09-ID-56

Committee: Infectious

Title: Public Health Reporting and National Notification for Salmonellosis

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[1]
An estimated 1.4 million cases of *Salmonella* infection occur annually in the United States. About 400 people die each year from *Salmonella*, with infants, the elderly and the immune compromised being at greatest risk. *Salmonella* is a leading cause of foodborne disease with multiple outbreaks detected each year. Ongoing surveillance of *Salmonella* infections is needed to detect and control outbreaks as well as evaluate strategies to prevent *Salmonella* infections.

Justification

Salmonellosis meets 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 salmonellosis to public health authorities
- CDC requests **standard** notification of salmonellosis 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 salmonellosis to facilitate more timely, complete, and standardized local and national reporting of this condition.

[1] Much of the material in the background is directly quoted from the CDC's salmonellosis Website. See the References for further information on this source.

IV. Goals of Surveillance

To provide information on the temporal, geographic, and demographic occurrence of salmonellosis to facilitate its prevention and control.

V. Methods for Surveillance

Surveillance for salmonellosis should use the sources of data and the extent of coverage listed in table V.

Table V. Recommended sources of data and extent of coverage for ascertaining cases of salmonellosis.

	Coverage	
Source of data for case ascertainment	Population-wide	Sentinel sites
clinician reporting	X	
laboratory reporting	X	
reporting by other entities (e.g., hospitals, veterinarians, pharmacies)	X	
death certificates	X	
hospital discharge or outpatient records	X	
extracts from electronic medical records	X	
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.[2]

[2] "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).

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. Any person with *Salmonella sp.* cultured from a clinical specimen.
2. Any person with diarrhea who is a contact of a confirmed case of *Salmonella* infection or a member of a risk group defined by the public health authorities during an outbreak.
3. A person whose healthcare record contains a diagnosis of salmonellosis.
4. A person whose death certificate lists salmonellosis as a cause of death or a significant condition contributing to death.

Other recommended reporting procedures

- All cases of salmonellosis should be reported.
  Reporting should be on-going and routine.
- Frequency of reporting should follow the state health department's routine schedule.

B. Table of criteria 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			
Clinical Presentation				
Diarrhea		N		
Nausea		C		
Abdominal pain		C		
Vomiting		C		
Fever		C		
Chills		C		
Healthcare record contains a diagnosis of disease due to salmonella			S	
Death certificate lists disease due to *Salmonella* as a cause of death or a significant condition contributing to death				S

Laboratory findings				
Culture positive for *Salmonella sp.* from a clinical specimen	S			
Epidemiological risk factors				
Contact of a confirmed case of *Salmonella* infection		O		
Member of a risk group as defined by public health authorities during an outbreak		O		

Notes:
S = This criterion alone is sufficient to report a case
N = This criterion in conjunction with all other "N" and any "O" criteria in the same column is required 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)—in conjunction with all other "N" criteria in the same column—is required to report a case.
C = This finding corroborates (i.e., supports) the diagnosis of—or is associated with—salmonellosis, but is not required for reporting.

C. Disease Specific Data Elements:

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

Epidemiological Risk Factors

International travel in past 7 days
Food handler
Day care center attendee or worker
Nursing home resident or worker
Contact of a confirmed case of *Salmonella* infection

VII. Case Definition

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

Clinical description

An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections may occur, and the organism may cause extraintestinal infections.

Laboratory criteria for diagnosis

Isolation of *Salmonella* from a clinical specimen.

Case classification

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case.

Confirmed: a case that meets the laboratory criteria for diagnosis. When available, O and H antigen serotype characterization should be reported.

Comment

For users of the legacy National Notifiable Diseases Surveillance System, laboratory-confirmed isolates are also reported via the Public Health Laboratory Information System (PHLIS), which is managed by the Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC. The National Electronic Disease Surveillance System (NEDSS) or NEDSS compatible systems will eventually replace PHLIS and NETSS; users of NEDSS or compatible systems which report to CDC should not report via PHLIS.

Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported.

B. Classification Tables

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.

	Case Definition		
Criterion	Confirmed	Probable	Suspected
Clinical Presentation			
Diarrhea	C	N	
Nausea	C	C	
Abdominal pain	C	C	
Vomiting	C	C	
Fever	C	C	
Chills	C	C	
Healthcare record contains a diagnosis of disease due to salmonella			
Death certificate lists disease due to *Salmonella* as a cause of death or a significant condition contributing to death			

Laboratory findings			
Culture positive for *Salmonella sp.* from a clinical specimen	S		
Epidemiological risk factors			
Contact of a confirmed case of *Salmonella* infection		O	
Member of a risk group as defined by public health authorities during an outbreak		O	

Notes:
S = This criterion alone is sufficient to confirm a case
N = This criterion in conjunction with all other "N" and any "O" criteria in the same column is required to confirm a case.
O = At least one of these "O" criteria in each category in the same column (e.g., clinical presentation and laboratory findings)—in conjunction with all other "N" criteria in the same column—is required to confirm a case.
C = This finding corroborates (i.e., supports) the diagnosis of—or is associated with—salmonellosis, but is not included in the case definition.

VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

Notification to CDC for confirmed and probable cases of salmonellosis is recommended.

- Data will be used to determine the burden of illness due to *Salmonella*, assess the effectiveness over time of national control programs, and assess the progress toward national goals in salmonellosis control. Data may also be used to compare case numbers with information from other foodborne disease surveillance systems. Electronic reports of salmonellosis cases in NNDSS are also summarized weekly in the MMWR Tables. Annual case data on salmonellosis is summarized in the yearly Summary of Notifiable Diseases.
- State-specific compiled data will continue to be published in the weekly and annual MMWR. In addition to those reports, the frequency of reports/feedback to the states and territories will be dependent on the current epidemiologic situation in the country. Frequency of cases, epidemiologic distribution, importation status transmission risk, and other factors will influence communications.
- State-specific compiled data will continue to be published in the weekly reports and annual MMWR Surveillance Summaries. All cases are verified with the states before publication.

X. References

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