COMMUNICABLE DISEASE CENTER

Morbidity and Mortality

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WEEKLY REPORT

Week Ending April 23, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE

EPIDEMIOLOGIC NOTES AND REPORTS

HUMAN RABIES – Colorado

The first case of human rabies reported in Colorado since 1931 died in Fitzsimons General Hospital, Denver, Colorado, on April 2, 1966.

The patient was an 11-year-old girl who lived with her parents at Widefield, a community about 7 miles southeast of Colorado Springs, and who had not been out of the general area for the past year. On March 23 she became ill with fever, sore throat, and "runny" nose; the following day she was kept home from school. On March 25 she seemed better and returned to school, but that evening she experienced severe sore throat, muscular pains, profuse vomiting, and she refused food and liquids. The same symptoms persisted on March 26 and 27, and on March 28 the patient was taken to Ft. Carson where a tentative diagnosis of viral gastroenteritis was made. On the way home she lapsed into coma and later in the evening evidenced spasmodic

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CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

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

DISEASE	16th WEEK ENDED		MEDIAN 1961–1965	CUMULATIVE, FIRST 16 WEEKS		
	APRIL 23, 1966	APRIL 24, 1965		1966	1965	MEDIAN 1961–1965
Aseptic meningitis	20	17	28	443	454	389
Brucellosis	6	7	9	59	63	110
Diphtheria	10	2	8	50	69	100
Encephalitis, primary:						
Arthropod-borne & unspecified	31	30	- - -	393	478	- - -
Encephalitis, post-infectious	25	19	- - -	271	238	- - -
Hepatitis, serum	30	695	845	399	12,405	16,334
Hepatitis	644			11,063		
Measles (rubeola)	8,514	11,832	17,460	117,800	151,426	200,921
Poliomyelitis, Total (including unspecified)	—	—	3	7	6	44
Paralytic	—	—	3	6	4	39
Nonparalytic	—	—	- - -	—	2	- - -
Meningococcal infections, Total	98	67	52	1,632	1,382	944
Civilian	91	62	- - -	1,427	1,261	- - -
Military	7	5	- - -	205	121	- - -
Rubella (German measles)	1,792	- - -	- - -	22,613	- - -	- - -
Streptococcal sore throat & Scarlet fever	10,808	9,717	8,238	186,513	177,503	154,383
Tetanus	6	7	- - -	34	60	- - -
Tularemia	—	1	- - -	47	58	- - -
Typhoid fever	7	4	7	83	102	113
Typhus, tick-borne (Rky. Mt. Spotted fever)	—	—	- - -	9	6	- - -
Rabies in Animals	113	148	112	1,402	1,689	1,336

NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Botulism:	1
Leptospirosis:	9	Trichinosis: NY Upstate-1, Ohio-1	35
Malaria: Va.-2	86	Rabies in Man:	1
Psittacosis:	16	Rubella, Congenital Syndrome:	10
Typhus, murine:	6		

EPIDEMIOLOGIC NOTES AND REPORTS

HUMAN RABIES – Colorado *(Continued)*

contractions of the mouth muscles, severe salivation and convulsive seizures. She was transferred to Fitzsimons General Hospital in Denver on March 29 in coma, where, late in the afternoon, she became cyanotic and had respiratory failure. Mouth to mouth resuscitation being unsuccessful, she was placed in a respirator.

The patient expired at 6:00 p.m., April 2, and an autopsy was performed early. Brain material was positive for rabies by impression smears and by fluorescent antibody technique. Further laboratory studies are in progress but have not yet been completed.

There is no known exposure to a rabid animal in this case. The local health department has said there is some evidence that the child was bitten by a dog 10 months ago, but there is no valid history of this and the animal was neither quarantined nor examined for rabies.

Two cases of animal rabies have been reported from El Paso County during 1966, one in a cat and one in a skunk. The last previous rabies reported from the County was in 1960 when there were three cases.

Due to the prevalence of stray dogs and cats in the general area of Colorado Springs, a rabies quarantine covering the southern half of El Paso County was declared early in March 1966. This quarantine has since been extended to cover the entire county; an animal vaccination campaign was initiated at the time quarantine was started in March. Stray dogs and cats are being destroyed.

(Reported by Dr. C. S. Mollohan, Chief, Section of Epidemiology, Dr. R. L. Cleere, Director of Public Health, and Dr. M. D. Baum, Chief, Veterinary Section, Division of Preventive Medical Services, all of the Colorado State Department of Public Health.)

SUMMARY OF REPORTED CASES OF INFECTIOUS SYPHILIS

MARCH 1966 AND MARCH 1965

CASES OF PRIMARY AND SECONDARY SYPHILIS: By Reporting Areas March 1966 and March 1965 - Provisional Data

Reporting Area	March		Cumulative Jan	Mar
	1966	1965	1966	1965
NEW ENGLAND	43	48	141	126
Maine	1	-	2	1
New Hampshire	1	1	4	5
Vermont	1	-	1	-
Massachusetts	31	34	96	74
Rhode Island	1	1	5	7
Connecticut	8	12	33	39
MIDDLE ATLANTIC	432	411	1,113	1,178
Upstate New York	47	49	108	133
New York City	280	249	709	719
Pa. (Excl. Phila.)	21	16	62	45
Philadelphia	24	17	67	56
New Jersey	60	80	167	225
EAST NORTH CENTRAL	246	274	734	734
Ohio	50	54	139	151
Indiana	4	2	18	14
Downstate Illinois	16	11	52	52
Chicago	104	147	259	316
Michigan	70	52	240	188
Wisconsin	2	8	26	13
WEST NORTH CENTRAL	31	51	131	117
Minnesota	2	15	7	24
Iowa	7	3	22	7
Missouri	14	24	60	57
North Dakota	-	-	4	-
South Dakota	3	5	16	13
Nebraska	3	4	10	11
Kansas	2	-	12	5
SOUTH ATLANTIC	513	577	1,564	1,712
Delaware	3	3	6	14
Maryland	55	39	134	108
District of Columbia	43	54	111	133
Virginia	30	21	75	92
West Virginia	3	4	18	13
North Carolina	76	82	251	255
South Carolina	78	68	232	214
Georgia	76	85	275	278
Florida	149	221	462	605

Reporting Area	March		Cumulative Jan	Mar
	1966	1965	1966	1965
EAST SOUTH CENTRAL	199	207	574	619
Kentucky	13	12	37	42
Tennessee	28	46	78	150
Alabama	108	104	292	315
Mississippi	50	45	167	112
WEST SOUTH CENTRAL	222	192	665	577
Arkansas	19	19	53	53
Louisiana	79	42	175	161
Oklahoma	10	13	41	42
Texas	114	118	396	321
MOUNTAIN	28	51	94	159
Montana	5	2	10	5
Idaho	-	-	-	1
Wyoming	-	-	-	-
Colorado	4	1	13	6
New Mexico	6	10	22	31
Arizona	10	32	43	90
Utah	2	1	4	8
Nevada	1	5	2	18
PACIFIC	123	201	457	529
Washington	7	5	15	25
Oregon	6	2	11	10
California	105	192	422	485
Alaska	-	1	2	3
Hawaii	5	1	7	6
U. S. TOTAL	1,837	2,012	5,473	5,751
TERRITORIES	83	74	245	198
Puerto Rico	82	74	241	197
Virgin Islands	1	-	4	1

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

SURVEILLANCE SUMMARY

TUBERCULOSIS MORTALITY IN THE UNITED STATES, 1964

According to the final figures recently released by the National Center for Health Statistics, 8,303 deaths from tuberculosis were reported in the United States during 1964 compared to 9,311 deaths in 1963. The classification of the tuberculosis deaths in 1964, by form of disease and by sex and race of the patients, is set out in Table 1.

The decrease of 1,008 deaths from 1963 to 1964 represents the largest annual decline (10.8 percent) in tuberculosis mortality recorded since 1954. The trend of the tuberculosis death rates from 1940 to 1964 is shown in Figure 1. In 1954, the mortality rate for the United States, including the States of Alaska and Hawaii, was 10.2 per 100,000 population (16,527 deaths), whereas in 1964 the rate was 4.3 per 100,000 population (8,303 deaths).

Much of this improvement in tuberculosis mortality in the United States is attributed to the widespread use, since the early 1950's, of chemotherapeutic drugs in the care and treatment of tuberculosis. Similar changes have been reported for many other countries throughout the world.

(Reported by the Statistical Unit, Tuberculosis Branch, CDC.)

Figure 1
TUBERCULOSIS DEATH RATES
CONTINENTAL UNITED STATES
1940 through 1964

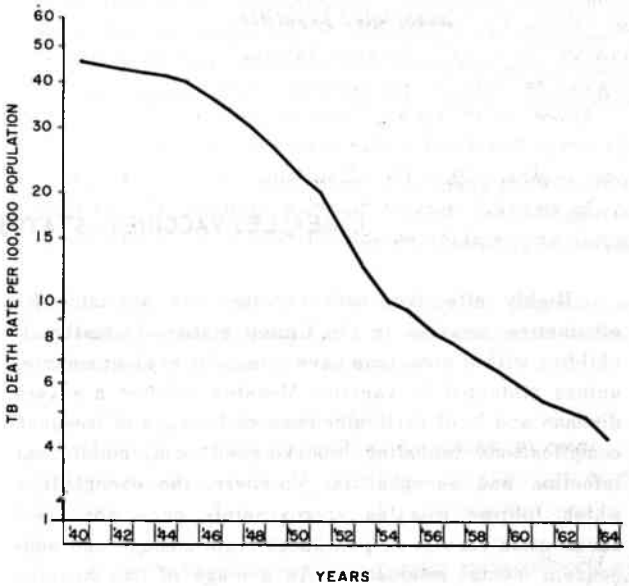

Table 1
Tuberculosis Mortality, United States, 1964

Color Sex	Deaths			Rates/100,000 Population		
	Respiratory	Other Forms	Total	Respiratory	Other Forms	Total
White						
Male	4,292	236	4,528	5.2	0.3	5.5
Female	1,419	145	1,564	1.6	0.2	1.8
Total	5,711	381	6,092	3.4	0.2	3.6
Non-white						
Male	1,371	156	1,527	12.5	1.4	13.9
Female	564	120	684	4.9	1.0	5.9
Total	1,935	276	2,211	8.6	1.2	9.8
All Races						
Male	5,663	392	6,055	6.0	0.4	6.4
Female	1,983	265	2,248	2.0	0.3	2.3
Total	7,646	657	8,303	4.0	0.3	4.3

RECOMMENDATIONS OF THE PUBLIC HEALTH SERVICE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICE

At its meeting of February 18, 1966, the Public Health Service Advisory Committee on Immunization Practice issued two statements. The first deals with measles vaccines and is a revision of the initial recommendations which appeared in the MMWR, Vol. 14, No. 7 (February 20, 1965) and No. 36 (September 11, 1965). The second statement deals with the current status of methodology in the prevention of transfusion-associated hepatitis.

I. MEASLES VACCINES – STATUS AND RECOMMENDATIONS FOR USE

Highly effective, safe vaccines are available for eliminating measles in the United States. Virtually all children will at some time have clinically evident measles unless protected by vaccine. Measles is often a severe disease and is of particular concern because of frequent complications including broncho-pneumonia, middle ear infection and encephalitis. Moreover, the encephalitis which follows measles approximately once per 1,000 cases often results in permanent brain damage and subsequent mental retardation. An average of one measles death occurs in every 10,000 cases.

All susceptible children by virtue of not having had natural measles or measles vaccine should be immunized. Programs directed toward vaccinating children at about one year of age should be established by all communities. Also of particular importance is the immunization of susceptible children entering nursery school, kindergarten and elementary school, since they are often responsible for transmission of measles to other children in the community.

A. Live Attenuated Measles Virus Vaccines (Edmonston and Schwarz Strains)

Live attenuated measles virus vaccines prepared from the Edmonston strain or Schwarz (further attenuated) strain are available for use in the United States. The Edmonston strain is propagated in either chick embryo or canine kidney cell cultures and may be given alone or simultaneously with Measles Immune Globulin according to manufacturers' directions. The Schwarz strain is prepared only in chick embryo cell culture and is suitable for administration without Measles Immune Globulin. The live attenuated measles virus vaccines produce a mild or inapparent, non-communicable infection. Fifteen percent of those receiving either Edmonston strain with Measles Immune Globulin, or Schwarz strain, may experience fever of 103°F (rectal) or greater, beginning about the sixth day and lasting no longer than five days. Edmonston strain alone may have about twice the frequency of such responses. However, the great majority of reports indicate that even children with high fever experience relatively little discomfort or minimal toxicity and reactions often go unnoticed by the parents.

An antibody response develops in virtually all susceptible children given live attenuated measles virus vaccines. The level and persistence of antibody induced by Edmonston strain administered alone is similar to that seen following regular measles. Antibody titers attained following Edmonston strain with Measles Immune Globulin or following Schwarz strain are slightly lower. However, with all three vaccine schedules, protection against naturally occurring measles appears to be long lasting.

On the basis of experience with more than 10 million doses administered in the United States, live attenuated measles virus vaccine appears to be one of the safest immunizing agents in use. To date, serious reactions associated with the live attenuated measles virus vaccines have been very rare. In some few instances, febrile convulsions without known sequelae, have been recorded.

B. Inactivated Measles Virus Vaccines

Inactivated vaccines derived from Edmonston strain measles virus and prepared in either chick embryo or monkey kidney cell cultures are available. These vaccines are administered in a three dose schedule at monthly intervals with subsequent boosters. Reactions are not more frequent than after administration of diphtheria and tetanus toxoids.

Following the primary immunization with inactivated measles virus vaccines, the protection achieved has been

satisfactory for the first few months, but has been shown to decline rapidly thereafter. In view of the greater efficacy and the safety of live attenuated measles virus vaccines, inactivated vaccines are not recommended except in those instances where the use of live vaccines is contraindicated.

Combined schedules employing inactivated vaccines followed by live vaccines have been used (Table 2). However, there are not sufficient advantages to recommend the use of these schedules; and, furthermore, there have been preliminary observations of untoward local tissue reactions when live attenuated measles virus vaccines have been administered to individuals previously immunized with inactivated measles vaccines.

C. Recommendations for Vaccine Use

1) Age

Vaccine is indicated primarily for children who have not had measles. For maximum efficacy, live attenuated measles virus vaccines should be administered to those at least 12 months of age. However, they may be given to infants 9-12 months of age with the realization that there may be a slight reduction in efficacy, particularly if Measles Immune Globulin is administered with the vaccine. Vaccination of adults at the present time is rarely necessary because most individuals are serologically immune by age 15. Limited data indicate that in the adult, reactions to vaccine are no more common than in children.

2) High Risk Groups

Immunization against measles is particularly important for children with chronic illnesses such as heart disease, cystic fibrosis, and chronic pulmonary diseases and, indeed, for any individual prone to serious complications following natural measles.

3) Prevention of Natural Measles Following Exposure

If administered up to and including the day of exposure to natural measles, live attentuated measles virus vaccines are usually effective in preventing disease. Limited studies reported to date indicate, however, that there is no protection conferred by the vaccines when given at longer intervals following exposure.

D. Community Immunization Programs

1) Ongoing Programs

Universal immunization as part of good health care should be accomplished through routine and intensive programs conducted in physicians' offices and public health clinics. Programs aimed at immunizing children at about one year of age should be established by all communities. In addition, susceptible children entering nursery school, kindergarten and elementary school should receive vaccine because of their particular role in community spread of natural measles.

2) Community-wide Mass Programs

Mass immunization programs may be useful to supplement the ongoing administration of live attenuated measles virus vaccine in communities or segments of communities in which the proportion of individuals so protected is known to be low. However, the following points should be considered in a community-wide mass immunization program:

a. The active cooperation of as many physicians as possible in addition to the official health agencies normally concerned with the care of children is important.

b. Since live attenuated measles virus vaccines are administered parenterally, an adequate number of medical and nursing personnel are required.

c. Despite the acknowledged high incidence of measles and its frequent, serious complications, substantial effort may be required to achieve complete community support.

d. Since measles vaccine is contraindicated in some children, preliminary screening to identify such individuals is desirable in mass measles immunization programs and should be provided where capability exists.

e. Although a number of children may have febrile reactions following live attenuated measles virus vaccine, experience in community-wide campaigns and in private medical practice indicates that only a small fraction of these reactions requires medical attention. Parents should be made aware of the reasonable expectations of such reactions in order that no undue concern develops after the program is underway.

3) Control of Measles Epidemics

Measles surveillance can pinpoint potential outbreaks in ample time to institute effective control. Several studies have shown that measles epidemics can be curtailed or halted by vaccination of selected groups of children in a community, particularly the susceptibles in nursery school, kindergarten and the first two or three grades of elementary school. However, once measles is widely disseminated in a community, it may be necessary to immunize susceptible children of all ages in order to alter the course of an epidemic.

E. Immunization Schedules

Recommended immunization schedules are shown in Table 2, page 139.

F. Precautions in the Use of Live Attenuated Measles Virus Vaccines

1) Severe Febrile Illnesses

Vaccination should be postponed.

2) Tuberculosis

Exacerbations of tuberculosis by natural measles infection have been noted, and by analogy might theoretically accompany infection with live attenuated measles viruses. (An observed basis of similarity between the natural and attenuated viruses is their ability to suppress tuberculin skin test positivity.) Therefore, individuals with active tuberculosis should be under treatment when live attenuated measles virus vaccines are given. Although tuberculin skin testing prior to age one year is desirable as part of ideal health care for individual patients, it should not be a routine prerequisite in community measles immunization programs. For children included in these programs, the risk from natural measles often far outweighs the theoretical hazards of possible exacerbation of undiagnosed tuberculosis.

3) Recent Immune Globulin Administration

Following the administration of more than 0.01 ml/pound of immune globulin, immunization should be deferred from six weeks to three months depending on the relative dosage administered, since the persistence of measles antibody in the globulin may interfere with response to to the vaccine.

4) Marked Hypersensitivity to Vaccine Components

Measles vaccines produced in chick embryo cell cultures should not be given to children sensitive to egg protein as indicated by their inability to eat eggs or egg products. Similarly, vaccines produced in canine cell cultures should not be administered to children highly sensitive to dog hair or dog dander.

5) Concurrent Use of Live Attenuated Measles Virus Vaccines With Other Live Virus Vaccines

Theoretical possibilities of superimposed reactions and suppressed antibody responses have led to general acceptance of the desirability of not administering more than one live antigen at a time when they can efficiently be given separately. Ideally, primary oral poliomyelitis immunization should be completed prior to the time indicated for measles vaccine and the two antigens separated by at least one month. Since smallpox and measles vaccines may each produce febrile reactions, similarly, there is merit in administering them at different times. When combined administration is elected for reasons of patient inaccessibility or threat of concimitant exposures, current information from field investigations would suggest that results comparable to those following separate administration can be anticipated.

G. Contraindications to Use of Live Attenuated Measles Virus Vaccines

If measles immunization is indicated for persons with diagnoses listed in the following three groups, inactivated measles vaccine should be used.

1) Leukemia, Lympomas and Other Generalized Malignancies

Although there are no reports of unusual complications of vaccine administration in children with severe underlying diseases other than leukemia, it is conceivable on theoretical grounds that in such individuals, potentiation of the attenuated measles virus infection might occur.

2) Altered Resistance from Therapy with agents such as steroids, alkylating drugs, antimetabolites, and irradiation.

3) Pregnancy

Purely on speculative grounds, there is reluctance to risk fetal damage which might theoretically be related to attenuated measles virus infection.

H. Continued Surveillance

Intensive surveillance of measles and its complications is needed to appraise the effectiveness of national immunization programs. Such surveillance activities can delineate failures to achieve adequate levels of protection and the definition of groups in which epidemic control programs should be instituted.

Although more than 10 million doses of measles vaccine have been administered in the United States, continuous and careful review of adverse reactions is of utmost importance. All serious reactions should be carefully evaluated and reported in detail to local and State health officials. The Communicable Disease Center should maintain close surveillance of all such experiences.

II. PREVENTION OF TRANSFUSION-ASSOCIATED HEPATITIS

The risk of viral hepatitis following blood transfusion represents a serious and continuing problem. A number of reports indicate that the incidence of clinical hepatitis is greater among recipients of blood obtained from certain categories of donors. The risk also becomes greater as the number of transfusions increases. In addition, the case-fatality rate of transfusion-associated hepatitis increases with advancing age.

Evidence has been advanced both for and against the effectiveness of immune globulin in the prophylaxis of transfusion-associated hepatitis. Although the administration of immune globulin in a dose of 10 ml at the time

of the transfusion and again one month later has been reported by some investigators to be effective in reducing the number of cases, evidence of the efficacy of this procedure is lacking in other carefully conducted trials. In view of these uncertainties, existing data do not provide a basis for allocating supplies of immune globulin for its routine administration to recipients of blood transfusions.

Several methods for lowering the incidence of transfusion-associated hepatitis are available. More attention should be directed toward enforcement of adequate standards of donor quality, development of central registries for the identification of known or suspect carriers, and encouraging the practice of using blood and potentially icterogenic blood products only when necessary.

Table 2

IMMUNIZATION SCHEDULES FOR MEASLES VACCINES

Schedule	Type of Vaccine	Age	Doses* and Administration	Comments
1	Live attenuated measles virus vaccine (Edmonston Strain)	12** Months and Older	1	Although the live attenuated measles virus vaccine may be administered safely with or without Measles Immune Globulin, many physicians will wish to give the two simultaneously because of the lessened frequency of clinical reactions.
2	Live attenuated measles virus vaccine (Edmonston Strain) plus Measles Immune Globulin	12** Months and Older	1 plus Measles Immune Globulin (.01 ml per lb. at different site with different syringe)	
3	Live "further attenuated" measles virus vaccine (Schwarz Strain)	12** Months and Older	1	Clinical reactions approximate those observed in schedule 2; Measles Immune Globulin is not recommended with this vaccine.
4	Inactivated Vaccine	Any Age	3 (monthly intervals) plus a booster dose at one year	In view of the rapid fall-off in antibody and evidence of decreasing immunity following a primary immunization series, use of this vaccine is not recommended except for special groups in which live attenuated measles virus vaccine is contraindicated.
5	Inactivated vaccine followed by live attenuated measles virus vaccine	12 Months and Older	1 dose inactivated vaccine followed in 1 to 3 months by 1 dose live attenuated measles virus vaccine	The preceding administration of inactivated vaccine serves to reduce the frequency and severity of clinical reactions following live attenuated measles virus vaccine administration. Local tissue reactions have been noted in some instances.
		Under 12 Months	3 doses inactivated vaccine at monthly intervals followed by 1 dose live attenuated measles virus vaccine at 12 months or older.	

*Manufacturers' directions regarding volume of dose should be followed.

**May be given to infants between 9 months and 1 year with the expectation of slightly decreased efficacy especially if administered simultaneously with Measles Immune Globulin.

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

APRIL 23, 1966 AND APRIL 24, 1965 (16th WEEK)

AREA	ASEPTIC MENINGITIS		BRUCELLOSIS	ENCEPHALITIS			DIPHTHERIA		HEPATITIS		
				Primary including unsp. cases		Post-Infectious			Serum	Infectious	Both Types
	1966	1965	1966	1966	1965	1966	1966	1965	1966	1966	1965
UNITED STATES...	20	17	6	31	30	25	10	2	30	644	695
NEW ENGLAND.....	1	-	1	2	1	2	-	-	1	35	41
Maine.....	-	-	-	-	-	-	-	-	-	3	14
New Hampshire.....	-	-	-	-	-	-	-	-	-	1	3
Vermont.....	-	-	-	-	-	-	-	-	-	-	1
Massachusetts.....	-	-	1	2	1	1	-	-	1	27	15
Rhode Island.....	1	-	-	-	-	-	-	-	-	-	3
Connecticut.....	-	-	-	-	-	1	-	-	-	4	5
MIDDLE ATLANTIC.....	2	3	-	10	10	4	-	-	14	85	124
New York City.....	2	-	-	1	4	-	-	-	11	8	21
New York, Up-State.	-	2	-	4	2	1	-	-	-	31	56
New Jersey.....	-	-	-	5	2	-	-	-	2	19	18
Pennsylvania.....	-	1	-	-	2	3	-	-	1	27	29
EAST NORTH CENTRAL...	3	2	-	5	2	4	-	-	4	92	137
Ohio.....	-	-	-	3	-	-	-	-	2	30	30
Indiana.....	-	-	-	1	-	-	-	-	-	11	8
Illinois.....	-	2	-	-	1	-	-	-	-	4	28
Michigan.....	3	-	-	1	1	4	-	-	2	41	60
Wisconsin.....	-	-	-	-	-	-	-	-	-	6	11
WEST NORTH CENTRAL...	-	-	2	-	1	-	-	-	-	39	65
Minnesota.....	-	-	-	-	1	-	-	-	-	1	3
Iowa.....	-	-	1	-	-	-	-	-	-	5	42
Missouri.....	-	-	-	-	-	-	-	-	-	28	4
North Dakota.....	-	-	-	-	-	-	-	-	-	2	-
South Dakota.....	-	-	1	-	-	-	-	-	-	-	4
Nebraska.....	-	-	-	-	-	-	-	-	-	-	1
Kansas.....	-	-	-	-	-	-	-	-	-	3	11
SOUTH ATLANTIC.....	2	4	-	5	5	1	-	1	1	91	61
Delaware.....	-	-	-	-	-	-	-	-	-	-	1
Maryland.....	-	-	-	-	3	-	-	-	-	31	8
Dist. of Columbia..	-	-	-	-	-	-	-	-	-	-	-
Virginia.....	-	-	-	1	-	-	-	-	1	8	22
West Virginia.....	-	-	-	-	-	-	-	-	-	8	4
North Carolina.....	2	1	-	4	1	-	-	-	-	12	5
South Carolina.....	-	-	-	-	-	-	-	-	-	1	2
Georgia.....	-	-	-	-	-	-	-	1	-	16	2
Florida.....	-	3	-	-	1	1	-	-	-	15	17
EAST SOUTH CENTRAL...	-	1	1	1	1	3	1	-	-	81	38
Kentucky.....	-	1	-	-	-	-	-	-	-	35	8
Tennessee.....	-	-	1	1	1	3	-	-	-	17	14
Alabama.....	-	-	-	-	-	-	-	-	-	19	11
Mississippi.....	-	-	-	-	-	-	1	-	-	10	5
WEST SOUTH CENTRAL...	3	3	1	2	1	1	-	-	-	58	51
Arkansas.....	-	-	-	2	1	-	-	-	-	9	3
Louisiana.....	-	-	1	-	-	1	-	-	-	10	8
Oklahoma.....	-	2	-	-	-	-	-	-	-	1	-
Texas.....	3	1	-	-	-	-	-	-	-	38	40
MOUNTAIN.....	-	1	-	2	1	-	9	-	-	17	40
Montana.....	-	-	-	-	-	-	9	-	-	3	2
Idaho.....	-	-	-	-	-	-	-	-	-	2	3
Wyoming.....	-	-	-	-	1	-	-	-	-	-	1
Colorado.....	-	1	-	2	-	-	-	-	-	-	13
New Mexico.....	-	-	-	-	-	-	-	-	-	6	9
Arizona.....	-	-	-	-	-	-	-	-	-	3	5
Utah.....	-	-	-	-	-	-	-	-	-	2	7
Nevada.....	-	-	-	-	-	-	-	-	-	1	-
PACIFIC.....	9	3	1	4	8	10	-	1	10	146	138
Washington.....	-	-	-	-	-	-	-	-	-	13	5
Oregon.....	-	-	-	1	-	-	-	-	-	18	7
California.....	9	3	1	3	8	10	-	1	10	110	121
Alaska.....	-	-	-	-	-	-	-	-	-	1	3
Hawaii.....	-	-	-	-	-	-	-	-	-	4	2
Puerto Rico.....	-	-	-	-	-	-	-	-	-	29	20

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
APRIL 23, 1966 AND APRIL 24, 1965 (16th WEEK) - CONTINUED

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			POLIOMYELITIS				RUBELLA
		Cumulative			Cumulative		Total		Paralytic		
	1966	1966	1965	1966	1966	1965	1966	1965	1966	Cumulative 1966	1966
UNITED STATES...	8,514	117,800	151,426	98	1,632	1,382	-	-	-	6	1,792
NEW ENGLAND.....	81	1,399	28,388	1	73	70	-	-	-	-	257
Maine.....	8	154	2,083	-	7	8	-	-	-	-	5
New Hampshire.....	5	25	335	-	7	4	-	-	-	-	2
Vermont.....	2	204	493	-	3	2	-	-	-	-	5
Massachusetts.....	31	538	15,785	1	30	23	-	-	-	-	123
Rhode Island.....	4	61	3,094	-	5	11	-	-	-	-	7
Connecticut.....	31	417	6,598	-	21	22	-	-	-	-	115
MIDDLE ATLANTIC.....	651	13,786	6,368	9	176	181	-	-	-	-	87
New York City.....	228	6,948	687	1	25	27	-	-	-	-	32
New York, Up-State.	93	1,448	2,063	1	48	43	-	-	-	-	53
New Jersey.....	77	1,473	1,102	4	51	61	-	-	-	-	-
Pennsylvania.....	253	3,917	2,516	3	52	50	-	-	-	-	2
EAST NORTH CENTRAL...	2,543	44,080	28,680	20	244	168	-	-	-	-	372
Ohio.....	484	3,750	5,893	6	67	51	-	-	-	-	33
Indiana.....	279	2,773	1,111	2	38	23	-	-	-	-	166
Illinois.....	233	8,804	1,060	3	46	43	-	-	-	-	79
Michigan.....	291	7,188	15,370	6	68	28	-	-	-	-	94
Wisconsin.....	1,256	21,565	5,246	3	25	23	-	-	-	-	-
WEST NORTH CENTRAL...	390	5,505	11,626	7	87	75	-	-	-	1	126
Minnesota.....	99	1,337	369	1	22	15	-	-	-	1	12
Iowa.....	223	3,005	6,419	1	13	2	-	-	-	-	113
Missouri.....	56	371	1,757	-	33	37	-	-	-	-	-
North Dakota.....	10	745	2,728	-	3	3	-	-	-	-	1
South Dakota.....	-	3	63	1	3	2	-	-	-	-	-
Nebraska.....	2	44	290	3	6	9	-	-	-	-	-
Kansas.....	NN	NN	NN	1	7	7	-	-	-	-	-
SOUTH ATLANTIC.....	628	9,082	17,365	19	263	276	-	-	-	1	139
Delaware.....	3	120	390	-	3	3	-	-	-	-	-
Maryland.....	66	1,375	646	2	25	26	-	-	-	-	7
Dist. of Columbia..	5	307	27	-	6	4	-	-	-	-	-
Virginia.....	110	956	2,659	5	38	29	-	-	-	-	23
West Virginia.....	192	3,485	10,289	1	9	22	-	-	-	-	16
North Carolina.....	5	150	206	5	53	42	-	-	-	-	-
South Carolina.....	27	426	713	2	36	44	-	-	-	-	5
Georgia.....	-	177	478	-	41	35	-	-	-	1	-
Florida.....	220	2,086	1,857	4	52	71	-	-	-	-	88
EAST SOUTH CENTRAL...	1,262	13,296	9,706	10	139	99	-	-	-	-	356
Kentucky.....	212	3,902	1,870	5	62	44	-	-	-	-	230
Tennessee.....	556	7,511	5,345	1	41	29	-	-	-	-	120
Alabama.....	451	1,229	1,744	4	27	20	-	-	-	-	6
Mississippi.....	43	654	747	-	9	6	-	-	-	-	-
WEST SOUTH CENTRAL...	1,249	13,790	21,447	15	247	224	-	-	-	3	15
Arkansas.....	50	425	832	1	13	12	-	-	-	-	-
Louisiana.....	4	68	54	5	95	126	-	-	-	-	-
Oklahoma.....	44	312	125	1	10	16	-	-	-	1	-
Texas.....	1,151	12,985	20,436	8	129	70	-	-	-	2	15
MOUNTAIN.....	635	6,548	11,868	-	56	49	-	-	-	-	176
Montana.....	123	990	2,794	-	3	1	-	-	-	-	11
Idaho.....	41	655	1,746	-	1	7	-	-	-	-	3
Wyoming.....	7	89	623	-	1	2	-	-	-	-	50
Colorado.....	39	680	2,555	-	32	11	-	-	-	-	17
New Mexico.....	133	465	469	-	9	7	-	-	-	-	-
Arizona.....	278	3,452	496	-	8	14	-	-	-	-	91
Utah.....	14	193	3,057	-	-	5	-	-	-	-	4
Nevada.....	-	24	128	-	2	2	-	-	-	-	-
PACIFIC.....	1,075	10,314	16,078	17	347	240	-	-	-	1	264
Washington.....	61	1,852	4,800	2	21	17	-	-	-	1	85
Oregon.....	74	795	2,276	5	20	18	-	-	-	-	20
California.....	925	7,539	7,043	9	289	198	-	-	-	-	141
Alaska.....	7	58	106	1	14	4	-	-	-	-	12
Hawaii.....	8	70	1,853	-	3	3	-	-	-	-	6
Puerto Rico.....	89	1,485	1,052	-	2	3	-	-	-	-	1

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
APRIL 23, 1966 AND APRIL 24, 1965 (16th WEEK) - CONTINUED

AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1966	1966	Cum. 1966	1966	Cum. 1966	1966	Cum. 1966	1966	Cum. 1966	1966	Cum. 1966
UNITED STATES...	10,808	6	34	-	47	7	83	-	9	113	1,042
NEW ENGLAND.....	1,677	-	2	-	1	-	3	-	-	3	16
Maine.....	86	-	-	-	-	-	-	-	-	-	-
New Hampshire.....	25	-	-	-	-	-	-	-	-	-	6
Vermont.....	4	-	-	-	-	-	-	-	-	3	10
Massachusetts.....	295	-	2	-	1	-	-	-	-	-	-
Rhode Island.....	124	-	-	-	-	-	-	-	-	-	-
Connecticut.....	1,143	-	-	-	-	-	3	-	-	-	-
MIDDLE ATLANTIC.....	413	-	5	-	-	3	20	-	1	10	103
New York City.....	22	-	3	-	-	3	11	-	-	-	-
New York, Up-State.	326	-	-	-	-	-	3	-	-	10	98
New Jersey.....	NN	-	-	-	-	-	3	-	-	-	-
Pennsylvania.....	65	-	2	-	-	-	3	-	1	-	5
EAST NORTH CENTRAL...	1,307	1	3	-	12	2	15	-	-	13	198
Ohio.....	177	-	-	-	3	-	6	-	-	-	104
Indiana.....	275	-	1	-	3	-	2	-	-	7	45
Illinois.....	177	1	1	-	5	1	2	-	-	2	15
Michigan.....	281	-	1	-	-	-	2	-	-	2	17
Wisconsin.....	397	-	-	-	1	1	3	-	-	2	17
WEST NORTH CENTRAL...	325	1	2	-	3	1	9	-	1	25	305
Minnesota.....	14	-	-	-	-	-	-	-	-	4	55
Iowa.....	160	-	-	-	-	-	3	-	-	1	69
Missouri.....	16	1	2	-	1	-	4	-	-	12	118
North Dakota.....	76	-	-	-	-	-	-	-	-	-	5
South Dakota.....	26	-	-	-	-	-	-	-	-	5	33
Nebraska.....	7	-	-	-	-	1	1	-	-	-	7
Kansas.....	26	-	-	-	2	-	1	-	1	3	18
SOUTH ATLANTIC.....	1,421	-	8	-	6	-	15	-	6	14	181
Delaware.....	32	-	-	-	-	-	-	-	-	-	-
Maryland.....	232	-	-	-	-	-	5	-	-	-	-
Dist. of Columbia..	2	-	-	-	-	-	-	-	-	-	-
Virginia.....	440	-	-	-	2	-	6	-	2	6	122
West Virginia.....	288	-	-	-	1	-	1	-	-	3	21
North Carolina.....	19	-	-	-	2	-	2	-	3	-	-
South Carolina.....	116	-	1	-	1	-	-	-	-	-	-
Georgia.....	3	-	3	-	-	-	-	-	1	3	23
Florida.....	289	-	4	-	-	-	1	-	-	2	15
EAST SOUTH CENTRAL...	1,879	1	2	-	12	-	7	-	-	12	197
Kentucky.....	449	-	-	-	2	-	1	-	-	1	27
Tennessee.....	1,241	-	-	-	6	-	4	-	-	9	164
Alabama.....	112	1	2	-	4	-	2	-	-	2	6
Mississippi.....	77	-	-	-	-	-	-	-	-	-	-
WEST SOUTH CENTRAL...	1,023	2	8	-	11	-	3	-	1	24	303
Arkansas.....	2	2	2	-	9	-	-	-	1	-	38
Louisiana.....	3	-	3	-	1	-	1	-	-	1	17
Oklahoma.....	74	-	-	-	-	-	1	-	-	16	84
Texas.....	944	-	3	-	1	-	1	-	-	7	164
MOUNTAIN.....	1,408	1	1	-	1	-	6	-	-	7	25
Montana.....	84	-	-	-	-	-	-	-	-	4	6
Idaho.....	156	-	-	-	-	-	-	-	-	-	-
Wyoming.....	16	-	-	-	-	-	-	-	-	-	-
Colorado.....	667	1	1	-	-	-	2	-	-	-	1
New Mexico.....	249	-	-	-	-	-	-	-	-	-	5
Arizona.....	81	-	-	-	-	-	1	-	-	2	12
Utah.....	155	-	-	-	1	-	3	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	1	1
PACIFIC.....	1,355	-	3	-	1	1	5	-	-	5	74
Washington.....	450	-	-	-	-	-	-	-	-	-	-
Oregon.....	35	-	-	-	-	-	1	-	-	-	-
California.....	763	-	3	-	1	-	3	-	-	5	74
Alaska.....	59	-	-	-	-	-	-	-	-	-	-
Hawaii.....	48	-	-	-	-	1	1	-	-	-	-
Puerto Rico.....	7	4	15	-	-	-	3	-	-	-	3

Week No. 16

Table 4. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED APRIL 23, 1966

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

Area	All Causes		Pneumonia and Influenza	Under 1 year
	All Ages	65 years and over	All Ages	All Causes
NEW ENGLAND:	733	458	27	31
Boston, Mass.	215	122	5	5
Bridgeport, Conn.	32	21	3	1
Cambridge, Mass.	30	18	-	-
Fall River, Mass.	30	25	-	-
Hartford, Conn.	61	39	2	6
Lowell, Mass.	26	17	2	1
Lynn, Mass.	17	12	1	-
New Bedford, Mass.	27	13	-	3
New Haven, Conn.	54	33	1	-
Providence, R. I.	69	39	7	6
Somerville, Mass.	8	8	-	-
Springfield, Mass.	63	45	5	3
Waterbury, Conn.	30	20	-	1
Worcester, Mass.	71	46	1	5
MIDDLE ATLANTIC:	3,682	2,240	191	157
Albany, N. Y.	41	22	3	7
Allentown, Pa.	44	26	-	-
Buffalo, N. Y.	195	113	10	11
Camden, N. J.	51	30	2	2
Elizabeth, N. J.	37	23	1	2
Erie, Pa.	42	28	5	-
Jersey City, N. J.	68	46	4	7
Newark, N. J.	74	41	5	3
New York City, N. Y.	1,871	1,150	100	59
Paterson, N. J.	37	18	1	-
Philadelphia, Pa.	572	338	16	36
Pittsburgh, Pa.	226	131	9	11
Reading, Pa.	60	44	6	3
Rochester, N. Y.*	114	74	13	6
Schenectady, N. Y.	23	9	-	2
Scranton, Pa.	46	29	2	-
Syracuse, N. Y.	70	52	2	3
Trenton, N. J.	54	25	4	2
Utica, N. Y.	30	23	5	1
Yonkers, N. Y.	27	18	3	2
EAST NORTH CENTRAL:	2,782	1,556	135	155
Akron, Ohio	71	44	-	1
Canton, Ohio	52	27	1	2
Chicago, Ill.	878	484	51	61
Cincinnati, Ohio	142	92	5	7
Cleveland, Ohio	201	107	2	10
Columbus, Ohio	127	69	5	6
Dayton, Ohio	81	47	1	6
Detroit, Mich.	369	206	24	15
Evansville, Ind.	32	17	4	4
Flint, Mich.	50	32	2	1
Fort Wayne, Ind.	43	25	4	3
Gary, Ind.	39	19	6	2
Grand Rapids, Mich.	58	34	7	3
Indianapolis, Ind.	199	99	8	14
Madison, Wis.	33	17	-	2
Milwaukee, Wis.	111	64	5	8
Peoria, Ill.	32	17	1	-
Rockford, Ill.	39	18	4	6
South Bend, Ind.	30	18	3	-
Toledo, Ohio	121	71	2	3
Youngstown, Ohio	74	49	-	1
WEST NORTH CENTRAL:	942	614	50	46
Des Moines, Iowa	51	40	2	1
Duluth, Minn.	24	16	1	1
Kansas City, Kans.	53	30	5	5
Kansas City, Mo.	135	92	6	1
Lincoln, Nebr.	33	23	2	1
Minneapolis, Minn.*	132	89	4	7
Omaha, Nebr.	70	49	3	5
St. Louis, Mo.	289	167	12	14
St. Paul, Minn.	102	72	6	6
Wichita, Kans.	53	36	9	5

Area	All Causes		Pneumonia and Influenza	Under 1 year
	All Ages	65 years and over	All Ages	All Causes
SOUTH ATLANTIC:	1,290	704	60	72
Atlanta, Ga.	129	63	2	11
Baltimore, Md.	281	157	15	12
Charlotte, N. C.	58	28	3	3
Jacksonville, Fla.	73	33	2	5
Miami, Fla.	91	47	-	4
Norfolk, Va.	54	26	3	2
Richmond, Va.	93	49	2	5
Savannah, Ga.	33	14	1	1
St. Petersburg, Fla.	101	84	7	-
Tampa, Fla.	93	65	11	4
Washington, D. C.	233	113	12	21
Wilmington, Del.	51	25	2	4
EAST SOUTH CENTRAL:	612	317	40	30
Birmingham, Ala.	99	44	1	5
Chattanooga, Tenn.	53	26	5	5
Knoxville, Tenn.	45	26	1	2
Louisville, Ky.	121	71	17	3
Memphis, Tenn.	115	62	8	8
Mobile, Ala.	37	21	1	-
Montgomery, Ala.	45	23	4	1
Nashville, Tenn.	97	44	3	6
WEST SOUTH CENTRAL:	1,043	563	55	65
Austin, Tex.	30	20	5	-
Baton Rouge, La.	37	17	2	1
Corpus Christi, Tex.	31	20	1	2
Dallas, Tex.	143	85	6	9
El Paso, Tex.	26	13	4	3
Fort Worth, Tex.	76	48	3	3
Houston, Tex.	175	79	7	9
Little Rock, Ark.	59	32	6	8
New Orleans, La.	182	85	4	11
Oklahoma City, Okla.	82	43	2	6
San Antonio, Tex.	86	50	3	6
Shreveport, La.	54	32	5	3
Tulsa, Okla.	62	39	7	4
MOUNTAIN:	444	253	25	23
Albuquerque, N. Mex.	43	23	8	5
Colorado Springs, Colo.	16	9	1	1
Denver, Colo.	124	79	9	4
Ogden, Utah	13	9	-	-
Phoenix, Ariz.	115	59	3	7
Pueblo, Colo.	21	15	1	1
Salt Lake City, Utah	54	30	1	4
Tucson, Ariz.	58	29	2	1
PACIFIC:	1,664	1,000	50	79
Berkeley, Calif.*	18	12	-	-
Fresno, Calif.	60	32	-	4
Glendale, Calif.	29	22	-	-
Honolulu, Hawaii	40	16	1	6
Long Beach, Calif.	77	44	3	6
Los Angeles, Calif.	448	281	13	25
Oakland, Calif.	99	50	1	2
Pasadena, Calif.	49	33	-	2
Portland, Oreg.	134	75	4	9
Sacramento, Calif.	59	37	1	2
San Diego, Calif.	98	48	2	6
San Francisco, Calif.	213	125	5	6
San Jose, Calif.	37	22	1	3
Seattle, Wash.	190	114	12	7
Spokane, Wash.	64	51	1	-
Tacoma, Wash.	49	38	6	1
Total	13,192	7,705	631	658

Cumulative Totals
including reported corrections for previous weeks

All Causes, All Ages	212,971
All Causes, Age 65 and over	124,032
Pneumonia and Influenza, All Ages	10,541
All Causes, Under 1 Year of Age	10,801

*Estimate - based on average percent of divisional total.

INTERNATIONAL NOTES–QUARANTINE MEASURES

Immunization Information for International Travel–1965-66 edition–Public Health Service Publication No. 384

Page 15–Plague
Paragraph 2, Line 4

Delete "The complete standard course need not be repeated at that time."

Insert "Anyone who has had a previous vaccination against plague should receive two injections spaced at a thirty day interval. Children may be vaccinated against plague at the age of three months."

THE MORBIDITY AND MORTALITY WEEKLY REPORT, WITH A CIRCULATION OF 15,600, IS PUBLISHED AT THE COMMUNICABLE DISEASE CENTER, ATLANTA, GEORGIA.

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CHIEF, EPIDEMIOLOGY BRANCH — A. D. LANGMUIR, M.D.
ACTING CHIEF, STATISTICS SECTION — IDA L. SHERMAN, M.S.

EDITOR: MMWR — D. J. M. MacKENZIE, M.B., F.R.C.P.E.

IN ADDITION TO THE ESTABLISHED PROCEDURES FOR REPORTING MORBIDITY AND MORTALITY, THE COMMUNICABLE DISEASE CENTER WELCOMES ACCOUNTS OF INTERESTING OUTBREAKS OR CASE INVESTIGATIONS WHICH ARE OF CURRENT INTEREST TO HEALTH OFFICIALS AND WHICH ARE DIRECTLY RELATED TO THE CONTROL OF COMMUNICABLE DISEASES. SUCH COMMUNICATIONS SHOULD BE ADDRESSED TO:

THE EDITOR
MORBIDITY AND MORTALITY WEEKLY REPORT
COMMUNICABLE DISEASE CENTER
ATLANTA, GEORGIA 30333

NOTE: THE DATA IN THIS REPORT ARE PROVISIONAL AND ARE BASED ON WEEKLY TELEGRAMS TO THE CDC BY THE INDIVIDUAL STATE HEALTH DEPARTMENTS. THE REPORTING WEEK CONCLUDES ON SATURDAY; COMPILED DATA ON A NATIONAL BASIS ARE RELEASED ON THE SUCCEEDING FRIDAY.