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April 29, 1968

TO : State Epidemiologists and others concerned

FROM : Chief, Enteric Diseases Unit
Bacterial Diseases Section, Epidemiology Program

SUBJECT: Foodborne Outbreaks - 1967

Attached is a report entitled Foodborne Outbreaks - Status Report for 1967. 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.

This report is the result of a concerted effort during the past two years to improve the surveillance of food poisoning. There has been a welcomed improvement in reporting from 1966 to 1967. The number of reports received increased from 181 to 273 and the number of states participating increased from 25 to 37. Still it is abundantly evident that reports received do not provide a measure or even a crude index of the frequency, type, or severity of such outbreaks countrywide. Furthermore, many of the reports are so limited that the causative agent and mode of spread are often obscure. It is our feeling that this type of surveillance can be made more useful by better reporting not only from state health departments to the National Communicable Disease Center but also from local health department to the states. To encourage reporting, this report will be published at six-month intervals.

This Status Report is distributed to you at the present time for your information and review. We hope you will discuss it among members of your department and others interested, and pass along to us all comments.

The assistance of the National Center for Urban and Industrial Health and the Food and Drug Administration in this surveillance program is gratefully acknowledged.

Sincerely yours,

Eugene J. Gangarosa, M.D.

Eugene J. Gangarosa, M.D.

Distribution

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Dr. John C. Ayres, Department of Food Science, University of Georgia, Athens, Ga.
Mr. Harry Haverland, Food Protections, ES, NCUIH
PPEP

EJGangarosa/dg

NATIONAL COMMUNICABLE DISEASE CENTER

FOODBORNE OUTBREAKS

STATUS REPORT FOR 1967

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
Health Services and Mental Health Administration
National Communicable Disease Center
Atlanta, Georgia 30333

PREFACE

Summarized in this report is information received from State and City health departments, the National Center for Urban and Industrial Health, the Food and Drug Administration, and other pertinent sources. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the Enteric Diseases Unit for confirmation and interpretation.

Contributions to the Status Report are most welcome. Please address National Communicable Disease Center, Atlanta, Georgia 30333. Attention: Chief, Enteric Diseases Unit, Epidemiology Program.

National Communicable Disease Center . . . . . David J. Sencer, M.D., Director
Epidemiology Program . . . . . Alexander D. Langmuir, M.D., Chief
Bacterial Diseases Section . . . . . Philip S. Brachman, M.D., Chief
John V. Bennett, M.D., Deputy Chief
Enteric Diseases Unit . . . . . Eugene J. Gangarosa, M.D., Chief
William E. Woodward, M.D., EIS Officer
Robert W. Armstrong, M.D., EIS Officer

In collaboration with
Dr. V. R. Dowell, Jr., In-Charge
Anaerobic Bacteriology Laboratory
Laboratory Program

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This second annual report is a summary of foodborne disease outbreaks in the United States during 1967 compiled from various sources by the National Communicable Disease Center. For the purposes of this report, foodborne disease is synonomous with food poisoning and is defined as disease caused by ingestion of a pathogenic organism or agent contained within a food or liquid vehicle.

As is readily apparent from the line listing of outbreaks, there is considerable variation in the completeness and depth of reports. In over two-fifths of outbreaks, the etiology was not specified. Some health authorities are thorough in reporting; others do not report at all. The data are therefore not representative. Consequently, in our judgment, it is difficult to draw justifiable conclusions about patterns of foodborne illnesses; however, the predominance of certain etiologies over others and various trends within these etiologies may be apparent. This report emphasizes the need to improve the quality and quantity of primary data. It is an outgrowth of the expanding interest in foodborne disease problems.

A distinction has been made between confirmed and unconfirmed outbreaks and cases in the report. Confirmation in almost all instances refers to laboratory documentation of an outbreak. The distinction is made in order to facilitate comparison with data from the 1966 report, which tabulated only confirmed outbreaks (Table I). It would appear from this table that from 1966 to 1967 a marked decrease has occurred, from 60 percent to 41 percent, in the percentage of outbreaks with unknown etiology. The decrease, however, reflects the fact that additional sources of information from the NCDC concerning brucellosis and trichinosis, not utilized in the 1966 report, provided information on approximately 60 confirmed outbreaks in 1967, thus diluting the percentage of outbreaks with unknown etiology in 1967. The total number of individuals affected by foodborne illness increased from 7,960 to 22,171 over the two years. Most, but not all, of this increase is due to two outbreaks involving 10,345 people in 1967.

There were 15 reported deaths associated with outbreaks. Whether food poisoning was the primary or secondary cause cannot be determined from available data.

There were 118 reported cases who became secondarily infected after the initial outbreaks.

For each outbreak in which more than one figure was reported for the number ill or exposed, the lowest figure was always used. The total figures in the report thus represent minimal numbers.

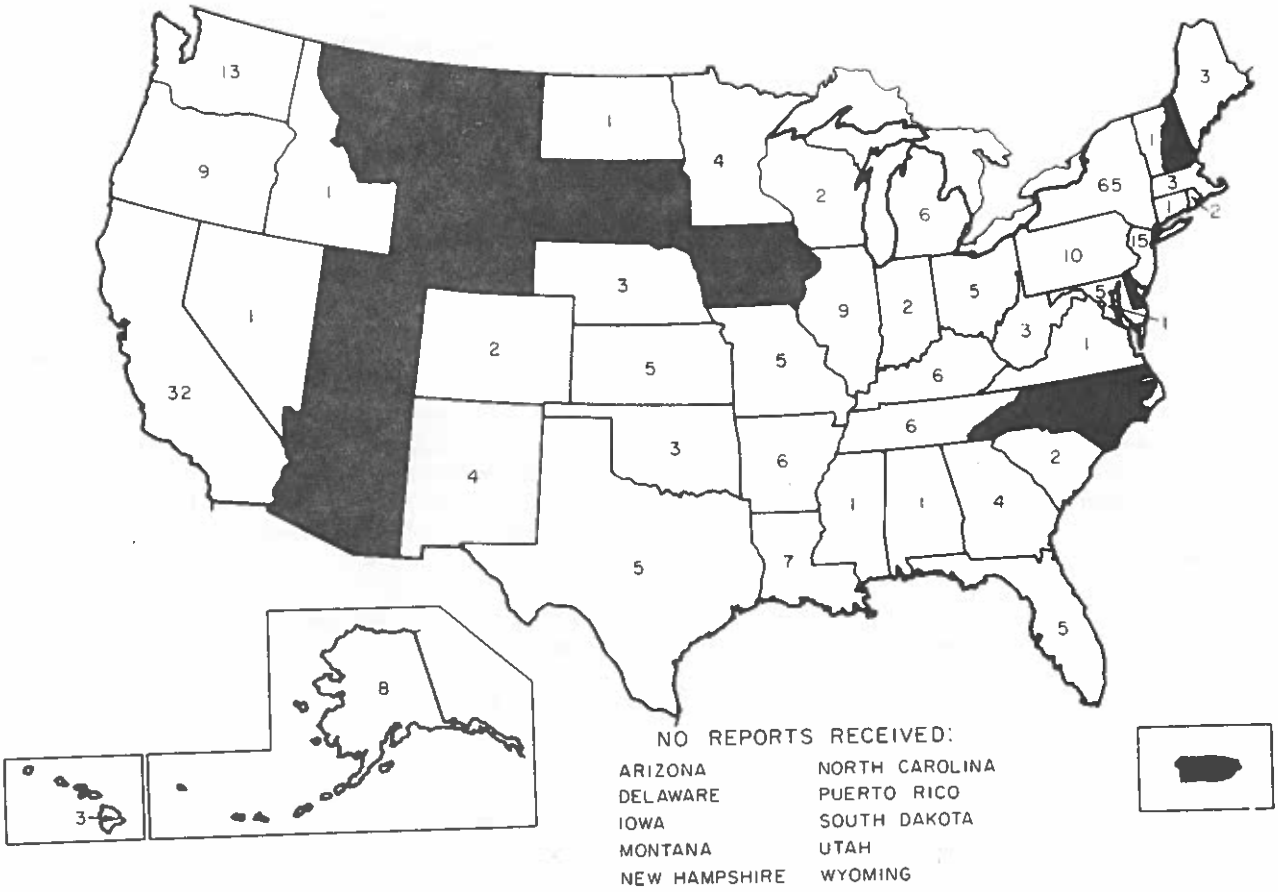
Table II lists the breakdown of sources which initially brought the outbreak to the attention of the NCDC. The category, "Department of Health," includes monthly reports of EIS Officers assigned to state or local health departments.

Table III compares the number of outbreaks reported by state and local health departments in 1966 and 1967. In 1966, 25 states did not report. In 1967, there were no reports from 13 states. There were seven states that did not report any outbreaks either year.

Table IV lists the number of confirmed, unconfirmed, and total outbreaks and cases due to each etiology, and the percentage that they comprise of the grand total of outbreaks and cases.

The following map shows the geographic distribution of outbreaks in the United States in 1967. Utilizing all sources of information, there were no reports of outbreaks in nine states during the year. This figure is a slight improvement upon the 13 states whose health departments reported no outbreaks in 1967 (Table III).

NUMBER OF OUTBREAKS* OF FOODBORNE ILLNESS BY STATE IN 1967



*UTILIZING ALL SOURCES OF INFORMATION

Table V lists various statistical parameters of the total of confirmed and unconfirmed outbreaks. These figures must be interpreted with caution. For example, the mean number in the 35 salmonella outbreaks is spuriously high due to the statistical influence of two large outbreaks affecting 10,345 people.

Table VI lists the attack rates by specific etiology. There are several possible explanations for the lower attack rates in the unconfirmed outbreaks, as opposed to those in the confirmed outbreaks: 1) investigation of the unconfirmed outbreaks could have been less thorough and therefore fewer cases were found, 2) the unconfirmed outbreaks, in some instances, could conceivably have been due to entirely different etiologies and, 3) unconfirmed outbreaks could have been due to smaller inocula of pathogenic agents resulting in infected, but asymptomatic individuals. This would tend to increase the difficulty in case finding. In 115 outbreaks, reported data were insufficient to calculate attack rates.

Table VII lists the total confirmed and unconfirmed outbreaks by specific etiology analyzed by size of involved population. It is apparent, for instance, that staphylococcal food poisoning tended to affect smaller groups of people as compared to *Clostridium perfringens* food poisoning.

Table VIII lists the vehicles of infection by specific etiology. It differentiates outbreaks in which the vehicle was confirmed by laboratory analysis from those in which the vehicle was suspected from epidemiological data. The grand total of vehicles exceeds the actual number of outbreaks due to seven outbreaks in which two or more vehicles were implicated.

Table IX lists the major symptoms occurring in both confirmed and unconfirmed outbreaks. It is apparent, for example, that abdominal cramps and diarrhea were the usual symptoms in outbreaks due to *C. perfringens* and that fever was common in salmonella outbreaks compared to outbreaks due to staphylococcus and *C. perfringens*.

Table X lists the place at which the suspect food was ingested in both confirmed and unconfirmed outbreaks. It is obvious that the majority of foodborne illnesses occurred in homes and restaurants. However, approximately one-eighth of outbreaks occurred in schools. Illness due to *Trichinella spiralis* tended to occur at home, that due to *C. perfringens* tended to occur away from home, and that due to *Staphylococcus aureus* tended to occur in restaurants.

Table XI lists those few confirmed outbreaks in which the incubation period and duration of disease were reported. The apparent discrepancies between reported figures and those established by carefully studied and documented outbreaks in the literature may perhaps be explained by errors in reporting. They may also be due to inclusion in the reports of individuals with unrelated illnesses.

Table XII lists the monthly incidence of all outbreaks by specific etiology. An outbreak is assigned to a particular month depending upon the date of onset of the first case. It is apparent, for example, that salmonella food poisoning tended to occur during the summer and early fall, which is consistent with the well-known seasonal variation of salmonellosis.

It is our belief that the surveillance of foodborne outbreaks will be more useful if the reporting mechanism is improved. Toward this end a new reporting form (pp. 15-16) has been devised which will be field tested in a few states this year. Comments relative to this or any aspect of this report will be appreciated.

TABLE I

Etiology of Foodborne Illness Reported to NCDC from all Sources

Calendar Years, 1966 and 1967.

	1966				1967			
	Outbreaks		Cases		Outbreaks		Cases	
	#	%	#	%	#	%	#	%
Bacterial	67	37.0	4067	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	1285	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	1346	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
E. coli					2	0.7	70	0.3
Brucella					20	7.3	21	0.1
Other	3	1.7	483	6.1				
Trichinella spiralis	4	2.2	7	0.1	37	13.6	42	0.2
Entamoeba histolytica					1	0.4	5	0.0
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	3727	46.8	113	41.3	4,862	22.0
Total	181	100.0	7960	100.0	273	100.0	22,171	100.0

*Includes all outbreaks due to unknown and unconfirmed etiology.

All percentages less than 0.05 are represented as 0.0.

TABLE II

Initial Reporting Source of Foodborne Illness, 1967.

Number of reports	Reporter
172	DH - Department of Health, state or local; includes reports of EIS Officers assigned to state and local health departments.
6	NCUIH - National Center for Urban and Industrial Health
4	MMWR - Morbidity and Mortality Weekly Report, NCDC
39	Para. - Parasitology Unit, Epidemiology Program, NCDC
22	Bruc. - Brucellosis Surveillance Activity, Veterinary Public Health Section, Epidemiology Program, NCDC
11	Salm. - Salmonellosis Unit including Salmonella Surveillance Report, Epidemiology Program, NCDC
1	Hep. - Hepatitis Unit, Epidemiology Program, NCDC
3	EA - Epidemic Assistance to various states
10	News - Newspaper clipping
2	AF - Armed Forces installation
1	Hosp. - Hospital
1	Ind. - Direct report from individual
1	Tele. - Telegram
273	Total

TABLE III

Outbreaks of Foodborne Illness Reported by State and Local Health Departments, 1966 and 1967

	1966	1967
Alabama		1
Alaska		2
Arizona	1	
Arkansas		6
California	50	22
Colorado	2	1
Connecticut	5	1
Delaware		
District of Columbia	3	1
Florida		3
Georgia		
Hawaii		3
Idaho	1	1
Illinois	7	6
Indiana	1	2
Iowa		
Kansas		2
Kentucky	1	2
Louisiana	1	4
Maine		3
Maryland	2	2
Massachusetts		
Michigan		3
Minnesota	3	3
Mississippi		1
Missouri		1
Montana	5	
Nebraska		1
Nevada		1
New Hampshire	1	
New Jersey	3	8
New Mexico		2
New York	25	52
North Carolina	4	
North Dakota		
Ohio		3
Oklahoma	1	1
Oregon	3	5
Pennsylvania	1	10
Rhode Island	1	1
South Carolina	5	2
South Dakota		
Tennessee		1
Texas		2
Utah	1	
Vermont		1
Virginia		1
Washington	2	9
West Virginia	1	2
Wisconsin	1	
Wyoming		
Total	131	172

TABLE IV

Division by Specific Etiology of Confirmed and Unconfirmed Outbreaks of Foodborne Illness, 1967.

	Outbreaks						Patients					
	Confirmed		Unconfirmed		Total		Confirmed		Unconfirmed		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
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	5	1.8	51	0.2	3	0.0	54	0.2
Other salmonella	27	9.9	8	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	19	7.0	10	3.7	29	10.6	2,529	11.4	964	4.3	3,493	15.8
C. botulinum	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	55	20.1	1,339	6.0	575	2.6	1,914	8.6
E. coli	2	0.7	2	0.7	4	1.5	70	0.3	49	0.2	119	0.5
Brucella	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			51	0.2	51	0.2
Trichinella spiralis	37	13.6	5	1.8	42	15.4	42	0.2	5	0.0	47	0.2
Entamoeba histolytica	1	0.4			1	0.4	5	0.0			5	0.0
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	100.0	17,309	78.1	4,862	21.9	22,171	100.0

(1. Hepatitis cases only confirmed clinically.)

TABLE V

Size (number of people) of Outbreaks of Foodborne Illness of Specific Etiology, 1967.

	Mean	Range	Median
S. typhosa	10.8	1-31	9
Other salmonella	366.7	2-9000	27
Shigella	83.9	1-220	63
C. perfringens	129.4	1-495	64
C. botulinum	2	1-3	2
Staphylococcus	35.4	1-401	5
E. coli	39.7	14-70	35
Brucella	1.0	1-2	1
Streptococcus	12.8	5-23	11.5
Trichinella spiralis	1.1	1-3	1
Entamoeba histolytica	5.0		5
Viral hepatitis[1]	21.8	3-68	13
Chemical	5.3	3-12	3.5
Unknown	47.0	1-300	23.5
Total	83.3	1-9000	5

TABLE VI

Attack Rates of Foodborne Illness, 1967

	(Number ill/number exposed) Confirmed	Unconfirmed	Total
S. typhosa	32.6		32.6
Other salmonella	43.7	36.8	43.5
Shigella	31.4		31.4
C. perfringens	53.3	32.2	45.0
C. botulinum	100.0	100.0	100.0
Staphylococcus	37.2	18.5	32.4
E. coli	72.2	82.4	73.7
Brucella			
Streptococcus		15.2	15.2
Trichinella spiralis	61.9		61.9
Entamoeba histolytica	100.0		100.0
Viral hepatitis[1]	33.6		33.6
Chemical	100.0	64.7	70.7
Unknown			24.9
Total	44.0	12.3	32.4

Blank spaces indicate data insufficient to calculate attack rates.

1. Hepatitis cases only confirmed clinically.

TABLE VII

Division of Foodborne Illness of Specific Etiology into Outbreaks of Specific Size, 1967.

	Size of outbreak (confirmed and unconfirmed)							
	1-3	4-10	11-30	31-100	101-300	301-1000	1000+	Unknown
S. typhosa	2	1	1	1				
Other salmonella	4	8	6	7	7	1	2	
Shigella	1			4	2			
C. perfringens	2	2	4	9	6	4		2
C. botulinum	3							
Staphylococcus	19	17	7	5	5	1		1
E. coli			1	2				1
Brucella	22							
Streptococcus		2	2					1
Trichinella spiralis	42							
Entamoeba histolytica		1						
Viral hepatitis	1	2	4	2				
Chemical	3	2	1					
Miscellaneous	4	1		1	1	1		
Unknown	7	7	8	14	3	1		2
Total	110	43	34	45	24	8	2	7

TABLE VIII

Vehicles Associated with Foodborne Illness of Specific Etiology, 1967.

(confirmed / unconfirmed outbreaks)

	Turkey	Chicken	Egg	Milk	Beef	Pork	Other meat	Vege-table	Fruit	Shell fish	Other fish	Water	Other	Unk.
S. typhosa												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
E. coli												2/1		1
Brucella				0/16			0/6							
Streptococcus	1/0						0/1*	1/0			1/0			1
Trichinella spiralis					0/2	0/40								
Entamoeba histolytica												1/0		
Viral hepatitis									0/1	1/0		1/4	0/1	1
Chemical													1/3	2
Miscellaneous					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

[1] - 5 outbreaks with 2 vehicles, 1 outbreak with 3 vehicles
[2] - 1 outbreak with 2 vehicles
* - includes some outbreaks due to meat and/or gravy and/or dressing.

TABLE IX

Symptoms Noted in all Outbreaks of

Foodborne Illness of Specific Etiology, 1967.

	Symptoms*								Total outbreaks with symptoms reported	Grand total
	N	V	C	D	F	H	O	Unk.		
S. typhosa			2	1	2	2	3	1	4	5
Other salmonella	18	24	28	33	30	4	8	1	34	35
Shigella	2	4	3	6	5	1	2	1	6	7
C. perfringens	11	9	20	21	4	5	2	5	24	29
C. botulinum	1	1					3		3	3
Staphylococcus	33	39	33	36	4	7	11	9	46	55
E. coli	2	2	3	4	2	1	1		4	4
Brucella					17	11	15	5	17	22
Streptococcus	3	4	3	4				1	4	5
Trichinella spiralis	4	2	1	8	12	4	32	10	32	42
Entamoeba histolytica			1	1			1		1	1
Viral hepatitis							5	4	5	9
Chemical	2	1	2	2		1	3	1	5	6
Miscellaneous	5	7	4	5	2	2	5		8	8
Unknown	30	25	34	36	10	8	8	4	38	42
Total	111	118	134	157	88	46	99	42	231	273

*Consult page 17 for an explanation of the code.

TABLE X

Place of Acquisition of all Foodborne

Illness of Specific Etiology, 1967.

	Home	Restaurant	Banquet	School	Store	Medical Institute	Other	Unk.	Total
S. typhosa	3			1			1		5
Other salmonella	10	9	5	6	1		4		35
Shigella		1		2		1	3		7
C. perfringens	1	9	10	6			2	1	29
C. botulinum	3								3
Staphylococcus	10	23	2	6	6	1	6	1	55
E. coli	2						2		4
Brucella	15						7		22
Streptococcus		1	1	1		1		1	5
Trichinella spiralis	31	10					1		42
Entamoeba histolytica	1								1
Viral hepatitis	5	3		1					9
Chemical	3	3							6
Miscellaneous	5		1			1	1		8
Unknown	5	10	6	12	3	1	2	3	42
Total outbreaks	94	69	25	35	10	5	29	6	273
Number of persons ill	323	1386	11,373	4,129	282	335	4,026	317	22,171

TABLE XI

Incubation Period and Duration of Illness of

Confirmed Outbreaks of Foodborne Illness of Specific Etiology, 1967.

	Incubation period				Duration of Illness			
	Number* outbreaks	Range	Mean	Median	Number** outbreaks	Range	Mean	Median
S. typhosa	1	17-31D	24D		0			
Other salmonella	21	3-96H	34.1H	24H	2	72-120H	78.3H	72H
Shigella	3	1-7D	3.8D	3.3D	0			
C. perfringens	16	2.5-30H	13.6H	13.3H	2	3-72H	25.7H	24H
C. botulinum	2	6-80H	34H	39H	0			
Staphylococcus	30	1-48H	5.3H	4.0H	9	4-72H	19.6H	24H
E. coli	1	17-72H	36H		1	6-72H	24H	
Brucella	0				0			
Streptococcus	0				0			
Trichinella spiralis	19	1-21D	8.5D	7D	0			
Entamoeba histolytica	1	3-7D			0			
Viral hepatitis	5	22-40D	29.6D	29.5D	0			
Chemical	0				0			

*Number of outbreaks reporting incubation period.

**Number of outbreaks reporting duration of illness.

H - hours

D - days

TABLE XII

Monthly Incidence of All Outbreaks of Foodborne Illness of Specific Etiology, 1967

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Unk.	Total
S. typhosa		1			1			2				1		5
Other salmonella	2	1		4	1	5	2	5	6	3	6			35
Shigella							1		1	3	1		1	7
C. perfringens	2	3	1	5	5			2	1	2	4	2	2	29
C. botulinum						1				1		1		3
Staphylococcus	1		2	4	4	5	6	7	5	5	8	8		55
E. coli			1				1			2				4
Brucella	4	4	3	1	2		3	2	2				1	22
Streptococcus										3	1		1	5
Trichinella spiralis	9	4	7	3	3	5	6		2	2	1			42
Entamoeba histolytica									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		42
Total	19	18	19	21	22	21	24	26	26	29	29	14	5	273

FORM APPROVED
BUDGET BUREAU NO. 68-R1034

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
BUREAU OF DISEASE PREVENTION AND ENVIRONMENTAL CONTROL
NATIONAL COMMUNICABLE DISEASE CENTER
ATLANTA, GEORGIA 30333

INVESTIGATION OF A FOODBORNE OUTBREAK

1. Where did the outbreak occur?
State _____ City or Town _____ County _____

2. Date of outbreak: _____

Place where suspected food was consumed or purchased:

3. Commercial
1 ☐ Restaurant
2 ☐ Store or Delicatessen
3 ☐ Caterer
4 ☐ Other (specify) _____
Date _____

4. Institution
1 ☐ School
2 ☐ Hospital or Nursing Home
3 ☐ Industry
4 ☐ Camp
5 ☐ Other (specify) _____
Date _____

5. Private
1 ☐ Home
2 ☐ Church
3 ☐ Picnic
4 ☐ Party
5 ☐ Other (specify) _____
Date _____

6. When did contamination occur?
1 ☐ Prior to purchase
2 ☐ During food preparation
3 ☐ During serving
4 ☐ Not determined
Comments: _____

7. Number persons exposed _____
8. Number persons ill _____
9. Number hospitalized _____
10. Number fatal cases _____

11. Number of persons interviewed _____
Number with symptoms _____
with nausea _____
with vomiting _____
with diarrhea _____
with fever _____
other (specify) _____

12. Incubation period (hrs.)
Shortest (onset first case) _____
Longest _____
Approximate period for majority of cases _____

13. Duration of illness (hrs.)
Shortest _____
Longest _____
Approximate length of illness for majority of cases _____

14. Vehicle suspected (food item responsible for outbreak):

LABORATORY FINDINGS

15. Foods or environmental specimens examined:

Findings:

16. Type of specimens cultured from food handlers (lesion, stool, etc.):

Findings:

17. Type of specimens from patients examined (stool, etc):

18. Etiology: Suspected ☐ Proven ☐
Pathogen _____
Chemical _____
Other (describe) _____

Name of reporting agency

Investigating official:

Date of investigation:

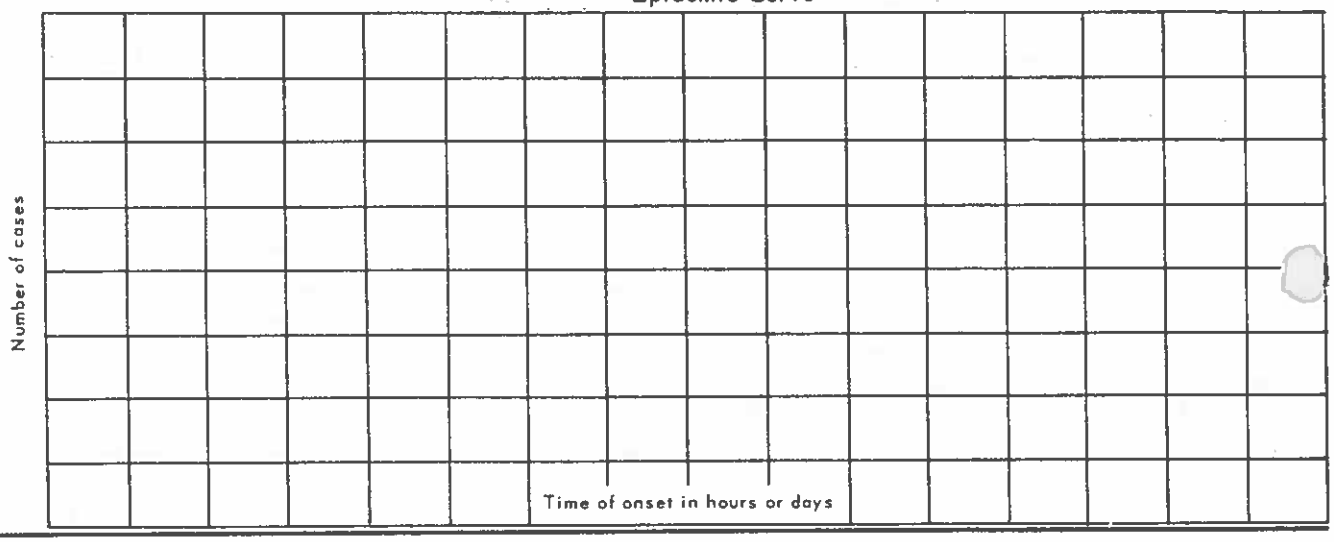
NOTE. Assistance for the investigation of a foodborne outbreak is available upon request by the State Health Department to the National Communicable Disease Center, Atlanta, Georgia.

PHS 4.245 (NCDC)
1-68

Narrative: Comments should describe how vehicle was contaminated and should include available epidemiological and laboratory documentation:

Optional. A complete epidemiologic investigation should include information for the epidemic curve and for food histories.

Epidemic Curve



FOOD HISTORIES

Food Items	Total Persons	Number persons who ATE specified food				Number who did NOT eat specified food			
		Ill	Not Ill	Total	Rate	Ill	Not Ill	Total	Rate

PHS 4.245 (NCDC) (BACK)
1-68

Explanation of line listing:

Listing is by specific etiology. Under each etiology confirmed outbreaks are listed first in chronological order. Unconfirmed outbreaks are listed next in chronological order.

For all instances in which there was any question as to the accuracy of information, a question mark is included. If the information for a category was not reported, the space is left blank.

Onset - the month is followed by the day of the month. In some outbreaks involving continual exposure over a period of time, the onset is expressed as a range between onset of the first and last case.

Lab data - usually refers to cultural confirmation.
- P - patient
- V - vehicle
- H - food handler
- (_) - number positive

Symptoms:

N - nausea	F - fever
V - vomiting	H - headache
C - cramps, abdominal pain	A - anorexia
D - diarrhea	O - other

Reporter - see Table II for explanation of abbreviations.

Other symbols and abbreviations:

- $\bar{x}$ - mean
- med. - median
- ~ - approximately

Line Listing of Foodborne Outbreaks Reported to
the National Communicable Disease Center during 1967.

ETIOLOGY	ONSET (1967)	REPORTED FROM	VEHICLE	LAB DATA P.	LAB DATA V.	LAB DATA H.	CLINICAL DATA # ill (at risk)	CLINICAL DATA incub. period (hrs.)	CLINICAL DATA Duration of dis. (hrs.)	CLINICAL DATA Symptoms	REPORTER	COMMENT
CHEMICAL												
Thallium	8-25 9- 8	Philadelphia, Pa.		+			3			Alopecia, neuropathy	DH	Family
Parathion	10-20	Arcadia, Fla.	?poisoned lunch	+			7 (7)	Few			News, DH	Family 7 deaths.
"Oriental food poisoning"	3-14	NYC, N.Y.	won-ton soup				3 (4)	½		NVCD	DH	
"Oriental food poisoning"	4-28	Cocoa Beach, Fla.	?soup		-		12 (23)			H, numbness, dizzy, pressure at temples.	DH	Oriental restaurant
"Oriental food poisoning"	9- 8	NYC, N.Y.	?egg drop soup or roast pork		-		3 (3)	½	3/4	Tongue paresthesiae, jaw & palate pain, neck aching.	DH	Chinese restaurant
?Chemical	9-14	NYC, N.Y.	?Chinese noodles		-		4 (4)	2½-3½		NCD	DH	Home
HEPATITIS								(days)	(days)			
Hepatitis	3-19 5- 6	Birch Run & Taymouth, Mich.					16	up to 49		jaundice	DH	School
Hepatitis	5- 5 5-12	Wisconsin	common meal				5 (45)	26-33		jaundice	Hep.	Home
Hepatitis	5- 8 5-16	Memphis, Tenn.	?raspberries				8 (10)	25-42 med. 28		jaundice	DH, MMWR	Home
Hepatitis	7-18 8-10	New Jersey	?ice cubes				12 (~35)	~30		jaundice	MMWR	Spread to 4 states from Canadian fishing lodge.

	Hepatitis	8-13 10- 7	Greenland, Ark.	probably well water			51				DH, MMWR	Restaurant
	Hepatitis	8-29 10-18	Amboy, Wash.	well water			13	22-35			MMWR	2 families
	Hepatitis	9-25 10-20	New Jersey	probably well water			15 (29)				DH	Several homes. 1 death.
	Hepatitis	8-23 10-21	Kentucky	probably well water			73				DH	Restaurant
	Hepatitis	10- 2	Brownsville, Tex.	raw clams or oysters-Mexico			3	30-40		jaundice	DH	Family
	TYPHOID											
1	S. typhosa	2-20 3- 6	San Acacia, Colo.		+ (9)	+ (1)	11 (55)	17-31 dys.		HO, chills	Salm.	Home luncheon
2	S. typhosa B_1	5-10 5-31	Stanford, Cal.		+	+	31 (74)			CFH, weakness	DH, MMWR	School frat. house
3	S. typhosa	8-19 9-15	Portland, Ore. & Spokane, Wash.	water	+		9				DH, MMWR	Hockey clinic in Canada.
4	S. typhosa	8- ?	St. Paul, Minn.	?river water			2				DH	Family
5	?S. typhosa	12- 4	York Springs, Pa.	?well water			1			CDF, malaise	DH	Family
	SALMONELLA							(hrs.)				
1 c	S. typhi-murium	2- 3- 4-	Yakima, Wash.	raw dairy milk	+	+	40			NVCDF	DH, Salm.	Local dairy
2 c	S. typhi-murium S. typhi-murium var. copenhagen S. braenderup	4- 1 4-14	New York New Jersey Connecticut Maine	ice cream	+	+	~9000 (18,000)	8-48		NVCDFH	DH	14+ banquets
3 u	S. typhi-murium var. copenhagen	4-10	Columbia, Tenn.	?potato salad	+ (4)	-	- >200 (~602)	3-76		NVCDF	Salm.	Banquet
4 c	S. typhi-murium var. copenhagen phage type 1a	6-26	Oregon	?eggs	+ (5)	+	5 (5)	24	13-30	NVCDF	Salm.	Homes

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5 c	S. typhi-murium S. manhattan S. newport	9- 2	Oxford, Neb.	BBQ turkey roll	+(278)	+		~1,345 (~5000)	24-96 x̄ 79		D>C>F>VHN	EA, DH MMWR	Festival
6 u	S. typhi-murium	9- 3 9-11	New Kensington, Pa.	?milk	+			14				DH	Dairy
7 c	S. typhi-murium	9-17	Fresno, Cal.	beef jerky	+	+	+	6 (11)	12-24		DF, dehydr., neurotoxic	DH	Family
8 u	S. typhi-murium	10-19 11- 6	Cochran, Ga.	probably BBQ pork sandwiches	+(6)	-	+	8	~24-48		D	Salm.	Restaurant
9 u	S. typhi-murium	11- 1	Omaha, Neb.	?roast beef & gravy	+(7)			67	6-24		CDF	DH	Restaurant
10 c	S. thompson	10-30-66 1-20-67	New Mexico	beef jerky	+(64)	+		212			VCDF	DH, MMWR	Commercial, widely distributed
11 u	S. thompson	6-18 7- 9	Los Angeles, Cal.		+		+	21	3-60		NCDF, chills	DH	Restaurant
12 c	S. thompson	9-15	Tampa, Fla.	roast beef	+(19)		+	~300 (876)	5-72		C>D>F>V	DH	School
13 u	S. montevideo	4- ?	Danville, Ill.		+		+	42	10-48		CDF	Salm., DH	School
14 c	S. montevideo	5-18	NYC, N.Y.	egg salad	+(57)	+	+	~250 (450)	8-45		NVCDF	News., Salm.	School
15 c	S. heidleberg, S. manhattan	6-26 7- 3	St. Louis, Mo.	turkey	+	+	+	185 (510)			CDF	Salm.	Women's work group
16 u	S. heidleberg	8- ?	California	?turkey	+(5)			7 (8)	13-25	x̄ 96	NVCDF	Salm.	Picnic
17 c	S. enteritidis	8- ?	Muline, Ore.	raw eggs	+	+		7	5->16		CD, central nervous system in 1.	Salm.	Family 1 death.
18 c	S. enteritidis	10-16	NYC, N.Y.	common meal	+(2)			5 (6)	~24	72-120	NVCDF	DH	Family

19 c	S. st. paul	1- 1	Atlanta, Ga.	turkey rolls	+		+	225	(550)	22		NVCDFH	MMWR	Motel restaurant
20 c	S. chester		Tennessee Kentucky	BBQ pork	+(8)	+	+	~90		5-42		NVCDFH	Salm.	Restaurant
21 u	S. newport	8-10 8-30	San Bernadino, Cal.		+(88)			319	(1150+)			NVCDF	Salm.	Hotel. Two separate outbreaks
22 c	S. javiana	8- ? or 9- ?	Houston, Tex.	BBQ chicken	+(2)			2	(2)	24		NVCDF	Salm.	Family
23 u	S. oranienburg	9-18	Gabbs, Nev.		+(3)			60-70		~48		VCD, dizzy	DH	Restaurant
24 u	S. infantis	11-10 11-14	New Jersey	?meat loaf & mushroom gravy, ?lamb pot pie	+(12)		+(1)	14	(61)	8-36	~72	DF	DH	School. Two separate dinners.
25 c	Salmonella Group C	6-11	National City, Cal.	cow's head from Tijuana	+			10	(10)	6-12		VDF	DH	Family
26 u	Salmonella Group E	4-30	Sacramento, Cal.		+		+	57	(65+)	6-24		NVCD, dehydr., prostration, delirium.	DH	Banquet
27 u	Salmonella ?serotype	7- 3	Yosemite National Park, Cal.	?turkey	+			3	(6)			CDF	DH	Restaurant
28 c	?Salmonella	6-18	NYC, N.Y.	tuna fish salad				3	(6)	14		NVCDF	DH	Home prepared
29 c	?Salmonella	8-21	Hawaii	salmon	-		-	16	(~120)	27½-40		NVCDF	DH	Luau
30 u	?Salmonella	9-21 9-26	Hawaii	?cabbage & carrot slaw	-		-	229	(608)	24-120	48-120	VDF, prostration	DH	Elementary school
31 u	?Salmonella	10-11	Lancaster, Pa.		-		-	>18	(>39)			F, "gastroenteritis"	DH	Motel meeting
32 u	?Salmonella	11-24	NYC, N.Y.	?raw oysters	-	-		3		31		NVCDF	DH	Restaurant
33 u	?Salmonella	11-24	NYC, N.Y.	?turkey or dressing				4	(4)	x̄9	72-96	NVCDF	DH	Restaurant

ETIOLOGY	ONSET (1967)	REPORTED FROM	VEHICLE	LAB DATA P.	LAB DATA V.	LAB DATA H.	CLINICAL DATA # ill (at risk)	CLINICAL DATA incub. period (hrs.)	CLINICAL DATA Duration of dis. (hrs.)	CLINICAL DATA Symptoms	REPORTER	COMMENT
34 ?Salmonella	11-24	Mountain View, Cal.	?turkey or cheese	-	-	-	27 (31)	33-72	36	VCDF, chills	DH	Family dinner party
35 ?S. heidleberg	11-24 12-20	Springvale, Maine		+(3)		-	42			D>C,>chills or sweats >H>F>V	DH	College
SHIGELLA												
S. sonnei	7- 1 7-28	Vermont	probably water	+			140 (450)			NCDFH	DH,EA, MMWR	Summer camp
S. sonnei	9-19	Mt. St. Joseph, Ohio		+(5)		-	39 (84+)			DVF	DH	Convent
S. dysenteriae A1	10- 5	Uniontown, Pa.		+			1 (>2)	~24		D+?	DH	Restaurant in Asmara, Ethiopia
S. sonnei	10-14 10-17	Whitemarsh, Pa.	apple cider	+	-	+	>84	36-120		NVCDF	DH	Meeting in a school
S. sonnei	10-14 10-23	Philadelphia, Pa.	?water	+(113)			>220 (701)	?24-168		VCDFO	DH, MMWR	College
S. sonnei	11-28	Cleveland, Ohio	?common meal	+(36)			63 (239)			VDF, chills	DH	Mental institution
S. sonnei	?	Ohio	?soda dispenser				40				DH	School cafeteria
CLOSTRIDIUM PERFRINGENS												
C. perfringens Hobbs type 9	1-26	Carlisle, Ark.	chili	+		+	155 (316)	9-12		VCD	DH	School
C. perfringens	1-29	New Jersey	meat &/or gravy	+	+	+	85 (144)	6-12		NVCDHA, chills	EA	Catered dinner
C. perfringens	2-26	NYC, N.Y.	roast beef		+		~64 (80)	10-16	24-48	CD	DH	Restaurant

C. perfringens	3-22	NYC, N.Y.	meat chow mein		+		50+(~500)	12-18		CD	DH	Jr. High School
C. perfringens	4-23	Parkersburg, W. Va.	steak	-	+	-	490+(~700)	11-16		NVCD	DH	Convention
C. perfringens	4-25	Los Angeles, Cal.	gefilte fish		+		14	6-15½	$\bar{x}$12	CD	DH	Home-prepared
C. perfringens	5-15	Kernville, Cal.	lamb &/or dressing				11 (62)	10-15½		CD	DH	Restaurant
C. perfringens	5-19 5-21	Hot Springs, Ark.	roast beef	+			360 (659)	8-16		D>N>V>F	DH	Hotel convention
C. perfringens	5-21 5-23	Hot Springs, Ark.	roast beef	+			58 (103)	18-24		D>N>F>V	DH	Hotel convention
C. perfringens	5-27	Duluth, Minn.	chicken salad		+		56(~140)	$\bar{x}$14		CD	DH, MMWR	Luncheon
C. perfringens	8-19	Sharon, Conn.	chicken a la king	+	-		139 (244)	~15		CD	DH	Camp-church conference
C. perfringens	8-31	Gretna, La.	meat sauce		+		250-300 (736)	2½-24½ $\bar{x}$14		CD	DH	Elementary school
C. perfringens	10-22	Wall Township, N.J.	?beef soup				278 (350)	2½-25	3-72 <24 in >65%	D>C>N>O >H>V>F	DH	Banquet in restaurant
C. perfringens Hobbs type 12	10-30	Spokane, Wash.		+(7)			7				DH	Restaurant
C. perfringens	11- 1	Kentucky	roast beef & gravy	+(6)	+		41 (80)	12-16		CDH	DH	Church dinner
C. perfringens	11-17	Spokane, Wash.	chicken gravy	+(2)	+		2				DH	Restaurant
C. perfringens	11- ?	Nashville, Tenn.	turkey & dressing		+(2)		35	3-12			NCUIH	Country club dinner
C. perfringens	12- ?	South Carolina	pre-formed hamburger		+		1			V	DH	Restaurant
C. perfringens		Spokane, Wash.	?rib roast	+(46)			~428(~535)	12-14		CD	DH	2 banquets

ETIOLOGY	ONSET (1967)	REPORTED FROM	VEHICLE	LAB DATA P.	LAB DATA V.	LAB DATA H.	CLINICAL DATA # ill (at risk)	CLINICAL DATA incub. period (hrs.)	CLINICAL DATA Duration of dis. (hrs.)	CLINICAL DATA Symptoms	REPORTER	COMMENT
?C. perfringens	2-16	NYC, N.Y.	beef & mushroom sauce				10 (28)	5-15		NCD	DH	Restaurant
?C. perfringens	2-18	Baton Rouge, La.	roast beef & gravy		-	-	375 (525)	1-22 med. 9		NVCDFH	EA	Banquet
?C. perfringens	4-13	Illinois									DH	College
?C. perfringens	4-22	Albany, N.Y.	?beef	-			22 (39)	8-15		CH	DH	Motel dinner
?C. perfringens	4-25	Monticello, Ark.		+	-	+	211 (986)			NVDF	DH	College
?C. perfringens	5-28	East Baton Rouge, La.	?roast pork		-		80(1100)	10-18	<24	NCD	DH	School
?C. perfringens	9-24	NYC, N.Y.	?roast beef				33 (43)	3½->48		NCD	DH	Restaurant
?C. perfringens	11-30	Alhambra, Cal.	?roast beef &/or gravy	-			13 (25)	8-23	≈11	CD>N>V>H >F	DH	Restaurant
?C. perfringens	12- ?	Columbia, S. C.					220 (250)			NVC	DH	Hotel banquet
?C. perfringens		New Jersey									DH	
CLOSTRIDIUM BOTULINUM												
C. botulinum type E	6-10	Chicago, Ill.	homemade gefilte fish	+	+		3 (3)	6-22		NV, dry mouth, constipation. abdm. distention, weak, dizzy, slurred speech.	MMWR	Home-1 death.
C. botulinum type B	12- 9 12-11	NYC, N.Y.	home-canned peppers	+	+		2 (2)	~48 & 80		Diplopia, dysphagia, dysarthria, lethargy, weakness.	Hosp., EA	Family
Probable C. botulinum	10-25	Wray, Col.	home-canned green beans	-	-		1 (1)			Diplopia, dysphagia, dyspnea.	DH	Home, death

STAPHYLOCOCCUS

S. aureus	3- 2	E. Providence, R.I.	BBQ ham	+		6 (6)	3-5	4-72	NVCDH, sweat, chills, prostration, myalgias.	DH	Supermarket
S. aureus	3-13	NYC, N.Y.	stuffed peppers			3 (3)	3-4		NVCD	DH	Cafeteria
S. aureus	4-20	Kansas City, Kan.	canned peas +	+		2 (2)			NVD	DH	Damaged can
S. aureus	4-24	San Diego, Cal.	hamburger	+		6 (6)	5-8		NVD, malaise	DH	Supermarket
S. aureus	5-17	Seattle, Wash.	unpast. cheddar cheese -	+		2 (2)	4-5		NVCD	DH	Family
S. aureus	5- ?	Washington	ham	+		~40 (76)	1½-9½		NVCD, chills.	DH	Luncheon
S. aureus	6- 7	Albuquerque, N.M.	coconut & banana cream pie	+		12 (12)	1-6		V	NCUIH	Bakery
S. aureus	6-19	Wichita, Kan.	-	+	+	6 (8)	1½-4		NVCDF, chills.	DH	Restaurant
S. aureus	7-11	King City, Cal.	tuna salad +	+		1 (1)	4		NCDH	DH	Home-made food
S. aureus	7-17	Atlanta, Ga.	icing from german choc. cake	+		22	2-5		NVD	News., MMWR	Family. Two separate outbreaks.
S. aureus 29/6/47/53/54/75/83A/+	7-19	New Jersey	chicken salad & potato salad +	+	+	60-65 (239)	1-9 x̄4½	<12	NVCD, prostration.	DH, MMWR	State school
S. aureus	8- 4	NYC, N.Y.	corned beef	+		4 (4)	1		VCD	DH	Restaurant
S. aureus 54/75/83A	8-11 8-15	NYC, N.Y.	corned beef sandwich	+	+	5 (5+)	2		NVCD	DH	Restaurant
S. aureus	8-13	Los Angeles, Cal.	wedding cake & smoked sturgeon	+		80 (115)	1-11 (med. 6)	x̄20	NVCD	DH	Two wedding receptions
S. aureus 6/47/53/54/75/77	8-25	Hawaii	chocolate eclair +(1)	+	+	2 (2)	3-3½	<48	VD	DH	Family

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S. aureus	9- 8 9-19	Carlisle, Pa.	?milk formula	+	-	-	25	2-48		VDF	DH	Newborn nursery
S. aureus 83A	9-13 9-14	NYC, N.Y.	ham sandwich		+		3	4½-6½		NVC	DH	Restaurant
S. aureus ?type 54	9- ?	Maryland	icing from german choc. cake		+						DH	Several families
S. aureus	10- 3	Muncie, Ind.	hamburger		+		4 (4)	7		V	DH	Restaurant
S. aureus	10-24	Cameron, Tex.	turkey salad sand.	+	+	+	168 (238)	1-8		NVCD, weakness	DH	School
S. aureus (untypable)	10-24	NYC, N.Y.	tuna salad		+	+	8	2½-4	Few-48	NVD, dizziness	DH	Dept. store cafeteria
S. aureus	11-10	Wyandotte, Mich.	ice cream		+		2 (2)	4	< 36	VCDF	DH	Family
S. aureus (untypable)	11-10	Duluth, Minn.	tuna fish salad, egg salad		+	+(2)	96(~190)	1-12 $\bar{x}$3½		NV	DH	School
S. aureus	11-13	Corvallis, Ore.	bologna & cheese sand.	+(3)		+(1)	26 (39)	1½-16½ ($\bar{x}$9.5 med. 8)			DH	College
S. aureus	11-16	Indiana	macaroni salad		+	+	131	3-9	< 24		DH	Army mess hall
S. aureus 77/84	12- 7	St. Louis, Mo.	turkey salad sand.		+	+(2)	401(1553)	3-6 6 med.	~24	C>V>H>D	DH	Central kitchen-14 schools
S. aureus	12-14	Beaverton, Ore.	hamburger	+(1)			3	5-6			DH	Restaurant
S. aureus	12-15	Cincinnati, Ohio	veg. soup		+		> 1 (>1)			NVH	NCUIH	Restaurant
S. aureus	12-16	Easton, Pa.	ham	-	+		2 (3)	2		NVCD	NCUIH	Restaurant 1 death.
S. aureus	12-16	Boise, Idaho	creamed ham	+(1)	-		15(30-40)	1½-3		NVCD	DH	Restaurant

S. aureus	12-27	Bakersfield, Cal.	burrito	+		3 (3)	2-10	x̄16		DH	Family
S. aureus 29/6/47/ 54/75	12-29-67 1- 3-68	Birmingham, Mich.	corn beef, shrimp, salami	+	+(2)	177	1-24 x̄4.1	¼-72 x̄9.3	N>V>D>C >chills >prostration >F	DH	6000 servings in delicatessen-cafe
Probable staph.	6- 2	NYC, N.Y.				3 (3)	12		NCD	DH	
Probable staph.	8- 5	Millinocket, Me.	turkey			67 (205)	1½-20 x̄4.9	x̄6.3	VN>C>D >chills or >sweats >H	DH	Wedding reception
Probable staph.	10-15	NYC, N.Y.			+	4 (4)	1½	12	NVH	DH	Restaurant
Probable staph.	11- 2	Interstate	?scrambled eggs			14 (72)	1-4½	<12-96	NVCD, prostration	NCUIH	Commercial airline
Probable staph.	12-12	NYC, N.Y.	corned beef			4 (4)	1½-2		NVCD	DH	Family
?Staph.	1- 5	Illinois	corned beef sand.			5	4-4½		VD	DH	Restaurant
?Staph.	4- 3	NYC, N.Y.	ham	+		3 (3)	14	2-6	CD	DH	Restaurant
?Staph.	4-30	California	raw milk			~147	2		VCD	DH	Dairy
?Staph.	5- 5	NYC, N.Y.	tuna fish salad sand.			3 (400)	3-4		NVCD	DH	Restaurant
?Staph.	5- 6	Fairfield, Cal.	hamburger	-		3 (3)	1-3			DH	Supermarket
?Staph.	6- 5	NYC, N.Y.	veg. sauce	-		8 (8)	1½-6		NVC	DH	Sauce from Mexico
?Staph.	6-11	St. Roberts. Mo.	?ham	-		5	4-5		NVCD	NCUIH	Cafe
?Staph.	7-17	NYC, N.Y.	baked clams, & mushrooms			3 (4)	2-10		NCD	DH	Restaurant
?Staph.	7-27	New Dorf, N.Y.	cold cuts			5 (5)	3-29		NVC	DH	Home-prepared
?Staph.	7-28	NYC, N.Y.	shellfish			4 (5)	1		VCH	DH	Restaurant

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?Staph.	8-20	NYC, N.Y.					3 (3)	2½		NCD	DH	Restaurant
?Staph.	8-27	Chicago, Ill.	potato salad				5 (5+)	4-6			DH	Wedding reception
?Staph.	9-12	NYC, N.Y.	?won-ton soup		-		5 (5)	2½-4½		NVCD	DH	Chinese restaurant
?Staph.	9-15	Washington, D.C.	crab foo yung				4 (7)	4-6			DH	Restaurant
?Staph.	10-17	Montgomery, Ala.	?pound cake		-		3 (5)	5		V, sweats, syncope	DH	Family
?Staph.	11-17	Salem, Ill.	?turkey &/or dressing				25-30 (154)	4-8			DH	Luncheon
?Staph.	11-27	Decatur, Ga.					2	13-14	<12	NVCD	Ind.	Restaurant
?Staph.	11- ?	New Mexico			-		~250	6	<24	CDF	DH	School
ENTEROCOCCUS												
?enterococcus	10-15	NYC, N.Y.	sliced turkey		+		15 (17)	10-15		NVCD	DH	Catered meal
?enterococcus	10-20	Somerville, N.J.	salmon salad		+		23 (235)	4-6	12	NVCD	DH	Hosp. lunch.
?enterococcus	10-31	Princeton, N.J.	?lamb gravy				8 (79)	2-14		VD	DH	College frat. house
?enterococcus	11-15	NYC, N.Y.	creamed baked potato				5 (5)	x̄14	24	NVCD	DH	Restaurant
?enterococcus		New Jersey									DH	
ESCHERICHIA COLI												
E. coli 0111:B4	3- 5 4-25	Warrenton, Va.	well water	+(8)	+(7)		70+(97+)	17-72 x̄36	x̄24	NVCDF, chills, malaise	DH, EA, MMWR,	Faulty wells, hotel conv.
E. coli	10- ?	Kodiak, Alaska	water	+(5)						D	DH	Family-3 deaths
E. coli 0124:B17	10-25	Barrow, Alaska	?water	+(6)			35			D>F>V>C, H	DH	Eskimo town
?E. coli	7-30	Covington, La		-			14 (17)	~30	60	CDN>VF myalgia	DH	Picnic

BRUCELLOSIS

Brucella abortus	4-10	Oxnard, Cal.	?raw milk	+	1	F, chills, myalgia, cough, chest pain, dehydr.	Bruc.	Raw milk in Mexico
Brucella abortus	5- ?	San Pedro, N.M.	?unpast. cheese	+	1	FHA, malaise, arthralgias, myalgias, weak, wt. loss.	Bruc.	Cheese from Juarez, Mexico
Brucella abortus	7-10	Elizabeth, N.J.	?raw milk	+	1	FH, myalgias, weak, malaise	Bruc.	Raw milk in Puerto Rico
Brucella suis	8- ?	Valiant, Okla.	?raw milk	+	1	F, chills, purulent arthritis of left knee.	Bruc.	Child regularly drank raw milk
Brucella melitensis	2-15	El Paso, Tex.	?unpast. cheese	+	1	FH, weak malaise	Bruc.	Cheese from Juarez, Mex.
Brucella ?melitensis and abortus	3- ?	Morgan City, La.	?unpast. cheese	+	1	FHA, chills sweats, wt. loss, myalgias, weakness, malaise, jaundice.	Bruc.	Onset in Egypt
Brucella ?type	1- 8	Los Angeles, Cal.	?raw milk	+	1	F, malaise, myalgias	Bruc.	Raw milk in Mexico
Brucella ?type	1-22	Frederic, Wis.	?raw milk	+	1		Bruc.	Factory worker
Brucella ?type	1- ?	Morganfield, Ky.	?raw milk	+	1	F, chills, malaise, wt. loss	Bruc.	Itinerant farm worker
Brucella ?type	2- 2	Victorville, Cal.	?raw milk	+	1	F	Bruc.	Raw milk in Netherlands
Brucella ?type	2-11 2-13	Birmingham, Mich.	?raw milk	+	2		Bruc.	Two children, farm.

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Brucella ?type	2-19	Kobuk, Alaska	caribou	+			1				Bruc.	Eskimo. Ate raw caribou
Brucella ?type	3-18	Eagleville, Cal.	?raw milk	+			1				Bruc.	Ranch hand
Brucella ?type	3- ?	Church Point, La.	?raw milk	+			1			FH, chills, wt. loss, sweats, malaise, myalgias.	Bruc.	One reactor in herd
Brucella ?type	5-20	Anaktuvuk Pass, Alaska	caribou	+			1			F	Bruc.	Eskimo. Ate raw caribou
Brucella ?type	7-31	Barrow, Alaska	caribou	+			1			FH, myalgias, weak, wt. loss.	Bruc.	Eskimo. Ate raw caribou
Brucella ?type	7- ?	Brumley, Mo.	?raw milk	+			1			FHA, wt. loss, sweats, weak, malaise.	Bruc.	Raw milk, neighbor's cow
Brucella ?type	8- 1	Anaktuvuk Pass, Alaska	caribou	+			1			FH, wt. loss, abdominal pain	Bruc.	Eskimo. Ate raw caribou
Brucella ?type	9- 1	Solen, N.D.	?raw milk	+			1			FHA, wt. loss, chills, sweats, myalgia, weak malaise	Bruc.	Farmer, raw milk from own herd.
Brucella ?type	9- 8	Barrow, Alaska	caribou	+			1			FH, malaise	Bruc.	Eskimo. Ate raw caribou
?Brucella ?type	1-28	Houston, Tex.	?raw milk				1			FH, chills, sweats, wt. loss, myalgias, weak, malaise.	Bruc.	Drank raw milk
?Brucella ?type		Alaska	caribou				1				Bruc.	Eskimo. Ate raw caribou

TRICHINOSIS

						(dys.)			
Trichinosis	1- 1	San Jose, Cal.	?bacon	+	1 (8)		F, periorbital edema, weak	Para.	Commercial bacon. Home
Trichinosis	1- 3	Mountainside, N.J.	?pork	+	1		Periorbital edema	Para.	Uncooked. Home
Trichinosis	1- 7	Morris Plains, N.J.	?pork chow mein	+	1	?37	Periorbital edema	Para.	Restaurant
Trichinosis	1-13	Oklahoma	?pork sausage	+	1	6	Periorbital edema	Para.	Commercial pork, cooked at home
Trichinosis	1-13	Memphis, Mich.	?pork sausage	+	1	7	NDF, periorbital edema, myalgias.	Para.	Uncooked. Commercial pork. Home
Trichinosis	1-19	Seattle, Wash.	?pork sausage	+	1 (1)	6	CDF, periorbital edema, myalgias	Para.	Uncooked commercial at home
Trichinosis	1-21	Newport, R.I.	?pork	+	1			Para.	Cooked. Home
Trichinosis	1-28	NYC, N.Y.	?pork	+	1	?21	Periorbital edema	Para.	Restaurant. Cooked.
Trichinosis	2- 2	Baltimore, Md.	?pork sausage	+	1		Periorbital edema	Para.	Home. Cooked?
Trichinosis	2-12	Hagerstown, Md.	?hamburger	+	1 (1)	3	DF, myalgias, periorbital edema	Para.	Restaurant
Trichinosis	2-18	Maryville, Tenn.	?pork	+	1 (1)			Para.	Home. Raw pork.
Trichinosis	3- 6	Catonsville, Md.	?sausage	+	1		Periorbital edema	Para.	Home.
Trichinosis	3-13	NYC, N.Y.	?pork	+	1		Periorbital edema	Para.	Home. Cooked.
Trichinosis	3-15	Georgetown, Ky.	?pork	+	1 (2)	4	NVDF, myalgias, periorbital edema, malaise prostration, photophobia.	Para.	Home. Uncooked

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Trichinosis	~3-23	Portland, Ore.	?type meat	+			1				Para.	Restaurant
Trichinosis	3-27	Yakima, Wash.	?sausage &/or pork roast	+			1			Difficulty w/ control of l. leg and arm.	Para.	Home. Cooked
Trichinosis	3-28	Old Bridge, N.J.	?pork	+			1	10		Periorbital edema	Para.	Home. Raw
Trichinosis	3-31	Portland, Ore.	?pork	+			1	7		Periorbital edema	Para.	Restaurant. Smoked.
Trichinosis	4- 1	Kentucky	?pork	+			1	2-4		Periorbital edema, F, myalgias.	Para.	Home. Raw hamburger
Trichinosis	4- 5 4- 7	Maplewood, Mo.	?hamburger	+			2 (2)			Periorbital edema	Para.	Home. Raw hamburger. Ground in same machine as pork.
Trichinosis	4- 9	NYC, N.Y.	?pork	+			1	1		Periorbital edema	Para.	Restaurant. Cooked.
Trichinosis	5- 1	La Jolla, Cal.	?pork sand. or raw hambruger	+			1	~12		F, chills, fatigue, malaise.	Para.	Home
Trichinosis	5-15	NYC, N.Y.	?pork salami	+			3 (3)	3		Periorbital edema, DF, myalgias.	Para., DH.	Home. Raw
Trichinosis	6- 3	NYC, N.Y.	?pork	+			1			Periorbital edema	Para.	Home. Cooked
Trichinosis	6- 5	NYC, N.Y.	?pork	+			1	7			Para.	Home. Cooked
Trichinosis	6- 7	Peabody, Mass.	?pork sausages	+			1				Para.	Home. Raw

Trichinosis	6-18	Granite City, Ill.	?pork	+	1		Periorbital edema, F.	Para.	Home-prepared. Cooked
Trichinosis	6-18	NYC, N.Y.	?pork sausage	+	1	21	Periorbital edema	Para.	Home. Cooked
Trichinosis	7-13	Marmet, W. Va.	?hamburger	+	1	~21	NVFH, chills, periorbital edema.	Para.	Home. Raw
Trichinosis	7-15	Somerville, Mass.	?pork	+	1		HA, myalgias, fatigue, sweats, peri-orbital edema.	Para.	Restaurant.
Trichinosis	7-16	Horton, Kan.	?pork weiners	+	1	12	F, chills, D, abdominal pain, malaise, myalgias.	Para.	Picnic. Uncooked
Trichinosis	7-26	Effingham, Ill.	?pork chops	+	3 (3)	9-11	NDFH, weak, chills, myalgia, periorbital edema, sweats.	Para.	Family, restaurant
Trichinosis	7- ?	Holyoke, Mass.	?pork	+	1			Para.	Home. Partly cooked
Trichinosis	9- 9	NYC, N.Y.	?pork	+	1			Para.	Restaurant. Cooked
Trichinosis	10-20	Nashville, Tenn.	?pork sausage	+	1		Periorbital edema	Para.	Home. Raw
Trichinosis	10-30	Yakima, Wash.	?pork sausage	+	1	14	H, myalgias, periorbital edema	Para.	Home. Cooked & uncooked
Trichinosis	11- ?	Emporia, Kan.	?pork	+	1		Periorbital edema	Para.	Home. Cooked
?Trichinosis	1-24	Paterson, N.J.	?pork	+	1			Para.	Home. Cooked
?Trichinosis	2-10	Hendersonville, Pa.	?pork sausage	+	1		Confusion, left hemi-paresis, D.	Para.	Home. Cooked & uncooked
?Trichinosis	5- ?	Washington	?pork		1			DH	Home

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?Trichinosis	7-30	NYC, N.Y.	?pork chops & sausage	+			1	51			Para.	Home. Cooked
?Trichinosis	9-12	NYC, N.Y.	?pork				1			Periorbital edema	Para.	Home. Cooked
OTHER												
Entamoeba histolytica	9- ?	Weleetka, Okla.	water	+(5)			5 (5)	3-7 dy.		CD, weakness	DH	Indian family
?mushroom	8-31	NYC, N.Y.	mushroom				3 (3)	2-3 hr.		NVC, vision blurred	DH	Family
?mushroom	9-26	NYC, N.Y.	?mushroom				5 (5)	3	3	NV, sleepy, mydriasis	DH	Family
?mushroom	10-15	Fishkill, N.Y.	?mushroom				3 (3)			CDH, dyspnea	DH	Family
?mushroom	10-26	Philadelphia, Pa.	?mushroom gravy w/ chicken livers		-		1 (1)	7		NVD, FH, diplopia, dizzy.	DH	Home-suspect botulism
?coliform	9-23	Morgantown, W. Va.	ice in soft drinks		+		700+ (14,000+)	30		NVCDF	DH	Football stadium
?coliform	10-11	St. Albans, N.Y.	fruit cocktail		-		1 (3)	2		V	AF	Family-suspect botulism
?B. cereus	11-30	Portland, Ore.	roast beef	-	+		38 (46)	5-16 med. 13	$\bar{x}$24	D>C>NV >dizzy	DH	Hotel luncheon
?viral	11- 6 11-20	NYC, N.Y.		-			177 (732)			VD, few F	DH	Home for aged
UNKNOWN							(hrs.)					
	1-28	NYC, N.Y.	?shellfish	-			7 (8)	28-48		NVD	DH	Restaurant
	2- 2	NYC, N.Y.	choc. cream cake		-		3 (3)	5-8		V	DH	Bakery

2-19	Santa Cruz, Cal.	?turkey				22	(28)	8-20			DH	Restaurant
2-23	NYC, N.Y.	smoked ham	-	-		12	(14)	20-29		NVCD	DH	Home
2-23	Lawrence, Kan.					~150		12		CD	News.	College
2-25	NYC, N.Y.	?fish balls or liver		-		19	(27)	11-19		NVCD	DH	Restaurant
3- 6	NYC, N.Y.		-			3	(3)	7-15		NVCDF	DH	Restaurant
3-14	Albany, N.Y.	?roast gravy				~60	(125)	9-15		ND	DH	Restaurant
3- ?	Maine	seafood, roast beef								NVCD	DH	
4- 4	Bridge City, La.	"meat"	-	-		50				NVCDH	DH	Elementary school
4-14	Binghamton, N.Y.					150		1+		NCD	News.	College
4-14	Carbondale, Ill.		-	-		27	(43)	8-10		NCD, dizzy	DH	College
5-16	Minnesota	Salisbury steak				~100				CD	News.	College
5-18	Coral Gables, Fla.	?roast beef & gravy				80+				NVDH	News.	School
5-21	E. Lansing, Mich.					45				NVCD	News.	Dormitory cafeteria
5- ?	Norwalk, Ohio	?mashed potatoes				16	(19)				News.	
6- 1	Palo Alto, Cal.	?soup or pie		-		11	(19)	7-26		NVCDF	DH	
6- 3	NYC, N.Y.	?salad				4++	(200)	8-13½		NVCD	DH	Banquet
6-18	NYC, N.Y.	veal				3	(3)	12-14		VCD	DH	Restaurant
6-21	NYC, N.Y.	shrimp salad		-		6	(6)	19-21		NCDF	DH	Store
6-25	Los Angeles, Cal.	?chicken wings	-		-	~50	(200)	4-60 med. 28	x48	NVCDF	DH	Wedding dinner
7- 7	Portland, Ore.					10	(1138)	3-17		NCDH, dizzy	DH	Convention

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	7- 8	NYC, N.Y.	raw clams				6 (11)	23-43		NVCD	DH	Store
	7- 9	NYC, N.Y.	?turkey		-		3 (21)	5-25		NCD	DH	Home
	7-23	Santa Clara, Cal.	?sour cream - dip or casserole		-		25 (33)	24-36		NVCDFH	DH	Catered food
	8-11	Omaha, Neb.	?home canned green peppers				1 (1)	4		NCDH, weak, dizzy, dry mouth	AF	Suspect botulism
	8-19 9-15	Portland, Ore., Spokane, Wash.	water	-			62 (71)			D>C>F>N >H>V>chills >bloody D	DH, MMWR, Salm.	Hockey clinic in Canada
	8-31	NYC, N.Y.	turkey		-	-	8 (10)	1-19 $\bar{x}$10	5-36	NCD	DH	Restaurant
	9- 2	Los Angeles, Cal.	?chicken mole				32 (52)	1-11 (med. 4)	$\bar{x}$36	D>V>N>C >H>F	DH	Banquet
	9-24	Prentiss, Miss.					~200	8-16		VCD, chills	DH	School
	9- 9	Ocean City, Md.					54 (174)	6-54 (med. 31)		NVCDF, chills	DH	Meeting
	10- 1	NYC, N.Y.					36 (70)	8-25		NVCD	DH	Restaurant
	10- 4	Fayetteville, Ark.	roast beef &/or gravy								DH	College
	10-31	NYC, N.Y.	common meal		-		7 (7)	3½-7½	10-24	CD	DH	Family party
	11-12	Portland, Ore.		-	-		96 (132)	1-51 $\bar{x}$29.8	24-168 $\bar{x}$77	N>D> >malaise, >myalgia,>C>V >chills,>H>A>F	DH	Club dinner
	11-12 11-19	Philadelphia, Pa.		-			47(>243)	?9-12	<48	VCD, tenesmus	DH	Old age home
	11-13	NYC, N.Y.	common meal		-		3	2-14	1-24	NVC	DH	Restaurant

	11-13	Tampa, Fla.		-			>300		< 24	NVCD	DH	College
	11-30	NYC, N.Y.	?roast beef		-		16 (30)	9-13 $\bar{x}$11	2-14	NCD	DH	Restaurant
	11- ?	Banning, Cal.	?home-canned squash				1				Tele.	Home-Suspect botulism
	~12- 5	Owensboro, Ky.					55			NVCDF	DH, News.	College
	12-14	Dublin, Cal.	?turkey & gravy				~100 (300+)	5-20		CD	DH	School

ADDENDUM (Reports received too late to be included in tables.)

SALMONELLA

S. pullorum	7-21	Battle Creek, Mich.	eggs	+(1)	+		5			VD	Salm.	Family
S. enteritidis	10- 3	Connecticut	?turkey	+(17)		+(2)	10	~24		D	Salm.	Nursing home. One death.
S. saint-paul	11-23	Seattle, Wash.	turkey	+(11)			39 (55)	9-73 (med. 41)	48-168	VCDFH, chills	Salm.	Restaurant

STATE EPIDEMIOLOGISTS AND STATE LABORATORY DIRECTORS

Key to all disease surveillance activities are the physicians who serve as State epidemiologists. They are responsible for collecting, interpreting, and transmitting data and epidemiological information from their individual States; their contributions to this report are gratefully acknowledged. In addition, valuable contributions are made by State Laboratory Directors; we are indebted to them for their valuable support.

STATE	*STATE EPIDEMIOLOGIST*	*STATE LABORATORY DIRECTORS*
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South Carolina	G. E. McDaniel, M.D.	G. E. McDaniel, M.D.
South Dakota	G. J. Van Heuvelen, M.D.	B. E. Diamond, M.S.
Tennessee	C. B. Tucker, M.D.	J. Howard Barrick, Ph.D.
Texas	M. S. Dickerson, M.D.	J. V. Irons, Sc.D.
Utah	Robert Sherwood, M.D.	Russell S. Fraser, M.S.
Vermont	Linus J. Leavens, M.D.	Dymitry Pomar, D.V.M.
Virginia	Paul C. White, Jr., M.D.	W. French Skinner, M.P.H.
Washington	B. John Francis, M.D.	W. R. Giedt, M.D.
West Virginia	N. H. Dyer, M.D.	J. Roy Monroe, Ph.D.
Wisconsin	H. Grant Skinner, M.D.	S. L. Inhorn, M.D.
Wyoming	Herman S. Parish, M.D.	James T. Ritter, B.S.