

Committee: Infectious

Title: Public Health Reporting and National Notification for Foodborne Outbreaks

I. Statement of the Problem

CSTE position statement 07-EC-02 recognized the need to develop an official list of nationally notifiable conditions and a standardized reporting definition for each condition on the official list. The position statement also specified that each definition had to comply with American Health Information Community recommended standards to support “automated case reporting from electronic health records or other clinical care information systems.” In July 2008, CSTE identified sixty-eight conditions warranting inclusion on the official list, each of which now requires a standardized reporting definition.

II. Background and Justification

Background

An estimated 76 million cases of foodborne disease occur each year in the United States. The great majority of these cases are mild and cause symptoms for only a day or two. Some cases are more serious, and CDC estimates that there are 325,000 hospitalizations and 5,000 deaths related to foodborne diseases each year. The most severe cases tend to occur in the very old, the very young, those who have an illness already that reduces their immune system function, and in healthy people exposed to a very high dose of an organism. More than 1000 foodborne outbreaks are reported each year. More than half of these outbreaks and more than half of the cases are due to bacterial pathogens. *Salmonella sp.* are the most frequently recognized cause of outbreaks and account for the largest number of cases due to a single pathogen. *Listeria monocytogenes* accounts for the greatest number of deaths. Viral pathogens, predominantly norovirus, account for a third of the outbreaks. Chemical causes account for 10% of outbreaks and 2% of cases. Parasites cause 1% of outbreaks and 1% of cases.

The centralization and internationalization of the food supply in the US presents important challenges for public health. Contaminated food from a single farm or a single production facility can cause outbreaks thousands of miles away or in multiple states simultaneously. Food produced outside the US may be contaminated with unusual pathogens. Ongoing surveillance of foodborne outbreaks is necessary to facilitate early recognition, investigation and control efforts. Surveillance data are also used to develop and evaluation prevention strategies.

Justification

Foodborne outbreaks meet the following criteria for a nationally and **standard** notifiable condition, as specified in CSTE position statement 08-EC-02:

- A majority of state and territorial jurisdictions—or jurisdictions comprising a majority of the US population—have laws or regulations requiring **standard** reporting of foodborne outbreaks to public health authorities
- CDC requests **standard** notification of foodborne outbreaks to federal authorities
- CDC has condition-specific policies and practices concerning the agency’s response to, and use of, notifications.

III. Statement of the desired action(s) to be taken

CSTE requests that CDC adopt this standardized reporting definition for foodborne outbreaks to facilitate more timely, complete, and standardized local and national reporting of this condition.

IV. Goals of Surveillance

To provide information on the temporal, geographic, and demographic occurrence of foodborne outbreaks to facilitate their prevention and control.

V. Methods for Surveillance

Surveillance for foodborne outbreaks should use the sources of data and the extent of coverage listed in Table V below.

Table V. Recommended sources of data and extent of coverage for ascertaining foodborne outbreaks.

Source of data for case ascertainment	Coverage	
	Population-wide	Sentinel sites
clinician reporting	X	
laboratory reporting		
reporting by other entities (e.g., hospitals, veterinarians, pharmacies)	X	
death certificates	X	
hospital discharge or outpatient records	X	
extracts from electronic medical records		
telephone survey		
school-based survey		
other _____		

VI. Criteria for Reporting

Reporting refers to the process of healthcare providers or institutions (e.g., clinicians, clinical laboratories, hospitals) submitting basic information to governmental public health agencies about cases of illness that meet certain reporting requirements or criteria. Cases of illness may also be ascertained by the secondary analysis of administrative health data or clinical data. The purpose of this section is to provide those criteria that should be used by humans and machines to determine whether a specific illness should be reported.¹

A. Narrative description of criteria to determine whether a case should be reported to public health authorities

Report any illness to public health authorities that meets any of the following criteria:

1. Two or more people with illness with similar symptoms after exposure to a shared meal, eating at the same restaurant or eating the same food item. Diarrhea and vomiting are the two most common symptoms, but any illness should be reported.
2. A single case of botulism
3. A single case of toxin-mediated illness or chemical poisoning where contamination of food is suspected by the treating physician.
4. Any outbreak of infectious disease, chemical poisoning or toxin-mediated illness where food is implicated as the source by an epidemiological investigation.

Other recommended reporting procedures

- All foodborne outbreaks should be reported.
- Reporting should be limited to situations in which there are multiple cases indicative of an outbreak.
- Frequency of reporting should follow the state health department's routine schedule.

¹ "Human-based" criteria (described below under "A. Narrative") can be applied by medical care providers and laboratory staff based on clinical judgment and clinical diagnosis. Machine-based criteria (described below under "B. Table") can be applied using computerized algorithms that operate in electronic health record systems, including computerized records of laboratory test orders and laboratory test results; other clinical data systems (e.g., hospital discharge data systems serving multiple hospitals); or administrative data (e.g., healthcare provider billing data, vital records, and EMS data).

B. Table of criteria to be used by machines to determine whether a case should be reported to public health authorities

Table VI-B. Proposed Table of criteria to determine whether a case should be reported to public health authorities. Note: The following criteria are proposed for evaluation before general implementation. For purposes of currently implementing reporting the narrative description in VI-A, should be used.

Criterion	Reporting	
<i>Clinical Presentation</i>		
Vomiting	C	
Diarrhea	C	
Fever	C	
Other symptoms	C	
Healthcare record contains a diagnosis of foodborne disease		S
Death certificate lists foodborne disease as a cause of death or a significant condition contributing to death		S
<i>Laboratory findings</i>		
<i>Epidemiological risk factors</i>		
Two or more people with illness with similar symptoms after exposure to a shared meal, eating at the same restaurant or eating the same food item.	O	
A single case of botulism	O	
A single case of toxin-mediated illness or chemical poisoning where contamination of food is suspected by the treating physician.	O	
Any outbreak of infectious disease, chemical poisoning or toxin-mediated illness where food is implicated as the source by an epidemiological investigation.	O	

Notes:

S = This criterion alone is sufficient to report a case

O = At least one of these “O” criteria in each category in the same column (e.g., clinical presentation and laboratory findings) is required to report a case.

C = This finding corroborates (i.e., supports) the diagnosis of—or is associated with—Foodborne Outbreak, but is not included in the case definition and is not required for reporting.

C. Disease Specific Data Elements:

Disease-specific data elements to be included in the initial report are listed below.

Clinical Factors

Common symptoms

Date of onset

Epidemiological Risk Factors

Restaurants in common

Date(s)

Common food items consumed

Shared meals

VII. Case Definition for Case Classification:

A. Narrative description of criteria to determine whether a case should be classified as confirmed or probable (presumptive):

Clinical description

Symptoms of illness depend upon etiologic agent. Please see Appendix B, “Guidelines for Confirmation of Foodborne-Disease Outbreaks” in the [MMWR 2000; 49\(No. SS-1\)](#).

Laboratory criteria for diagnosis

Depends upon etiologic agent. Please see Appendix B, “Guidelines for Confirmation of Foodborne-Disease Outbreaks” in the [MMWR 2000; 49\(No. SS-1\)](#).

Definition

An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness.

Comment

There are two exceptions: one case of botulism or chemical poisoning constitutes an outbreak.

B. Classification Tables:

Table VII-B lists the criteria that must be met for a case to be classified as confirmed or probable (presumptive):

Table VII-B. Proposed table of criteria to determine whether a case is classified. Note: The following criteria are proposed for evaluation before general implementation. For purposes of current notification, the narrative description in VII-A, should be used.

Criterion	Case Definition		
	Confirmed	Probable	Suspected
<i>Clinical Presentation</i>			
Vomiting			
Diarrhea			
Fever			
Other symptoms			
Healthcare record contains a diagnosis of foodborne disease			
Death certificate lists foodborne disease as a cause of death or a significant condition contributing to death			
<i>Laboratory findings</i>			
<i>Epidemiological risk factors</i>			
Two or more people with illness with similar symptoms after exposure to a shared meal, eating at the same restaurant or eating the same food item.			
A single case of botulism			
A single case of toxin-mediated illness or chemical poisoning where contamination of food is suspected by the treating physician.			
Any outbreak of infectious disease, chemical poisoning or toxin-mediated illness where food is implicated as the source by an epidemiological investigation.	N		

Notes:

N = This criterion in conjunction with all other “N” and any “O” criteria in the same column is required to classify a case.

VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

[PENDING receipt of CDC Case notification request statement]

X. References

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