

# Antibiotic-Resistant Gonorrhea Outbreak Response Plan

ILLINOIS DEPARTMENT OF PUBLIC HEALTH

STD SECTION

AUGUST 2019



## Summary of Changes

Detail	Name	Date
Created	Margie Smith	March 20, 2019
Updated	Margie Smith	April 18, 2019
Updated	Margie Smith	August 2, 2019
Updated	Margie Smith	October 10, 2019

## Table of Contents

Background .....	3
Purpose .....	3
Scope.....	3
Special Considerations .....	3
Objectives .....	3
Case Definition .....	4
STD Surveillance.....	5
IDPH Outbreak Response.....	5
Outbreak Response Team.....	9
Outbreak Response Structure.....	9
Recovery.....	10
References .....	11
Appendices.....	12
Appendix A. Acronyms.....	12
Appendix B. Clinician Guidance for Management of Possible Antibiotic-Resistant Gonorrhea Case ....	13
Appendix C. Interview Record for Possible Gonorrhea Treatment Failure Cases Instructions and Example.....	14
Appendix D. Procedure for Submission of a Specimen for Antibiotic Susceptibility Testing .....	17
Appendix E. Workflow for Submission of a Specimen for Antibiotic Susceptibility Testing.....	19
Appendix F. Template of Health Advisory .....	20
Appendix G. Template of Health Alert.....	21
Appendix H. Template of Alert Notice to Senior Staff.....	22
Appendix I. Antibiotic-Resistant Gonorrhea Public Health Message Sources and Examples.....	23

## Tables and Figures

Table 1. Antibiotic-Resistant Gonorrhea Case Definitions.....	4
Table 2. Antibiotic-Resistant Gonorrhea Outbreak Response Level Criteria.....	6
Table 3. Antibiotic-Resistant Gonorrhea Outbreak Response Actions by Level of Outbreak.....	6
Table 4. Potential Outbreak Response Team Members .....	9
Figure 1. Incident Command Structure.....	10

## **Background**

Gonorrhea is a sexually transmitted disease (STD) caused by the *Neisseria gonorrhoeae* bacterium. Gonorrhea is the second most commonly reported notifiable disease in the U.S.; and the number of new gonorrhea infections in Illinois, as well as the United States, has increased in recent years. In Illinois, gonorrhea infections are increasing among all sexes, ages, and races with males, those aged 15-29 years, and blacks accounting for the highest number of infections. Each year there are over 20,000 gonorrhea infections reported in Illinois.

Along with the increase in infections, *N. gonorrhoeae* continues to show antibiotic resistance. The current recommended treatment from the Centers for Disease Control and Prevention's (CDC) STD Treatment Guidelines<sup>1</sup> for gonorrhea is dual therapy with ceftriaxone and azithromycin. This dual therapy is recommended to ensure the infection is cured and to prevent further *N. gonorrhoeae* resistance. As ceftriaxone is one of the last antibiotics to which *N. gonorrhoeae* is susceptible, it is imperative to monitor gonorrhea infections for ceftriaxone resistance. Other countries have reported *N. gonorrhoeae* infections that were resistant to ceftriaxone, but to date, no cases have been documented in the United States<sup>2</sup>.

## **Purpose**

This plan establishes a framework for the Illinois Department of Public Health (IDPH) to prepare for and respond to an antibiotic-resistant gonorrhea outbreak. This plan describes routine surveillance efforts and outlines additional roles and responsibilities for: (1) possible antibiotic-resistant gonorrhea surveillance and (2) response to an antibiotic-resistant gonorrhea outbreak. This plan will guide the public health response in order to provide services to identified cases and reduce further disease spread. While general strategies are outlined, during an event, more specific strategies will be needed to tailor the response.

## **Scope**

This plan applies to antibiotic-resistant gonorrhea outbreaks. Plan appendices contain more detailed information. This plan will be routinely evaluated and improved using both tabletop exercises and lessons learned from real world events.

## **Special Considerations**

Data confidentiality is an important consideration in all surveillance efforts and investigations. The minimum data needed to effectively conduct investigations and mount an appropriate response will be utilized while ensuring strict data confidentiality requirements. All STD Section staff are trained annually on data security and data confidentiality. Non-STD Section staff will complete just-in-time data confidentiality training prior to working on an outbreak response.

## **Objectives**

The following are the objectives of this plan.

- Describe surveillance activities to identify possible antibiotic-resistant gonorrhea cases
- Outline the response to possible antibiotic-resistant gonorrhea cases
- Ensure effective treatment of antibiotic-resistant gonorrhea cases
- Limit transmission within a community through rapid evaluation of sexual partners and effective treatment of infected partners

## Case Definition

The following are the case definitions for antibiotic-resistant gonorrhea cases. These definitions are based on clinical and laboratory criteria. The laboratory criteria are based on minimum inhibitory concentrations (MIC) from antibiotic susceptibility testing (AST).

There are no universal case definitions for antibiotic-resistant gonorrhea cases. The below definitions have been developed locally using the CDC's Ceftriaxone-Resistant Gonorrhea Outbreak Response Plan Guide<sup>3</sup> and CDC's Cephalosporin-Resistant *Neisseria gonorrhoeae* Public Health Response Plan<sup>4</sup>.

**Table 1. Antibiotic-Resistant Gonorrhea Case Definitions**

<p><b>Suspect Case</b> A suspect case fulfills the clinical or laboratory criteria described below:</p> <p><b>Clinical Criteria:</b> The patient experienced possible treatment failure with the following specific components:</p> <ul style="list-style-type: none"><li>• Patient had laboratory-confirmed <i>N. gonorrhoeae</i> infection, and</li><li>• Patient completed CDC-recommended ceftriaxone-based antimicrobial regimen as treatment, and</li><li>• Patient subsequently had a positive <i>N. gonorrhoeae</i> test result (positive culture <math>\geq 72</math> hours after treatment or positive Nucleic Acid Amplification Test (NAAT) <math>\geq 7</math> days after treatment), and</li><li>• Patient did not engage in sexual activity after treatment</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>• Patient is a sexual contact to a laboratory-confirmed antibiotic-resistant gonorrhea case</li></ul> <p><b>OR</b></p> <p><b>Laboratory Criteria:</b> AST of pre-treatment or post-treatment isolate of <i>N. gonorrhoeae</i> demonstrates ceftriaxone MIC <math>\geq 0.125</math> <math>\mu\text{g/mL}</math></p>
<p><b>Probable Case</b> A probable case fulfills the clinical <b>AND</b> laboratory criteria below:</p> <p><b>Clinical Criteria:</b></p> <ul style="list-style-type: none"><li>• Patient had laboratory-confirmed <i>N. gonorrhoeae</i> infection, and</li><li>• Patient completed CDC-recommended ceftriaxone-based antimicrobial regimen as treatment, and</li><li>• Patient subsequently had a positive <i>N. gonorrhoeae</i> test result (positive culture <math>\geq 72</math> hours after treatment or positive NAAT <math>\geq 7</math> days after treatment), and</li><li>• Patient did not engage in sexual activity after treatment</li></ul> <p><b>AND</b></p> <p><b>Laboratory Criteria:</b> AST of pre-treatment or post-treatment isolate of <i>N. gonorrhoeae</i> demonstrates ceftriaxone MIC <math>\geq 0.25</math> <math>\mu\text{g/mL}</math></p>

## **STD Surveillance**

### **Routine Surveillance**

In Illinois, gonorrhea infections are required by law<sup>5,6</sup> to be reported to IDPH by providers and laboratories. IDPH's STD Section routinely collects, analyzes, and interprets this data to monitor trends in infection. Monthly data is summarized by sex, age, race, ethnicity, and county. Gonorrhea infections are reported into the Illinois National Electronic Disease Surveillance System (INEDSS) which is a browser-based application that collects and stores this data. Weekly, this data is imported into a Microsoft Access database maintained by the STD Section for additional quality assurance and data cleanup.

### **Enhanced Surveillance**

Quarterly procedures are run in a Microsoft Access database to identify patients with possible gonorrhea treatment failure. The procedure identifies all patients with two reported gonorrhea infections in the last 60 days where the first case was treated with the recommended dual therapy of ceftriaxone and azithromycin. For each patient, an interview record is printed and faxed to the jurisdiction where the patient resides. Local health department (LHD) staff verify the treatment the patient received and attempt to interview the patient. See [Appendix C](#) for the interview record instructions and example form. If re-infection is ruled out, the IDPH STD Section staff coordinates with the LHD staff to obtain a specimen for AST testing at CDC. See [Appendix D](#) for the procedure to submit specimens to IDPH for AST testing at CDC.

Please note that this quarterly procedure excludes cases where the patient resides in the city of Chicago as the Chicago Department of Public Health is a separate CDC-funded project area.

### **Provider Surveillance**

If a local health department or provider suspects a gonorrhea treatment failure or antibiotic resistant case, please report the case to the IDPH STD Section. See [Appendix B](#) for further guidance on management of such cases. If laboratory capabilities for gonorrhea culture and AST cannot be found, please contact the IDPH STD Section for assistance. See [Appendix D](#) for the procedure to submit specimens to IDPH for AST testing at CDC.

### **IDPH Outbreak Response**

Once a suspect or probable case is reported, IDPH STD Section staff will determine if any of the outbreak response levels in Table 2 are met. If an outbreak response level is met, IDPH STD Section staff will activate the appropriate epidemiological and prevention actions. Table 3 outlines potential outbreak response actions for each outbreak response level. IDPH STD section staff will notify LHD staff, IDPH leadership staff, and IDPH Public Information Officer (PIO) if any level of response is activated.

LHD staff will be responsible for the follow-up activities of cases in their jurisdiction, which may include case interviews and partner services. IDPH STD Section staff will provide guidance to the LHD staff and act as an intermediary with CDC STD program and laboratory staff. If needed, an online platform will be used to share information between local and state partners during an outbreak response.

**Table 2. Antibiotic-Resistant Gonorrhea Outbreak Response Level Criteria**

<p><b>Sporadic Outbreak Criteria</b></p> <ul style="list-style-type: none"> <li>• One probable or suspect case is identified in one jurisdiction</li> </ul>
<p><b>Local Outbreak Criteria</b></p> <ul style="list-style-type: none"> <li>• More than one probable or suspect cases are identified in one jurisdiction</li> </ul>
<p><b>Regional Outbreak Criteria</b></p> <ul style="list-style-type: none"> <li>• More than one probable or suspect case is identified in more than one jurisdiction in a region</li> </ul>
<p><b>Widespread Outbreak Criteria</b></p> <ul style="list-style-type: none"> <li>• More than one probable or suspect case is identified in more than one region in Illinois</li> </ul>

**Table 3. Antibiotic-Resistant Gonorrhea Outbreak Response Actions by Level of Outbreak**

<p><b>Sporadic Outbreak Response</b></p> <p>Epidemiology</p> <ul style="list-style-type: none"> <li>• Characterize the case by demographics, risk factor(s), and prior STD history</li> <li>• Consult with CDC about recommended treatment after AST testing</li> </ul> <p>Services</p> <ul style="list-style-type: none"> <li>• Initiate partner services to all sexual contacts of case in the 60 days prior to diagnosis with antibiotic-resistant gonorrhea <ul style="list-style-type: none"> <li>○ Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin. Partner treatment recommendations may be different based on results from AST testing.</li> </ul> </li> <li>• Meet with LHD staff to discuss strategies for partner services and to identify community partners that can provide alternate treatment regimens if needed including payment strategies for under or uninsured patients</li> <li>• Provide NAAT test of cure (TOC) to all cases and contacts eight days after treatment</li> </ul> <p>Communication</p> <ul style="list-style-type: none"> <li>• Ensure all staff involved in response understand definition of outbreak level</li> <li>• Inform IDPH leadership staff and IDPH PIO of sporadic activity criteria and provide routine updates as more information is obtained</li> </ul>
<p><b>Local Outbreak Response</b></p> <p>Epidemiology</p> <ul style="list-style-type: none"> <li>• Characterize cases by demographics, risk factor(s), and prior STD history</li> <li>• Determine if cases are epidemiologically linked</li> <li>• Map cases to visualize spatial incidence</li> <li>• Document timeline of events in response</li> <li>• Response team established (see Table 4) <ul style="list-style-type: none"> <li>○ If response moves beyond the ability of the IDPH STD Section and LHD staff, IDPH leadership can consider using an Incident Command Structure (ICS) to coordinate the response (Figure 1)</li> <li>○ Ensure all responders are trained on data confidentiality requirements and data sharing parameters</li> </ul> </li> <li>• Determine if an additional investigation tool is needed for data collection such as travel history or sexual contact with someone who traveled to another country</li> <li>• Determine if a database needs created for outbreak data such as risk factors, partner information, culture testing results, AST results, follow up testing results, etc.</li> <li>• Consult with CDC about recommended treatment after AST testing</li> </ul>

#### Services

- Initiate partner services to all sexual contacts of cases in the 60 days prior to diagnosis with antibiotic-resistant gonorrhea
  - Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin. Partner treatment recommendations may be different based on results from AST testing.
- Meet with LHD staff to discuss strategies for partner services and to identify community partners that can provide alternate treatment regimens if needed including payment strategies for under or uninsured patients
- Meet with LHD staff to identify community partners that can provide other social services, as needed
- Provide NAAT test of cure (TOC) to all cases and contacts eight days after treatment

#### Communication

- Ensure all staff involved in response understand definition of outbreak level
- Inform IDPH leadership staff and IDPH PIO of local activity criteria and provide routine updates as more information is obtained
- Establish routine meetings with IDPH and LHD staff for response updates
- Add information about outbreak to IDPH Web Portal STD Section webpage
- Discuss with STD staff, LHD staff, and PIO if an alert/memorandum to local providers is needed
- Discuss with PIO releasing general STD prevention messaging to public on IDPH social media

### **Regional Outbreak Response**

#### Epidemiology

- Characterize cases by demographics, risk factor(s), and prior STD history
- Determine if cases are epidemiologically linked
- Map cases to determine spatial incidence
- Document timeline of events in response
- Response team established (see Table 4)
  - If response moves beyond the ability of the IDPH STD Section and LHD staff, IDPH leadership can consider using an Incident Command Structure (ICS) to coordinate the response (Figure 1)
  - Ensure all responders are trained on data confidentiality requirements and data sharing parameters
- Determine if an additional investigation tool is needed for data collection such as travel history or sexual contact with someone who traveled to another country
- Determine if a database needs created for outbreak data such as risk factors, partner information, culture testing results, AST results, follow up testing results, etc.
- Consult with CDC about recommended treatment after AST testing
- Consult with CDC about need for continued AST testing and treatment recommendations in jurisdictions that have reported a probable or suspect case
- Consult with CDC regarding need to request short-term epidemiologic assistance (Epi-Aid) to help with investigation

#### Services

- Initiate partner services to all sexual contacts of cases in the 60 days prior to diagnosis with antibiotic-resistant gonorrhea

- Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin. Partner treatment recommendations may be different based on results from AST testing.
- Meet with LHD staff to discuss strategies for partner services and to identify community partners that can provide alternate treatment regimens if needed including payment strategies for under or uninsured patients
- Meet with LHD staff to identify community partners that can provide other social services, as needed
- Provide NAAT test of cure (TOC) to all cases and contacts eight days after treatment

Communication

- Ensure all staff involved in response understand definition of outbreak level
- Inform IDPH leadership staff and IDPH PIO of regional activity criteria and provide routine updates as additional information is obtained
- Establish routine meetings with IDPH, LHD, and possibly CDC staff to update on response
- Add information about outbreak to IDPH Web Portal STD Section webpage
- Provide information on outbreak status to HIV/AIDS and STD Hotline
- Discuss with STD staff, LHD staff, and PIO if an alert/press release in jurisdictions that have reported a probable or suspect case is needed
- Discuss with PIO releasing general STD prevention messaging to public on IDPH social media

**Widespread Outbreak Response**

Epidemiology

- Characterize cases by demographics, risk factor(s), and prior STD history
- Determine if cases are epidemiologically linked
- Map cases to visualize spatial incidence
- Document timeline of events in response
- Response team established (see Table 4)
  - If response moves beyond the ability of the IDPH STD Section and LHD staff, IDPH leadership can consider using an Incident Command Structure (ICS) to coordinate the response (Figure 1)
  - Ensure all responders are trained on data confidentiality requirements and data sharing parameters
- Determine if an additional investigation tool is needed for data collection such as travel history or sexual contact with someone who traveled to another country
- Determine if a database needs created for outbreak data such as risk factors, partner information, culture testing results, AST results, follow up testing results, etc.
- Consult with CDC about recommended treatment after AST testing
- Consult with CDC about need for continued AST testing and treatment recommendations in jurisdictions that have reported a probable or suspect case
- Consult with CDC regarding need to request short-term epidemiologic assistance (Epi-Aid) to help with investigation

Services

- Initiate partner services to all sexual contacts of cases in the 60 days prior to diagnosis with antibiotic-resistant gonorrhea
  - Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin. Partner treatment recommendations may be different based on results from AST testing.

- Meet with LHD staff to discuss strategies for partner services and to identify community partners that can provide alternate treatment regimens if needed including payment strategies for under or uninsured patients
  - Meet with LHD staff to identify community partners that can provide other social services, as needed
  - Provide NAAT test of cure (TOC) to all cases and contacts eight days after treatment
- Communication
- Ensure all staff involved in response understand definition of outbreak level
  - Inform IDPH leadership staff and IDPH PIO of widespread activity criteria and provide routine updates as more information is obtained
  - Establish routine meetings with IDPH, LHD, and CDC staff to update on response
  - Add information about outbreak to IDPH Web Portal STD Section webpage
  - Provide information on outbreak status to HIV/AIDS and STD Hotline
  - Discuss with STD staff and PIO if a statewide alert/press release is needed
  - Discuss with PIO releasing general STD prevention messaging to public on IDPH social media

### Outbreak Response Team

IDPH STD Section staff are key outbreak response team members who would be involved in the response at any level. Additional outbreak response team members may be needed and potential members are listed in Table 4.

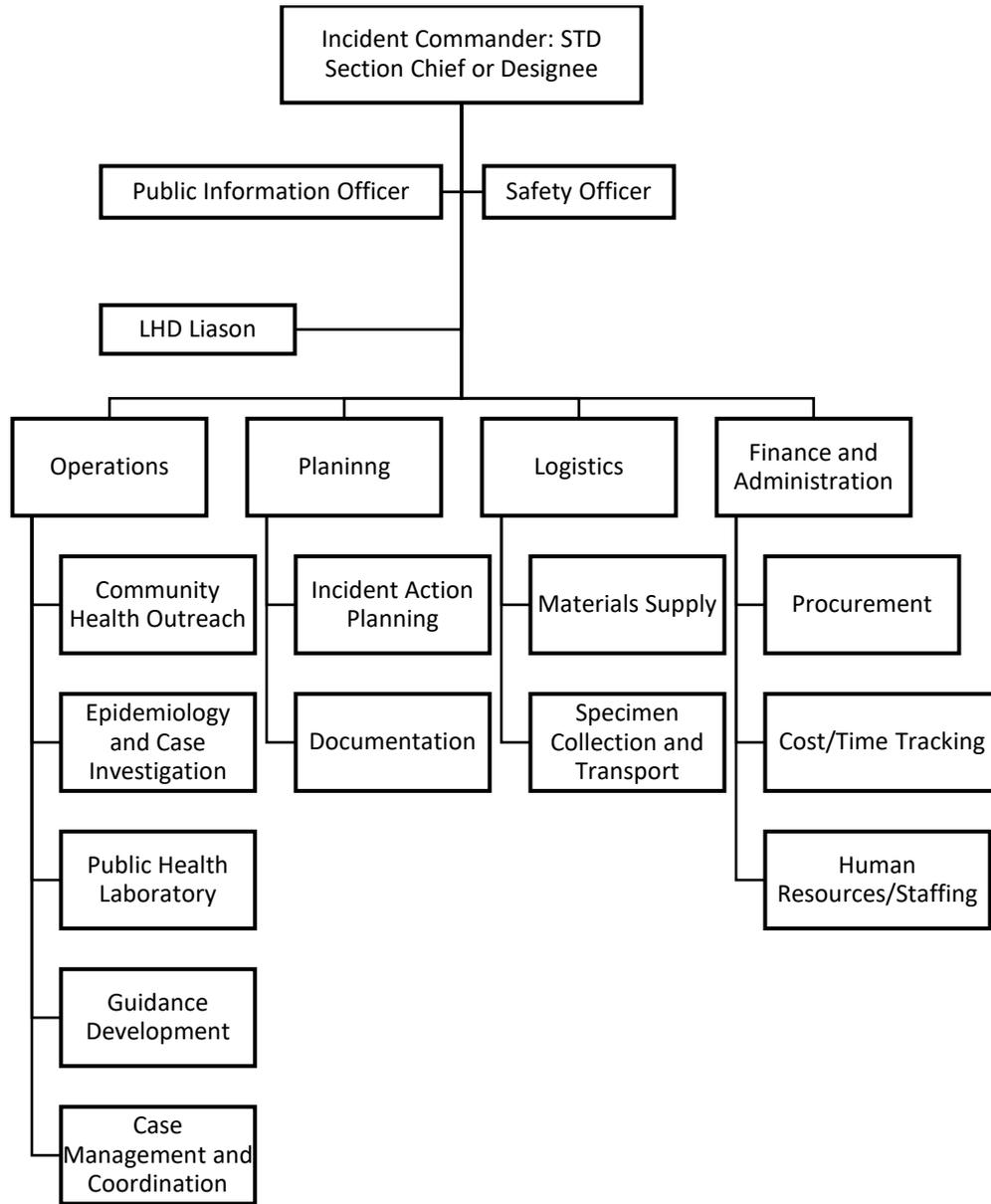
**Table 4. Potential Outbreak Response Team Members**

<p><b>Key outbreak response team members</b></p>	<ul style="list-style-type: none"> <li>• IDPH STD Section Chief</li> <li>• IDPH STD Surveillance and Evaluation Coordinator</li> <li>• IDPH STD Counseling and Testing Coordinator</li> <li>• IDPH STD Chlamydia and Gonorrhea Prevention Coordinator</li> <li>• IDPH Laboratory staff</li> <li>• IDPH Public Information Officer</li> <li>• LHD STD staff and Disease Intervention Specialist (DIS) staff</li> </ul>
<p><b>Potential additional outbreak response team members</b></p>	<ul style="list-style-type: none"> <li>• IDPH Communicable Disease staff</li> <li>• IDPH HIV staff</li> <li>• IDPH Office of Preparedness and Response staff</li> <li>• Local Hospitals</li> <li>• Local Healthcare Providers</li> <li>• Community-based Organizations</li> </ul>

### Outbreak Response Structure

In most instances, responding to an antibiotic-resistant gonorrhea outbreak can be achieved by IDPH STD Section staff. If the outbreak response moves beyond the ability of the IDPH STD Section staff to manage day-to-day outbreak response activities, the outbreak response may need to move into an Incident Command Structure (ICS). The decision to move to an ICS structure must consider the impact on employee routine work activities. The ICS structure will depend on the nature of the response. A proposed structure is outlined in Figure 1. ICS will be maintained until activities can be managed by the IDPH STD Section staff. The incident commander, in conjunction with IDPH leadership, will determine when ICS will be discontinued.

**Figure 1. Incident Command Structure**



**Recovery**

If no new cases of antibiotic-resistant gonorrhea are reported 60 days from the last patient’s first negative gonorrhea test after treatment, the response activities can end. Continued surveillance by culture and AST of patients in outbreak area will be determined at this time. After response activities are ended, IDPH and LHD staff shall meet to evaluate the response. The level of evaluation will be determined by the response, but may include after-action reports, response evaluations, or summaries of findings. Any recommendations found will be implemented into the response plan and response activities.

## References

1. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR Recomm Rep 2015;64 (No. RR-3): 1-137.  
<https://www.cdc.gov/std/tg2015/default.htm>
2. Centers for Disease Control and Prevention. Antibiotic Resistant Gonorrhea Basic Information. Retrieved from <https://www.cdc.gov/std/gonorrhea/arg/basic.htm>
3. Centers for Disease Control and Prevention. Ceftriaxone-Resistant Gonorrhea Outbreak Response Plan Guide. 2019.
4. Centers for Disease Control and Prevention. Cephalosporin-Resistant Neisseria gonorrhoeae Public Health Response Plan. 2012. Retrieved from <https://www.cdc.gov/std/treatment/Ceph-R-ResponsePlanJuly30-2012.pdf>
5. 410 ILCS 325. Illinois Sexually Transmissible Disease Control Act. Retrieved from <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1554&ChapAct=410%C2%A0ILCS%C2%A0325/&ChapterID=35&ChapterName=PUBLIC%20HEALTH&ActName=Illinois%20Sexually%20Transmissible%20Disease%20Control%20Act.>
6. 77 Ill. Admin. Code 693. Control of Sexually Transmissible Infections Disease Code. 1988. Retrieved from <http://www.ilga.gov/commission/jcar/admincode/077/07700693sections.html>

## Appendices

### Appendix A. Acronyms

AST	Antibiotic Susceptibility Testing
CDC	Centers for Disease Control and Prevention
DIS	Disease Intervention Specialist
EPT	Expedited Partner Therapy
HIV	Human Immunodeficiency Virus
ICS	Incident Command Structure
IDPH	Illinois Department of Public Health
INEDSS	Illinois National Electronic Disease Surveillance System
LHD	Local Health Department
MIC	Minimum Inhibitory Concentration
NAAT	Nucleic Acid Amplification Test
PIO	Public Information Officer
STD	Sexually Transmitted Disease
TOC	Test of Cure

## Appendix B. Clinician Guidance for Management of Possible Antibiotic-Resistant Gonorrhea Case

### Possible Treatment Failure

- Take a good sexual history to determine if patient was re-infected after treatment
  - For more information about taking a sexual history, please see CDC's Guide to Taking a Sexual History <https://www.cdc.gov/std/treatment/SexualHistory.pdf>
- Confirm that recommended dual therapy regimen was followed
  - Patient received injectable and oral medication at the same time and patient did not vomit after taking oral medication
- Retreat with ceftriaxone 250 mg/azithromycin 1 gm
- Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin
  - Use of Expedited Partner Therapy (EPT) is NOT recommended if treatment failure is suspected
- Consult infectious disease specialist, health department STD program, or STD/HIV Prevention & Training Center (PTC) <https://www.stdccn.org/>
- Report the case to the health department
- Have patient return for a NAAT test of cure (TOC) 7 days after re-treatment
- Collect specimens from all exposed anatomic sites for TOC
- Rule out other infections if TOC is negative for gonorrhea and symptoms persist
  - Please refer to the CDC's STD Treatment Guidelines for other possible causes of infection <https://www.cdc.gov/std/tg2015/default.htm>

### High Suspicion of Antibiotic Resistance

- If patient remains symptomatic and re-infection is ruled out, collect specimens for NAAT, culture, and antibiotic susceptibility testing (AST) from all exposed anatomic sites
  - If laboratory capabilities for gonorrhea culture and AST cannot be found, please contact the IDPH STD Section for assistance
  - Rule out other infections if NAAT is negative for gonorrhea and symptoms persist
    - Please refer to the CDC's STD Treatment Guidelines for other possible causes of infection <https://www.cdc.gov/std/tg2015/default.htm>
- Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with recommended dual therapy of 250 mg ceftriaxone and 1 gm azithromycin. Partner treatment recommendations may be different based on results from AST testing.
  - Use of Expedited Partner Therapy (EPT) is NOT recommended if antibiotic resistance is suspected
- Consider treatment with 240mg gentamicin/2gm azithromycin (not reliable for pharyngeal infections)
- Consult infectious disease specialist, health department STD program, or STD/HIV Prevention & Training Center (PTC) <https://www.stdccn.org/>
- Report the case to health department
- Have patient return for TOC 7 days after re-treatment
- Ensure recent sex partners are evaluated and treated

Appendix C. Interview Record for Possible Gonorrhea Treatment Failure Cases Instructions and Example

**Interview Record for Possible Gonorrhea Treatment Failure Instructions**

**Patient Information, STD Testing and Treatment**

IDPH will complete these fields with information that has been recorded in INEDSS.

- LHD should validate the information entered into INEDSS, treatment documented, and dates given are accurate. Validation may be made through reviewing patient case file or contacting the provider.
- If noted treatment is accurate, follow-up with patient to ask about Risk Factors.

**Risk Factors**

NOTE: Each risk factor should be addressed for the time period between the first positive gonorrhea test to the second positive gonorrhea test except for travel history which asks for the past six months. Sex is defined as having engaged in oral, anal, and/or vaginal contact with another individual.

For each sexual risk, the patient should be asked what type of sexual exposure occurred. Document the appropriate response, per risk factor, by circling patient exposure.

Yes – select all that apply: Anal, Vaginal, Oral, or Unsp-Unspecified Type of Sex

No - No Sexual Exposure

R - Refused to Answer

D - Did Not Ask

Anonymous – a sex partner whose name is unknown and cannot otherwise be contacted (e.g., met on phone app, website, bathhouse, etc.)

Travel – list the countries the patient or their partner visited outside of the United States

HIV Status – mark the relevant HIV status

- If Patient answers that they were sexually active between infections, LHD may ask for Partner/Social Contact Information or may stop interview at that time and submit to IDPH.

**Signs and Symptoms**

Signs and Symptoms: Determine if there are signs or symptoms related to the condition(s) documented on this interview record. This includes all symptoms experienced by the patient and signs observed by a clinician.

### Partner/Social Contact Information

Record all interview activity and the results of investigations regarding partners. If more than two (2) partners/contacts, please document on additional paper and submit.

When choosing the gender of the partner/social contact, please mark one response.

- M - Male
- F - Female
- MTF – Male to Female
- FTM – Female to Male
- O – Other
- R – Refused to Answer
- Unk - Unknown

### Interview/Investigator Comments

This section is provided to record any additional information not included in the interview record that might be relevant to cause a recurrence of the infection.

### Return of Interview Record

Please submit completed interview record and any additional material by fax to the IDPH STD Section at (217) 524-5443. Should you have any questions, please do not hesitate to call (217) 782-2747.

## INTERVIEW RECORD FOR POSSIBLE GONORRHEA TREATMENT FAILURE

PATIENT INFORMATION						I-NEDSS CASE NUMBERS							
Last Name:		First Name:											
Date of Birth:		Phone:											
Address:													
STD TESTING													
Date Collected		Provider				Specimen Source							
STD TREATMENT													
Treatment Date		Provider				Treatment							
RISK FACTORS													
From the first diagnosis date to the second (see Date Collected), have you...						If yes, select all that apply							
Had sex with a male?		Yes	No	R	D	Anal	Vaginal	Oral	Unsp				
Had sex with a female?		Yes	No	R	D	Anal	Vaginal	Oral	Unsp				
Had sex with an anonymous partner?		Yes	No	R	D	Anal	Vaginal	Oral	Unsp				
In the last six months, have you...													
Had sex with someone while you were traveling outside the United States?		Yes	No	R	D	Anal	Vaginal	Oral	Unsp				
If yes, where did you travel?													
Had sex with someone who traveled outside the United States?		Yes	No	R	D	Anal	Vaginal	Oral	Unsp				
If yes, where did they travel?													
Patient's HIV Status		Positive		Negative		Unknown		Did Not Ask					
SIGNS AND SYMPTOMS													
Signs/Symptoms		Earliest Observation Date		Anatomic Site		Duration (Days)							
PARTNER/SOCIAL CONTACT INFORMATION #1					PARTNER/SOCIAL CONTACT INFORMATION #2								
Last Name, First Name					Last Name, First Name								
Address					Address								
City		State	ZIP Code		City		State	ZIP Code					
Phone		DOB			Phone		DOB						
Current Gender				Age (Approx)		Current Gender				Age (Approx)			
M	F	MTF	FTM	O	R	Unk	M	F	MTF	FTM	O	R	Unk
First Exposure Date		Frequency			Last Exposure Date		First Exposure Date		Frequency			Last Exposure Date	
INTERVIEW/INVESTIGATOR COMMENTS													
												Submitter	

Submit by faxing this report to: Illinois Department of Public Health STD Section  
 Questions? Contact the STD Section at 217-782-2747

**FAX (217)-524-5443**

## Appendix D. Procedure for Submission of a Specimen for Antibiotic Susceptibility Testing

If adequate treatment is confirmed and re-infection is ruled out this may be a case of treatment failure. Contact the IDPH STD Section at 217-782-2747 to determine if a specimen should be sent to Centers for Disease Control and Prevention (CDC) for Antibiotic Susceptibility Testing (AST).

If a specimen is to be sent to CDC, the IDPH STD Section will provide the necessary supplies for collection and shipment. Specimens may include oral, vaginal, urethral, or rectal swabs and should be handled according to CDC-National Institutes of Health (NIH) recommendations for potentially infectious human substances.

### Note

The specimen for AST should be collected using an eSwab™ (Copan) and must be received by IDPH Carbondale laboratory Monday, Tuesday, or Wednesday. Either a swab or urine sample for NAAT testing should be sent with each eSwab™ sample. Plan specimen collection and shipment carefully, allowing for holidays. Specimen collection and shipment to the IDPH Carbondale lab must occur on the same day.

### Identification of Possible Treatment Failure and Receipt of Supplies from IDPH STD Section

1. Patient was adequately treated and re-infection is ruled out.
2. Contact IDPH STD Section to receive supplies for specimen collection and shipment to IDPH. LHD will receive the following materials: eSwab™ (one for each anatomic site exposed), CDC Submission form 50.34, pre-addressed mailing label to IDPH Carbondale Lab, urine and swab collection devices for the NAAT sample (either swab or urine based on anatomic sites exposed), and a laboratory requisition form with a barcode label (167C03 provider code) for the NAATs test sample(s). LHD will need to supply disposable gloves.
3. When supplies are received from IDPH STD Section, notify the patient to schedule an appointment for sample collection.

### Collection of AST Specimen from LHD to IDPH Carbondale Lab

1. Label the swab transport tube with patient name, date of birth, and date of collection.
2. Open peel pouch and remove eSwab™.
3. Collect patient sample using the swab and wearing disposable gloves. Avoid touching the swab applicator below the pink molded breakpoint as this may lead to contamination and incorrect test results.
4. Remove the screw cap from the eSwab™ tube and insert the swab all the way to the bottom of the tube into the transport media.
5. Holding the swab shaft close to the rim of the tube, and keeping the tube away from your face, break the applicator shaft at the pink breakpoint indication line.
6. Dispose of the shaft in a regular trash receptacle.
7. Screw the cap on tightly to prevent leakage. Do not send dry eSwab™ specimen(s).
8. Repeat for each anatomic site that was exposed.
9. Complete all highlighted fields on the CDC Submission Form 50.34.
10. Place the eSwab™(s) and the completed CDC Submission Form 50.34 inside the box.

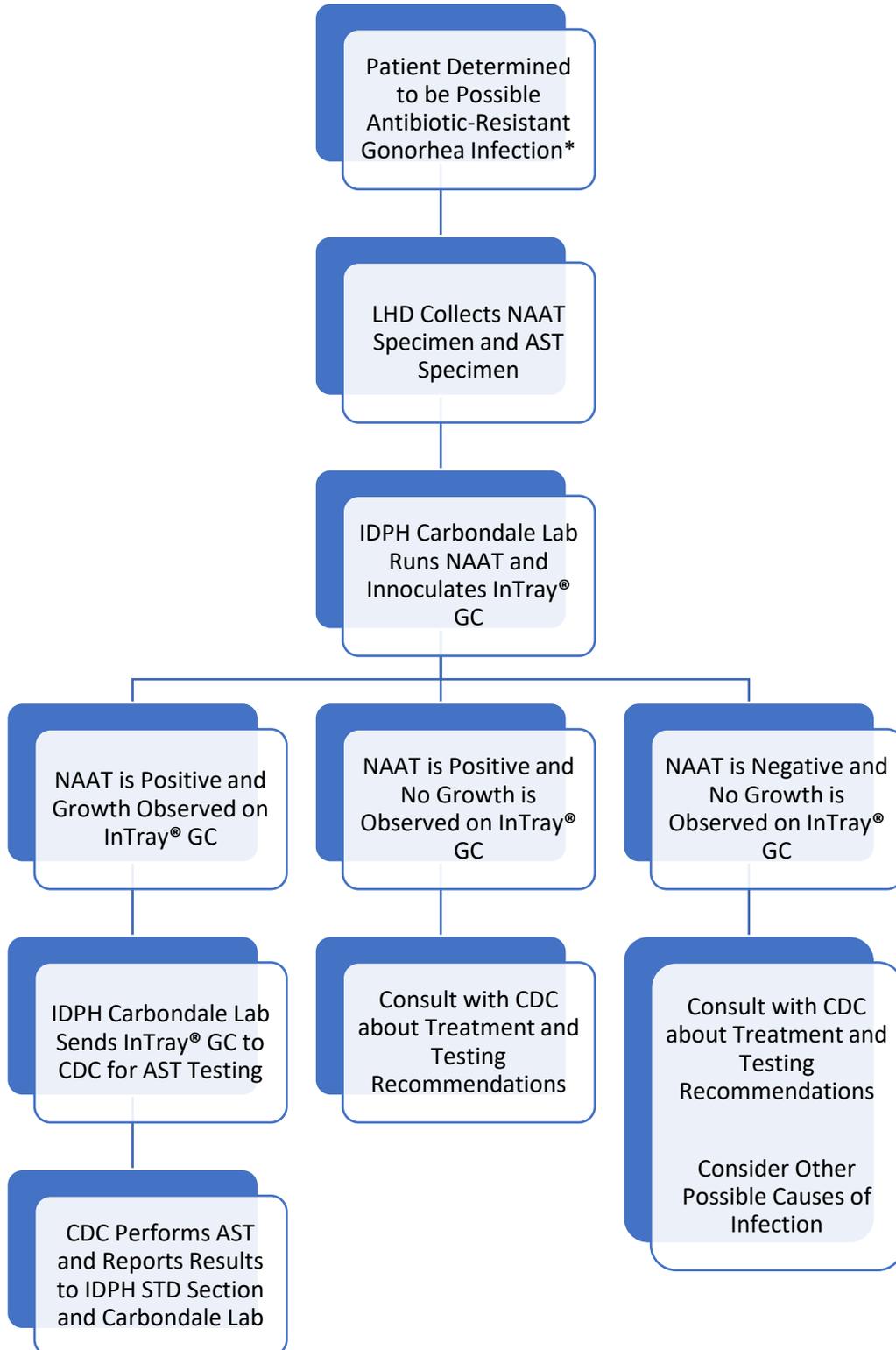
### Collection of NAAT Specimen and Shipment of Specimens from LHD to IDPH Carbondale Lab

1. Label urine transport or swab transport tube with patient name, date of birth, and date of collection. Place the barcode label on tube for NAAT testing.
2. Collect urine or swab specimen(s) for NAAT testing with correct device as outlined in specimen collection training <https://www.screencast.com/t/jlnmC1u8ve6Q>
3. Transfer urine to transport tube and screw the cap on tightly to prevent leakage OR break swab in the transport tube and cap tightly as outlined in the specimen collection training.
4. Complete the laboratory requisition form enclosed (167C03 provider code). This form is linked to the barcode label you received.
5. Place the pre-addressed label to send the specimens to the IDPH Carbondale lab over the old mailing label on the box that supplies were received in from IDPH. Replace the category B label with the extra label provided if the category B label was obscured when sent to LHD.
6. Place the eSwab™ specimen(s), urine or swab specimen(s) for NAAT, the completed CDC Submission Form 50.34, and the lab requisition form inside the box. Do not add any additional items to the box.
7. Notify the IDPH STD Section by phone prior to mailing the specimens. The IDPH STD Section will alert the IDPH Carbondale lab and CDC of the incoming specimens.
8. IDPH Carbondale lab will send NAAT results to STD Section and LHD will receive a copy.
9. CDC will send results of the AST testing to IDPH and LHD will receive a copy.

### Collection and Shipment of Specimen from IDPH Carbondale Lab to CDC

1. NAAT testing to be performed on urine or swab specimen(s) received.
2. Each eSwab™ specimen will be plated onto an InTray® GC (BioMed).
  - a. Allow InTray®s to come to room temperature before inoculation.
  - b. Label the InTray® GC with patient name, source of specimen, and Illinois AST Project.
  - c. Pull back the lower right corner of the InTray® GC label adjacent to the clear window until the protective seal is completely visible. Remove the protective seal by pulling the tab off and discard the seal. Do not remove the white filter strip above the vent hole.
  - d. Inoculate the InTray® GC by rolling the cotton swab on the surface of the agar medium in a large C pattern, then streak in a zig zag manner across the entire surface to create isolated colonies. An instruction video demonstrating this procedure is available at: <https://www.youtube.com/watch?v=riTWa1USoPU>
  - e. Puncture the seal over the CO<sub>2</sub> chamber with a pointed object.
  - f. Firmly reseal the InTray® GC by pressing the edges of the label and the plastic tray together.
  - g. Repeat this process with any other eSwab™ specimens received from other anatomic sites.
3. Incubate the InTray® GC(s) for 24-48 hours at 37°C.
4. If NAAT test is positive and growth is observed on inTray® GC, ship the InTray® GC with the completed CDC Submission Form 50.34 at room temperature to CDC.
5. Ship samples Monday-Thursday only, and not the day before a holiday.
6. Alert STD Section of shipment and tracking number so CDC can be informed of incoming sample.

Appendix E. Workflow for Submission of a Specimen for Antibiotic Susceptibility Testing



\*Patient was treated with recommended dual therapy of ceftriaxone and azithromycin and re-infection is ruled out

Appendix F. Template of Health Advisory



# HEALTH ADVISORY

**Name and Credentials, Director**

**Summary and Action Items**

**Background**

**Potential Exposures**

**Symptoms**

**Transmission**

**Diagnosis**

**Prevention**

**IDPH and LHD Response**

**Contact**

**Additional Resources**

---

**Illinois Department of Public Health**

525-535 W. Jefferson St.  
Springfield, IL 62761

dph.illinois.gov  
217-557-2556

69 W. Washington St., Suite 3500  
Chicago, IL 60602



# HEALTH ALERT

**Name and Credentials, Director**

**Summary and Action Items**

**Background**

**Potential Exposures**

**Symptoms**

**Transmission**

**Diagnosis**

**Prevention**

**IDPH and LHD Response**

**Contact**

**Additional Resources**

**Target Audience**

**Date Issued**

---

**Illinois Department of Public Health**

525-535 W. Jefferson St.  
Springfield, IL 62761

dph.illinois.gov  
217-557-2556

69 W. Washington St., Suite 3500  
Chicago, IL 60602

Appendix H. Template of Alert Notice to Senior Staff

XXXX Section	
<b>Alert Level:</b>	Health Alert
<b>Type of Event :</b> XXXX Outbreak	
<b>Location:</b>	XXXX
<b>Setting:</b> XXXX	
<b>Objective Information:</b>	<ul style="list-style-type: none"><li>• Outbreak Information 1</li><li>• Outbreak Information 2</li><li>• Outbreak Information 3</li><li>• Outbreak Information 4</li></ul>
<b>Assessment:</b> XXXX XXXXXXXX XXXXX X XXX XXXX XXXXX XXXXXXXX XX XXXXX XXXXXXX XXX XXXXXXX XXXX X XXX XXXXXXX XX	
<b>Next Steps:</b>	<ul style="list-style-type: none"><li>• Next Steps 1</li><li>• Next Steps 2</li><li>• Next Steps 3</li><li>• Next Steps 4</li></ul>

Appendix I. Antibiotic-Resistant Gonorrhea Public Health Message Sources and Examples

CDC syndicated fact sheets can be found at <https://www.cdc.gov/std/products/syndicated.htm>

Below are infographics developed by CDC that can be found at <https://www.cdc.gov/std/products/infographics.htm>

# Antibiotic-Resistant Gonorrhea

**!** Gonorrhea is developing resistance to the antibiotics we use to treat it.

- There are about **820,000** new gonorrhea infections each year in the U.S.
- Gonorrhea is the **2nd** most commonly reported infectious disease
- We are down to **1** recommended effective class of antibiotics to treat it

The public health and medical communities must work together to:

- Monitor antibiotic resistance
- Develop new treatment options

With only one recommended treatment option remaining, **it's time to take action.**

Learn more at [www.cdc.gov/std/gonorrhea/arg](http://www.cdc.gov/std/gonorrhea/arg)

Centers for Disease Control and Prevention  
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

# Health Care Providers: Help protect our last treatment option for gonorrhea



Gonorrhea is developing resistance to the antibiotics used to treat it. We have only one recommended treatment option left. Help protect it.



Always **follow** CDC screening and treatment guidelines



**Report** treatment failures to your health department's STD program



**Prevent** reinfection by notifying and treating partners

CDC is committed to ensuring that we have safe and effective treatment for gonorrhea. **We can't do it without you.**

Learn more at [www.cdc.gov/std/gonorrhea/arg](http://www.cdc.gov/std/gonorrhea/arg)



Centers for Disease  
Control and Prevention  
National Center for HIV/AIDS,  
Viral Hepatitis, STD, and  
TB Prevention

# Antibiotic-Resistant Gonorrhea: Working together, we can stop it



Gonorrhea is developing resistance to the antibiotics used to treat it. The public health and medical communities must work together to stop antibiotic-resistant gonorrhea.



## Centers for Disease Control and Prevention

- Monitors for emerging resistance
- Develops safe and effective treatment guidelines
- Supports the development of new drugs and tests



## Health departments

- Educate health care providers about screening and treatment guidelines
- Report treatment failures to CDC



## Laboratories

- Monitor and identify emerging resistance
- Rebuild our ability to perform culture testing



## Researchers and pharmaceutical companies

- Identify new treatment options from new or existing drugs
- Test treatment options as they become available



## Health care providers

- Follow and stay up-to-date on CDC treatment guidelines
- Report treatment failures to the health department's STD program

Join us in the fight to **stop antibiotic-resistant gonorrhea.**

Learn more at [www.cdc.gov/std/gonorrhea/arg](http://www.cdc.gov/std/gonorrhea/arg)



Centers for Disease  
Control and Prevention  
National Center for HIV/AIDS,  
Sexual Health, STD and  
TB Prevention