09-ID-69

Committee: Infectious

Title: Public Health Reporting and National Notification for Vibriosis

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]

Non-cholera *Vibrio spp.* are an under recognized and under reported cause of human illness. These organisms typically cause gastrointestinal illness with diarrhea that ranges in quality from explosive and watery to very mild. They may also cause sepsis, wound infections and other extra intestinal infections. The most common mode of transmission is via raw or under cooked seafood, with oysters being the most frequently implicated source. Non-cholera *Vibrio spp*. may also be spread through contact with water, especially seawater. Persons with immune suppression, malignancies, liver diseases, cirrhosis, alcoholism, renal disease and iron storage disorders are at particular risk of serious infection. Surveillance is needed to better define the burden of disease, identify and control outbreaks, and define and evaluate preventions strategies.

Justification

Vibriosis 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 vibriosis to public health authorities
- CDC requests **standard** notification of vibriosis 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 vibriosis 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 vibriosis 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 vibriosis to facilitate its prevention and control.

V. Methods for Surveillance

Surveillance for vibriosis 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 vibriosis.

	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. 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 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 who has a culture from a clinical specimen that is positive for non-cholera *Vibrio spp.* and has an illness compatible with *Vibrio* infection including: gastrointestinal illness, septicemia, meningitis, wound infections, cellulitis, myositis, otitis media or otitis externa.
2. Any person with gastrointestinal illness who is a contact of a laboratory confirmed case of *Vibrio spp.* infection.
3. A person whose healthcare record contains a diagnosis of vibriosis.
4. A person whose death certificate lists vibriosis as a cause of death or a significant condition contributing to death.

Other recommended reporting procedures

- All cases of vibriosis 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	O	O		
Vomiting	O	O		
Nausea	C	C		
Cramping	C	C		
Abdominal Pain	C	C		
Fever	C	C	C	
Headache	C	C	C	

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).

Chills	C	C	C	
Primary septicemia			O	
Meningitis			O	
Wound infection			O	
Cellulitis			O	
Myositis			O	
Otitis media			O	
Otitis externa			O	
Healthcare record contains a diagnosis of vibriosis				S
Death certificate lists vibriosis as a cause of death or a significant condition contributing to death				S
Laboratory findings				
Positive culture for non-cholera *Vibrio spp.* from a clinical specimen	N		N	
Leukocytosis			C	
Thrombocytopenia			C	
Epidemiological risk factors				
Epidemiologically linked to a confirmed case of non-cholera *Vibrio spp.* infection		N		

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—vibriosis, 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
History of Consuming Raw or Under-cooked Seafood
Food
Restaurant or Common Meal Site
Contact with Sea Water or Brackish Water

Clinical History
Liver Disease
Cirrhosis
Alcoholism
Immune Deficiency or Immune Suppression
Hemochromatosis
Hemolytic Anemia
Chronic Renal Disease
Malignancy
Wound History

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

An infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. Asymptomatic infections may occur, and the organism may cause extra intestinal infections.

Laboratory criteria for diagnosis

Isolation of *Vibrio spp.* other than toxigenic *Vibrio cholerae* O1 or O139 from a clinical specimen.

Case classification

Confirmed: A case that meets the laboratory criteria for diagnosis. Note that species identification and, if applicable, serotype designation (i.e., *Vibrio cholerae* non-O1/non-O139) should be reported.

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

Comment

In addition to reporting through the National Notifiable Diseases Surveillance System (NNDSS), CDC requests that states collect information on the standard surveillance form for Cholera and Other *Vibrio* Illness Surveillance System (COVISS), available at: http://www.cdc.gov/foodborneoutbreaks/documents/cholera_vibrio_report.pdf. CDC intends to integrate the COVISS form into the National Electronic Diseases Surveillance System (NEDSS) in the future. Reporting sites should use the COVISS reporting form until the integration is complete and COVISS data can be transmitted to CDC. CDC requests that *Vibrio cholerae* and *Vibrio parahaemolyticus* isolates be referred to the Foodborne and Diarrheal Diseases Laboratory for characterization.

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.

	Case Definition		
Criterion	Confirmed		Probable
Clinical Presentation			
Diarrhea	O		O
Vomiting	O		O
Nausea	C		C
Cramping	C		C
Abdominal Pain	C		C
Fever	C	C	C
Headache	C	C	C
Chills	C	C	C
Primary septicemia		O	
Meningitis		O	
Wound infection		O	
Cellulitis		O	
Myositis		O	
Otitis media		O	
Otitis externa		O	

Healthcare record contains a diagnosis of vibriosis			
Death certificate lists vibriosis as a cause of death or a significant condition contributing to death			
Laboratory findings			
Positive culture for non-cholera *Vibrio spp.* from a clinical specimen	N	N	
Leukocytosis		C	
Thrombocytopenia		C	
Epidemiological risk factors			
Epidemiologically linked to a confirmed case of non-cholera *Vibrio spp.* infection			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.
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 classify a case.
C = This finding corroborates (i.e., supports) the diagnosis of—or is associated with—vibriosis, 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 is recommended.

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