09-ID-46

Committee: Infectious

Title: Public Health Reporting and National Notification for Listeriosis

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]

Listeriosis is a rare, but serious infection caused by the consumption of food contaminated with *L. monocytogenes*. The elderly, immunosuppressed persons, and pregnant women are disproportionately affected. Listeriosis in non-pregnant adults most commonly manifests as sepsis, and meningitis. Other clinical syndromes include endocarditis, abscesses or other localized infections. *Listeria* infection during pregnancy may cause fetal death, still birth, spontaneous abortion, and neonatal sepsis. Molecular subtyping of *Listeria* isolates allows for increased strain discrimination and improved ability to identify cases that may be linked to a common source. Surveillance for listeriosis, including molecular subtype information, is needed to identify and control outbreaks of disease and to better define strategies for preventing the disease.

Justification

Listeriosis 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 listeriosis to public health authorities
- CDC requests **standard** notification of listeriosis to federal authorities
- CDC has condition-specific policies and practices concerning the agency's response to, and use of, notifications.

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

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

CSTE requests that CDC adopt this standardized reporting definition for listeriosis 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 listeriosis to facilitate its prevention and control.

V. Methods for Surveillance

Surveillance for listeriosis 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 listeriosis.

	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

A. Narrative description of criteria to be used by humans 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 a positive culture for *L. monocytogenes* from a normally sterile site.
2. A positive culture for *L. monocytogenes* from placenta or fetal tissue in the case of a stillbirth or spontaneous abortion.
3. A person whose healthcare record contains a diagnosis of listeriosis.
4. A person whose death certificate lists listeriosis as a cause of death or a significant condition contributing to death.

Other recommended reporting procedures

- All clinical *Listeria* isolates should be referred to a state public health laboratory for subtyping by molecular methods
- All cases of listeriosis, including molecular subtype information, should be reported.
- Reporting should be on-going and routine.
- Frequency of reporting should follow the state health department's routine schedule.

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			
Clinical Presentation				
Meningitis				
Bacteremia				
Brain Abscess				
Endocarditis				
Fever				
Nausea				
Vomiting				
Diarrhea				
Neonatal sepsis				
Spontaneous Abortion				
Stillbirth				
Healthcare record contains a diagnosis of listeriosis				
Death certificate lists listeriosis as a cause of death or a significant condition contributing to death				
Laboratory findings				
L. monocytogenes isolated from a clinical specimen	O			
L. monocytogenes isolated from placenta or fetal tissue	O			
Epidemiological risk factors				
Pregnancy				
Age > 60 yrs				
Immune suppressed				

Notes:
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. Disease Specific Data Elements:

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

Epidemiological Risk Factors

Consumption of raw milk in the 2 months prior to onset
Consumption of raw milk cheese in the 2 months prior to onset
Consumption of uncooked luncheon meat or cold cuts in the 2 months prior to onset
Consumption of uncooked frankfurters or hot dogs in the 2 months prior to onset

Clinical Risk Factors

Pregnant
Immune compromised
Diabetic
Cirrhosis
Alcoholism

VII. Case Definition

A. Narrative description of criteria to determine whether a case should be classified as confirmed is provided below.

Clinical description

In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.

Laboratory criteria for diagnosis

A. Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid)
B. In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue

Case classification

Confirmed: A clinically compatible case that is laboratory-confirmed

Comment:

The usefulness of other laboratory methods such fluorescent antibody testing or polymerase chain reaction to diagnose invasive listeriosis has not been established. *Clinical description*

B. Classification Tables

Table VII-B lists the criteria that must be met for a case to be classified as confirmed.

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.

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	Case Definition	
Criterion	Confirmed	
Clinical Presentation		
Meningitis	O	
Bacteremia	O	
Brain Abscess	O	
Endocarditis	O	
Fever	C	
Nausea	C	
Vomiting	C	
Diarrhea	C	
Neonatal sepsis	O	
Spontaneous Abortion		O
Stillbirth		O
Healthcare record contains a diagnosis of listeriosis		
Death certificate lists listeriosis as a cause of death or a significant condition contributing to death		
Laboratory findings		
L. monocytogenes isolated from a clinical specimen	O	
L. monocytogenes isolated from placenta or fetal tissue		N
Epidemiological risk factors		
Pregnancy	C	N
Age > 60 yrs	C	
Immune suppressed	C	

Notes:
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—listeriosis, 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 Listeriosis is recommended.

- Data will be used to determine the burden of illness due to *L. monocytogenes*, assess the effectiveness over time of national control programs, and assess the progress toward national goals in listeriosis control. Data may also be used to compare case numbers with information from other foodborne disease surveillance systems. Electronic reports of listeriosis cases in NNDSS are also summarized weekly in the MMWR Tables. Annual case data on listeriosis 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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