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PUBLIC HEALTH SERVICE-DP-NCDC, Atlanta

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.

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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.


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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.

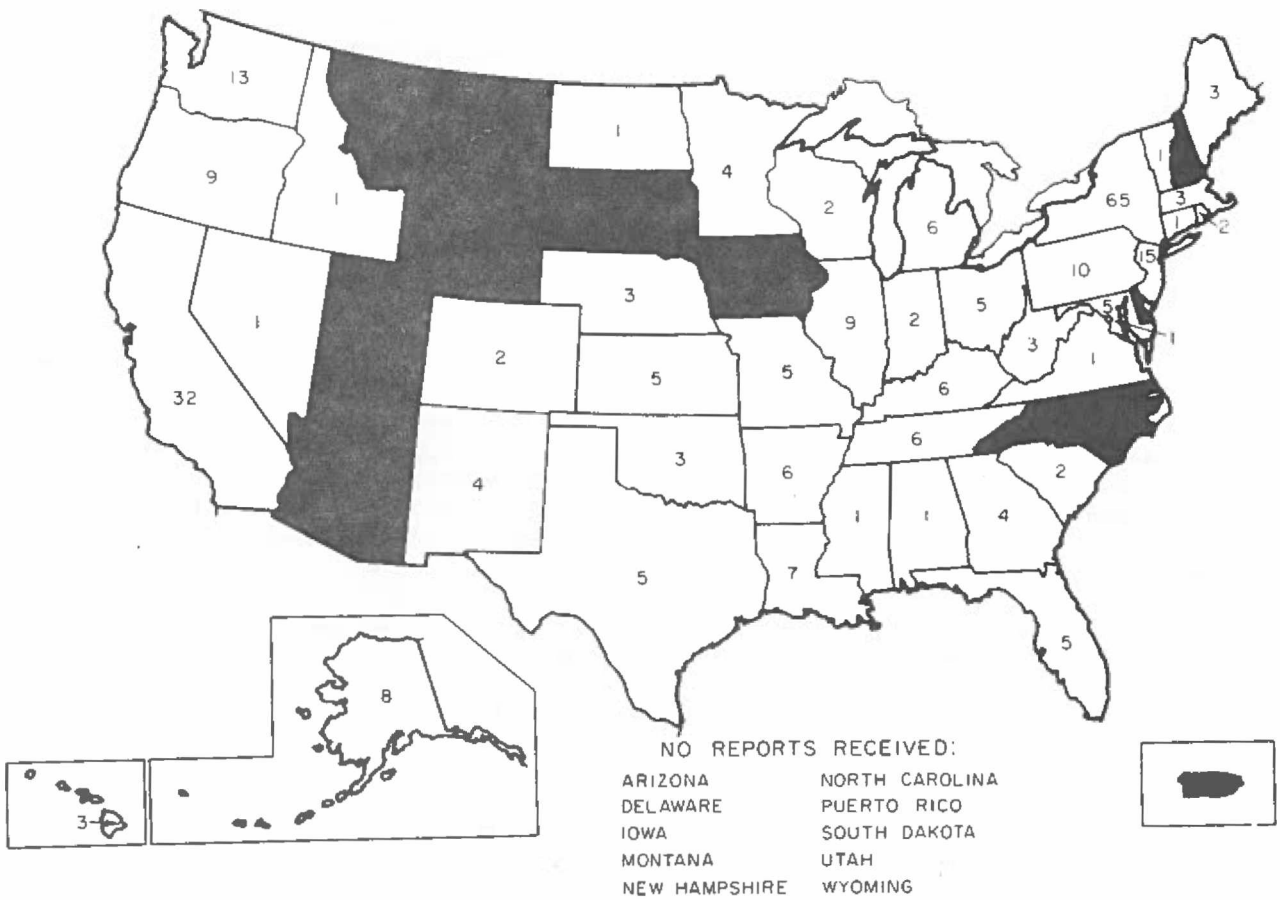
Table II lists the breakdown of sources which initially brought the outbreak to the attention of the NCDC. The category, "Department of Health," includes monthly reports of EIS Officers assigned to state or local health departments.

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: _____
_____
_____

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

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

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

Name of reporting agency

Investigating official: _____ Date of investigation: _____

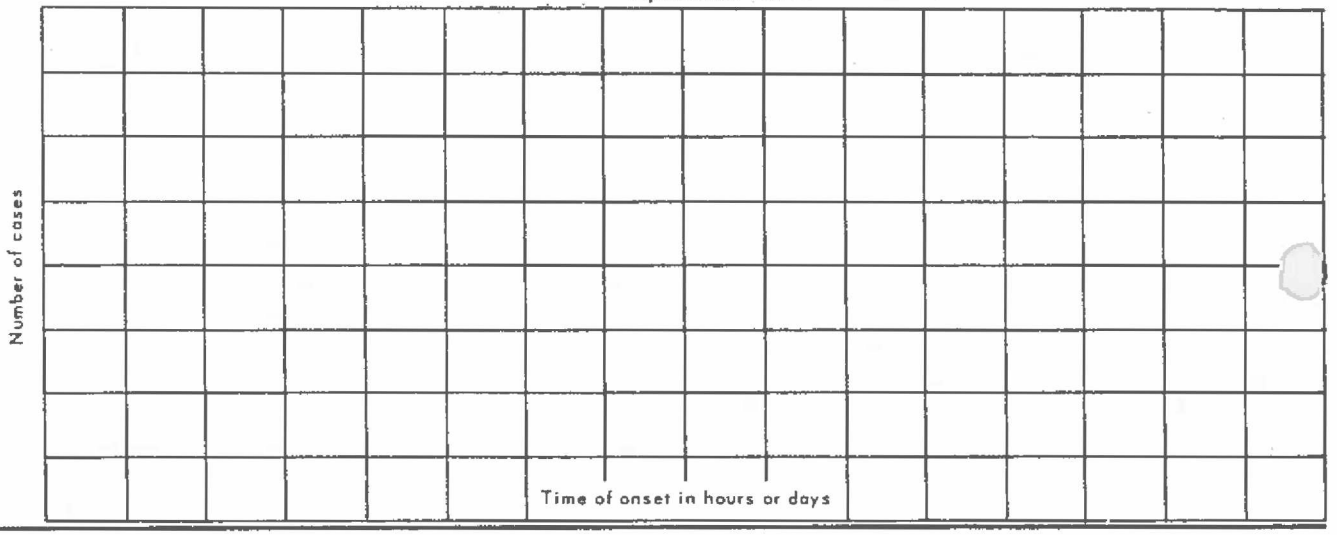
NOTE. Assistance for the investigation of a foodborne outbreak is available upon request by the State Health Department to the National Communicable Disease Center, Atlanta, Georgia.

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 |
| | | | | | | | | | |
| | | | | | | | | | |
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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
$\sim$ - 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<br>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<br>5- 6 | Birch Run & Taymouth, Mich. | | | | | 16 | up to 49 | | jaundice | DH | School |
| Hepatitis | 5- 5<br>5-12 | Wisconsin | common meal | | | | 5 (45) | 26-33 | | jaundice | Hep. | Home |
| Hepatitis | 5- 8<br>5-16 | Memphis, Tenn. | ?raspberries | | | | 8 (10) | 25-42<br>med. 28 | | jaundice | DH, MMWR | Home |
| Hepatitis | 7-18<br>8-10 | New Jersey | ?ice cubes | | | | 12 (~35) | ~30 | | jaundice | MMWR | Spread to 4 states from Canadian fishing lodge. |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hepatitis | 8-13<br>10- 7 | Greenland, Ark. | probably well water | | | 51 | | | | DH, MMWR | Restaurant |
| | Hepatitis | 8-29<br>10-18 | Amboy, Wash. | well water | | | 13 | | 22-35 | | MMWR | 2 families |
| | Hepatitis | 9-25<br>10-20 | New Jersey | probably well water | | | 15 | (29) | | | DH | Several homes. 1 death. |
| | Hepatitis | 8-23<br>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<br>3- 6 | San Acacia, Colo. | | + (9) | + (1) | 11 | (55) | 17-31 dys. | HO, chills | Salm. | Home luncheon |
| 2 | S. typhosa $B_1$ | 5-10<br>5-31 | Stanford, Cal. | | + | + | 31 | (74) | | CFH, weakness | DH, MMWR | School frat. house |
| 3 | S. typhosa | 8-19<br>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-<br>3-<br>4- | Yakima, Wash. | raw dairy milk | + | + | 40 | | | NVCDF | DH, Salm. | Local dairy |
| (2) c | S. typhi-murium<br>S. typhi-murium var. copenhagen<br>S. braenderup | 4- 1<br>4-14 | New York<br>New Jersey<br>Connecticut<br>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 |

| | ETIOLOGY | ONSET (1967) | REPORTED FROM | VEHICLE | LAB DATA P. | LAB DATA V. |
|---|---|---|---|---|---|---|
| 5 c | S. typhi-murium<br>S. manhattan<br>S. newport | 9- 2 | Oxford, Neb. | BBQ turkey roll | +(278) | + |
| 6 u | S. typhi-murium | 9- 3<br>9-11 | New Kensington, Pa. | ?milk | + | |
| 7 c | S. typhi-murium | 9-17 | Fresno, Cal. | beef jerky | + | + |
| 8 u | S. typhi-murium | 10-19<br>11- 6 | Cochran, Ga. | probably BBQ pork sandwiches | +(6) | - |
| 9 u | S. typhi-murium | 11- 1 | Omaha, Neb. | ?roast beef & gravy | +(7) | |
| 10 c | S. thompson | 10-30-66<br>1-20-67 | New Mexico | beef jerky | +(64) | + |
| 11 u | S. thompson | 6-18<br>7- 9 | Los Angeles, Cal. | | + | |
| 12 c | S. thompson | 9-15 | Tampa, Fla. | roast beef | +(19) | |
| 13 u | S. montevideo | 4- ? | Danville, Ill. | | + | |
| 14 c | S. montevideo | 5-18 | NYC, N.Y. | egg salad | +(57) | + |
| 15 c | S. heidleberg,<br>S. manhattan | 6-26<br>7- 3 | St. Louis, Mo. | turkey | + | + |
| 16 u | S. heidleberg | 8- ? | California | ?turkey | +(5) | |
| 17 c | S. enteritidis | 8- ? | Muline, Ore. | raw eggs | + | + |
| 18 c | S. enteritidis | 10-16 | NYC, N.Y. | common meal | +(2) | |

| H. | # ill (at risk) | CLINICAL DATA: incub. period (hrs.) | Duration of dis. (hrs.) | Symptoms | REPORTER | COMMENT |
|---|---|---|---|---|---|---|
| | ~1,345 (~5000) | 24-96 $\bar{x}$ 79 | | D>C>F>VHN | EA, DH MMWR | Festival |
| | 14 | | | | DH | Dairy |
| + | 6 (11) | 12-24 | | DF, dehydr., neurotoxic | DH | Family |
| + | 8 | ~24-48 | | D | Salm. | Restaurant |
| | 67 | 6-24 | | CDF | DH | Restaurant |
| | 212 | | | VCDF | DH, MMWR | Commercial, widely distributed |
| + | 21 | 3-60 | | NCDF, chills | DH | Restaurant |
| + | ~300 (876) | 5-72 | | C>D>F>V | DH | School |
| + | 42 | 10-48 | | CDF | Salm., DH | School |
| + | ~250 (450) | 8-45 | | NVCDF | News., Salm. | School |
| + | 185 (510) | | | CDF | Salm. | Women's work group |
| | 7 (8) | 13-25 | $\bar{x}$ 96 | NVCDF | Salm. | Picnic |
| | 7 | 5->16 | | CD, central nervous system in 1. | Salm. | Family 1 death. |
| | 5 (6) | ~24 | 72-120 | NVCDF | DH | Family |

| | | | | | |
|---|---|---|---|---|---|
| (19) C | S. st. paul | 1- 1 | Atlanta, Ga. | turkey rolls | + |
| (20) C | S. chester | | Tennessee Kentucky | BBQ pork | +(8) |
| (21) U | S. newport | 8-10 8-30 | San Bernadino, Cal. | | +(88) |
| (22) C | S. javiana | 8- ? 9- ?or | Houston, Tex. | BBQ chicken | +(2) |
| (23) U | S. oranienburg | 9-18 | Gabbs, Nev. | | +(3) |
| (24) U | S. infantis | 11-10 11-14 | New Jersey | ?meat loaf & mushroom gravy, ?lamb pot pie | +(12) |
| (25) C | Salmonella Group C | 6-11 | National City, Cal. | cow's head from Tijuana | + |
| (26) U | Salmonella Group E | 4-30 | Sacramento, Cal. | | + |
| (27) U | Salmonella ?serotype | 7- 3 | Yosemite National Park, Cal. | ?turkey | + |
| 28 C | ?Salmonella | 6-18 | NYC, N.Y. | tuna fish salad | |
| 29 C | ?Salmonella | 8-21 | Hawaii | salmon | - |
| 30 U | ?Salmonella | 9-21 9-26 | Hawaii | ?cabbage & carrot slaw | - |
| 31 U | ?Salmonella | 10-11 | Lancaster, Pa. | | - |
| 32 U | ?Salmonella | 11-24 | NYC, N.Y. | ?raw oysters | - |
| 33 U | ?Salmonella | 11-24 | NYC, N.Y. | ?turkey or dressing | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| + | 225 | (550) | 22 | | NVCDFH | MMWR | Motel restaurant |
| + | ~90 | | 5-42 | | NVCDFH | Salm. | Restaurant |
| | 319 | (1150+) | | | NVCDF | Salm. | Hotel. Two separate outbreaks |
| | 2 | (2) | 24 | | NVCDF | Salm. | Family |
| | 60-70 | | ~48 | | VCD, dizzy | DH | Restaurant |
| +(1) | 14 | (61) | 8-36 | ~72 | DF | DH | School. Two separate dinners. |
| | 10 | (10) | 6-12 | | VDF | DH | Family |
| + | 57 | (65+) | 6-24 | | NVCD, dehydr., prostration, delirium. | DH | Banquet |
| | 3 | (6) | | | CDF | DH | Restaurant |
| | 3 | (6) | 14 | | NVCDF | DH | Home prepared |
| - | 16 | (~120) | 27½-40 | | NVCDF | DH | Luau |
| - | 229 | (608) | 24-120 | 48-120 | VDF, prostration | DH | Elementary school |
| - | >18 | (>39) | | | F, "gastroenteritis" | DH | Motel meeting |
| | 3 | | 31 | | NVCDF | DH | Restaurant |
| | 4 | (4) | $\bar{x}$9 | 72-96 | NVCDF | DH | Restaurant |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 Al | 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 | | + |
| C. perfringens | 4-23 | Parkersburg, W. Va. | steak | - | + |
| C. perfringens | 4-25 | Los Angeles, Cal. | gefilte fish | | + |
| C. perfringens | 5-15 | Kernville, Cal. | lamb &/or dressing | | |
| C. perfringens | 5-19<br>5-21 | Hot Springs, Ark. | roast beef | + | |
| C. perfringens | 5-21<br>5-23 | Hot Springs, Ark. | roast beef | + | |
| C. perfringens | 5-27 | Duluth, Minn. | chicken salad | | + |
| C. perfringens | 8-19 | Sharon, Conn. | chicken a la king | + | - |
| C. perfringens | 8-31 | Gretna, La. | meat sauce | | + |
| C. perfringens | 10-22 | Wall Township, N.J. | ?beef soup | | |
| C. perfringens Hobbs type 12 | 10-30 | Spokane, Wash. | | +(7) | |
| C. perfringens | 11- 1 | Kentucky | roast beef & gravy | +(6) | + |
| C. perfringens | 11-17 | Spokane, Wash. | chicken gravy | +(2) | + |
| C. perfringens | 11- ? | Nashville, Tenn. | turkey & dressing | | +(2) |
| C. perfringens | 12- ? | South Carolina | pre-formed hamburger | | + |
| C. perfringens | | Spokane, Wash. | ?rib roast | +(46) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 50+(~500) | | 12-18 | | CD | DH | Jr. High School |
| 490+(~700) | | 11-16 | | NVCD | DH | Convention |
| 14 | | 6-15½ | $\bar{x}$12 | CD | DH | Home-prepared |
| 11 | (62) | 10-15½ | | CD | DH | Restaurant |
| 360 | (659) | 8-16 | | D>N>V>F | DH | Hotel convention |
| 58 | (103) | 18-24 | | D>N>F>V | DH | Hotel convention |
| 56 | (~140) | $\bar{x}$14 | | CD | DH, MMWR | Luncheon |
| 139 | (244) | ~15 | | CD | DH | Camp-church conference |
| 250-300 | (736) | 2½-24½ $\bar{x}$14 | | CD | DH | Elementary school |
| 278 | (350) | 2½-25 | 3-72 <24 in >65% | D>C>N>O >H>V>F | DH | Banquet in restaurant |
| 7 | | | | | DH | Restaurant |
| 41 | (80) | 12-16 | | CDH | DH | Church dinner |
| 2 | | | | | DH | Restaurant |
| 35 | | 3-12 | | | NCUIH | Country club dinner |
| 1 | | | | V | DH | Restaurant |
| ~428 | (~535) | 12-14 | | CD | DH | 2 banquets |

| ETIOLOGY | ONSET (1967) | REPORTED FROM | VEHICLE | LAB DATA P. | V. | H. | CLINICAL DATA # ill (at risk) | incub. period (hrs.) | Duration of dis. (hrs.) | 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 | | + | |
| S. aureus | 3-13 | NYC, N.Y. | stuffed peppers | | | |
| S. aureus | 4-20 | Kansas City, Kan. | canned peas | + | + | |
| S. aureus | 4-24 | San Diego, Cal. | hamburger | | + | |
| S. aureus | 5-17 | Seattle, Wash. | unpast. cheddar cheese | - | + | |
| S. aureus | 5- ? | Washington | ham | | + | |
| S. aureus | 6- 7 | Albuquerque, N.M. | coconut & banana cream pie | | + | |
| S. aureus | 6-19 | Wichita, Kan. | | - | + | + |
| S. aureus | 7-11 | King City, Cal. | tuna salad | + | + | |
| S. aureus | 7-17 | Atlanta, Ga. | icing from german choc. cake | | + | |
| S. aureus 29/6/47/53/54/75/83A/+ | 7-19 | New Jersey | chicken salad & potato salad | + | + | + |
| S. aureus | 8- 4 | NYC, N.Y. | corned beef | | + | |
| S. aureus 54/75/83A | 8-11 8-15 | NYC, N.Y. | corned beef sandwich | | + | + |
| S. aureus | 8-13 | Los Angeles, Cal. | wedding cake & smoked sturgeon | | + | |
| S. aureus 6/47/53/54/75/77 | 8-25 | Hawaii | chocolate eclair | +(1) | + | + |

| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | (6) | 3-5 | 4-72 | NVCDH, sweat, chills, prostration, myalgias. | DH | Supermarket |
| 3 | (3) | 3-4 | | NVCD | DH | Cafeteria |
| 2 | (2) | | | NVD | DH | Damaged can |
| 6 | (6) | 5-8 | | NVD, malaise | DH | Supermarket |
| 2 | (2) | 4-5 | | NVCD | DH | Family |
| ~40 | (76) | 1½-9½ | | NVCD, chills. | DH | Luncheon |
| 12 | (12) | 1-6 | | V | NCUIH | Bakery |
| 6 | (8) | 1½-4 | | NVCDF, chills. | DH | Restaurant |
| 1 | (1) | 4 | | NCDH | DH | Home-made food |
| 22 | | 2-5 | | NVD | News., MMWR | Family. Two separate outbreaks. |
| 60-65 | (239) | 1-9 $\bar{x}$4½ | <12 | NVCD, prostration. | DH, MMWR | State school |
| 4 | (4) | 1 | | VCD | DH | Restaurant |
| 5 | (5+) | 2 | | NVCD | DH | Restaurant |
| 80 | (115) | 1-11 (med. 6) | $\bar{x}$20 | NVCD | DH | Two wedding receptions |
| 2 | (2) | 3-3½ | <48 | VD | DH | Family |

| ETIOLOGY | ONSET (1967) | REPORTED FROM | VEHICLE | LAB DATA P. | LAB DATA V. |
|---|---|---|---|---|---|
| S. aureus | 9- 8<br>9-19 | Carlisle, Pa. | ?milk formula | + | - |
| S. aureus 83A | 9-13<br>9-14 | NYC, N.Y. | ham sandwich | | + |
| S. aureus ?type 54 | 9- ? | Maryland | icing from german choc. cake | | + |
| S. aureus | 10- 3 | Muncie, Ind. | hamburger | | + |
| S. aureus | 10-24 | Cameron, Tex. | turkey salad sand. | + | + |
| S. aureus (untypable) | 10-24 | NYC, N.Y. | tuna salad | | + |
| S. aureus | 11-10 | Wyandotte, Mich. | ice cream | | + |
| S. aureus (untypable) | 11-10 | Duluth, Minn. | tuna fish salad, egg salad | | + |
| S. aureus | 11-13 | Corvallis, Ore. | bologna & cheese sand. | +(3) | |
| S. aureus | 11-16 | Indiana | macaroni salad | | + |
| S. aureus 77/84 | 12- 7 | St. Louis, Mo. | turkey salad sand. | | + |
| S. aureus | 12-14 | Beaverton, Ore. | hamburger | +(1) | |
| S. aureus | 12-15 | Cincinnati, Ohio | veg. soup | | + |
| S. aureus | 12-16 | Easton, Pa. | ham | - | + |
| S. aureus | 12-16 | Boise, Idaho | creamed ham | +(1) | - |

| H. | CLINICAL DATA # ill (at risk) | incub. period (hrs.) | Duration of dis. (hrs.) | Symptoms | REPORTER | COMMENT |
|---|---|---|---|---|---|---|
| - | 25 | 2-48 | | VDF | DH | Newborn nursery |
| | 3 | 4½-6½ | | NVC | DH | Restaurant |
| | | | | | DH | Several families |
| | 4 (4) | 7 | | V | DH | Restaurant |
| + | 168 (238) | 1-8 | | NVCD, weakness | DH | School |
| + | 8 | 2½-4 | Few-48 | NVD, dizziness | DH | Dept. store cafeteria |
| | 2 (2) | 4 | < 36 | VCDF | DH | Family |
| +(2) | 96 (~190) | 1-12 $\bar{x}$3½ | | NV | DH | School |
| +(1) | 26 (39) | 1½-16½ ($\bar{x}$9.5 med. 8) | | | DH | College |
| + | 131 | 3-9 | < 24 | | DH | Army mess hall |
| +(2) | 401 (1553) | 3-6 6 med. | ~24 | C>V>H>D | DH | Central kitchen-14 schools |
| | 3 | 5-6 | | | DH | Restaurant |
| | > 1 (>1) | | | NVH | NCUIH | Restaurant |
| | 2 (3) | 2 | | NVCD | NCUIH | Restaurant 1 death. |
| | 15 (30-40) | 1½-3 | | NVCD | DH | Restaurant |

| | | | | |
|---|---|---|---|---|
| S. aureus | 12-27 | Bakersfield, Cal. | burrito | + |
| S. aureus 29/6/47/ 54/75 | 12-29-67 1- 3-68 | Birmingham, Mich. | corn beef, shrimp, salami | + |
| Probable staph. | 6- 2 | NYC, N.Y. | | |
| Probable staph. | 8- 5 | Millinocket, Me. | turkey | |
| Probable staph. | 10-15 | NYC, N.Y. | | |
| Probable staph. | 11- 2 | Interstate | ?scrambled eggs | |
| Probable staph. | 12-12 | NYC, N.Y. | corned beef | |
| ?Staph. | 1- 5 | Illinois | corned beef sand. | |
| ?Staph. | 4- 3 | NYC, N.Y. | ham | + |
| ?Staph. | 4-30 | California | raw milk | |
| ?Staph. | 5- 5 | NYC, N.Y. | tuna fish salad sand. | |
| ?Staph. | 5- 6 | Fairfield, Cal. | hamburger | - |
| ?Staph. | 6- 5 | NYC, N.Y. | veg. sauce | - |
| ?Staph. | 6-11 | St. Roberts. Mo. | ?ham | - |
| ?Staph. | 7-17 | NYC, N.Y. | baked clams, & mushrooms | |
| ?Staph. | 7-27 | New Dorf, N.Y. | cold cuts | |
| ?Staph. | 7-28 | NYC, N.Y. | shellfish | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3 | (3) | 2-10 | x̄16 | | DH | Family |
| +(2) | 177 | | 1-24<br>x̄4.1 | ½-72<br>x̄9.3 | N>V>D>C<br>>chills<br>>prostration<br>>F | DH | 6000 servings in delica-tessen-cafe |
| | 3 | (3) | 12 | | NCD | DH | |
| | 67 | (205) | 1½-20<br>x̄4.9 | x̄6.3 | VN>C>D<br>>chills or<br>>sweats >H | DH | Wedding reception |
| + | 4 | (4) | 1½ | 12 | NVH | DH | Restaurant |
| | 14 | (72) | 1-4½ | <12-96 | NVCD, prostration | NCUIH | Commercial airline |
| | 4 | (4) | 1½-2 | | NVCD | DH | Family |
| | 5 | | 4-4½ | | VD | DH | Restaurant |
| | 3 | (3) | 14 | 2-6 | CD | DH | Restaurant |
| | ~147 | | 2 | | VCD | DH | Dairy |
| | 3 | (400) | 3-4 | | NVCD | DH | Restaurant |
| | 3 | (3) | 1-3 | | | DH | Supermarket |
| | 8 | (8) | 1½-6 | | NVC | DH | Sauce from Mexico |
| | 5 | | 4-5 | | NVCD | NCUIH | Cafe |
| | 3 | (4) | 2-10 | | NCD | DH | Restaurant |
| | 5 | (5) | 3-29 | | NVC | DH | Home-prepared |
| | 4 | (5) | 1 | | VCH | DH | Restaurant |

| ETIOLOGY | ONSET (1967) | REPORTED FROM | VEHICLE | LAB DATA P. | V. | H. | CLINICAL DATA # ill (at risk) | incub. period (hrs.) | Duration of dis. (hrs.) | Symptoms | REPORTER | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ?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 O111:B4 | 3- 5<br>4-25 | Warrenton, Va. | well water | +(8) | +(7) | | 70+(97+) | 17-72<br>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 | + |
| Brucella abortus | 5- ? | San Pedro, N.M. | ?unpast. cheese | + |
| Brucella abortus | 7-10 | Elizabeth, N.J. | ?raw milk | + |
| Brucella suis | 8- ? | Valiant, Okla. | ?raw milk | + |
| Brucella melitensis | 2-15 | El Paso, Tex. | ?unpast. cheese | + |
| Brucella ?melitensis and abortus | 3- ? | Morgan City, La. | ?unpast. cheese | + |
| Brucella ?type | 1- 8 | Los Angeles, Cal. | ?raw milk | + |
| Brucella ?type | 1-22 | Frederic, Wis. | ?raw milk | + |
| Brucella ?type | 1- ? | Morganfield, Ky. | ?raw milk | + |
| Brucella ?type | 2- 2 | Victorville, Cal. | ?raw milk | + |
| Brucella ?type | 2-11<br>2-13 | Birmingham, Mich. | ?raw milk | + |

| | | | |
|---|---|---|---|
| 1 | F, chills, myalgia, cough, chest pain, dehydr. | Bruc. | Raw milk in Mexico |
| 1 | FHA, malaise, arthralgias, myalgias, weak, wt. loss. | Bruc. | Cheese from Juarez, Mexico |
| 1 | FH, myalgias, weak, malaise | Bruc. | Raw milk in Puerto Rico |
| 1 | F, chills, purulent arthritis of left knee. | Bruc. | Child regularly drank raw milk |
| 1 | FH, weak malaise | Bruc. | Cheese from Juarez, Mex. |
| 1 | FHA, chills sweats, wt. loss, myalgias, weakness, malaise, jaundice. | Bruc. | Onset in Egypt |
| 1 | F, malaise, myalgias | Bruc. | Raw milk in Mexico |
| 1 | | Bruc. | Factory worker |
| 1 | F, chills, malaise, wt. loss | Bruc. | Itinerant farm worker |
| 1 | F | Bruc. | Raw milk in Netherlands |
| 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

| | | | | |
|---|---|---|---|---|
| Trichinosis | 1- 1 | San Jose, Cal. | ?bacon | + |
| Trichinosis | 1- 3 | Mountainside, N.J. | ?pork | + |
| Trichinosis | 1- 7 | Morris Plains, N.J. | ?pork chow mein | + |
| Trichinosis | 1-13 | Oklahoma | ?pork sausage | + |
| Trichinosis | 1-13 | Memphis, Mich. | ?pork sausage | + |
| Trichinosis | 1-19 | Seattle, Wash. | ?pork sausage | + |
| Trichinosis | 1-21 | Newport, R.I. | ?pork | + |
| Trichinosis | 1-28 | NYC, N.Y. | ?pork | + |
| Trichinosis | 2- 2 | Baltimore, Md. | ?pork sausage | + |
| Trichinosis | 2-12 | Hagerstown, Md. | ?hamburger | + |
| Trichinosis | 2-18 | Maryville, Tenn. | ?pork | + |
| Trichinosis | 3- 6 | Catonsville, Md. | ?sausage | + |
| Trichinosis | 3-13 | NYC, N.Y. | ?pork | + |
| Trichinosis | 3-15 | Georgetown, Ky. | ?pork | + |

| | | | | | |
|---|---|---|---|---|---|
| | | (dys.) | | | |
| 1 | (8) | | F, periorbital edema, weak | Para. | Commercial bacon. Home |
| 1 | | | Periorbital edema | Para. | Uncooked. Home |
| 1 | | ?37 | Periorbital edema | Para. | Restaurant |
| 1 | | 6 | Periorbital edema | Para. | Commercial pork, cooked at home |
| 1 | | 7 | NDF, periorbital edema, myalgias. | Para. | Uncooked. Commercial pork. Home |
| 1 | (1) | 6 | CDF, periorbital edema, myalgias | Para. | Uncooked commercial at home |
| 1 | | | | Para. | Cooked. Home |
| 1 | | ?21 | Periorbital edema | Para. | Restaurant. Cooked. |
| 1 | | | Periorbital edema | Para. | Home. Cooked? |
| 1 | (1) | 3 | DF, myalgias, periorbital edema | Para. | Restaurant |
| 1 | (1) | | | Para. | Home. Raw pork. |
| 1 | | | Periorbital edema | Para. | Home. |
| 1 | | | Periorbital edema | Para. | Home. Cooked. |
| 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<br>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 | + |
| Trichinosis | 6-18 | NYC, N.Y. | ?pork sausage | + |
| Trichinosis | 7-13 | Marmet, W. Va. | ?hamburger | + |
| Trichinosis | 7-15 | Somerville, Mass. | ?pork | + |
| Trichinosis | 7-16 | Horton, Kan. | ?pork weiners | + |
| Trichinosis | 7-26 | Effingham, Ill. | ?pork chops | + |
| Trichinosis | 7- ? | Holyoke, Mass. | ?pork | + |
| Trichinosis | 9- 9 | NYC, N.Y. | ?pork | + |
| Trichinosis | 10-20 | Nashville, Tenn. | ?pork sausage | + |
| Trichinosis | 10-30 | Yakima, Wash. | ?pork sausage | + |
| Trichinosis | 11- ? | Emporia, Kan. | ?pork | + |
| ?Trichinosis | 1-24 | Paterson, N.J. | ?pork | + |
| ?Trichinosis | 2-10 | Hendersonville, Pa. | ?pork sausage | + |
| ?Trichinosis | 5- ? | Washington | ?pork | |

| | | | | |
|---|---|---|---|---|
| 1 | | Periorbital edema, F. | Para. | Home-prepared. Cooked |
| 1 | 21 | Periorbital edema | Para. | Home. Cooked |
| 1 | ~21 | NVFH, chills, periorbital edema. | Para. | Home. Raw |
| 1 | | HA, myalgias, fatigue, sweats, periorbital edema. | Para. | Restaurant. |
| 1 | 12 | F, chills, D, abdominal pain, malaise, myalgias. | Para. | Picnic. Uncooked |
| 3 (3) | 9-11 | NDFH, weak, chills, myalgia, periorbital edema, sweats. | Para. | Family, restaurant |
| 1 | | | Para. | Home. Partly cooked |
| 1 | | | Para. | Restaurant. Cooked |
| 1 | | Periorbital edema | Para. | Home. Raw |
| 1 | 14 | H, myalgias, periorbital edema | Para. | Home. Cooked & uncooked |
| 1 | | Periorbital edema | Para. | Home. Cooked |
| 1 | | | Para. | Home. Cooked |
| 1 | | Confusion, left hemiparesis, D. | Para. | Home. Cooked & uncooked |
| 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 | | |
| 2-23 | NYC, N.Y. | smoked ham | - | - |
| 2-23 | Lawrence, Kan. | | | |
| 2-25 | NYC, N.Y. | ?fish balls or liver | | - |
| 3- 6 | NYC, N.Y. | | - | |
| 3-14 | Albany, N.Y. | ?roast gravy | | |
| 3- ? | Maine | seafood, roast beef | | |
| 4- 4 | Bridge City, La. | "meat" | - | - |
| 4-14 | Binghamton, N.Y. | | | |
| 4-14 | Carbondale, Ill. | | - | - |
| 5-16 | Minnesota | Salisbury steak | | |
| 5-18 | Coral Gables, Fla. | ?roast beef & gravy | | |
| 5-21 | E. Lansing, Mich. | | | |
| 5- ? | Norwalk, Ohio | ?mashed potatoes | | |
| 6- 1 | Palo Alto, Cal. | ?soup or pie | | - |
| 6- 3 | NYC, N.Y. | ?salad | | |
| 6-18 | NYC, N.Y. | veal | | |
| 6-21 | NYC, N.Y. | shrimp salad | | - |
| 6-25 | Los Angeles, Cal. | ?chicken wings | - | |
| 7- 7 | Portland, Ore. | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 22 | (28) | 8-20 | | | DH | Restaurant |
| 12 | (14) | 20-29 | | NVCD | DH | Home |
| ~150 | | 12 | | CD | News. | College |
| 19 | (27) | 11-19 | | NVCD | DH | Restaurant |
| 3 | (3) | 7-15 | | NVCDF | DH | Restaurant |
| ~60 | (125) | 9-15 | | ND | DH | Restaurant |
| | | | | NVCD | DH | |
| 50 | | | | NVCDH | DH | Elementary school |
| 150 | | 1+ | | NCD | News. | College |
| 27 | (43) | 8-10 | | NCD, dizzy | DH | College |
| ~100 | | | | CD | News. | College |
| 80+ | | | | NVDH | News. | School |
| 45 | | | | NVCD | News. | Dormitory cafeteria |
| 16 | (19) | | | | News. | |
| 11 | (19) | 7-26 | | NVCDF | DH | |
| 4++ | (200) | 8-13½ | | NVCD | DH | Banquet |
| 3 | (3) | 12-14 | | VCD | DH | Restaurant |
| 6 | (6) | 19-21 | | NCDF | DH | Store |
| ~50 | (200) | 4-60 med. 28 | x48 | NVCDF | DH | Wedding dinner |
| 10 | (1138) | 3-17 | | NCDH, dizzy | DH | Convention |

| ETIOLOGY | ONSET (1967) | REPORTED FROM | VEHICLE | LAB DATA P. | V. | H. | CLINICAL DATA # ill (at risk) | incub. period (hrs.) | Duration of dis. (hrs.) | Symptoms | REPORTER | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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. | | - |
| | 11-30 | NYC, N.Y. | ?roast beef | - |
| | 11- ? | Banning, Cal. | ?home-canned squash | |
| | ~ 12- 5 | Owensboro, Ky. | | |
| | 12-14 | Dublin, Cal. | ?turkey & gravy | |

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

SALMONELLA

| | | | | | |
|---|---|---|---|---|---|
| S. pullorum | 7-21 | Battle Creek, Mich. | eggs | +(1) | + |
| S. enteritidis | 10- 3 | Connecticut | ?turkey | +(17) | |
| S. saint-paul | 11-23 | Seattle, Wash. | turkey | +(11) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | >300 | | <24 | NVCD | DH | College |
| | 16 | (30) | 9-13 $\bar{x}$11 | 2-14 | NCD | DH | Restaurant |
| | 1 | | | | | Tele. | Home-Suspect botulism |
| | 55 | | | | NVCDF | DH, News. | College |
| | ~100 | (300+) | 5-20 | | CD | DH | School |
| | 5 | | | | VD | Salm. | Family |
| +(2) | 10 | | ~24 | | D | Salm. | Nursing home. One death. |
| | 39 | (55) | 9-73 (med. 41) | 48-168 | VCDFH, chills | Salm. | Restaurant |

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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.

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