09-ID-04

Committee: Infectious

Title: Public Health Reporting and National Notification for Cyclosporiasis

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]

Cyclosporiasis is an intestinal illness caused by the protozoan parasite *Cyclospora cayetanensis*, which was characterized and named as recently as 1993-1994. Many aspects of the biology of the parasite and the epidemiology of the disease are poorly understood. Cyclosporiasis appears to be most common in tropical and subtropical regions of the world; international travelers may be at increased risk for infection. In the United States, outbreaks of cyclosporiasis associated with various types of imported fresh produce have been recognized and investigated almost every year since 1995. Among symptomatic persons, the most common clinical manifestation is watery diarrhea, which can be profuse and protracted. Asymptomatic infection has been documented, particularly in settings where cyclosporiasis is endemic.

Justification

Cyclosporiasis 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 cyclosporiasis to public health authorities
- CDC requests **standard** notification of cyclosporiasis to federal authorities
- CDC has condition-specific policies and practices concerning the agency's response to, and use of, notifications. NNDSS data (in conjunction with data from other sources) will be used almost on a daily basis by epidemiologists in the Parasitic Diseases Branch to help identify spatial/temporal clusters of cyclosporiasis cases. Standard analyses entail frequent comparison of geography and date variables among reported cases to attempt to indentify

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

clusters/outbreaks, while ad-hoc analyses are performed periodically, for example, in response to possible event-associated clusters of cases.

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

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

V. Methods for Surveillance

Surveillance for cyclosporiasis 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 cyclosporiasis.

	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		
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]

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. A symptomatic person with laboratory evidence of cyclosporiasis, which is defined as the detection of *Cyclospora* organisms or DNA in stool, intestinal fluid/aspirate, or intestinal biopsy specimens.

2. A symptomatic person with epidemiologic linkage to a confirmed case of cyclosporiasis.

3. A person whose healthcare record contains a diagnosis of cyclosporiasis.

Other recommended reporting procedures

- All cases of cyclosporiasis 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. Meeting the criteria listed under any single column of this table is sufficient to report a case, as indicated by the column's heading.

Criterion	Reporting		
Clinical Presentation			
Diarrhea	O	O	

[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).

Fever	O	O	
Anorexia	O	O	
Abdominal bloating	O	O	
Abdominal cramping	O	O	
Weight loss	O	O	
Nausea	O	O	
Fatigue	O	O	
Vomiting	O	O	
Myalgia or other body aches	O	O	
Healthcare record contains a diagnosis of cyclosporiasis			S
Laboratory findings			
Cyclospora organisms or DNA in stool	O		
Cyclospora organisms or DNA in intestinal fluid/aspirate or intestinal biopsy specimens	O		
Epidemiological risk factors			
Epidemiologic linkage to a confirmed case of cyclosporiasis		O	
Member of a risk group 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—cyclosporiasis, 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.

Epidemiological Risk Factors

International travel any time during the 2-week period before onset of symptoms

Countries visited and dates of travel

Attendance at event(s) at which food was served during the 2-week period before onset of symptoms

Name(s) and date(s) of event(s)

VII. Case Definition for Case Classification

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

Clinical description

An illness of variable severity caused by the protozoan parasite *Cyclospora cayetanensis*. The most common symptom is watery diarrhea. Other common symptoms include loss of appetite, weight loss, abdominal cramps/bloating, nausea, body aches, and fatigue. Vomiting and low-grade fever also may be noted.

Laboratory criteria for diagnosis

Laboratory-confirmed cyclosporiasis shall be defined as the detection of *Cyclospora* organisms or DNA in stool, intestinal fluid/aspirate, or intestinal biopsy specimens.

Case classification

Confirmed: a case that meets the clinical description and at least one of the criteria for laboratory confirmation as described above.

Probable: a case that meets the clinical description and that is epidemiologically linked to a confirmed case.

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. Meeting the criteria listed under any single column of this table is sufficient to classify a case, as indicated by the column's heading.

	Case Definition	
Criterion	Confirmed	Probable
Clinical Presentation		
Diarrhea	O	O
Fever	O	O
Anorexia	O	O
Abdominal bloating	O	O
Abdominal cramping	O	O
Weight loss	O	O

Nausea	O	O
Fatigue	O	O
Vomiting	O	O
Myalgia or other body aches	O	O
Healthcare record contains a diagnosis of cyclosporiasis		
Laboratory findings		
Cyclospora organisms or DNA in stool	O	
Cyclospora organisms or DNA in intestinal fluid/aspirate or intestinal biopsy specimens	O	
Epidemiological risk factors		
Epidemiologic linkage to a confirmed case of cyclosporiasis		O
Member of a risk group defined by public health authorities during an outbreak		O

Notes:
S = This criterion alone is sufficient to classify a case
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—cyclosporiasis, but is not included in the case definition and is not required for reporting.

VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

Notification to CDC of confirmed and probable cases of cyclosporiasis is recommended.

NNDSS cyclosporiasis case counts by State will continue to be published in the *MMWR's* Weekly Report and Annual Summary of Notifiable Diseases. Results of ad-hoc analyses will be made available to the State(s) involved in cluster or outbreak investigations.

Data are published weekly in the MMWR Weekly Report, and yearly case counts are given in the MMWR Summary of Notifiable Diseases. There are no rules or restrictions on the printing of counts of case data.

Only case count data, as reported in MMWR, are released to other agencies or parties. It is the policy of CDC to refer outside agencies or parties to state health departments for more detailed information on cases.

X. References

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