13-ID-03

Committee: Infectious Disease

Title: Update to Public Health Reporting and National Notification for Gonorrhea

I. Statement of the Problem:
The current case definition lacks specificity as it allows provider reporting of infection without any laboratory confirmation.

II. Background and Justification:
Gonorrhea is a common sexually transmitted disease caused by the bacterium, *Neisseria gonorrhoeae*, which can be transmitted during vaginal, anal, or oral sex, and at birth to a newborn. Some men with gonorrhea may have no symptoms at all. However, some men have signs or symptoms that appear two to five days after infection; symptoms can take as long as 30 days to appear. Symptoms and signs include dysuria and purulent penile discharge. Infection can produce epididymitis, which can lead to infertility if left untreated.

In women, the symptoms of gonorrhea are often mild, but many women who are infected have no symptoms. When a woman has symptoms, they can be mistaken for a bladder or vaginal infection. Initial symptoms and signs in women include dysuria, increased vaginal discharge, and vaginal bleeding between periods. Women with gonorrhea are at risk of developing serious complications from the infection, including pelvic inflammatory disease, regardless of the presence or severity of symptoms.

Rectal infection in both men and women is usually asymptomatic but may include discharge, anal itching, soreness, bleeding, or painful bowel movements. Rarely, infection in the throat may cause pharyngitis, but most infections are asymptomatic. Gonococcal bacteremia can produce septic arthritis, polyarthritis and rarely endocarditis and meningitis.

There are several methods of diagnosing gonorrhea including gram stain and visualization of intracellular gram-negative diplococci in male urethral specimens, isolation and characterization of *Neisseria gonorrhoeae* by culture of a clinical specimen, and nucleic acid amplification testing.

It is important that providers perform a test to determine if a person has *N. gonorrhoeae* and not another infection or cause for the patient's symptoms if present so that the appropriate treatment is given to patients. This is particularly important given the concern of increasing antibiotic resistance among *N. gonorrhoeae.*

This change would also make this case definition consistent with the chlamydia infection case definition which does not allow for provider reporting in the absence of laboratory confirmation.

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

1. Utilize standard sources (e.g. reporting*) for case ascertainment for gonorrhea. Surveillance for gonorrhea should use the following recommended sources of data to the extent of coverage presented in Table III.

Table III. Recommended sources of data and extent of coverage for ascertainment of cases of gonorrhea.

Source of data for case identification	Coverage	
	Population-wide	Sentinel sites
Clinician reporting	X	X
Laboratory reporting	X	
Reporting by other entities (e.g., hospitals, veterinarians, pharmacies, correctional facilities)	X	
Death certificates	X	
Hospital discharge or outpatient records	X	
Extracts from electronic medical records	X	
Telephone survey		X
School-based survey		X
Other _____		

2. Utilize standardized criteria for case identification and classification (Sections VI and VII) for gonorrhea and add this condition to the *Nationally Notifiable Condition List.*

☐ 2a. Immediately notifiable, extremely urgent (within 4 hours)

☐ 2b. Immediately notifiable, urgent (within 24 hours)

☑ 2c. Routinely notifiable

CSTE recommends that all States and Territories enact laws (statue or rule/regulation as appropriate) to make this disease or condition reportable in their jurisdiction. Jurisdictions (e.g. States and Territories) conducting surveillance (according to these methods) should submit case notifications** to CDC.

CSTE recommends that all jurisdictions (e.g. States or Territories) with legal authority to conduct public health surveillance follow the recommended methods as outlined above.

Terminology:
* Reporting: process of a healthcare provider or other entity submitting a report (case information) of a condition under public health surveillance TO local or state public health
**Notification: process of a local or state public health authority submitting a report (case information) of a condition on the Nationally Notifiable Condition List TO CDC.

CSTE requests that CDC adopt this revised, standardized reporting definition for gonorrhea, including the following changes:

1. Modify probable case definition to remove written morbidity report of gonorrhea submitted by a physician.

IV. Goals of Surveillance:
To provide information on the temporal, geographic, and demographic occurrence of gonorrhea to facilitate its prevention and control.

V. Methods for Surveillance: Surveillance for gonorrhea should use the recommended sources of data and the extent of coverage listed in Table III.

Table III. Recommended sources of data and extent of coverage for ascertainment of cases of gonorrhea.

Source of data for case identification	Coverage	
	Population-wide	Sentinel sites
Clinician reporting	X	X
Laboratory reporting	X	
Reporting by other entities (e.g., hospitals, veterinarians, pharmacies, correctional facilities)	X	
Death certificates	X	
Hospital discharge or outpatient records	X	
Extracts from electronic medical records	X	
Telephone survey		X
School-based survey		X
Other _____		

VI. Criteria for case identification:

A. Narrative: A description of suggested criteria for case ascertainment of a specific condition.

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

A person with one or more of the laboratory findings listed below:

- Isolation of *Neisseria gonorrhoeae* by culture of a clinical specimen
- Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in a urethral specimen from men
- Detection of *Neisseria gonorrhoeae* by nucleic acid amplification (e.g., PCR) in a clinical specimen
- Detection of *Neisseria gonorrhoeae* nucleic acid by hybridization with a nucleic acid probe in a clinical specimen
- Detection of *Neisseria gonorrhoeae* antigens in a clinical specimen
- Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in an endocervical specimen from a woman.

Other recommended reporting procedures

- All cases of gonorrhea 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

Criterion	Reporting Gonorrhea
Laboratory Evidence	
Isolation of *Neisseria gonorrhoeae* by culture of a clinical specimen	S
Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in a urethral specimen from men	S
Detection of *Neisseria gonorrhoeae* by nucleic acid amplification in a clinical specimen	S
Detection of *Neisseria gonorrhoeae* nucleic acid by hybridization with a nucleic acid probe in a clinical specimen	S
Detection of *Neisseria gonorrhoeae* antigens in a clinical specimen	S
Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in an endocervical specimen from a woman	S

Notes:
S = This criterion alone is sufficient to report a case.

C. Disease-specific data elements
HIV infection
Gender of sex partner (s)
Anatomical site of infection

VII. Case Definition for Case Classification

A. Narrative: Description of criteria to determine how a case should be classified

Clinical description

- A sexually transmitted infection commonly manifested by urethritis, cervicitis, proctitis, salpingitis, or pharyngitis. Infection may be asymptomatic.

Laboratory Criteria for Diagnosis

- Observation of gram-negative intracellular diplococci in a urethral smear obtained from a male or an endocervical smear obtained from a female, or

- Isolation of typical gram-negative, oxidase-positive diplococci by culture (presumptive *Neisseria gonorrhoeae*) from a clinical specimen, or

- Demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or nucleic acid

Case Classification

Probable: demonstration of gram-negative intracellular diplococci in a urethral smear obtained from a male or an endocervical smear obtained from a female

Confirmed: a person with laboratory isolation of typical gram-negative, oxidase-positive diplococci by culture (presumptive *Neisseria gonorrhoeae*) from a clinical specimen, or demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or detection of nucleic acid via nucleic acid amplification (e.g., PCR) or hybridization with a nucleic acid probe.

Criteria to distinguish a new case of this disease or condition from reports or notifications which should not be enumerated as a new case for surveillance

None listed.

B. Classification Tables

Table VII-B. Criteria for defining a case of gonorrhea.

	Case Definition	
Criterion	**Probable**	**Confirmed**
Laboratory Findings		
Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in a urethral specimen from a man	S	
Microscopic visualization of *Neisseria gonorrhoeae* (gram-negative intracellular diplococci of typical morphology associated with neutrophils) in an endocervical specimen from a woman	S	
Isolation of *Neisseria gonorrhoeae* by culture of a clinical specimen		S
Detection of *Neisseria gonorrhoeae* antigens in a clinical specimen		S
Detection of *Neisseria gonorrhoeae* by nucleic acid amplification (e.g., PCR) in a clinical specimen		S
Detection of *Neisseria gonorrhoeae* nucleic acid by hybridization with a nucleic acid probe in a clinical specimen		S

Notes:
S = This criterion alone is sufficient to classify a case

VIII. Period of Surveillance:
Surveillance should be ongoing.

IX. Data sharing/release and print criteria:

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

- Cumulative or aggregated data are used to monitor rates, trends, and geographic distribution of STDs and their sequelae. At least monthly, current year-to-date (YTD) case counts are compared to prior year YTD counts to identify and investigate unusual reporting increases or decreases by jurisdiction to determine if data reflect true chance in disease incidence or surveillance artifacts.

- Each state should have the capacity to analyze its own STD morbidity data. Each week, total disease-specific case counts by jurisdiction are reported in the weekly *MMWR*. Compiled case data are provided at least annually to states and territories in one or more of DSTDP's annual STD surveillance reports and on the Internet.

- Weekly *MMWR* Tables, quarterly data quality reports to reporting jurisdictions, and various annual surveillance reports (DSTDP main and disease-specific surveillance reports, *MMWR* Summary of Notifiable Disease Surveillance, NCHHSTP consolidated surveillance report) presenting STD surveillance data are disseminated in print and via the Internet. Periodically, STD surveillance updates are provided in the *MMWR*, peer-reviewed publications, or at professional meetings.

- DSTDP follows the "Data release guidelines of the CSTE for the National Public Health Surveillance System, June 1996" for re-release of finalized STD surveillance data. Ad hoc requests for finalized STD surveillance data from academics, policy-makers, or the general public are periodically released in accordance with the 1996 CSTE guidance.

X. References

Centers for Disease Control and Prevention [Internet]. Gonorrhea. Atlanta: CDC. Available from: http://www.cdc.gov/std/Gonorrhea/default.htm Last updated: 2013 Feb 13. Accessed: 2013 Feb 19.

Centers for Disease Control and Prevention (CDC). National notifiable diseases surveillance system: case definitions. Atlanta: CDC. Available from: http://wwwn.cdc.gov/nndss/script/casedefDefault.aspx Last updated: 2013 Feb 6. Accessed: 2013 Jan 17.

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR 2010;59(No. RR-12):49–55.

Council of State and Territorial Epidemiologists (CSTE). Public health reporting and national notification for gonorrhea. 09-ID-35. Atlanta: CSTE; June 2010. Available from: http://www.cste.org.

Centers for Disease Control and Prevention (CDC). Cephalosporin susceptibility among Neisseria gonorrhoeae isolates—United States, 2000–2010. MMWR 2012;60:873–77.

Handsfield HH, Sparling PF. Chapter 209 – *Neisseria gonorrhoeae*. In: Mandell GL, Bennett JE, Dolin R, editors. Principles and Practice of Infectious Diseases, 6th edition. Philadelphia: Churchill Livingstone; 2005.

XI. Coordination

Agencies for Response

(1) Centers for Disease Control and Prevention
Thomas R. Frieden, MD, MPH
Director
1600 Clifton Road, NE
Atlanta, GA 30333
404-639-7000
Txf2@cdc.gov

XII. Submitting Author:

(1) ☒ Active Member ☐ Associate Member

Lynn Sosa, MD
Deputy State Epidemiologist
Connecticut Department of Public Health
410 Capitol Avenue, MS #11TUB
PO Box 340308
Hartford, CT 06134
860-509-7723
Lynn.sosa@ct.gov

Co-Author:

(1) ☒ Active Member ☐ Associate Member

Michael C. Samuel Dr.P.H.
Chief, Surveillance and Epidemiology Section, STD Control Branch
California Department of Public Health
Center for Infectious Diseases, Division of Communicable Disease Control
850 Marina Bay Parkway, Building P, Second Floor
Richmond, CA 94804-6403
510-620-3198
michael.samuel@cdph.ca.gov

(2) ☐ Active Member ☒ Associate Member

Hillard Weinstock, MD, MPH
Medical Epidemiologist
Team Lead, Surveillance and Special Studies Team
Surveillance and Data Management Branch
Centers for Disease Control and Prevention
Division of STD Prevention
1600 Clifton Road, MS E02
Atlanta, GA 30333
404-639-2059
Hsw2@cdc.gov