccinated. It is particularly important to vaccinate them before they encounter other susceptible children in day care centers, nursery schools, kindergartens, or elementary schools. Unvaccinated preschool and elementary-school children are often responsible for transmitting measles to other children in the community. There should be ongoing community programs to vaccinate all children at about 1 year of age or shortly thereafter.

Dose: A single dose of live measles vaccine should be given subcutaneously. No booster is needed. If Edmonston B strain vaccine is to be used, it should ordinarily be accompanied by MIG, 0.01 ml/lb of body weight, given with different syringes at different sites. MIG should not be given with further attenuated measles vaccines.

Age: For maximum efficacy, measles vaccine should be administered when children are at least 12 months old. However, in the face of epidemic exposure, it may be desirable to vaccinate infants as young as 6 months recognizing that the proportion of seroconversions declines progressively with diminished age. Infants vaccinated under these conditions should be revaccinated after reaching 1 year of age.

Vaccination of adults at the present time is rarely necessary, because nearly all persons in the United States over age 15 are immune. Limited data indicate that adverse reactions to vaccine are no more common in adults than in children.

Revaccination: Children vaccinated before age 9-10 months, particularly if vaccine were administered with MIG, should be revaccinated with live measles vaccine to assure full protection. (See also "Prior Immunization with Inactivated Measles Virus Vaccine.")

Children vaccinated when 10-12 months old need not routinely be revaccinated. It is reasonable to do so if MIG were administered with vaccine or if there is evidence in specific groups of children vaccinated at this age that protection is less than expected.

High-risk groups: Immunization against measles is particularly important for children with chronic illnesses such as heart disease, cystic fibrosis, and tuberculosis, and for those who are malnourished or are institutionalized. These children are more prone to severe disease and complications.

Use of Vaccine Following Exposure

Live measles vaccine can usually prevent disease if administered before or within 2 days after exposure to natural measles. No untoward effects have been observed, however, when vaccination followed exposure to natural measles by a greater interval.

*Official name: Measles Virus Vaccine, Live, Attenuated.

Use of MIG Following Exposure

To prevent or modify measles in a susceptible person exposed more than 48 hours before, MIG or standard Immune Serum Globulin (ISG), 0.1 ml/lb, should be given. He should be given live measles vaccine about 3 months later, when the measles antibody will have disappeared, if then at least 12 months old.

Precautions

Severe febrile illness: Vaccination should be postponed until the patient has recovered.

Tuberculosis: Exacerbation of tuberculosis known with natural measles infection might, by analogy, be associated with the live, attenuated measles virus. Therefore, an individual with known active tuberculosis should be under treatment when vaccinated.

Although tuberculin skin testing is desirable as part of ideal health care, it need not be a routine prerequisite in community measles immunization programs. The value of protection against natural measles far outweighs the theoretical hazard of possible exacerbation of unsuspected tuberculosis.

Recent Immune Serum Globulin administration: After administration of ISG, vaccination should be deferred for 3 months. Persistence of measles antibody from the globulin might interfere with optimal response to the vaccine.

Marked hypersensitivity to vaccine components: Measles vaccine produced in chick embryo cell culture should theoretically not be given to children clearly hypersensitive to chicken eggs. Similarly, vaccine produced in dog kidney cell culture should not be administered to children highly sensitive to dog hair or dander. To date, however, there have been no documented reports in the United States of serious or anaphylactic hypersensitivity reactions to measles vaccines.

Contraindications

Altered immune states: Administration of measles vaccine to children with leukemia has, rarely, been followed by fatal giant cell pneumonia. Theoretically, attenuated measles virus infection might be potentiated by severe underlying diseases, such as a lymphoma and generalized malignancy, or by lowered resistance, such as from therapy with steroids, alkylating drugs, antimetabolites, or radiation, or other conditions depressing cell-mediated immunity. Therefore, vaccination of such patients should be avoided.

Pregnancy: On theoretical grounds, it is prudent to avoid vaccinating pregnant women with live measles vaccine.

Management of Patients with Contraindications

If immediate protection against measles is required for persons in whom live measles vaccine is contraindicated, passive immunization with MIG or ISG (dose approximately 0.1 ml/lb, 0.25 ml/kg) should be given as soon as possible after a known exposure. It is important to note, however, that this dose of globulin, effective in preventing measles in normal children, may not be fully effective in children with acute leukemia. To decrease the risk of measles infection for such children, all their close contacts who are susceptible to measles should be immunized.

Prior Immunization with Inactivated Measles Virus Vaccine

Atypical measles, sometimes severe, has occasionally followed exposure to natural measles in children previously inoc-

ulated with inactivated measles virus vaccines. Untoward local reactions, such as induration and edema, have at times been observed when live measles virus vaccine was administered to persons who had previously received inactivated vaccine.

Despite the risk of local reaction, children who have previously been given only inactivated vaccine should be re-vaccinated with live vaccine to avoid the severe atypical form of natural measles and to provide full and lasting protection.

SIMULTANEOUS ADMINISTRATION OF CERTAIN LIVE VIRUS VACCINES

Recently licensed combination live virus vaccines (measles-mumps-rubella, measles-rubella, and rubella-mumps) incorporate specific vaccine virus strains of demonstrated effectiveness and safety when administered simultaneously. Combinations of other manufacturers' measles and rubella vaccines have not been tested sufficiently and, therefore, are not recommended for simultaneous administration at this time.

COMMUNITY IMMUNIZATION PROGRAMS

Ongoing Programs

Universal immunization as part of good health care should be accomplished through routine and intensive programs carried out in physicians' offices and public health clinics. Programs aimed at vaccinating children against measles at about 1 year of age should be established by all communities. In addition, all susceptible children who are first mingling with other children either at day care centers, nursery schools, kindergartens, or elementary schools should receive vaccine because of their role in community spread of natural measles.

Special Intensive Programs

Community-wide immunization programs have been useful in the rapid distribution of measles vaccines. Such programs continue to be important where there are many unvaccinated children. Attention should be directed toward systematic programs for groups of susceptible children remaining in both urban and rural areas.

Control of Measles Epidemics

Studies have shown that community-wide measles epidemics can be controlled by promptly vaccinating appropriate groups of children, particularly preschoolers, selected on the basis of their epidemiologic importance. However, once measles is widely disseminated in a community, it may be necessary to immunize susceptible children of all ages to alter the course of the epidemic.

SURVEILLANCE

Continued careful surveillance of measles and its complications is necessary to appraise nationally and locally the effectiveness of measles immunization programs, particularly efforts at measles eradication. Surveillance can delineate failures to achieve adequate levels of protection and define groups needing special attention.

Although more than 44 million doses of live measles vaccine have now been administered in the United States, continuous and careful review of adverse reactions is important. All serious reactions or suspected cases of measles in vaccinated children should be evaluated and reported in detail to local and State health officials.

SURVEILLANCE SUMMARY
POLIOMYELITIS – United States, 1970

In the United States in 1970, 32 cases of paralytic poliomyelitis, with two deaths, were reported, representing an increase over the total reported for 1969 (19 cases, no deaths). No state reports were received on cases of non-paralytic polio, although laboratory isolations of poliovirus from aseptic meningitis cases were reported by various laboratories.

The cases were widely distributed throughout the country, although there was a relative concentration in southern Texas (Figure 1). Cases occurred throughout the year, with the majority occurring in May, June, and August (Figure 2). This seasonal distribution is consistent with those observed since 1967 (Figure 3).

Most of the cases occurred in the unimmunized children under 10 years of age; one case occurred in an adult (aged 48). Paralytic disease was predominantly associated with poliovirus 1 infection. In one instance, the patient had close association with a recently vaccinated person. None of those who contracted paralytic polio in 1970 had received an adequate course of poliomyelitis vaccination (Table 1). The National Immunization Survey in 1970 showed a decrease of

Figure 2
32 REPORTED CASES OF PARALYTIC POLIOMYELITIS, BY MONTH OF ONSET – UNITED STATES, 1970

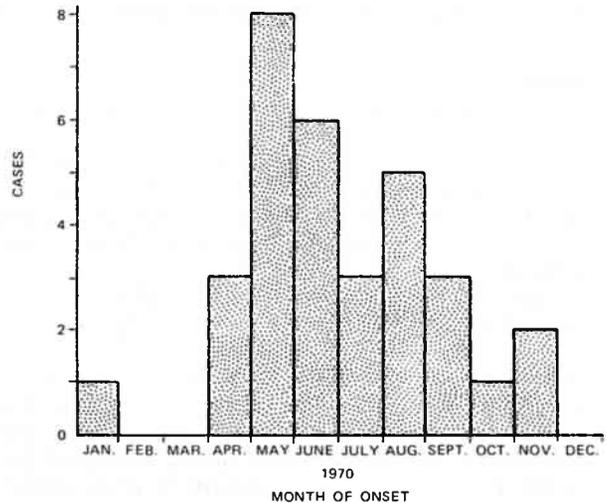


Figure 1
PARALYTIC POLIOMYELITIS CASES, BY COUNTY OF RESIDENCE
UNITED STATES, 1970

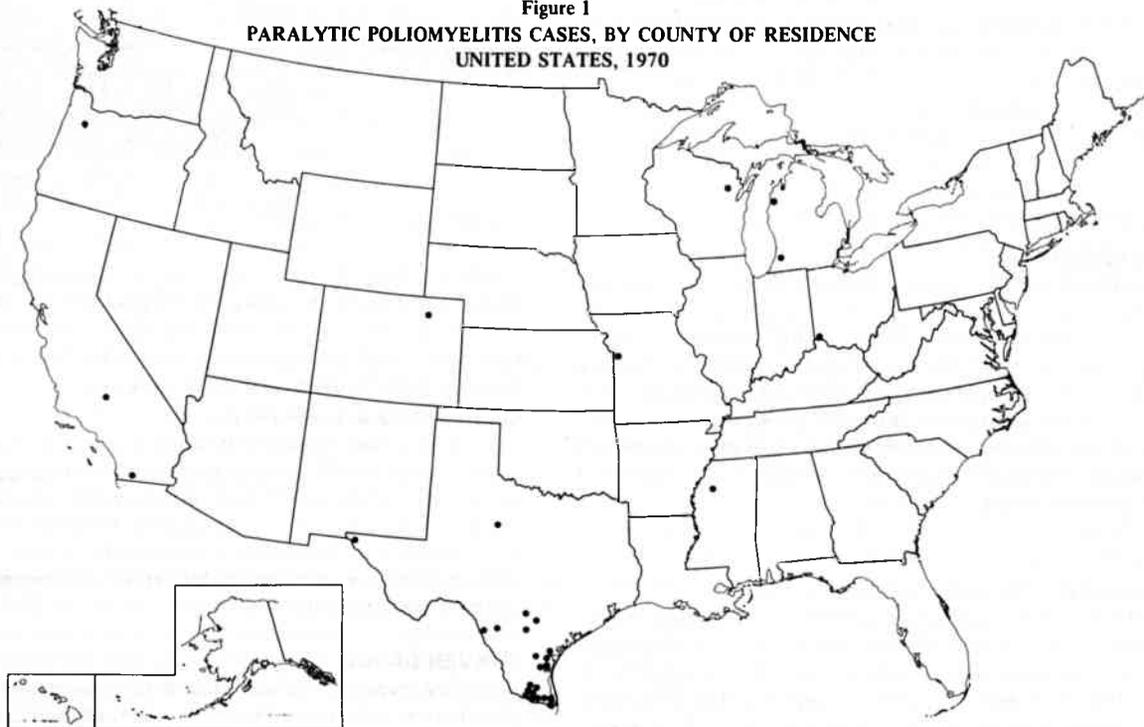
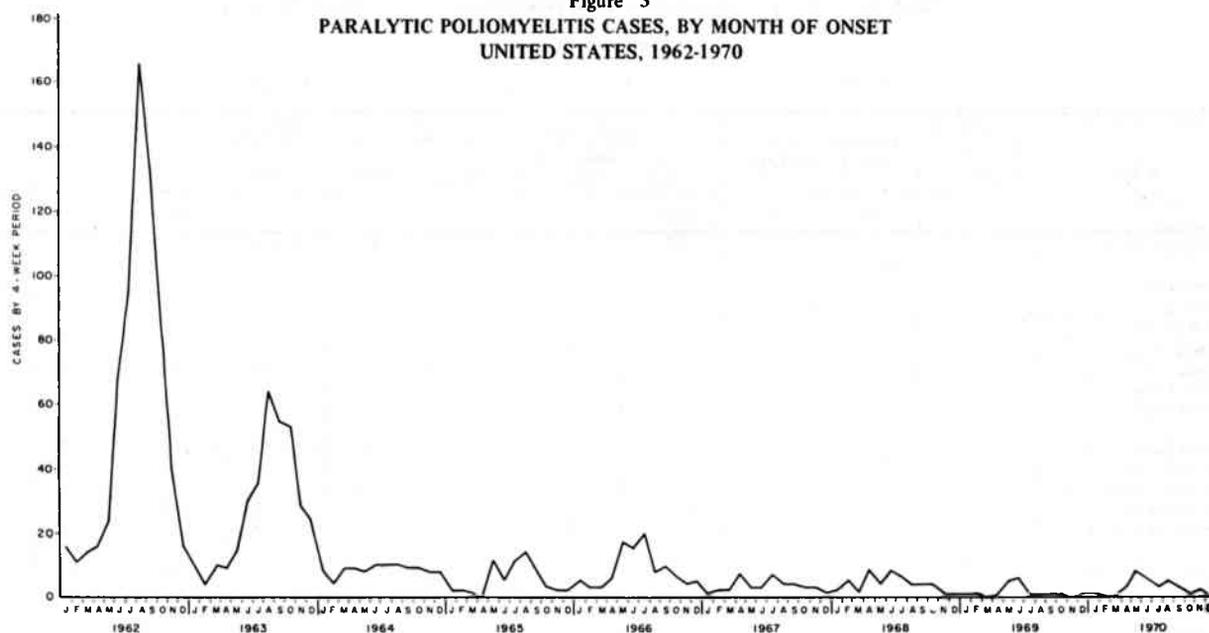


Table 1
Paralytic Poliomyelitis, by Immunization Status of All Cases with History of at Least One Immunization – 1970

State	Age	Sex	OPV		Year Last Dose	IPV	Year Last Dose	Virus and Type	Disability
			No.	Type					
Mich.	18 Mos.	F	1	OPV	6/70			I Wild	Significant
Texas	14 Mos.	M	1	OPV	10/70			I Unknown	Unknown
	8 Mos.	F	1	OPV	5/70			I Wild	Significant
	11 Mos.	F	1	OPV	4/70			I Wild	Severe
Calif.	7 Yrs.	F				3	1964	I Wild	Minimal

Figure 3
PARALYTIC POLIOMYELITIS CASES, BY MONTH OF ONSET
UNITED STATES, 1962-1970



approximately 8 percent in the history of adequate immunization against poliomyelitis between 1965 and 1970 in 1-14 year olds.

Of the 32 cases, 11 were confirmed by both viral isolation and diagnostic (fourfold) rise or fall in serotype-specific

antibody titer, while two cases were confirmed by diagnostic titer rise alone. Nineteen other cases were designated as to type on the basis of viral isolation only. Tabulation of the 32 paralytic cases by age group and "etiologic" virus type shows that persons with type 1 poliovirus were predominantly under 5 years of age (Table 2).

(Reported by the Neurotropic Diseases Unit, Viral Diseases Branch, and the Statistical Services Activity, Epidemiology Program, CDC.)

Table 2
Paralytic Poliomyelitis Cases by Age Group
and "Etiologic" Poliovirus Type - 1970

Age Group	Poliovirus Type				Total
	1	2	3	Unknown	
0-4	25	4	1	0	30
5-9	1	0	0	0	1
10-39	0	0	0	0	0
40+	1	0	0	0	1
Total	27	4	1	0	32

A copy of the original report from which these data were derived is available on request from

Center for Disease Control
Attn: Chief, Neurotropic Diseases Unit,
Viral Diseases Branch
Epidemiology Program
Atlanta, Georgia 30333

EPIDEMIOLOGIC NOTES AND REPORTS
SHIGELLOSIS - New York and New Jersey

On Aug. 17, 1971, 99 campers and staff members at a camp in Sullivan County, New York, visited another camp in Warren County, New Jersey, to play basketball. They ate the food and punch they had brought with them. Since the day was hot, however, many drank the host's camp water even after noting it had a "swamplike" smell. Sixty-four of these persons subsequently became ill with shigellosis after an average incubation period of 27 hours (Figure 4). Most patients experienced nausea, vomiting, and cramps. One patient had bloody diarrhea, and three were hospitalized.

Of nine stool specimens submitted for culture, four yielded *Shigella sonnei*. Food histories were obtained from 92

persons on the trip. Food-specific attack rates implicated the camp water as the vehicle of infection; 59 out of 73 persons who drank the water became ill (Table 3). In addition, the two bus drivers who drank the camp water but did not eat the picnic lunch became ill. There was documented secondary spread to six persons.

Although little gastrointestinal illness occurred among the New Jersey campers at the time that the New York campers became ill, investigation revealed a relatively high incidence of gastroenteritis during the summer. More illness occurred among residents of the girls' cabins than of the

(Continued on page 394)

Morbidity and Mortality Weekly Report

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

OCTOBER 23, 1971 AND OCTOBER 24, 1970 (42nd WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	DIPH- THERIA	ENCEPHALITIS			HEPATITIS			MALARIA	
				Primary including unsp. cases		Post In- fectious	Serum	Infectious		1971	Cum. 1971
				1971	1970	1971	1971	1971	1970		
UNITED STATES.....	145	5	19	37	58	3	219	1,233	1,229	143	2,521
NEW ENGLAND.....	17	-	-	2	2	-	5	81	99	4	71
Maine.....	-	-	-	-	-	-	-	7	12	-	4
New Hampshire*.....	-	-	-	-	-	-	-	2	-	-	-
Vermont.....	-	-	-	-	-	-	-	6	6	-	1
Massachusetts.....	2	-	-	2	1	-	3	30	36	4	51
Rhode Island.....	14	-	-	-	1	-	1	9	11	-	6
Connecticut.....	1	-	-	-	-	-	1	27	34	-	9
MIDDLE ATLANTIC.....	25	-	-	4	4	-	81	175	291	3	245
New York City.....	-	-	-	-	-	-	35	35	89	1	24
New York, Up-State... New Jersey.....	9	-	-	3	-	-	10	59	41	-	68
Pennsylvania.....	15	-	-	-	-	-	34	62	63	1	100
Pennsylvania.....	1	-	-	1	4	-	2	19	98	1	53
EAST NORTH CENTRAL.....	15	-	-	11	28	-	17	145	188	3	159
Ohio.....	3	-	-	5	14	-	1	29	47	1	21
Indiana.....	-	-	-	-	2	-	-	6	13	-	14
Illinois.....	2	-	-	1	1	-	3	33	49	1	47
Michigan.....	9	-	-	1	11	-	12	67	70	1	52
Wisconsin.....	1	-	-	4	-	-	1	10	9	-	25
WEST NORTH CENTRAL.....	-	2	9	7	4	1	4	27	39	2	223
Minnesota.....	-	-	-	3	-	1	2	3	3	-	23
Iowa.....	-	1	-	-	1	-	-	6	5	-	26
Missouri.....	-	1	-	-	-	-	-	11	19	-	27
North Dakota.....	-	-	-	-	1	-	-	-	-	-	3
South Dakota.....	-	-	9	-	-	-	-	2	1	-	2
Nebraska.....	-	-	-	-	-	-	-	1	7	-	14
Kansas.....	-	-	-	4	2	-	2	4	4	2	128
SOUTH ATLANTIC.....	18	-	-	3	3	1	23	158	105	4	386
Delaware.....	-	-	-	1	-	-	-	1	1	-	1
Maryland.....	-	-	-	-	-	-	11	19	18	-	51
Dist. of Columbia....	-	-	-	-	-	-	-	-	8	-	4
Virginia.....	-	-	-	1	2	-	4	26	11	-	64
West Virginia*.....	-	-	-	-	1	-	-	13	10	-	7
North Carolina.....	2	-	-	-	-	-	3	33	9	3	133
South Carolina.....	3	-	-	-	-	-	-	4	3	1	19
Georgia.....	-	-	-	-	-	-	-	27	18	-	67
Florida.....	13	-	-	1	-	1	5	35	27	-	40
EAST SOUTH CENTRAL.....	19	-	2	1	4	-	34	113	57	98	263
Kentucky.....	9	-	-	-	2	-	30	70	12	98	236
Tennessee.....	4	-	-	-	-	-	3	32	36	-	-
Alabama.....	1	-	2	-	1	-	1	7	8	-	21
Mississippi.....	5	-	-	1	1	-	-	4	1	-	6
WEST SOUTH CENTRAL.....	12	1	6	4	2	-	17	157	70	20	508
Arkansas.....	1	-	-	-	2	-	-	4	9	-	19
Louisiana.....	-	1	3	2	-	-	7	21	8	-	38
Oklahoma.....	1	-	-	2	-	-	-	19	10	1	70
Texas.....	10	-	3	-	-	-	10	113	43	19	381
MOUNTAIN.....	13	-	-	-	2	-	2	41	45	1	144
Montana.....	-	-	-	-	-	-	-	3	-	-	1
Idaho.....	-	-	-	-	-	-	-	4	-	-	5
Wyoming.....	-	-	-	-	-	-	-	2	-	-	3
Colorado.....	13	-	-	-	2	-	1	10	25	-	110
New Mexico.....	-	-	-	-	-	-	-	2	5	1	11
Arizona.....	-	-	-	-	-	-	-	15	7	-	9
Utah.....	-	-	-	-	-	-	1	4	8	-	3
Nevada.....	-	-	-	-	-	-	-	1	-	-	2
PACIFIC.....	26	2	2	5	9	1	36	336	335	8	522
Washington.....	2	-	-	1	-	-	4	41	30	-	2
Oregon.....	-	-	2	-	-	-	1	26	17	-	20
California.....	23	1	-	4	9	1	30	259	282	6	440
Alaska.....	-	-	-	-	-	-	1	6	6	1	7
Hawaii.....	1	1	-	-	-	-	-	4	-	1	53
Puerto Rico*.....	-	-	-	-	-	-	-	31	26	2	23
Virgin Islands.....	-	-	-	-	-	-	-	-	-	-	-

*Delayed reports: Hepatitis, serum: W. Va. delete 1

Hepatitis, infectious: N.H. 1, W. Va. delete 1, P.R. 12

Malaria: N.H. delete 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
OCTOBER 23, 1971 AND OCTOBER 24, 1970 (42nd WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			MUMPS		POLIOMYELITIS		
	1971	Cumulative		1971	Cumulative		1971	Cum. 1971	Total	Paralytic	
		1971	1970		1971	1970			1971	1971	1971
UNITED STATES.....	271	70,914	40,740	29	1,890	2,003	1,053	103,823	-	-	8
NEW ENGLAND.....	12	3,481	917	5	87	84	48	6,276	-	-	-
Maine.....	-	1,466	230	-	8	3	-	1,213	-	-	-
New Hampshire.....	-	211	59	4	18	8	1	660	-	-	-
Vermont.....	1	118	8	-	-	7	8	385	-	-	-
Massachusetts.....	2	263	405	-	32	37	21	1,537	-	-	-
Rhode Island.....	-	238	120	-	3	6	3	1,210	-	-	-
Connecticut.....	9	1,185	95	1	26	23	15	1,271	-	-	-
MIDDLE ATLANTIC.....	14	7,576	4,978	2	259	363	30	6,405	-	-	-
New York City.....	7	3,780	937	-	55	84	17	1,846	-	-	-
New York, Up-State...	5	680	318	1	78	72	NN	NN	-	-	-
New Jersey.....	-	1,197	1,712	1	57	138	4	1,697	-	-	-
Pennsylvania.*.....	2	1,919	2,011	-	69	69	9	2,862	-	-	-
EAST NORTH CENTRAL.....	97	15,659	9,924	6	219	233	382	41,764	-	-	-
Ohio.....	9	4,011	3,823	3	70	87	86	7,880	-	-	-
Indiana.....	4	2,752	273	1	18	20	32	5,191	-	-	-
Illinois.....	14	3,024	3,088	1	60	56	26	4,426	-	-	-
Michigan.....	35	2,396	1,769	1	56	60	56	9,711	-	-	-
Wisconsin.....	35	3,476	971	-	15	10	182	14,556	-	-	-
WEST NORTH CENTRAL.....	1	6,916	3,883	3	137	105	130	7,271	-	-	-
Minnesota.....	-	55	39	1	23	16	33	1,181	-	-	-
Iowa.....	-	2,343	1,156	2	12	13	81	3,505	-	-	-
Missouri.....	-	2,603	1,276	-	47	57	-	1,039	-	-	-
North Dakota.....	1	238	320	-	6	5	6	344	-	-	-
South Dakota.....	-	217	96	-	6	1	1	249	-	-	-
Nebraska.....	-	66	928	-	15	7	9	136	-	-	-
Kansas.....	-	1,394	68	-	28	6	-	817	-	-	-
SOUTH ATLANTIC.....	28	8,588	7,287	1	337	397	68	7,512	-	-	1
Delaware.....	1	42	264	-	2	3	-	174	-	-	-
Maryland.....	-	550	1,377	-	49	41	9	701	-	-	-
Dist. of Columbia...	-	15	343	-	13	3	1	92	-	-	-
Virginia.....	5	1,600	2,011	1	39	41	1	988	-	-	-
West Virginia.....	8	527	319	-	10	10	47	2,021	-	-	-
North Carolina.....	-	1,936	882	-	57	85	NN	NN	-	-	-
South Carolina.....	-	911	597	-	20	45	5	875	-	-	-
Georgia.....	-	1,128	15	-	24	35	-	11	-	-	1
Florida.....	14	1,879	1,479	-	123	134	5	2,650	-	-	-
EAST SOUTH CENTRAL.....	21	8,284	1,407	5	172	147	50	7,951	-	-	-
Kentucky.....	15	3,951	801	5	51	52	19	2,387	-	-	-
Tennessee.....	1	1,023	389	-	66	60	23	4,499	-	-	-
Alabama.....	5	1,897	127	-	29	24	8	918	-	-	-
Mississippi.....	-	1,413	90	-	26	11	-	147	-	-	-
WEST SOUTH CENTRAL.....	27	12,543	7,845	1	156	265	88	8,432	-	-	3
Arkansas.....	-	778	30	-	5	22	2	92	-	-	-
Louisiana.....	3	1,678	148	1	56	64	3	139	-	-	-
Oklahoma.....	-	756	555	-	7	20	1	183	-	-	-
Texas.....	24	9,331	7,112	-	88	159	82	8,018	-	-	3
MOUNTAIN.....	14	3,289	1,599	-	56	46	61	4,206	-	-	2
Montana.....	-	925	67	-	6	1	1	405	-	-	-
Idaho.....	1	272	69	-	11	6	5	143	-	-	-
Wyoming.....	-	85	11	-	2	2	8	303	-	-	-
Colorado.....	1	835	184	-	7	16	29	1,392	-	-	1
New Mexico.....	6	394	234	-	4	1	5	649	-	-	-
Arizona.....	6	439	977	-	8	16	9	1,147	-	-	-
Utah.....	-	332	36	-	15	3	4	167	-	-	-
Nevada.....	-	7	21	-	3	1	-	-	-	-	1
PACIFIC.....	57	4,578	2,900	6	467	363	196	14,006	-	-	2
Washington.....	22	1,059	554	1	27	44	73	5,592	-	-	1
Oregon.....	-	375	368	-	36	28	11	1,395	-	-	1
California.....	13	2,650	1,648	4	395	288	105	6,029	-	-	-
Alaska.....	-	55	141	1	1	-	4	91	-	-	-
Hawaii.....	22	439	189	-	8	3	3	899	-	-	-
Puerto Rico.....	3	541	956	1	10	5	26	1,101	-	-	-
Virgin Islands.....	-	17	6	-	-	1	4	67	-	-	-

*Delayed reports: Poliomyelitis, unspecified: Pa. delete 1

Morbidity and Mortality Weekly Report

393

Week No.
42

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED OCTOBER 23, 1971

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

Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes	Area	All Causes		Pneumonia and Influenza All Ages	Under 1 year All Causes
	All Ages	65 years and over				All Ages	65 years and over		
NEW ENGLAND:	686	417	42	30	SOUTH ATLANTIC:	1,222	621	46	60
Boston, Mass.-----	219	116	10	12	Atlanta, Ga.-----	143	66	5	8
Bridgeport, Conn.-----	45	26	8	2	Baltimore, Md.-----	210	112	6	13
Cambridge, Mass.-----	32	21	4	—	Charlotte, N. C.-----	65	27	—	4
Fall River, Mass.-----	24	15	2	—	Jacksonville, Fla.-----	68	37	—	6
Hartford, Conn.-----	53	31	—	3	Miami, Fla.-----	106	59	1	4
Lowell, Mass.-----	18	14	1	1	Norfolk, Va.-----	53	26	5	2
Lynn, Mass.-----	19	16	2	—	Richmond, Va.-----	95	46	7	3
New Bedford, Mass.-----	27	20	—	—	Savannah, Ga.-----	31	16	1	5
New Haven, Conn.-----	40	23	—	1	St. Petersburg, Fla.-----	66	50	6	2
Providence, R. I.-----	65	36	6	7	Tampa, Fla.-----	55	27	1	4
Somerville, Mass.-----	11	6	—	—	Washington, D. C.-----	273	126	12	8
Springfield, Mass.-----	43	23	4	1	Wilmington, Del.-----	57	29	2	1
Waterbury, Conn.-----	28	20	—	1	EAST SOUTH CENTRAL:	702	409	27	38
Worcester, Mass.-----	62	50	5	2	Birmingham, Ala.-----	134	79	4	8
MIDDLE ATLANTIC:	2,887	1,698	104	141	Chattanooga, Tenn.-----	37	21	3	3
Albany, N. Y.-----	48	25	—	4	Knoxville, Tenn.-----	30	24	2	—
Allentown, Pa.-----	24	22	2	1	Louisville, Ky.-----	133	85	13	5
Buffalo, N. Y.-----	146	87	6	7	Memphis, Tenn.-----	184	89	1	18
Camden, N. J.-----	46	25	—	1	Mobile, Ala.-----	41	27	—	—
Elizabeth, N. J.-----	28	19	1	1	Montgomery, Ala.-----	26	18	1	—
Erie, Pa.-----	25	15	2	1	Nashville, Tenn.-----	117	66	3	4
Jersey City, N. J.-----	67	37	1	1	WEST SOUTH CENTRAL:	1,257	654	34	58
Newark, N. J.-----	110	40	4	37	Austin, Tex.-----	58	33	6	2
New York City, N. Y.†-----	1,516	916	45	50	Baton Rouge, La.-----	39	19	3	5
Paterson, N. J.-----	23	15	4	—	Corpus Christi, Tex.-----	34	19	—	2
Philadelphia, Pa.-----	312	161	3	17	Dallas, Tex.-----	167	71	2	8
Pittsburgh, Pa.-----	121	73	6	3	El Paso, Tex.-----	37	17	1	2
Reading, Pa.-----	36	24	2	—	Fort Worth, Tex.-----	69	45	1	2
Rochester, N. Y.-----	116	72	11	3	Houston, Tex.-----	266	132	4	2
Schenectady, N. Y.-----	17	12	—	—	Little Rock, Ark.-----	62	35	—	5
Scranton, Pa.-----	26	19	1	1	New Orleans, La.-----	182	96	6	12
Syracuse, N. Y.-----	85	50	1	6	Oklahoma City, Okla.-----	76	33	1	7
Trenton, N. J.-----	55	24	5	6	San Antonio, Tex.-----	135	72	1	9
Utica, N. Y.-----	27	20	3	1	Shreveport, La.-----	64	37	3	1
Yonkers, N. Y.-----	59	42	7	1	Tulsa, Okla.-----	68	45	6	1
EAST NORTH CENTRAL:	2,670	1,499	77	121	MOUNTAIN:	481	276	18	39
Akron, Ohio-----	75	38	—	4	Albuquerque, N. Mex.-----	47	20	8	3
Canton, Ohio-----	48	31	3	2	Colorado Springs, Colo.-----	25	16	2	3
Chicago, Ill.-----	739	387	20	33	Denver, Colo.-----	116	68	4	13
Cincinnati, Ohio-----	175	100	7	7	Ogden, Utah-----	17	12	1	1
Cleveland, Ohio-----	202	99	3	7	Phoenix, Ariz.-----	126	68	1	12
Columbus, Ohio-----	139	87	3	7	Pueblo, Colo.-----	31	22	—	1
Dayton, Ohio-----	100	61	—	3	Salt Lake City, Utah-----	53	30	1	5
Detroit, Mich.-----	335	170	4	15	Tucson, Ariz.-----	66	40	1	1
Evansville, Ind.-----	48	33	1	—	PACIFIC:	1,788	1,076	36	58
Flint, Mich.-----	73	41	1	7	Berkeley, Calif.-----	17	15	1	—
Fort Wayne, Ind.-----	42	22	2	3	Fresno, Calif.-----	48	22	1	2
Gary, Ind.-----	52	29	2	4	Glendale, Calif.-----	33	22	—	—
Grand Rapids, Mich.-----	48	30	5	2	Honolulu, Hawaii-††-----	55	27	1	4
Indianapolis, Ind.-----	174	110	4	7	Long Beach, Calif.-----	126	73	3	5
Madison, Wis.-----	42	24	6	2	Los Angeles, Calif.-----	576	353	13	19
Milwaukee, Wis.-----	110	78	4	3	Oakland, Calif.-----	97	56	2	8
Peoria, Ill.-----	39	18	—	5	Pasadena, Calif.-----	37	22	1	1
Rockford, Ill.-----	36	22	1	3	Portland, Oreg.-----	155	108	1	4
South Bend, Ind.-----	33	26	1	1	Sacramento, Calif.-----	64	41	1	1
Toledo, Ohio-----	104	64	8	5	San Diego, Calif.-----	132	72	—	2
Youngstown, Ohio-----	56	29	2	1	San Francisco, Calif.-----	183	94	3	3
WEST NORTH CENTRAL:	788	479	20	34	San Jose, Calif.-----	43	31	—	—
Des Moines, Iowa-----	53	30	1	3	Seattle, Wash.-----	126	75	6	4
Duluth, Minn.-----	32	23	2	1	Spokane, Wash.-----	59	40	1	3
Kansas City, Kans.-----	24	7	2	3	Tacoma, Wash.-----	37	25	2	2
Kansas City, Mo.-----	134	93	3	4	Total	12,481	7,129	404	579
Lincoln, Nebr.-----	26	19	—	—	Expected Number	12,379	7,039	425	572
Minneapolis, Minn.-----	102	58	1	7	Cumulative Total (includes reported corrections for previous weeks)	534,913	306,736	19,460	24,108
Omaha, Nebr.-----	92	49	—	5					
St. Louis, Mo.-----	222	135	4	7					
St. Paul, Minn.-----	59	42	1	—					
Wichita, Kans.-----	44	23	6	4					
Las Vegas, Nev.*	21	7	—	2					

*Mortality data are being collected from Las Vegas, Nev., for possible inclusion in this table, however, for statistical reasons, these data will be listed only and not included in the total, expected number, or cumulative total, until 5 years of data are collected.

†Delayed Report for Week ended Oct. 16, 1971
 ††Estimate based on average per cent of divisional total

SHIGELLOSIS - (Continued from page 389)

Figure 4
SHIGELLOSIS CASES, BY ONSET
NEW YORK AND NEW JERSEY - AUG. 17, 1971

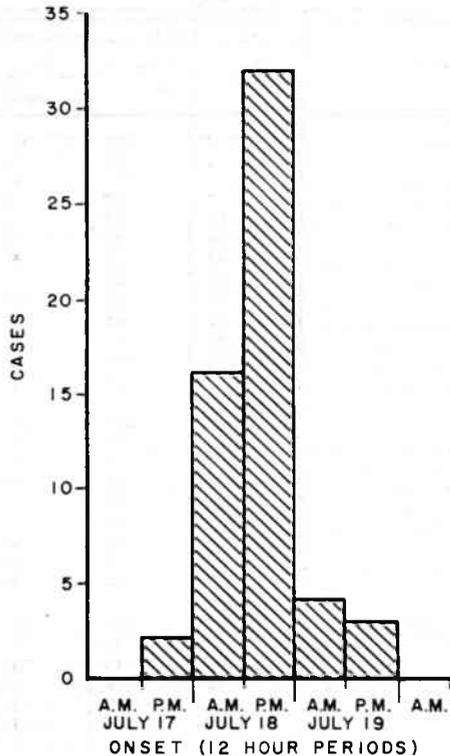


Table 3
Food-Specific Attack Rates for Persons with Shigellosis
New York and New Jersey - Aug. 17, 1971

Food Item	Ate			Attack Rate (Percent)	Did Not Eat			Attack Rate (Percent)
	Ill	Not Ill	Total		Ill	Not Ill	Total	
Water	59	14	73	81	0	16	16	0
Bologna	49	27	76	65	10	3	13	77
Salami	38	17	55	69	21	13	34	62
Mustard	48	28	76	63	11	2	13	85
Punch	58	30	88	66	1	0	1	100
Peaches	46	28	74	62	13	2	15	87

boys' cabins. Two separate wells supply water to the camp; both were contaminated with coliforms. The water for the girls' cabins and the water drunk by the New York campers was supplied by the well that was more heavily contaminated. Neither water supply had been adequately chlorinated in the summer. Control measures included chlorination of the water and plans for a new deep well.

(Reported by Sydney Schiff, M.D., Acting Village Health Officer, Liberty, New York; Emmett Landiak, Public Health Coordinator, Warren County Health Department, New Jersey; Alan R. Hinman, M.D., Director, Bureau of Epidemiology, New York State Department of Health; Ronald Altman, M.D., Director of Epidemiological Services, New Jersey State Department of Health; and two EIS Officers.)

The Morbidity and Mortality Weekly Report, circulation 25,500, is published by the Center for Disease Control, Atlanta, Ga.

Director, Center for Disease Control
Director, Epidemiology Program, CDC
Editor, MMWR
Managing Editor

David J. Sencer, M.D.
Philip S. Brachman, M.D.
Michael B. Gregg, M.D.
Susan J. Dillon

The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

Address all correspondence to: Center for Disease Control
Attn: Editor
Morbidity and Mortality Weekly Report
Atlanta, Georgia 30333

DHEW Publication No. (HSM) 72-8017

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF H.E.W.

3-G-19-08
Mrs Mary F Jackson, Library
Center for Disease Control