

FOODBORNE DISEASE OUTBREAKS

REPORTING INFORMATION

- Class A(2)
- Report by end of the next business day when an outbreak is suspected (see **Case Definition** below for the definition of a foodborne disease outbreak)
- Report by telephone to the local health department in whose jurisdiction the outbreak occurred; the local health department should then report by telephone to ODH, Bureau of Infectious Disease Control, (614) 466-0265
- Requires completion of [CDC form Investigation of a Foodborne Outbreak](#) (CDC 52.13 rev. 8/99). To be completed by the local health department and sent to ODH, Bureau of Infectious Disease Control, 246 N. High Street, PO Box 118, Columbus, OH 43266-0118.
- The [Enteric Case Report](#) can be useful in the investigation of foodborne disease outbreaks. It is not necessary to submit this form to ODH.
- There are several additional forms to be completed or available to assist with investigation depending on the organism(s) involved or suspected. Please see the complete list of forms in the section [Special Information](#) under **Public Health Management** below.

AGENT

Many different microbes and chemicals can be responsible for outbreaks.

More common are:

Staphylococcus aureus
Clostridium perfringens
Salmonella sp.
Norwalk or Norwalk-like virus
Bacillus cereus
Shigella sp.
E. coli O157:H7

Less common are:

Hepatitis A virus
Listeria monocytogenes
Yersinia sp.
Vibrio sp.
Clostridium botulinum
Campylobacter sp.

Infectious Dose

Varies with agent, can be small or large. Infectious dose can be affected by the fat content of the food, e.g., a small number of organisms in a high fat food might result in illness.

CASE DEFINITION

Definition of a Foodborne Disease Outbreak:

"The occurrence of two or more cases of a similar illness resulting from the ingestion of a common food." (reference: Surveillance for Foodborne-Disease Outbreaks - U.S., 1988-1992, Oct. 25, 1996. MMWR 1996; 45[SS-5]).

Clinical description

Symptoms of illness depend upon etiologic agent (see [table](#)).

Lab criteria for diagnosis

Depends on etiologic agent (see MMWR reference listed above)

Case classification

Probable: An outbreak which doesn't meet the agent-specific criteria but for which epidemiologic analysis indicates a foodborne disease outbreak did occur.

Confirmed: An outbreak which meets the agent-specific criteria.

Comment

The definition of an outbreak applies whether or not cases are in the same household. When cases

are in the same household or have shared many meals or exposures, onset times should be closely evaluated to rule out person-to-person transmission. Also, a single case of suspected botulism or chemical food poisoning warrants investigation.

SIGNS AND SYMPTOMS

Vary greatly in type and severity, depending on the agent and dose (see [table](#)). Foodborne disease produces predominantly gastrointestinal symptoms, including diarrhea, vomiting, abdominal cramps, nausea. Some diseases cause fever, malaise, anorexia and/or headache. Exceptions include hepatitis A, which causes liver dysfunction, and listeriosis, which can cause meningitis in addition to gastrointestinal illness.

DIAGNOSIS

Depends on suspected agent(s). If illness is gastrointestinal and incubation period is at least 4 hours, a stool sample for bacterial evaluation is usually indicated. If the ODH Laboratory will be handling the specimen(s), stool must be collected in Cary-Blair transport medium. If parasites are suspected (incubation of approximately one week), stools should be collected for ova and parasite evaluation. If [Norwalk virus is suspected](#) (most incubations approximately 30 hours), [a bulk stool sample should be collected](#). Food samples can also be evaluated at ODH Lab. To make arrangements for testing, contact Infectious Disease Control at (614) 466-0265.

EPIDEMIOLOGY

Source

The source varies with the agent. The organisms contaminate food, either in the field, at the processing site (e.g., *Salmonella* from poultry), through cross-contamination, or from persons preparing food (e.g., *Staphylococcus* from a food handler).

Occurrence

Worldwide. It is estimated that every year in the U.S., foodborne infections cause millions of illnesses and thousands of deaths.

Mode of transmission

Ingestion of contaminated food.

Period of communicability

Foodborne intoxications cannot be transmitted person-to-person, e.g., *S. aureus*, *B. cereus*. Foodborne infections are communicable. The period of communicability and carrier state varies with the organism (see [table](#)). For Norwalk virus, no carrier state has been documented; the period of communicability is believed to be from onset of symptoms to at least 48 hours after recovery. See disease-specific sections of this manual for additional information.

Incubation period

Varies with agent (see [table](#)).

PUBLIC HEALTH MANAGEMENT

Foodborne disease outbreaks should be investigated to uncover the source of infection so that corrections can be instituted and further cases prevented. An excellent resource for conducting foodborne investigations is "Procedures to Investigate Foodborne Illness." It can be obtained from: International Association of Milk, Food and Environmental Sanitarians, 6200 Aurora Avenue, Suite 200 W, Des Moines, Iowa 50322; tel 1-800-369-6337. A set of current forms and general information on foodborne disease is available from Infectious Disease Control at (614) 466-0265. Please call Infectious Disease Control to report suspected outbreaks, for updates, and for assistance in investigations.

Other useful telephone numbers:

ODH, Bureau of Local Services: (614) 466-5190

ODH Laboratory: (614) 466-2278

Ohio Dept. of Agriculture, Division of Food Safety: (614) 728-6250

USDA Hotline: 1-800-535-4555

FDA, Regional Office, Cincinnati: 1-800-437-2382

Special Information

[Microbiology form \(HEA 2530, rev. 1/96\)](#) - must accompany each stool specimen submitted to ODHL

[DASH form \(CDC 50.34 rev. 11-90\)](#) - must accompany each bulk stool sample submitted to ODHL

[Food/Environmental Sample Collection Report \(revised 3/84\)](#) - must accompany each food specimen submitted to ODHL

[Reporting System for Outbreaks of Suspected Viral Gastroenteritis \(CDC form revised 1-97\)](#) - to be submitted to ODH whenever there is a suspected Norwalk virus outbreak involving bulk stool collections (one per outbreak)

[Foodborne Disease Report, Individual Case History \(ODH 10/99\)](#) - useful for interviews, need not be submitted

[Food Histories](#) - useful for interviews, need not be submitted

[Food-related Alert/Complaint Record](#) - useful for recording information about suspected food exposures and complaints, need not be submitted

[Foodborne Illness Complaint Log](#) - useful for recording complaints, need not be submitted

[Instructions for collecting bulk stool and Cary-Blair specimens](#)

[Viral assay of stool for Norwalk Virus](#)