

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

PUBLIC HEALTH SERVICE

BUREAU OF DISEASE PREVENTION AND ENVIRONMENTAL CONTROL R 26 1968

SURVEILLANCE SUMMARY FOODBORNE DISEASE OUTBREAKS-1966 and 1967

In 1966, 25 states and in 1967, 37 states reported outbreaks of foodborne diseases to NCDC. These surveillance data have been compiled in an effort to characterize and to quantitate diseases caused by foodborne outbreaks, to study the types of vehicles and sources of contamination particularly when interstate products are involved, and to suggest possible control measures.

Although the data collected in 1966 and 1967 did not include every foodborne outbreak in the United States, various trends and the predominance of certain etiologic agents became apparent. The total number of people affected in the 273 reported foodborne outbreaks in 1967

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were 22,171 (Table 1). There were 15 associated deaths and 118 secondary cases. The etiology was confirmed in 160 of the 273 outbreaks (Table 2). Salmonella was the cause of most illness and accounted for 12,836 cases in 35 outbreaks. Beef, turkey, eggs and egg products, and (Continued on page 138)

And a second	16th WE	EK ENDED	MEDIAN	CUMULATIVE, FIRST 16 WEEKS			
DISEASE	April 20, 1968	April 22, 1967	1963 - 1967	1968	1967	MEDIAN 1963 - 1967	
Aseptic meningitis	27	40	20	454	463	445	
Brucellosis	6	3	7	38	60	67	
Diphtheria Encephalitis primary	2	Contraction (The State	2	47	35	65	
Atthropod-borne & unspecified	12	25		238	381	1001222100	
Encenhalitis post-infectious	14	20		142	243		
Hepatitis, serum	73	36	816	1,176	604	13,294	
Malario	38	37	2	702	619	34	
Measing (mitagin)	816	2 084	11 922	10 668	37 259	151 426	
Meningerenel infections hetel	54	2,004	67	1 204	950	1 049	
Civilian	50	57	01	1 089	877	1,040	
Militor	4	1		115	73		
Mumpa	4 323			80 476			
Poliomuslitis tatal	4,525	1 1 1 1 2 5	1	14	5	7	
Paralutia		i i	1	14	5	e e	
Rubella (Garrier angles)	1 015	1 000		21 222	10 025		
Strents (German measles)	1,915	1,900	10.450	21,232	19,025	100 500	
Total	11,215	10,690	10,452	181,048	194,243	177,503	
Tul	3	5	5	34	51	55	
Tularemia	24: 53.20	2	2	20	41	58	
Typnoid fever	9	8	7	75	101	101	
yphus, tick-borne (Rky. Mt. spotted fever)	2	-	-	6	10	7	
Mables in animals	87	112	112	1.201	1.413	1.404	

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

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.	and the second se	Cum.	1
Anthrax: Botulism: Leptospirosis: Fla2 Plague: Psittacosis: N.Y. Upstate-7	$ \frac{1}{8} $ $ \frac{1}{19} $	Rabies in man: Rubella, Congenital Syndrome: Trichinosis: Calif1, Ohio-4 Typhus, murine:	- 3 17 3	

FOODBORNE DISEASE OUTBREAKS - (Continued from front page)

0.945559237	Table I			
Etiology of Foodborne	Illnesses	Reported	to	NCDC
196	6 and 196	7		

The second	100	19	66	The second	1967						
Etiology	Outbr	eaks*	Ca	ses	Outb	reaks*	Cases				
April-20, 1968	Number	Percent	Number	Percent	Number	Percent	Number	Percent			
Bacterial	67	37.0	4,067	51.1	111	40.7	17,056	76.9			
S. typhosa	1	0.6	7	0.1	3	1.1	51	0.2			
Other salmonella	22	12.2	1,285	16.1	27	9.9	12,494	56.4			
Shigella	3	1.7	76	1.0	6	2.2	547	2.5			
C. perfringens	8	4.4	1,346	16.9	19	7.0	2,529	11.4			
C. botulinum	4	2.2	10	0.1	2	0.7	5	0.0			
Staphylococcus	26	14.4	860	10.8	32	11.7	1,339	6.0			
Enteropathogenic			1000		au adm - sgn		a sense sonn				
E. coli					2	0.7	70	0.3			
Brucella			11040-5-011		20	7.3	21	0.1			
Other bacterial	3	1.7	483	6.1	man specific and		11-11-120				
Parasitic	4	2.2	7	0.1	38	14.0	47	0.2			
Trichinella spiralis	4	2.2	7	0.1	37	13.6	42	0.2			
Other parasites					1	0.4	5	0.0			
Viral - Viral hepatitis					9	3.3	196	0.9			
Chemical	2	1.1	159	2.0	2	0.7	10	0.0			
Unknown**	108	59.7	3,727	46.8	113	41.3	4,862	22.0			
Total	181	100.0	7,960	100.0	273	100.0	22,171	100.0			

*Etiology proven or suspected on epidemiologic and/or clinical grounds.

**Includes all outbreaks in which no etiology was established or suggested.

All percentages less than 0.05 are represented as 0.0.

Table 2

Etiology of Confirmed and Unconfirmed Outbreaks and Cases of Foodborne Illness, 1967

	in Skie	a j	n Crie	Out	breaks	11			21	-	Са	ses				
Etiology	Confirmed Number Percent		Unconfirmed Number Percent		Nun	To nber	otal Percent	Conf Number	irmed Percent	Uncon Number	firmed Percent	Total Number Percent				
Bacterial	111		40.7	54	19.8	165		60.4	17,056	76.9	2,027	9.1	19,083	86.1		
S. typhosa		3	1.1	2	0.7	61 m	5	1.8	51	0.2	3	0.0	54	0.2		
Other salmonella		27	9.9	6	2.9		35	12.8	12,494	56.4	342	1.5	12,836	57.9		
Shigella		6	2.2	1	0.4		7	2.6	547	2.5	40	0.2	587	2.6		
C. perfringens	1.1.1	19	7.0	10	3.7	100	29	10.6	2,529	11.4	964	4.3	3,493	15.8		
C. botulinum	h	2	0.7	1	0.4	×	3	1.1	5	0.0	1	0.0	6	0.0		
Staphylococcus		32	11.7	23	8.4	100.5	55	20.1	1,339	6.0	575	2.6	1,914	8.6		
Enteropathogenic	1			12.1					10				<i>. . . .</i>			
E. coli		2	0.7	2	. 0.7		4	1.5	70	0.3	49	0.2	119	0.5		
Brucella	1.1	20	7.3	2	0.7		22	8.1	21	0.1	2	0.0	23	0.1		
Streptococcus				5	1.8		5	1.8	3		51	0.2	51	0.2		
Parasitic	38		14.0	5	1.8	43		15.8	47	0.2	5	0.0	52	0.2		
Trichinella				0.000							Contraction of the second					
spiralis		37	13.6	5	1.8		42	15.4	42	0.2	5	0.0	47	0.2		
Other parasites	1	1	0.4				1	0.4	5	0.0	OT Description		5	0.0		
Viral -				157		63			3				, pilarent			
Viral hepatitis ¹	9		3.3			9		3.3	196	0.9			196	0.9		
Chemical	2		0.7	4	1.5	6	-	2.2	10	0.0	22	0.1	32	0.1		
Miscellaneous				8	2.9	8		2.9			928	4.2	928	4.2		
Unknown				42	15.4	42		15.4			1,880	8.5	1,880	8.5		
Total	160		58.6	113	41.4	273	nga angi	100.0	17,309	78.1	4,862	21.9	22,171	100.0		

¹Hepatitis cases only confirmed clinically.

milk were the vehicles most frequently responsible for salmonella outbreaks (Table 3). *Clostridium perfringens* caused illness in 3,493 people in 29 outbreaks. Beef was the most common vehicle in outbreaks caused by this organism. Staphylococcal food poisoning accounted for illness in 1,914 persons in 55 outbreaks in which beef, pork, fish, and vegetables were the most common vehicles.

When the data were studied to determine the locations of outbreaks, it was found that the largest number of outbreaks, 94, occurred at home, but the number of people involved were only 323 (Table 4). In contrast, outbreaks (Continued on page 140)

	-	Table 3			
Vehicles Associate	d with Fe	oodborne	Illness by	Etiology,	1967
(Confirmed	Outbreak	s/Uncon	firmed Ou	tbreaks)	

Studie antos		2345 1415	-42	18 2 19	(f) ####	The se	Veh	icle	6. COUNT	Land Inte	114-08			
Etiology	Turkey	Chicken	Egg	Milk	Beef	Pork	Other meat	Vege- table	Fruit	Shell- fish	Other fish	Water	Other	Unknown
S. typhosa		NUS		3 4	84 - 144	0	1.1.1	.2016	-10.00	_	1000	1/2		2
Other salmonella	3/3*	1/0	2/1	2/1	4/1*	1/1	0/1*	0/2		0/1	2/0		0/1	8
Shigella												0/2	1/1	3
C. perfringens	_1/0*	3/0*			9/5*	0/1	2/0*				1/0		2/0	5
C. botulinum								1/1			1/0			
Staphylococcus ¹	3/1*	1/0	1/1	4/1	9/0	6/1	4/0	6/0		4/0	5/0		7/2	6
Enteropathogenic														
E. coli												2/1		1 mg m 1 m 3
Brucella				0/16			0/6							
Streptococcus	1/0						0/1*	1/0			1/0			00010108
Trichinella	1.1.1													
spiralis					0/2	0/40								
Other parasites									St			1/0		
Viral hepatitis									0/1	1/0		1/4	0/1	1
Chemical													1/3	2
Miscellaneous	1.0				1/0				1/0			1/0	0/4	1
Unknown ²	0/4	0/2			0/6*	0/1	0/2			0/3	0/1	0/1	0/7	14
Total	8/8	5/2	3/2	6/18	23/14	7/44	6/10	8/5	1/1	5/4	10/1	6/10	11/19	44

¹Five outbreaks with two vehicles; one outbreak with three vehicles.

 2 One outbreak with two vehicles.

*Includes some outbreaks due to meat and/or gravy and/or dressing.

Table 4

Place of Acquisition of all Foodborne Illness by Etiology, 1967

The second second second	Place of Acquisition													
Etiology	Home	Restaurant	Banquet	School	Store	Medical Institution	Other	Unknown	Total					
S. typhosa	3	Contractoresta		1	dangh di	the Intellig of	1	interes parti	5					
Other Salmonella	10	9	5	6	1		4		35					
Shigella	UNI WITO	1		2		1.	3		7					
C. perfringens	1	9	10	6			2	13 bra 1 and	29					
C. botulinum	3								3					
Staphylococcus	10	23	2	6	6	1	6	1	55					
Enteropathogenic E. coli	2						2		4					
Brucella	15						7		22					
Streptococcus	al The	1	1	1		1		1	5					
Trichinella spiralis	31	10					1		42					
Other parasites	1								1					
Viral hepatitis	5	3		1					9					
Chemical	3	3							6					
Miscellaneous	5		1			in mit hechinaria	1		8					
Unknown	5	10	6	12	3	and along	2	3	42					
Total outbreaks	94	69	25	35	10	5	29	6	273					
Number of Persons Ill	323	1,386	11,373	4,129	282	335	4,026	317	22,171					

FOODBORNE DISEASE OUTBREAKS - (Continued from page 139)

following banquets accounted for more than 50 percent of all reported illness with 11,373 people affected in 25 outbreaks. In 35 outbreaks 4,129 persons became ill after ingesting contaminated food served in schools. Food served at restaurants was responsible for 69 outbreaks in which 1,386 persons became ill. More outbreaks occurred in the last 6 months of the year than in the first 6 months (Table 5).

(Reported by Enteric Diseases Unit, Bacterial Diseases Section, and Statistics Section, Epidemiology Program, NCDC.)

Table 5

Monthly Incidence of Outbreaks of Foodborne Illness by Etiology, 1967

The output is a set	Month													
Etiology	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Unknown	Total
S. typhosa	12	1			1	KI P	1 XOUN	2	11.14			1	stilling = to	5
Other salmonella	2	1		4	1	5	2	5	6	3	6			35
Shigella	1.1						1		1	3	1		1	7
C. perfringens	2	3	1	5	5			2	1	2	4	2	2	29
C. botulinum	10					1				1		1		3
Staphylococcus	1		2	4	4	5	6	7	5	5	8	8		55
Enteropathogenic E. coli			1				1			2				4
Brucella	4	4	3	1	2		3	2	2				1	22
Streptococcus	A.									3	1		1	5
Trichinella spiralis	9	4	7	3	3	5	6		2	2	1			42
Other parasites	-								1					1
Viral hepatitis			1		2		1	3	1	1				9
Chemical			1	1				1	2	1				6
Miscellaneous								1	2	3	2			8
Unknown	1	5	3	3	4	5	4	3	3	3	6	2	1.1401	42
Total Outbreaks	19	18	19	21	22	21	24	26	26	29	29	14	5	273

EPIDEMIOLOGIC NOTES AND REPORTS BOVINE CYSTICERCOSIS – Texas

An epizootic of bovine cysticercosis has been reported from northern Texas. During the period from March 15 to April 1, 1968, 771 cattle from two large commercial feedlots were slaughtered in packing plants under the United States Department of Agriculture Inspection Program; 346 cattle (45 percent) were found to be infected with *Cysticercus bovis*. Infected cattle are known to have been shipped plants in Oklahoma, Nebraska, Colorado, Missouri, Kansas, Iowa, Texas, and Florida.

The following notice appeared in the *Federal Register* Vol. 33, No. 71, April 11, 1968:

> Notice is hereby given that the contagious, infectious, and communicable disease of livestock known as cysticercosis exists in cattle on the premises specified below. Accordingly, such premises are hereby quarantined because of said disease, and the interstate movement of cattle from such premises is prohibited except as provided in this part: a) Dean Cluck Feedlot, Gruver, Texas, known and described as the north 200 acres of the west half of Sec. 12 of Block 3 B, GHNH, in Sherman County, Texas.

b) Hereford Cattle Feeders, Inc., Hereford, Texas, known as and described as a premise of 524.04 acres out of the north part of Sec. 27, Block K-4, Certificate No. 264, in Deaf Smith County, Texas.

An investigation is now in progress to determine the mode of spread of this zoonosis and the extent of the movement of infected cattle into retail channels.

(Reported by J.S. Stein, Director, Livestock Slaughter Inspection Division, U.S.D.A.; Dr. George Martin, Staff Officer in Planning Branch, Livestock Slaughter Inspection Division, U.S.D.A.; Dr. A.B. Rich, Director, Division of Veterinary Public Health, Texas State Department of Health; and a team from NCDC,)

Editorial Note

Cysticercus bovis is the intermediary stage of the beef tapeworm of man, Taenia saginata. In the United States, the majority of bovine cysticercosis exists on the West Coast. In 1967, 14,407 cattle (0.05 percent of the cattle slaughtered in the United States in 1967) were found to be infected at postmortem inspection, and 10,455 of

these cattle were from feedlots in California (Table 6). The present epizootic is unusual because of its high infection rates and its location in Texas.

Man acquires *Taenia saginata* by eating inadequately cooked "measly" beef (beef infected with cysticercosis). Infection is subsequently spread to cattle by human indiscriminate defecation in cattle pastures and feed pens or through the distribution of sewage and septic tank effluent onto pastures where cattle graze.

The treatment for $Taenia \ saginata$ is Quinacrine or Niclosamide¹.

¹Available through Parasitic Disease Drug Service, NCDC.)

Table 6 Numbers of Beef Carcasses Infected With Cysticercus bovis, United States, 1967*

State State	Cases
Arizona	303
California	10,455
Colorado	334
Texas	777
All other states	2,538
Total United States	14,407

*Source: Livestock Slaughter Inspection Division, U.S.D.A.

INTERNATIONAL NOTES FOLLOW-UP MALARIA - Ceylon

The conditions contributing to the recent outbreak of malaria in Ceylon (MMWR, Vol. 17, No. 11) and the geographic spread of the epidemic have been further investigated. Annual case records of Plasmodium vivax, the species responsible for the epidemic, show that P. vivax was effectively controlled during the eradication efforts of the Anti-Malaria Campaign (AMC) which began in 1958. By 1963, P. vivax had virtually disappeared from Ceylon with only eight cases occurring in 1963. During a period of 35 months, January 1963 through December 1965, no indigenous cases of P. vivax malaria were detected in Ceylon, and all but one of the 40 cases in these 3 years were investigated and classified as imported. In 1966 and 1967 the incidence of P. falciparum and P. malariae remained constant, while the number of P. vivax cases progressively increased. This increase was small during 1966 when the total for the year reached six cases with no more than two cases reported in any one quarter. During 1967, however, the number of indigenous cases began to increase rapidly (22 cases in the first quarter, 92 in the second quarter, 686 in the third, and 2,217 in the fourth quarter of 1967). The total of 3,017 confirmed cases of indigenous P. vivax infections far exceeded the annual totals in the decade before (1958 with 781 cases, 1959 with 1,126 cases, and 1960 with 376 cases). In January 1968, P. vivax cases reached 16,851 and in February increased to 42,056 cases. The number of slides collected and P. vivax cases from 1958 to 1968 are graphically illustrated in Figure 1.

Records of investigations of the early P. vivax cases were reviewed. The first indigenous case of P. vivax discovered in Ceylon in 35 months was reported by a passive case detection post (PCD) of the AMC in the Kurunegala Division of Ceylon (Figure 2). No secondary cases were discovered despite prompt widespread investigation and follow-up which included five serial mass blood films were taken. In January 1966, in this same division, two more indigenous cases of P. vivax malaria were found in one village through active case detection (ACD) canvassing of the AMC. No evidence was found to relate the late 1965 case and the two January 1966 cases. Later in 1966, four new cases of indigenous P. vivax were discovered that were related to the two January 1966 cases.



In 1967, indigenous P. vivax spread in the AMC central region, where malaria remained confined for the first 9 months of the year. In October, P. vivax malaria was reported from the Elahera gemming area of the Matale Division, an area visited by transient gem miners from all parts of Ceylon. Many gem miners became infected and apparently spread P. vivax to other regions of Ceylon. Figure 3 shows the divisions reporting indigenous P. vivax malaria by quarter from 1966 through February 1968. It also illustrates that the outbreak was localized in one division, Kurunegala, until it reached the gem mining area in Matale, and then spread throughout Ceylon.

(Continued on page 142)

FOLLOW-UP MALARIA - (Continued from page 141)



Attempts have been made to explain the reappearance of indigenous P. vivax malaria in epidemic form after a 35-month absence from Ceylon. A review of the prompt and thorough case investigations of the original P. vivax cases in the Kurunegala Division provided no evidence that these cases were imported. This led to examination of the AMC surveillance system to ascertain whether or not P. vivax transmission could have persisted from 1963 to 1967 at a low, undetected level.

In 1967, 1,453,984 blood slides were examined. This is an Annual Blood Examination Rate (ABER) of 19 percent for the population of the malarious area of the country.

This is an impressive effort. The ABER for the endemic area, however, was 39 percent, while the epidemic area had an ABER of only 6 percent-largely consisting of slides collected by PCD. The efficiency of the ACD network in detecting all positive cases also may be questioned, because a very large number of cases were found by mass blood surveys. For example, during 1967, 19 percent of total blood slides came from ACD and yielded 4 percent of positive cases; 62 percent of the total slides came from PCD and yielded 51 percent of positive cases, while mass blood survey slides accounted for the remaining 19 percent of slides and 45 percent of positive cases. In addition a random check of age and sex distribution of 480 ACD slides collected in the Kurunegala Division (the original focus of the P. vivax epidemic) revealed that only 4.2percent of the slides were taken from males older than 15 years. In contrast 41.5 percent of indigenous P. vivax cases occurred in males older than 15 years. This fact is probably due to occupational hazards. Adult males frequently sleep in field huts while performing chena (jungle "strip and burn") cultivation. These adult males are at special risk of contracting malaria since they sleep either out-of-doors or under one-walled temporary structures, difficult to find or spray. Because the men are frequently away from their villages during visits of surveillance agents, the group at highest risk has the fewest number of blood films taken.

Background information supplied about the malaria vector, Anopheles culicifacies, indicates that the weather conditions in 1966 and 1967 were conducive to the transmission of malaria. Reportedly, 1966 and 1967 were years of abnormally light rainfall, particularly in the dry zone (Figure 2) where the October to January monsoon did not occur in many areas, and such periods of drought have traditionally increased the vector population. After DDT spraying was withdrawn from most of the country in April 1963 and from the remainder of the country in April 1964, vector density was expected to increase. The increase occurred and was particularly apparent in the Central Division where the current epidemic started (Table 7). In summary, the reasons for the current epidemic seem to be (1) an increase in the mosquito vector after DDT spraying was withdrawn in 1963 and 1964, (2) an increase

	a 102-ml RI	July-October	, 1964	July-October	, 1965	July-October, 1966		
Anti—Malaria Campaign Region	Entomology Stations	A. culicifacies Females*	Females per Ent. Station	A. culicifacies Females*	Females per Ent. Station	A. culicifacies Females*	Females per Ent. Station	
Northern	16	76	4.75	311	19.44	574	35.88	
Central	16	38	2.38	1,444	90.25	2,340	146.25	
Eastern	8	0	0.00	0	0.00	24	3.00	
Southern	8	1	0.13	30	3.75	132	16.50	
Total	48	115	2.40	1,785	37.19	3,070	63.96	

Available	Vector	Density	Data (A.	culicifacies	Females).	1964-1966

Table 7

*Numbers represent total A. culicifacies females captures in two fixed experimental huts per entomology station during routine bimonthly knockdown spray catches.

Figure 3 SHS DIVISIONS REPORTING INDIGENOUS P. VIVAX CASES BY QUARTER, 1966-1968



in the mosquito vector due to light rainfall in 1966 and 1967, and (3) a small reservoir of undetected cases of malaria in 1963-1965, primarily in the 15 years or older male working population. The geographic spread of the epidemic was from Kurunegala to the gem mining area of Matale and then throughout the rest of Ceylon. (Reported by the Department of Health Services, Colombo, Ceylon, and the Malaria Eradication Program, NCDC.)

FOR WEEKS ENDED APRIL 20, 1968 AND APRIL 22, 1967 (16th WEEK)

for an institution of the second s	at all to I well all			1	1	ENCEPHALI'	ris	HEPATITIS			
AREA	ASE MENI	PTIC NGITIS	BRUCELLOSIS	DIPHTHERIA	Pri incl unsp.	mary uding cases	Post- Infectious	Serum	Infectious		MALARIA
	1968	1967	1968	1968	1968	1967	1968	1968	1968	1967	1968
UNITED STATES	27	40	6	2	12	25	14	73	798	799	38
NEW ENGLAND	C 1997	100			1	3	-	5	46	34	2
Maine	1.1	-	· · · · · · · · · · · · · · · · · · ·	-	-	-	-	_	1	-	
New Hampshire	100	-	1.6 - 1.6	1.1	- P-	2		(a) (b) (b)	1	3	
Vermont	100	1.1				-	1	1. State (1. State)	2	1	
Massachusetts	14				-	1	121 10	-	21	13	-
Connecticut	120-		1 2 3	20.1	-	1	120	2	19	15	2
	9373	1.1	1	9224			0.255.				
MIDDLE ATLANTIC	3	4	2		6	6	1	13	153	133	4
New York City	1		-	-	4	3		6	44	35	2
New York, up-State.	-				-	-	1	3	35	31	2
New Jersey	2	-	1		2			3	50	28	-
1 childy 1 validation 1111	100		1.5	100		· ·			50		
EAST NORTH CENTRAL	3	6	-	-	3	5	2	4	119	136	2
Ohio	2	1	-		1	3		1	50	28	
Indiana	-	3	-	- 1		1			13	13	
Michigan	1	1			2	1		-	53	35	2
Wisconsin.		1			-	1		5	7	10	
			- T			1.	Contraction of the		10	12.23	
WEST NORTH CENTRAL	1000	2.1	1	100		0.0000	3	1-11	33	48	1
Minnesota	1.1	-	1.2.23	-		100	2		11	7	
Missouri	n		1.00						4	21	
North Dakota	- C - C	-	1.1.1		-			-	11		-
South Dakota		-	2250			102.20			1.000	JU 17-2 T	
Nebraska	132-	-	23-080	100- I	-	01-12-				2	1
Kansas	26 CA	-	110-12-13			Distance		-	7	3	-
SOUTH ATLANTIC	3	2	2			24	2	1	50	02	14
Delaware	668 <u>-</u>	-		1		57100	-	-	3	3	-
Maryland	1	2	1 2 2 2 2 2	102	- 5	-93	57.0-	1	16	17	1
Dist. of Columbia		-	1.0-02		1.000	10-12		10.00	2	824 -	-
Virginia	- 10 C	-	2				S		9	25	1
West Virginia			1000	2.95		1.			2	10	5
South Carolina	L		100.208	200					1	10	-
Georgia	6037 - T	-	1000000	S.24	1.00	9 BL 874	and the second second		16	9	6
Florida	1	1.1.1	1.1	1		1	2	-	9	7	1
			· · · · · · · · · · · · · · · · · · ·		104						11111
EAST SOUTH CENTRAL	5	6		-	-	2	-	1	60	66	
Tennessee	2	3	1 1	1	-	2		1	16	20	- 10
Alabama	1	1	- 1		-			2	5	13	
Mississippi	2		Side and	21.14	-				8	10	1.00
		100			1.00	100	And the second second				1
Arkansas	4	1	1	1	1	4	1	1	101	102	1
Louisiana	1		-	1	-	4	1	1	18	6	-
Oklahoma	-	-	1	- 1	1		-	-	21	12	-
Texas	3	1	-	-	-		-	-	59	77	-
MOUNTAIN	1.1	1.1.1	and the set		1274	10.1	10=Pe act 1	100,000	40	27	3
Montana	- Participa	2.81 -	Cogners 1		-	1		-	2	1	-
Idaho			ing the second			-			3	2633	
Wyoming	1.50	infite fee	an alter a regio	1.000	(11) In (15).	Constant in a	JED/ - TAD	- 22	1207-92	196-	-
Colorado			-		•		-	1	14	4	1
New Mexico	-	- Fulged	a shire un	-	ALC: NO	Activation 1		1.1568	2	13	
Utah	-				-			100	10	2	-
Nevada	-	-	-			-			-	1999-	-
						1.1	and the second		1.57.59	128 -	11
PACIFIC	9	21	-	-	1	3	5	47	187	170	1
Oregon	I	Z	- 49		-			1	22	16	2
California	8	19				3	4	46	145	135	8
Alaska.	-	-	-		-	1		-	-	2	-
Hawaii	to be all	1000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	hand -	1	Sec.	second di			10.345.75	-
Puerto Rico	(The second		Land Land						17	20	-
									1/	20	1

Aseptic meningitis: Okla. 1 Encephalitis, primary: Okla. 1 case 1967 Hepatitis, infectious: N.Y. Upstate 14 cases 1967, 1 case 1968, Okla. 5 Malaria: Okla. 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

APRIL 20, 1968 AND APRIL 22, 1967 (16th WEEK) - CONTINUED

41 131	MEA	MEASLES (Rubeola)			COCCAL INFE TOTAL	ECTIONS,	MUMPS	Р	OLIOMYELIT	TIS	RUBELLA
AREA	-	Cumu l a	tive		Cumula	ative		Total Paralytic		lytic	Courses a
	1968	1968	1967	1968	1968	1967	1968	1968	1968	1968	1968
UNITED STATES	816	10,668	37,359	54	1,204	950	4,323	1 - 1 -	- W - T2	14	1,915
NEW ENGLISH			(00		60		105				150
Maine*	29	4/4	408		60	37	425				459
New Hampshire	<u>ه ا</u>	56	69		6	1	18				7
Vermont.	1.1	1	21		1		26		11 - 12	-	And a state of the
Massachusetts	11	218	159		28	17	207	- 78		0.000	89
Connection Connection	-		27		4	1	67	- 0			160
connecticut	18	185	44		17	16	106			e-to-at ()	179
MIDDLE ATLANTIC	162	1,567	1,209	14	193	137	284	- Au		1.1.416	277
New York City	71	450	200	3	35	21	154				139
New York, Up-State.	72	754	286	5	35	34	NN			- 10000-000	67
New Jersey*	13	267	287	4	70	55	130				64
rennsylvania	6	96	436	2	53	27	NN				7
EAST NORTH ORNERAL	145	2 207	2 009	2	120	102	1 670			1	106
Ohio.	105	2,387	2,908	2	3/4	40	229				135
Indiana	56	413	341	î	18	14	142		- 11		10
Illinois*	60	963	461	-	30	19	277			The second second second	113
Michigan	4	146	607	-	35	21	464	- 10			59
Wisconsin	41	676	1,009		12	8	458	-			89
For	-		11								
NORTH CENTRAL	14	227	1,670	2	51	41	438			DATE: NO	80
nunnesota	1	7	84	1	14	9	25		-		The share of
Mine	1	41	388	1	4	9	271	-		- N	41
North D	3	63	117	-	10	9	5		-		1
South Dalat	8		626		2	1	92		-		17
Nebraska		27	42	-	4	5	NN 11	-	-	- 1- 1- 1 + 1-	
Kansas	- 1	8	41J NN		13	2	34		1.1.1		20
		U U			15	-	54		1.1.1		20
SOUTH ATLANTIC	21	884	4,285	12	268	186	171			- 10	162
Delaware		7	27	-	3	5	13			-	2
Maryland	1	51	75	-	16	23	21		-		8
Dist. of Columbia	1	6	11	-	9	3		-	-		2
Virginia	1	161	1,346	-	19	15	22				12
West Virginia*	8	149	748		6	16	75	- 194		- I ITS	59
North Carolina		220	728		57	38	NN			1.1-12	
George Ge	2	18	278	1	47	15	4		1.1		13
Florida	-	260	1 049	11	4/	20	26	-			66
-or ida	0	209	1,049	11	04	70				0.010740	00
AST SOUTH CENTRAL	43	351	3,754	- 1	100	91	215		-	-	99
Kentucky	1	98	1,026		40	26	47	 16. 	-	-	24
Tennessee.	2	45	1,263	1	30	39	156	- 11	(1) - 33.	-	65
Alabama	38	109	884	-	14	16	6				10
Mississippi	2	99	581	-	16	10	6	- 734			La interaction
WEST COM							1.0.7				
Arkana	263	2,757	13,157	11	235	150	495			6	135
Louisian		-	1,323	-	62	50					and the second second second
Oklahoma *	- ī	100	3 232	2	44	8	3	100.0		1	
Texas	262	2,654	8,517	3	116	67	492			6	135
10.	the second										
UUNTAIN.	23	491	2,713	1	15	19	177	-			40
Montana		63	184	1	2	-	9	- 16			3
Idaho		11	295		3	1	6			-	3
"yoming	2	42	20	S			1	1 1 2	- 0	1	A DARROWSKI I
New Vierado	18	211	703		7	10	81	- 33		Parts Parts	22
Ariza	3	48	414			5	6	-	-	-	- 10
Utab		108	028		1	2	10		-	The second second	12
Nevada		5	234		2	2	10				
			233		-	-					
ACIFIC.	96	1,530	7,255	11	153	187	548	1		8	257
Washington.	29	381	3,516	1	25	20	182	1 - 6		-	55
Uregon*	17	321	916		14	14	2	A REAL PROPERTY.		-	27
Al ifornia	49	800	2,650	10	105	144	342	1 - 31		8	169
Have to the test of test o			96	1		8	2				
	1	28	77	1.1	9	1	20	-			6
uerto Rico.	14	209	1 249	1.000	15	7	38	-			1
Delaved			-,2-,		L					L	1

Meningococcal infections: Okla. 1 Mumps: Me. 8, Okla. 2 Poliomyelitis, paralytic: Okla. 1 case 1967 Rubella: Me. 2, Ill. 38, W.Va. 8, Ore. 13

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDED

APRIL 20, 1968 AND APRIL 22, 1967 (16th WEEK) - CONTINUED

	_	_								_	
AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID		TYPHUS FEVER TICK-BORNE (Rky, Mt. Spotted)		RABIES IN ANIMALS	
CONTRACTOR OF	1968	1968	Cum.	1968	Cum.	1968	Cum.	1968	Cum.	1069	Cum. 1968
UNITED STATES	11,215	3	34	1	20	9	75	2	6	87	1,201
NELL ENCLAND	1 536						1				46
NEW ENGLAND	1,000	1.1.1					2	1000			44
Mainer	22	1.1.2.25				-		-			2
New Hampshire	24		_	1.5		-		I		14	2
Vermont	24	1.1		_	1. 1.	-	1 7	-			1000
Massachusetts	303	1.55	-				1 1	- 1. I. I.			A STREET
Rhode Island	1 017		-	-	-	K					
Connecticut	1,017		i.	- 141		-	1	CI	54 ⁻	and the factor	1.000
MIDDLE ATLANTIC	749	T - 067	6	a - 16	-	2	9	LPC , - 1	18511	1,98	11
New York City	2/		2			1	6				7
New York, Up-State.	009		د		-		1 I			1	
New Jersey	NN				1		-	2 B			
Pennsylvania		1.1		NI 10		1	2			100 L 7 M 1	4
EAST NORTH CENTRAL	1,416	- late	3	a - 198	4	1	10	100.00		19	83
Ohio	371		- I- I		1	1	7	144.1		15	44
Indiana	232	1 - C-1			_		1			2	19
Illinois	416	1.111	2	_	2		1		1.2.1.1.1.1	1	8
Michigan	269	1.4 5.6	1	- 14	1	- 16	1 1		- II	1	4
Wisconsin	128	1 - 14	÷ .		-	1	1	1000	-	-	8
WEST NORTH CENTRAL	1.445	1 . w.	2	1	5		4			23	268
Minnesota	47	_	-	1	-		1			13	67
Towa	1 120		_	-	_		-			3	46
Missouri	13		2	1	3		3			2	46
North Dabata	0/		-							2	51
South Dakota	32				1		1				34
Nebreele	66		1.1		-						11
Kansas *	73	- - -			1		1 1	1	-		13
COUTH ATLANTIC	08/				,						1/1
Delevere	904	2	'		4	2	20	2	5	/	141
Deraware	2/0	-	-		_		1 7	-			2
Maryland	240	-			-		4				2
Dist. of Columbia	-	1.1	1		- 1	1	1			1.	
Virginia	262	1	2	-	1		1 3	2	4	2	19
West Virginia	248		-								10
North Carolina	6		2		2		2		1		4
South Carolina	54		1.1		-	-	8 T- 1			1000	
Georgia	28	-	-	-	1	1	7	-		2	12
Florida	142	2	2		-		3	1985 - L	N - C - C	3	34
EAST SOUTH CENTRAL	1,408	1.1	4	He	4		11	4 CC - 1	1	16	343
Kentucky	56		1	- 0.0	1		1		-	6	156
Tennessee	1,181		1.4	Gen - 196	3	12	7	- X5	- L L.	9	172
Alabama	103		1	-	-		a - 1	biet - L	- 1	1	15
Mississippi	68	•	2		-	- 14	3		1	1. Distant	
WEST SOUTH CENTRAL	811	di la cini	5	- 1 m	1	3	7	0.1		13	222
Arkansas	13		이 나온 것	11		57	-	1		-	27
Louisiana	(a) 1 (b) 1 (b)	11	4			• 1 în	1		C	1	25
Oklahoma*	27		_		1	1 - 15	0.01	ineres -	- 1	5	71
Texas	771	- 112	1	H	S 203	3	5	200.01		7	99
MOUNTAIN	1.513	11.76		1 1 2	2	1	6			4	20
Montana	50				1					-0740P3 Crt3	
Idaho	127			2.05		- 104		660 - I	(C	11111111111111111	-
Www.ing#	68		1.1			1.1	1			111111	1
Colorado	910		100			110			-		1
Colorado	102		2.2		1		2	-			10
New Mexico	192	-		1 215			1 3	100	1. C I	4	10
Arizona	68		1.1				-	1997 - L	1 IS - 40 M	and the strength	0
Utah* Nevada	189	1	1		1		1		1.1	10 11 11	1.000
				3 - H.					1.10	1.0	67
PACIFIC	1,353	11 333	/	1 1 55		1 - 1 2	6	States -	1월 전태	4	
wasningcon	425		-	- 1855		11S	1.000	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and a share	1 Martine
Calif.	1/8		1.12.2	7 1125			1			1.11.21.F-1.	67
california	6/8		7	and Pleas		1.1	6	6708 S	1367-36.4	4	0/
Alaska	17	1.1		1			-				- I SHERE
Hawa11	55	-		113				9	1.000		
Puerto Rico	5	1.15	1	- 17D	-	1.1.1.1.1	61.	1965 - 7			11

*Delayed reports: SST: Me. 6, Kans. 1, Okla. 4, Wyo. 142, Utah 48 cases 1967

TABLE IV. DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED APRIL 20, 1968

Week No. 16

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

	All Ca	uses	Proumonia	Under		All Ca	uses	Proumonia	Under
Area	All Ages	65 years and over	and Influenza All Ages	l year All Causes	Area	All Ages	65 years and over	and Influenza All Ages	1 year All Causes
NEW ENCLAND	692	1.26	27	10	COUTU ATTANTO	1 101	613	4.2	61
Boston, Mass	215	127	8	14	Atlanta, Ga.	151	53	42	10
Bridgeport, Conn	53	38	2	3	Baltimore, Md	271	133	8	13
Cambridge, Mass	13	12		1	Charlotte, N. C	49	24	1	4
Fall River, Mass	23	15	1	1	Jacksonville, Fla	56	36	4	3
Hartford, Conn	58	29	1	6	Miami, Fla	107	60	2	2
Lowell, Mass	15	17	1	1	Nortolk, Va	45	18	1	2
New Bedford Mass	17	14	1		Savappah Ca	36	18	5	1
New Haven, Conn	60	30	2	9	St. Petersburg, Fla,	96	76	4	3
Providence, R. I	76	44	5	2	Tampa, Fla	80	45	3	3
Somerville, Mass	7	5	-	-	Washington, D. C	176	82	2	11
Springfield, Mass	31	17	2		Wilmington, Del	53	29	2	1
Worcester, Mass	61	46	3	2	EAST SOUTH CENTRAL:	699 94	389	37	38
MIDDLE ATLANTIC:	3,504	2,035	124	133	Chattanooga, Tenn	67	38	8	2
Albany, N. Y	48	30	1	3	Knoxville, Tenn	56	39	3	3
Allentown, Pa	39	19	111 102-11	3	Louisville, Ky	127	76	10	4
Buffalo, N. Y	132	75	2	6	Memphis, Tenn	177	85	7	10
Flight N. J.	37	35	0	د	Mobile, Ala	57	29	1. 1. 201	2
Erie Pa	59	35	3	1	Nashville Tenn	97	56	5	6
Jersey City, N. J	54	35	8	1 î	Masuville, leun.	,,	1 30		U U
Newark, N. J	103	53	2	4	WEST SOUTH CENTRAL:	1,128	602	42	67
New York City, N. Y	1,689	966	54	59	Austin, Tex	33	21	4	2
Paterson, N. J	35	22	1	3	Baton Rouge, La	48	24	1	3
Philadelphia, Pa	573	327	8	15	Corpus Christi, Tex	27	13	1	6
Reading Do	208	139	2	19	El Paco Toy	155	15	2	0
Rochester N. V.	122	78	7	7	Fort Worth Tex	84	46	2	11
Schenectady, N. Y	10	7	CITE Del CO	A 1 2 1 1 1 1 1 1 1	Houston, Tex	193	85	4	15
Scranton, Pa	36	24	1		Little Rock, Ark	58	34	10	2
Syracuse, N. Y	64	43	3	5	New Orleans, La	179	92	3	7
Trenton, N. J	52	26	7	1	Oklahoma City, Okla	93	53	1	3
Vonkona N. Y.	30	21	8	-	San Antonio, Tex	134	79	4	7
ionkers, N. I.	413	20	<u></u>		Tulsa Okla	51	30	4	
EAST NORTH CENTRAL:	2,534	1,407	69	133		and/ Dime-r			- DECT
Akron, Ohio	69	44	- 1	3	MOUNTAIN:	442	268	18	17
Canton, Ohio	33	20	4	2	Albuquerque, N. Mex	33	20	3	1
Chicago, Ill	677	359	22	36	Colorado Springs, Colo.	36	25	4	
Cleveland Obtonness	206	101	3	6	Denver, Colo	121	69	3	4
Columbus, Objo	116	63	4	6	Phoenix, Ariz.	103	58	1 1	5
Dayton, Ohio	88	47		4	Pueblo, Colo	30	23	2	3
Detroit, Mich	331	175	3	15	Salt Lake City, Utah	47	25	1	2
Evansville, Ind	45	31		-	Tucson, Ariz	49	33	1	2
Flint, Mich	52	21	3	9	DAGIDIG.	1 (10			
Gary Ind	28 44	30	2	2	PACIFIC: Borkeley Calif anotae	1,619	951	33	59
Grand Rapids. Mich	52	35	-	2	Fresno, Calif	53	31	3	
Indianapolis, Ind	148	83	1	10	Glendale, Calif	25	20		3
Madison, Wis	36	13	3	1	Honolulu, Hawaii	54	25	2	4
Milwaukee, Wis	123	72	2	9	Long Beach, Calif	99	60	-	2
Peoria, Ill.	25	14	2	1	Los Angeles, Calif	486	304	9	21
South Bond Ind	25	18	2	1	Dakland, Calif	69	36	2	2
Toledo Obio	112	74	5	4	Portland Oreg	120	62	1	
Youngstown, Ohio	84	46		5	Sacramento, Calif	59	32	1	1
-			1		San Diego, Calif	91	52	1	1
WEST NORTH CENTRAL:	926	555	27	58	San Francisco, Calif	183	95	3	3
Des Moines, Iowa	52	33	1	4	San Jose, Calif	35	21	2	3
Kannaa City Vara	23	19	5	1	Seattle, Wash	162	88	7	8
Kansas City, Kans	149	88	2		Tacoma Wash	63	40	1	2
Lincoln, Nebr	29	22	-	1	international indications and international indications and in	0.0	4,1	+	
Minneapolis, Minn	128	79	1	13	Total	12,735	7,246	419	605
Omaha, Nebr	85	50		5			- · ·	-	
St. Louis, Mo	271	154	7	13	Cu	mulative T	otals	1.1.1.1.1.1.1.1	
Wichdaw W	90	57	4	6	6 including reported corrections for previous weeks				
"-cnita, Kans		28	2	6	A11 Causes A11 Acce			217 6	191
213					All Causes, Age 65 and	over		128 2	57
					Pneumonia and Influenza	, All Ages		10.7	49
					All Gauses, Under 1 Yea	r of Age		9,5	35

INTERNATIONAL NOTES QUARANTINE MEASURES

Additional Immunization Information for International Travel, 1967–68 edition, Public Health Service Publication No. 384

The following information should be included in Section 5:

AFRICA

Sao Tome and Principe - Page 33

Delete all information concerning yellow fever. Insert: Yellow fever vaccination is required of all arrivals.*

ASIA

Saudi Arabia — Page 61

Delete previous information concerning cholera.

Insert: (During the period from March 29 to October 15, 1968), cholera vaccination is required of all arrivals from infected local areas and from countries any parts of which are infected. The certificate must show two injections at not less than 7 days and not more than 30 days interval. For revaccination carried out within 6 months of a recorded vaccination or revaccination, a single injection renders the certificate valid for an additional 6 months. In addition, arrivals from these countries are required to submit a certificate, dated not more than 7 days before their departure, recording the negative results of stool culture. This certificate must be delivered by a licensed laboratory and attested to by the health authority.*

EUROPE

France - Page 67

Delete the previous not concerning smallpox.

Insert: Smallpox vaccination is required of all arrivals except arrivals from Azores and Madeira Islands, Canary Islands, Bermuda, Canada, Greenland, Netherlands Antilles, St. Pierre and Miquelon, Surinam, and United States of America.

Ireland - Page 69

Delete the note concerning smallpox.

Insert: Smallpox vaccination is required of all arrivals except arrivals from Azores and Madeira Islands, Canary Islands, Reunion, Bermuda, Canada, French Guiana, Greenland, Guadeloupe, Martinique, Netherlands Antilles, St. Pierre and Miquelon, Surinam, and United States of America.

*Conformity of this measure with the Regulations may be open to question and the World Health Organization is in communication with the health administration concerned. THE MORBIDITY AND MORTALITY WEEKLY REPORT, WITH A CIRCULATION OF 17,000, IS PUBLISHED AT THE NATIONAL COMMUNICABLE DISEASE CENTER, ATLANTA, GEORGIA.

DIRECTOR, NATIONAL COMMUNICABLE D	ISEASE CENTER
	DAVID J. SENCER, M.D.
CHIEF, EPIDEMIOLOGY PROGRAM	A.D. LANGMUIR, M.D.
ACTING CHIEF, STATISTICS SECTION	IDA L. SHERMAN, M.S.
EDITOR	MICHAEL B. GREGG, M.D.

IN ADDITION TO THE ESTABLISHED PROCEDURES FOR REPORTING MORBIDITY AND MORTALITY, THE NATIONAL 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 OFFICIALS AND WHICH ARE DIRECTLY RELATED TO THE CONTROL OF COMMUNICABLE DISEASES. SUCH COMMUNICATIONS SHOULD BE ADDRESSED TO:

SED TO: NATIONAL COMMUNICABLE DISEASE CENTER ATLANTA, GEORGIA 30333 ATTN: THE EDITOR MORBIDITY AND MORTALITY WEEKLY REPORT

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

