Wisconsin's Cephalosporin-Resistant Gonorrhea Outbreak Response Protocol (ORP)

Division of Public Health
STI Unit

WISCONSIN DEPARTMENT of HEALTH SERVICES

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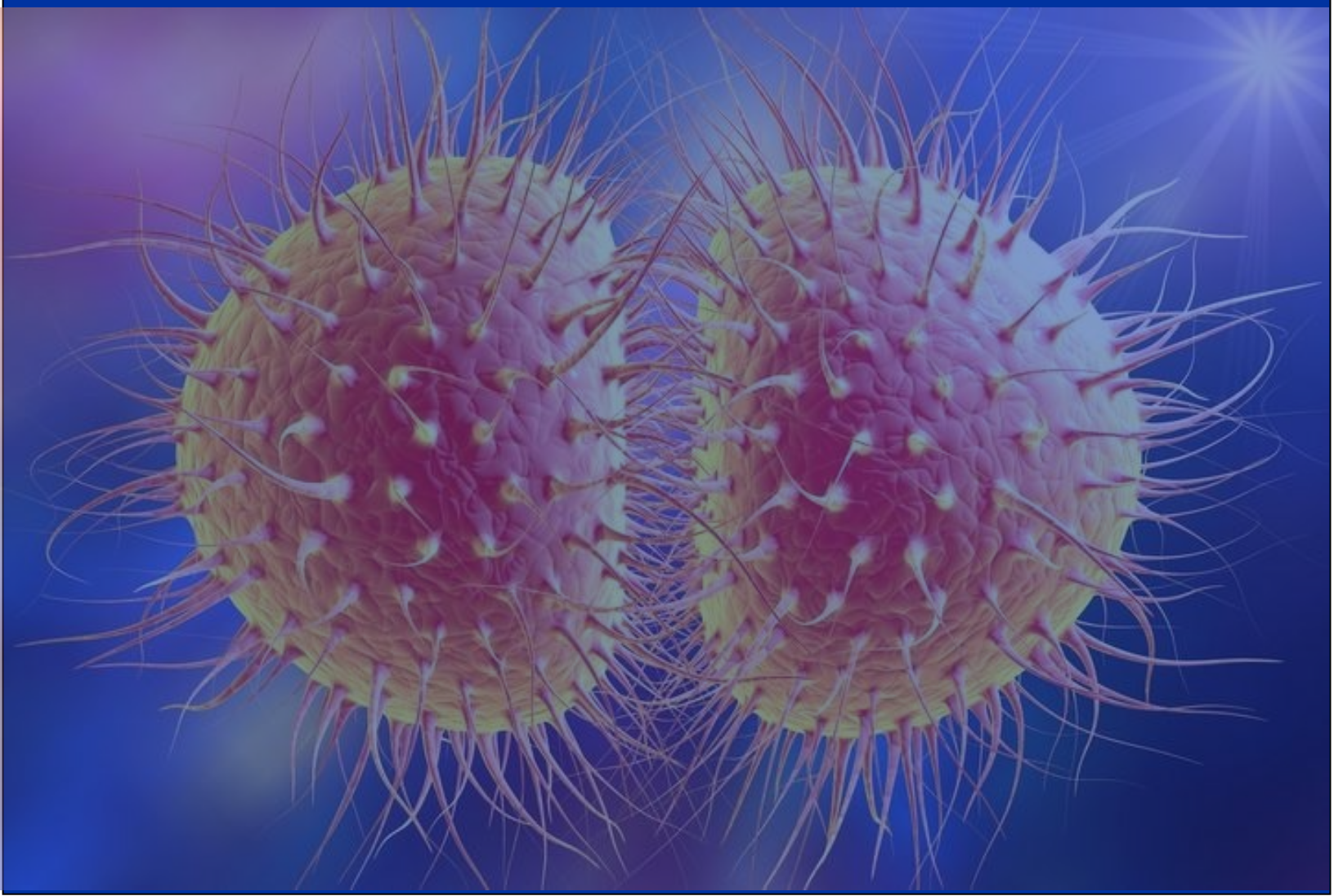

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Acknowledgements
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Wisconsin Department of Health Services
Division of Public Health
Bureau of Communicable Diseases, STI Unit

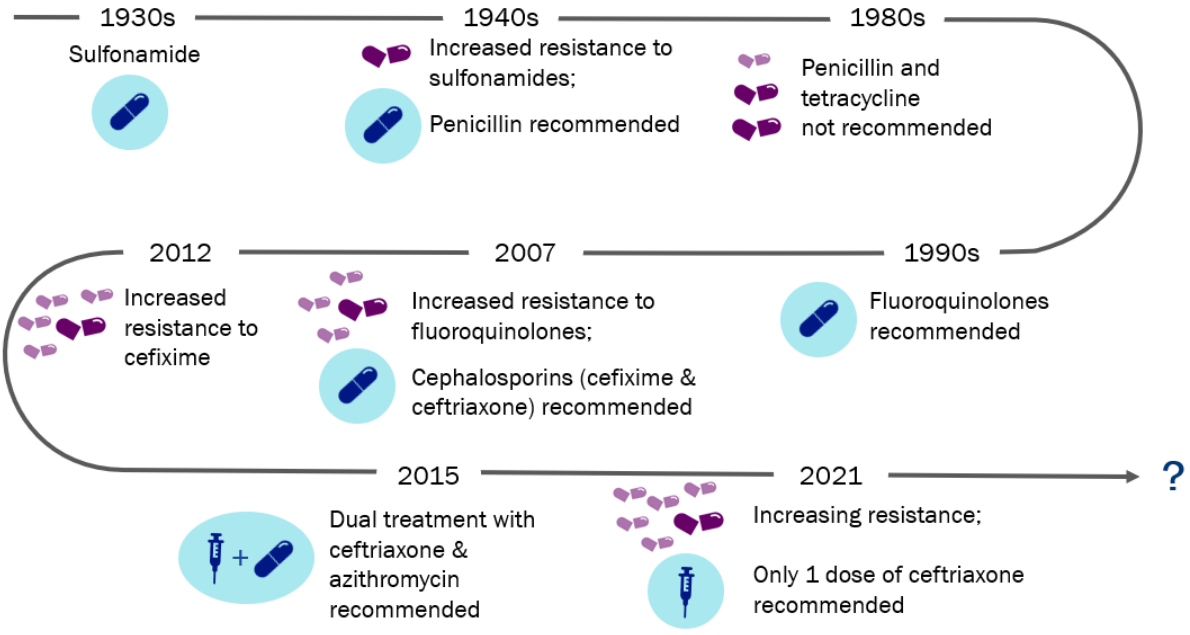
Overview of the Outbreak Response Protocol (ORP)

The following section provides background information on antibiotic resistant gonorrhea, and the larger antibiotic resistant gonorrhea (ARGC) program in Wisconsin. It outlines the core aims, scope, and objectives of the response to a potential outbreak of cephalosporin-resistant gonorrhea.

Background

About antibiotic resistant gonorrhea

Antibiotic resistance and increasing rates of sexually transmitted infections (STIs) is gaining national attention. Of particular concern is gonorrhea, an STI caused by the infectious *Neisseria gonorrhoeae* bacterium. Gonorrhea is the second most reported STI nationally and in the state of Wisconsin. In 2023, there were 7,005 cases of gonorrhea reported in Wisconsin, a rate of 119 cases per 100,000 people. Antibiotic resistance, interchangeably termed "antimicrobial resistance," happens when germs like bacteria develop the ability to resist, and even defeat, the drugs designed to kill them. Antibiotic resistant gonorrhea occurs when a person becomes infected with a strain of gonorrhea that is more difficult to treat due to having either reduced susceptibility or resistance to the antibiotics prescribed. *Neisseria gonorrhoeae* is a highly adaptable organism which has become resistant to nearly all antibiotics that have been prescribed to treat it.



About the program

The Wisconsin Department of Health Services (DHS) has received funds from the Centers for Disease Control and Prevention (CDC) to address the emergent threat of antibiotic resistant gonorrhea since 2016. From 2016–2024, this was funded through the Strengthening the US Response to Antibiotic Resistant Gonorrhea (SURRG) Grant. In August 2024, DHS was awarded funds from the CDC to continue monitoring for ARGC through the Combatting Antibiotic Resistant Gonorrhea and Other STIs (CARGOS) Grant. Through this program, Wisconsin partners with the city of

Milwaukee Health Department (MHD), Keenan Health Center, the MHD Laboratory (MHDL), and clinics throughout the city of Milwaukee that provide STI testing.

Through state and local collaborations, Wisconsin seeks to: 1) enhance gonorrhea surveillance and infrastructure; 2) build capacity for rapid detection and response to resistant gonorrhea through increased culturing and antibiotic susceptibility testing; and 3) conduct rapid field investigations to stop the spread of resistant infections.

From the outset of this program, MHDL has been instrumental in the identification of best practices for culturing *Neisseria gonorrhoeae* and testing samples for antimicrobial susceptibility. In coordination with the CDC, MHDL has also begun limited pilots of molecular diagnostic techniques with the goal of improving our ability to identify molecular markers associated with resistance in *N. gonorrhoeae* from patient samples. Upon the completion of the molecular pilot and with further guidance from the CDC, this document will be updated to include information on how molecular diagnostics may be useful in an outbreak.

ORP objectives and scope

DHS strives to prevent the spread of STIs and proactively prepare for emergent outbreaks. In the event of an outbreak, rapid deployment of resources is necessary. This ORP for outbreaks of antibiotic resistant gonorrhea (ARGC) was developed to guide activities and ensure cohesive coordination of agencies. The document covers what ARGC is, how to assess for it, who should be involved in an outbreak response, protocols for response, and gives communications and protocol templates that local and Tribal health departments (LTHDs) may use to provide more efficient communication during a potential outbreak.

ORP objectives

In the event of an outbreak of ARGC, it is necessary to involve a variety of staff across agencies in the response. The objectives of the outbreak response protocol are to:

- Define ARGC and ARGC outbreaks.
- Describe the surveillance mechanisms in place to detect ARGC in Wisconsin.
- Provide guidance for identifying potential cases of ARGC.
- Outline the stages of the outbreak response, along with the roles and responsibilities of pertinent staff.
- Ensure all cases and contacts are identified and treated.
- Limit further transmission within the community in which the outbreak was identified.

ORP scope

The protocol described in this document applies to outbreaks of ARGC that may occur throughout the state of Wisconsin. This document, along with appendices and communications templates, will be routinely evaluated following a response to an outbreak of ARGC or exercise of the protocol, and updates will be made as appropriate.

Surveillance for ARGC Outbreaks

The following section details what is considered an outbreak of ARGC, how cases of ARGC are identified in Wisconsin, and how data or case reports flow to DHS. It also provides an explanation of how DHS ensures data security during an outbreak.

What is an ARGC outbreak?

An outbreak of antibiotic resistant gonorrhea is currently defined as **one** case of gonorrhea found to be resistant to treatment with cephalosporins (or the most up-to-date CDC recommended treatment) and confirmed with antimicrobial susceptibility testing (AST).

After confirmation of reduced susceptibility to cephalosporins from patient samples by the laboratory, confirmatory testing on the sample locally is also required. To accomplish this, the resistant isolate will be shared with the CDC and the Antimicrobial Resistance Laboratory Network (ARLN) for further confirmation. Confirmatory testing of samples from both the ARLN and the CDC is required to determine if an outbreak response is necessary. Although each outbreak may be unique, both CDC confirmation of reduced susceptibility or resistance to antibiotics and treatment failure is generally necessary to initiate an outbreak response. During an outbreak, enhanced surveillance of cases and contacts is necessary to prevent the spread of a resistant strain of *Neisseria gonorrhoeae*.

As outbreaks are investigated, it is important to ensure that social determinants of health are considered in response efforts. While gonorrhea and other sexually transmitted diseases (STIs) can affect anyone, some communities have much higher rates of infection than others. These differences are not due to behavioral practices alone. Disparities in social and economic factors such as access to resources and care, along with differential concentration of behavioral and social risks lead to disparities in the incidence of illness. Limited access to health care and sexual health education also increases a person's chances of being exposed to an STI. Access to health care resources is impacted by social conditions, policies, and systemic practices. These factors combined can lead to more people contracting STIs. In communities with higher STI rates, it is easier to get an STI because a person's sexual partner(s) are more likely to have already been exposed. As a jurisdiction seeks to prepare for an outbreak, these social risks and disparities must be considered to ensure a response that is free of bias and does not further stigmatize impacted communities.

Surveillance sources and methods

Surveillance may fall into three categories:

- Electronic case surveillance through the Wisconsin Electronic Disease Surveillance System (WEDSS).
- Detection of resistant cases within program study sites by MHDL when reporting alerts.
- Treatment failure-based surveillance through direct contact from a clinic or LTHD given a case of suspected treatment failure (STF).

Electronic case surveillance

Electronic surveillance of STIs, including all forms of gonorrhea, operate through WEDSS, where data on cases under investigation may be submitted by health care providers, laboratory professionals, and staff from both DHS and LTHDs. System users from DHS and LTHDs can both input and extract data from WEDSS. Appendix A includes a description of relevant WEDSS forms.

On a quarterly basis, the data manager from DHS reviews the completeness and accuracy of our gonorrhea data, with a focus on data from Milwaukee. This is accomplished by estimating the proportion of new cases where documented treatment is adequate, inadequate, or missing. Records are also reviewed to confirm that all lab reports documenting antimicrobial susceptibility testing (AST) results are reflected in WEDSS and to ensure that no alert cases have been overlooked.

Laboratory-based surveillance within study sites
Routine AST is performed on a selection of samples collected at partner clinics to detect isolates with reduced susceptibility. Following AST, samples with minimum inhibitory concentrations (MICs) corresponding to reduced susceptibility or resistance triggers an alert or a quick-send alert. MHDL's laboratory information system (LIS) specialist then alerts program leads, initiating enhanced investigation to determine if an outbreak response is necessary.

Alerts are triggered when results have MICs for **cefixime** greater than or equal to 0.25 or for **ceftriaxone** greater than or equal to 0.125. These will be lower priority and warrant monitoring of the case but are less likely to result in an outbreak response. Quick-send alerts are triggered when results have MICs for **cefixime** greater than or equal to 1 or for **ceftriaxone** greater than or equal to 1. These are higher priority and when detected, the core Wisconsin team will be alerted. The team will then organize pertinent clinical, laboratory, and case management information to share with the CDC within 24 hours of the alert being triggered.

Table 1.

MICs by Antibiotic & Interpretation		
Cefixime	*Ceftriaxone*	*CLSI Interpretation*
Above 0.25	*Above 0.25*	*Reduced susceptible*
Greater or equal to 0.25	*Greater or equal to 0.125*	*Intermediate Resistance*
Greater or equal to 1	*Greater or equal to 1*	*Resistant*

Treatment failure-based surveillance:
In some instances, health care providers may have reason to suspect that treatment has not cleared a patient's gonorrhea infection. A case of STF is likely when a patient without a new behavioral risk for an STI is still reporting symptoms at least three days following treatment or if the patient has a positive test of cure (TOC) result. Decision trees to help guide providers in identifying STF and determine when a TOC may be appropriate are in Appendix B and C. Providers should ensure that cases of suspected treatment failure are reported to WEDSS. ARGC staff from DHS receive automated alerts when these reports are entered.

Data security

Data security is a vital component of maintaining data privacy and confidentiality. DHS employees are required to complete privacy and security trainings on an annual basis. Surveillance and investigation activities comply with data confidentiality policies and statutes. During an outbreak, data collection, transmission, analysis, and reporting will include the minimum data elements necessary to conduct investigations. Data containing personally identifiable information will be transmitted using secure methods established by DHS.

Outbreak Response Management

This section provides additional detail about how outbreak response is managed across agencies including a description of roles and responsibilities for necessary ARGC staff at DHS and the Milwaukee Health Department Laboratory. Additionally, this section provides guidance on roles to be filled by the LTHD who may have jurisdiction over the case(s) of ARGC.

Outbreak response coordination and structure

During an outbreak, DHS will coordinate with LTHDs and partners in the impacted area to conduct a rapid capacity assessment. The final roster of roles and responsibilities necessary to respond will depend upon state and local-level resources identified in the capacity assessment, and upon the size and scope of the outbreak. Community partners identified by the local jurisdiction may also be included as part of the response and can serve as necessary strategic partners in preventing further spread.

Response management structure

- Response will be initiated and coordinated by the epidemiology coordinator, who will work alongside the reporting jurisdiction and the CDC to lead the response.
- The data component of the outbreak response will be led by the ARGC data manager (DM), with reports provided to the epidemiology coordinator.
- Laboratory leads from MHDL will offer consultation and support related to diagnosis and will assist with arranging for sample delivery and testing if the reporting jurisdiction does not have access to culture and AST.
- Health care providers should follow guidance from the CDC for patient treatment and provide updates on the patient as available to the epidemiology coordinator or directly to the CDC when requested.

Roles and responsibilities

This section provides guidance on staffing needs in the event of an outbreak. It is divided by state level staff from DHS, laboratory staff at Milwaukee Health Department Laboratory (MHDL), and suggested staff from the local jurisdiction(s). Table 2 outlines which roles are necessary, preferred, and helpful if available for all agencies. Additionally, this section outlines the responsibilities of staff participating in the outbreak response. If a local jurisdiction has roles that do not align exactly with the titles provided, staff who perform related or comparable tasks should be selected for response.

Table 2.

Team	Role	Necessary	Preferred	If Available
DHS	ARGC epidemiology coordinator	X		
	ARGC data manager	X		
	DHS disease intervention specialist (DIS) or public health educator		X	

MHDL	MHDL director	X		
	Microbiologist	X		
	Laboratory information system (LIS) specialist	X		
	Bioinformatician			X
Local Jurisdiction	DIS manager / supervisor		X	
	DIS	X		
	Public health educator / community engagement coordinator / outreach & prevention specialist		X	
	Public health nurse	X		
	STI epidemiologist			X
	Epidemiologist / data coordinator		X	
	Local providers	X		
	Community-based organizations			X

DHS roles and responsibilities

Epidemiology coordinator

- Provides coordination and management of the outbreak.
- Performs initial case review when direct reports or review of electronic surveillance data identifies a possible case of STF.
- Coordinates with data manager to provide initial demographic data and case information to the local jurisdiction.
- Assists with arrangements for specimen collection, transport to MHDL, and AST of specimen.
- Communicates information throughout the outbreak to the local jurisdiction, DHS leadership, and the CDC.
- Leads evaluation of outbreak response following each outbreak.

Data manager

- Leads and directs data analyses necessary for outbreak response.
- Assists with case finding and network analyses.
- Provides guidance for conducting analyses and sharing data to local jurisdiction staff.

- Coordinates with DHS WEDSS team, MHDL LIS, and the local jurisdiction to ensure secure and complete data throughout the outbreak.
- Assists with outbreak response evaluation.

DHS DIS

- Provides guidance to the local jurisdiction on best practices for ARGC investigation.
- If capacity at the local jurisdiction is limited, leads case management, investigation, and case finding.
- Assists with coordination of local jurisdiction clinical staff, pertinent health care providers, and any local staff dedicated to case management.

MHDL roles and responsibilities

MHDL director

- Provides oversight of all laboratory activities during the outbreak.
- Serves as primary laboratory contact, facilitating communications through MHDL.
- Coordinates communications on laboratory activities with the CDC and the ARLN.

Microbiologist specializing in AST

- Works with epidemiology coordinator to arrange for specimen shipment to MHDL.
- Communicates results of laboratory testing with the patient's health care provider and staff from the associated LTHD experiencing the outbreak.
- Cultures gonococcal specimen and performs AST on cultured specimen.
- Assists with processing samples and extracting DNA for genotyping if molecular analyses are needed.

Laboratory information system (LIS) specialist

- Responsible for sharing alerts when specimen exhibiting reduced susceptibility are detected.
- Creates alert shipping manifest for CDC and ARLN.
- Provides laboratory data when requested by data manager.
- Assists in getting clinical or LTHD staff set up with the lab's web-based portal when requested by MHDL director.

Bioinformatician

- Establishes pipelines for molecular analyses.
- Analyzes genetic sequencing data and reports findings when applicable.

Local jurisdiction roles and responsibilities

Local jurisdiction staff will be responsible for the follow-up activities of cases in their jurisdiction, which may include case interviews, investigation, and provision of partner services. The epidemiology coordinator will provide guidance and act as an intermediary between the local jurisdiction, DHS, MHDL, and the CDC. If needed, an online platform will be used to share information between local and state partners during an outbreak response.

Roles defined below may not match the workforce available in all Wisconsin jurisdictions. During an outbreak, the capacity of the local jurisdiction will be assessed and staff with relevant or similar responsibilities assigned to fulfil the functions below.

Disease intervention specialist (DIS) roles

DIS manager/supervisor/coordinator

- Oversees ARGC case investigations during the outbreak.
- Facilitates any needed modifications to interview questions and associated tracking systems (for example, travel history or TOC results).
- Facilitates any additional DIS training necessary.
- Ensures patients are treated appropriately and receive partner services and any necessary referrals.
- Ensures partners elicited during DIS interviews are brought into the appropriate medical location for testing and preventative treatment.
- Defines additional roles for their team members as needed.

DIS (or other staff providing interview and investigation support)

- Locates ARGC cases as well as their partners and social contacts per the local standard operating procedures (SOPs).
- Conducts case investigation and interviews on ARGC cases, partners, and social contacts.
- Completes and submits the Suspected Treatment Failure Report to the CDC and ensures information in WEDSS is accurate if the case was identified as a potential suspected treatment failure,
- Elicits partner and social contact information from ARGC cases.
- Enters case investigation information into WEDSS.
- Performs field testing at the discretion of the field operation supervisor and training on testing using current methods of collection (including approval with medical orders).

Public health educator/community engagement coordinator/outreach and prevention specialist

- Oversees any community-based, targeted testing or educational outreach needed during an outbreak response.

Clinical roles

Public health nurse or local health care provider of the index case

- Contacts DHS and the epidemiology coordinator given a possible STF, a positive TOC, or a case with laboratory results suggesting reduced susceptibility.
- Coordinates with DHS and the CDC to ensure appropriate treatment of patient and contacts.
    - Note, if a case is identified by a local provider not connected to the public health system, they should also contact DHS, cooperate with any staff from the local jurisdiction monitoring the patient, and ensure proper treatment for the patient.
    - Patients may continue to be tested and treated by their provider, but clinical oversight of the case could move to a public health nurse if the LTHD has an associated clinic.
- Performs the roles of a DIS depending on local capacity.

Data roles and responsibilities

Epidemiologist or data coordinator

- Coordinates with the data manager to provide data on case and contacts when requested.
- If capacity allows, collaborates with data manager on analyses to better characterize the outbreak.

Outbreak Response Protocol

The following section contains the protocol for the outbreak response starting from case identification, through case investigation and recommendations for the recovery phase. Throughout this section, responsibilities of both DHS and LTHDs are described and guidance for how the protocol may be adapted to suit the local jurisdiction is provided. During an outbreak, it may be necessary to adapt the protocol to best suit the needs and capacity of the local jurisdiction(s) involved. Staff roles identified in this section may not align with the staff available at a certain LTHDs. Specifically, DHS recognizes that disease investigations and management of STI cases may be handled by disease intervention specialists, public health nurses, program specialists, or other public health staff. The term 'interviewer' is used in this section to refer to any LTHD staff who would be tasked with investigating or managing patients and partners implicated in the outbreak response.

Appendix H provides a visual overview of the protocol summary.

Part 1: Alert investigation and case confirmation

Alert received or suspected case identified

Prior to initiating an outbreak response, the epidemiology coordinator should follow the decision trees laid out in Appendices B and C to assess if the case may be an instance of suspected treatment failure and arrange for AST when appropriate. When suspected cases of ARGC are identified through electronic surveillance, the epidemiology coordinator and data manager will review available information on the case, determine if further response is necessary, and alert the LTHD with jurisdiction over the case. For suspected cases identified through direct report from a provider or LTHD, the epidemiology coordinator will gather necessary information such as prior tests performed, treatment appropriateness, and new behavioral risks that may have occurred since initial treatment. The epidemiology coordination will then arrange for AST if appropriate to confirm the presence of ARGC and initiate further response. Depending on local capacity and the level of outbreak, interviewers within the jurisdiction of the outbreak will lead initial investigations. The DHS DIS will lead the investigation if the jurisdiction in which the outbreak was identified lacks capacity.

Throughout the response, any identified patients and their contacts may be required to return to the clinic which diagnosed their STI for specimen collection and re-treatment multiple times. Staff from the LTHD should be made aware of this potential logistical challenge from the outset of response. The epidemiology coordinator will rely on LTHDs to help identify means to get all patients and partners tested and treated, and DHS will work to provide the LTHD with resources necessary to accomplish this task.

Communications cascade: Case confirmation

1. Alert is generated by MHDL's LIS based on AST results of specimen routinely collected for surveillance or specimen submitted through an ad hoc request from a clinic or LTHD. MHDL LIS sends early alert to epidemiology coordinator, data manager, and the MHDL Director. If based on a provider report, epidemiology coordinator will perform triage alongside the reporting jurisdiction. The alert should include information on laboratory testing performed along with results and should be shared with staff from DHS, MHD, and MHDL listed in the table below. Pertinent staff, including public health nurses or the patient's health care provider should be included on communications as well.

2. Next, the data manager should identify available demographics of the case from information available in WEDSS, document treatment and testing already performed, and report to the epidemiology coordinator.
3. The epidemiology coordinator will utilize the information shared by the data manager to coordinate with the jurisdiction in which the case was identified. These efforts should include confirmation of available information, requests for information on any new contact attempts, and working with the LTHD to arrange for an enhanced interview of the case and collection of additional samples for testing.
4. At this point, the epidemiology coordinator will also confirm testing information and organize a timeline of testing performed by the reporting laboratory. Demographic, clinical, laboratory, and, if relevant, alert information will be organized into an email to the CDC less than 24 hours following case identification. A template for this email is included in Appendix D.
5. Then, interviewers responsible for the case will work to locate, perform TOC, and re-interview the patient. Interviewers may begin case review while working to have the client return to clinic for further testing.

Case review

Once a case is identified and confirmed locally, local interviewers should arrange for an enhanced interview of the case. This may be done by local DIS, public health nurses, or other local staff who provide follow-up on STI cases in their jurisdiction.

The purpose of a case review is to identify the key issues or gaps in necessary information on the index case and recommend a course of action. In the event of a possible outbreak of ARGC, case review is necessary to immediately identify pertinent information to report to the CARGOS epidemiology coordinator and the CDC, including prior testing and treatment information and contact attempts made on the case.

During an outbreak, the epidemiology coordinator will request a case review from the case investigator or other relevant staff within the jurisdiction, with attention to treatment and prior testing of the patient. During the case review, the epidemiology coordinator will also assess the local capacity of the jurisdiction and will provide investigation assistance from the DHS ARGC team as needed. The epidemiology coordinator will assist in coordinating communication between agencies responsible for local investigation and the patient's health care provider. Interviewers from the LTHD will be asked to assist with contact and follow up of the case, including partner elicitation. Most importantly, arrangements must be made for the patient to return to clinic for TOC and collection of additional samples.

Contact attempts

For potential cases of ARGC, every effort should be made to contact the case. At a minimum, **six** contact attempts to the case **and** any named partners for the three-month period preceding diagnosis of the patient are required. The case should remain open for a minimum of 45 days prior to closing the case. As part of these contact attempts, interviewers are required to verify testing and treatment or prescription pickup (if applicable) via **any** of the following methods:

- Phone call
- Text or email
- Initial letter requesting response
- Field visit
- Certified letter that must be signed for

This is a minimum standard for case closure of ARGC cases and investigators should try to contact patients via a variety of methods. Interviewers are encouraged to deviate from this standard and make additional contact attempts. The epidemiology coordinator may request that interviewers return to a case for additional follow-up as determined by the LTHD, DHS, or the CDC. This standard only applies for clients that cannot be reached.

Please note that these are suggested avenues for contact attempts, and the form of contact attempt used by interviewers should be tailored to best suit the client's needs and the policies of the local jurisdiction. When attempting contact through text, email, or letters, interviewers must ensure the patient's confidentiality is maintained and should not reference their health status. More details and specifics may be shared with the patient once interviewers are able to speak with them directly. While DHS recommends field visits if they are necessary, some jurisdictions may have restrictions on field visits or lack capacity to do so. Actions taken during ARGC investigations should follow local regulations, and the DHS DIS will be available to assist if a field visit may be allowable and necessary.

When following up on STI cases, some patients may be unlocatable or refuse to participate in the investigation. This is problematic if the patient has ARGC which may be spread to others in their sexual network. In these instances, the case should remain open for at least 45 days and contact attempts should be regularly performed during this timeframe. Staggering contact attempts on different days of the week and at different times of day to account for a person's schedule may be a helpful strategy for interviewers.

Part 2. ORP Activation and Outbreak Characterization

Activation of the outbreak response

Identification of **one** laboratory-confirmed case of gonorrhea found to be resistant or have reduced susceptibility to cephalosporins necessitates the activation of an outbreak response. Response activation is reliant upon confirmation of reduced susceptibility by MHDL **and** CDC confirmatory testing. Following identification of one case of laboratory-confirmed ARGC with treatment failure of cephalosporins, staff at DHS will collaborate with CDC and the jurisdiction in which the case was found to identify additional cases within the jurisdiction. The data manager from DHS, in collaboration with DIS leading case investigation, will further review statewide data and information yielded from partner interviews to conduct case finding statewide. If additional cases are identified, different outbreak levels will be applied to the situation. The level of outbreak will be fluid as the investigation of the index case proceeds. Table 3 defines the levels of outbreak.

Table 3.

Level of Outbreak	Criteria	Actions
Limited Outbreak	One probable or suspect case identified in one jurisdiction.	-Arrange for AST and treatment of cases. -Initiate enhanced investigation and partner identification. -Define case by age, sex, gender, race/ethnicity, and location. -Alert local providers and advocate for enhanced monitoring within clinics or emergency departments (EDs) and by jurisdictional LTHDs.
Regional Outbreak	More than one probable or suspect case within a region.	-Arrange for AST and treatment of cases. -Initiate enhanced investigation and partner identification. -DHS to coordinate response across jurisdictions. -Define case by age, sex, gender, race/ethnicity, and location. -Alert local providers and advocate for enhanced monitoring within clinics or ERs and by jurisdictional LTHDs. -Perform social network analyses to further define the outbreak and identify other cases or contacts.
Statewide Outbreak	More than one probable or suspect case spanning more than one region.	-Arrange for AST and treatment of cases. -Initiate enhanced investigation and partner identification with DHS DIS coordinating statewide investigations. -DHS to coordinate response across jurisdictions. -Define case by age, sex, gender, race/ethnicity, and location. -Alert local providers and advocate for enhanced monitoring within clinics or ERs and by jurisdictional LTHDs. -Perform social network analyses to further define the outbreak and identify other cases or contacts. -Coordinate with bordering states to ensure testing and monitoring there.

Data Analyses: Establish a working case definition and level for the outbreak

Upon identification of a STF or potential case of ARGC, additional information must be collected to properly classify the case and guide further response activities. When an alert is sent by MHDL's LIS, they, and DHS' data manager, will coordinate to identify data related to patient test results, any investigations already performed and entered in WEDSS, and treatment appropriateness. The epidemiology coordinator at DHS will work with the reporter of the case or the case manager/investigator/DIS assigned to the case to gather additional information not entered into WEDSS and to rule out reinfection of the index case.

Table 4.

Case Definitions for Levels of Suspected Treatment Failure to Indicate Reduced Susceptibility or ARGC		
Level	**Clinical Criteria**	**Laboratory Criteria**
Suspect Case (Patient fulfills **either** the Clinical Criteria **or** Laboratory Criteria) Probable Case (Patient fulfills **both** the Clinical Criteria **and** Laboratory Criteria)	Patient experienced STF including all the components below: • Patient had laboratory-confirmed *N. gonorrhoeae* infection **and** • Patient received CDC-recommended ceftriaxone-based antimicrobial regimen **and** • Patient subsequently had a positive *N. gonorrhoeae* test result (positive culture 72 hours or more after treatment or positive nucleic acid amplification test (NAAT) at least 8 days after treatment) **and** • Patient had persistent symptoms 3–5 days after CDC recommended Rx **and** • Patient did not engage in sexual activity in the 3–5 days following treatment	Antimicrobial susceptibility testing (AST) of pre- or post-treatment isolate demonstrates ceftriaxone MIC greater than or equal to 0.125 µg/mL.
Confirmed Case	Patient meets clinical **and** laboratory criteria for a probable case*** and** the laboratory findings are confirmed by the CDC. WI ARGC team should consult with CDC for treatment options of **confirmed cases**, which depend upon MIC results from culture specimens collected at TOC, and CDC discretion. ***** Patient had persistent symptoms 3–5 days after CDC recommended Rx **and** ***** Patient did not engage in sexual activity in the 3–5 days following treatment.	

If an interview of the case has already been performed, the data manager should review available information in WEDSS and coordinate with case investigators or patient's providers to confirm basic demographic information on the case, including the patient's age, sex, gender, race/ethnicity, sexual orientation, and public health jurisdiction. Demographic data points and information related to lab results and treatment information should be organized into the draft email included in Appendix D. This email will initiate the communications cascade described in the following section, with attention to providing CDC program leads with sufficient information to advise and initiate their own response.

Part 3. Outbreak Response Activities

Group coordination and communications

During an ARGC outbreak, communication between leadership and middle managers, as well as field staff, will support an efficient public health response in the affected communities. The epidemiology coordinator and the MHDL director will serve as communication liaisons between the LTHD and the CDC. The epidemiology coordinator will maintain ownership over daily updates to the CDC, requesting and communicating information from clinical, case management, or data staff as needed. The MHDL Director will be the point of contact for communication related to laboratory efforts, including coordination with the CDC and ARLN, summarizing local diagnostic efforts, and ensuring ARGC staff within MHDL are prepared to quickly perform confirmatory testing.

Expectations for local outbreak response:

- Ensure all staff involved in response understand definition of outbreak level.
- Inform LTHD leadership and relevant staff of local activity criteria and provide routine updates as more information is obtained.
- Establish routine meetings with DHS and LTHD staff for response updates.
- Assist with the distribution of alert communications.

Outbreak communications cascade:

1. After key partners have been notified and case information gathered, the next steps in the investigation will depend upon the results of confirmatory testing by the CDC and results of the TOC. **If testing confirms reduced susceptibility to cephalosporins,** the epidemiology coordinator and data manager will utilize the HAN template in Appendix E to communicate the presence of the case, pertinent and non-identifying risk factors, and intended response to Wisconsin providers and public health professionals. This will also include a call for more information from the public, if necessary, and guidance on how to identify other potential cases.
2. Throughout the response, routine updates to the CDC are expected. Updates related to data, clinical, or case management efforts will filter through the epidemiology coordinator to the CDC and updates related to laboratory efforts will filter through the MHDL Director to the CDC and the ARLN.
3. Following the re-interview, the TLHD should work to identify additional ARGC cases as they are able. If capacity of the local jurisdiction is limited, DHS will work with the LTHD to assist. As new contacts and cases are identified, the LTHD should provide the data manager with daily updates to allow for routine information sharing with the CDC.
4. As cases are confirmed and contacts identified, an outbreak level will be assigned and communicated by the epidemiology coordinator to the core ARGC team, the CDC, and the jurisdiction(s) with cases.
5. In the event of a regional or statewide outbreak, the data manager will communicate and organize a multi-clinic response to the outbreak and ensure MHDL maintains oversight over laboratory activities in Wisconsin.

Multi-clinic management of cases and sex partners

In the event of a confirmed case of ARGC within the city of Milwaukee, the core ARGC team will be well-positioned to respond to the outbreak. Local public health nurses, DIS, and clinicians will be able to rely upon existing systems for coordination through the ARGC program for response. If an outbreak occurs in a jurisdiction other than Milwaukee, the LTHD will maintain control over case management of the index case and any partners elicited. The epidemiology coordinator will advise on best practices and treatment guidance communicated by the CDC. In some instances, clinical and DIS staff from the ARGC program in Milwaukee will be asked to provide guidance to the LTHD. LTHD staff or local health care providers overseeing treatment of the case will also be asked to assist in sharing patient specimen with MHDL for testing.

During an outbreak that involves multiple cases across multiple jurisdictions, the epidemiology coordinator and DHS staff will oversee all aspects of the response and assist in coordinating between jurisdictions. This scenario will require information sharing between health departments and coordination of clinical activities with any health care providers overseeing treatment of cases. DHS may dedicate DIS to aid with case management and investigation given an outbreak. These staff will help provide additional capacity where needed and advise on best practices for interviews related to ARGC.

Multi-lab management of samples from case and partners

In the event of an outbreak detected in the city of Milwaukee, routine program protocols will be used to ensure the lab has access to patient samples. If an outbreak occurs outside of the city of Milwaukee, it will be necessary to access an isolate from the patient if culture-based specimen collection had already been performed. If culture-based specimen collection has not been performed, the identifying clinic should coordinate with the epidemiology coordinator and MHDL to send newly collected samples to MHDL for confirmatory testing. If the jurisdiction where the outbreak was detected has capacity for culturing of samples, MHDL will work with the local laboratory to access any preserved specimen. In these instances, MHDL will ask for the specimen to be shared as either a frozen isolate or specimen preserved on a chocolate agar slant. MHDL will provide specimen collection supplies if new samples must be collected and will assist with organizing transport of the specimen back to Milwaukee. If new samples must be collected from the patient, the LTHD should work to perform specimen collection on a Monday, Tuesday, or Wednesday. This ensures that MHDL can process and preserve the samples in a reasonable time.

During an outbreak that involves patients being seen at multiple clinics, it will be necessary for DHS to provide coordination and oversight of activities between clinics. It will be necessary to ensure partners of people with confirmed ARGC are provided with the same antibiotic regimen recommended by CDC consultants on outbreak response activities. If partners are identified through investigation by LTHD or DHS DIS, partners should be encouraged to seek testing and treatment at the same clinic overseeing treatment of the index patient whenever possible. If partners sought testing and treatment prior to the index patient's diagnosis of ARGC, the epidemiology coordinator and DHS DIS will coordinate with the clinic providing oversight of the partner to ensure they return to the clinic for TOC and arrange for re-treatment with the recommended regimen if the TOC is positive.

Outbreak response activities

Data analyses

The epidemiologist, data coordinator, and other necessary staff will characterize the spike, identifying specific regions most impacted and subgroups within the population most at risk. These analyses may include frequency calculations, time-trends, stratified analyses (single- and multi-level), and development of heat maps. Social network analyses will also be useful during an outbreak involving multiple cases. Analyses may also include social determinants of health-indicator variables like the social vulnerability index, Concentrated Disadvantage, or the Gini Coefficient to better understand social and economic factors contributing to the outbreak.

Implement prevention and control measures

Prevention of further cases and control of the outbreak will primarily involve treating the index case and identifying all contacts of the case in need of testing and treatment. DIS should undertake enhanced investigation of partners. Other interventions deployed will be responsive to LTHD capacity and the nuances of the outbreak and will be designed to reflect the needs of diverse groups within the community. Potential community-based interventions include hosting community testing events or investment in educational campaigns related to ARGC.

Treat patient

Results of AST on patient samples may be helpful for guiding treatment decisions. In general, the CDC recommends the following treatment regimen for people found to have ARGC and any contacts identified throughout the outbreak:

- Dual therapy with 1g intramuscular Ceftriaxone and 2g oral Azithromycin.
- In case of an allergy, dual therapy with 240mg intramuscular Gentamicin and 2g oral Azithromycin.

CDC will advise on specific treatment decisions during an outbreak. CDC consultation will be particularly necessary if the patient has a more severe presentation or if hospitalization is necessary.

Case management and enhanced investigation of partners

Case management is the systematic pursuit, documentation, and analysis of medical and epidemiologic case information that focuses on opportunities for disease intervention. In the event of an outbreak, case management and investigation should be maintained by trained DIS or other public health staff trained to conduct investigations and interviews. The interviewers will work alongside DHS and the patient's clinician to ensure that people who are infected with ARGC, or who are at risk of acquiring ARGC, receive appropriate medical care and offer partner referral services as soon as possible.

Disease investigation for ARGC case management efforts entails seven steps:

1. Pre-interview analysis
2. Original interview
3. Post-interview analysis
4. Referral of at-risk individuals (sex partners)
5. Cluster interview(s)
6. Re-interview(s)
7. Case closure

To prevent further spread of ARGC infections during an outbreak, DIS will work to interview patients and collect information about their sexual partners and social contacts who make up their sexual network. Finding, testing, and treating the partners will assist in identifying the flow of the infection

through the network and how transmission can eventually be stopped if enough contacts are treated. Further guidance is provided in Part 1, under Contact Attempts.

Expectations:

- Initiate partner services to all sexual contacts of cases in the 60 days prior to diagnosis with ARGC.
- Ensure all partners are tested by NAAT at all exposed anatomic sites and treated with the same regimen used to treat the index case.
- Identify community partners that can provide other social services as needed.
- Follow up with patient and partners to return to clinic for TOC 7–14 days after treatment.

If a patient with STF or a confirmed case of ARGC is identified, a thorough sexual history from the patient must be obtained. This will allow staff responding to the outbreak to ensure that sufficient testing is performed (for example, multi-site specimen collection) and to provide DHS with information necessary to identify other potential cases. DHS may assist with follow up and can contact the patient and partner(s) on behalf of the LTHD as needed.

When interviewing the patient, interviewers should attempt to get the names and contact information of any sexual partners from the previous three months. The interviewer may work with the patient to determine the best avenue for partner notification. While being attentive to the needs and preferences of the patient, the interviewer may provide the patient with the option to reach out to their own partners. This should be done with a plan in place (for example, the patient has three days to contact them, after that time the interviewer will do so). All partners should be treated with the same treatment regimen provided to the patient.

Confidentiality and worries around privacy may be a particular barrier for patients and partners who are minors. In Wisconsin, minors have the right to maintain any STI-related care confidential from parents or guardians. In these instances, care should be taken to provide the most appropriate and sensitive assistance. School nurses have proven helpful in reaching minor patients and could be a useful avenue for interviewers performing case management for patients and partners.

Part 4. Ending the Outbreak Response

Criteria for ending response

Enhanced surveillance should be maintained in the reporting jurisdiction until all cases and contacts identified have been treated and their infections cleared. Locally, staff should continue to monitor for suspected treatment failures among their population by ensuring TOCs are performed on relevant patients. Enhanced monitoring for ARGC should continue for at least 60 days following successful treatment of the index case.

Recovery protocols

Confirm treatment success

In order to end the outbreak response, it is essential that all cases and contacts are identified, tested, and treated. To confirm that treatment has been successful, a TOC is required for all cases and contacts. Refer to Appendix B for assistance in determining the timing of TOC suitable for the patient.

Draft Post-Outbreak Response Report

The post-outbreak response report will be drafted by the epidemiology coordinator and data manager. This report will document:

- Steps taken to identify and respond to the outbreak.
- Laboratory, clinical, and demographic data on the index case and any contacts identified.
- Patient-level outcomes.

A template for this report can be found in Appendix F. This report will be made available to the CDC, the core ARGC team, and relevant personnel from the jurisdiction(s) in which the outbreak was detected.

Evaluate Response & Update Protocol

ARGC staff should ensure continuous improvement of this protocol document. After outbreak response has ended, the epidemiology coordinator and data manager will collaborate to evaluate the response and performance of the protocol. Any shortcomings or logistical challenges noted throughout the outbreak will be considered, along with feedback from the local jurisdiction(s) in which the outbreak was located and the ARGC team. These findings will be used to revise this protocol.

Summary of changes:

Description	Editor Name	Date
Document Creation	Kyla Quigley	12/17/2024
Document Approval & Publishing		Xx/xx/2024

Appendices

Appendix A – WEDSS Explainer

- **WEDSS explainer**

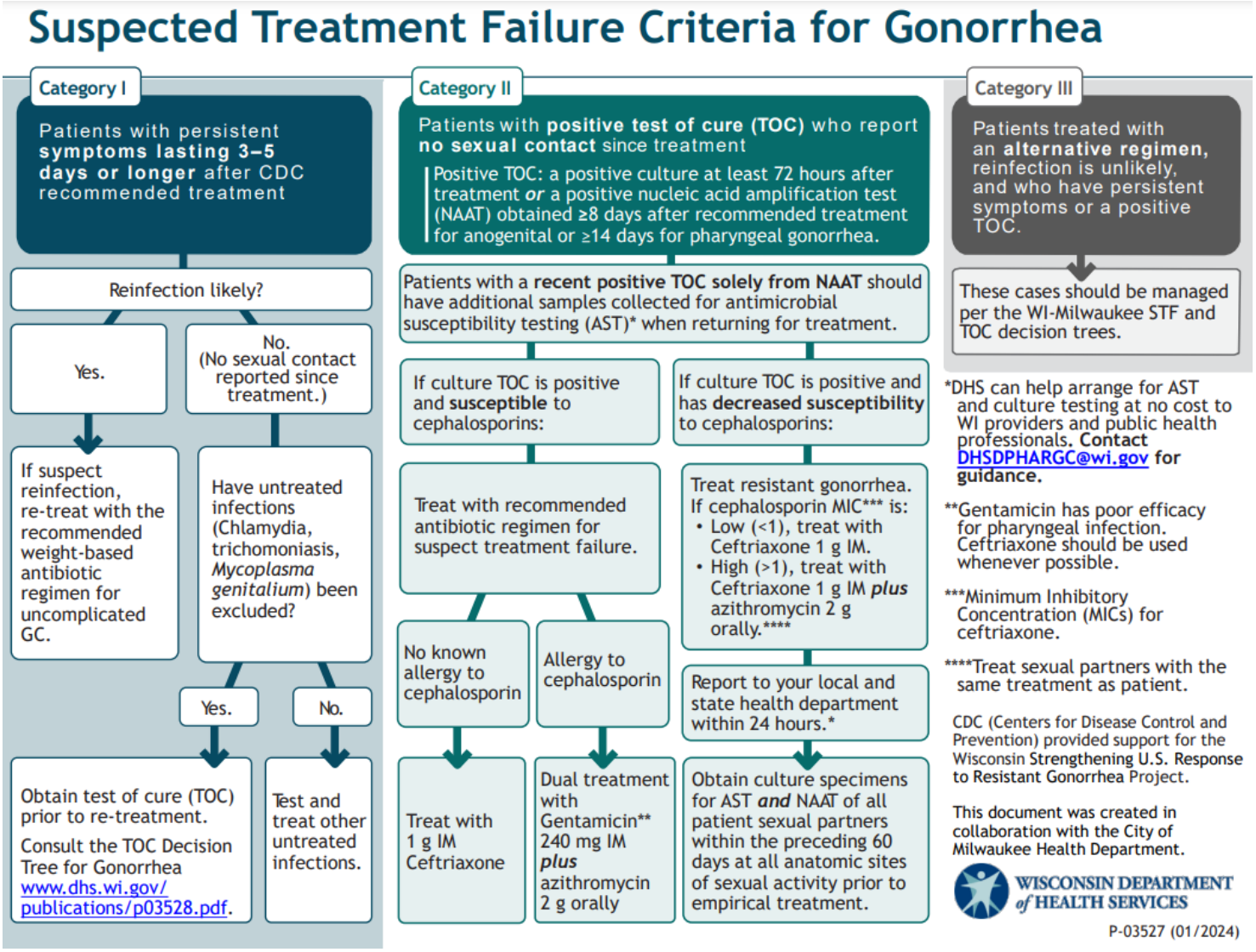
Within WEDSS, DHS has made four distinct disease incident forms for staff from LTHDs, laboratorians, or health care providers to report cases of gonorrhea. These forms include:

- **Gonorrhea**—This is the general form that will be appropriate for most routine or uncomplicated cases of gonorrhea.
- **Gonorrhea: Disseminated Gonococcal Infection (DGI)**—This form should be used if a patient has a laboratory confirmed positive test for gonorrhea resulting from a sample taken from a disseminated location of infection.
- **Gonorrhea: Suspected Treatment Failure (STF)**—This form should be used to report instances of STF to DHS and will be most appropriate for patients under investigation for a potential treatment failure. Suspected treatment failure is further defined later in this protocol.
- **Gonorrhea: Antibiotic Resistant**—This form should be used exclusively for laboratory confirmed cases of antibiotic resistant gonorrhea and includes questions that should be asked of the patient with ARGC as part of case and partner investigations.

Detailed navigation guides have been developed to assist LTHDs in reporting patients found to have one of these conditions. Please email dhsdphargc@dhs.wisconsin.gov for a copy of this guide.

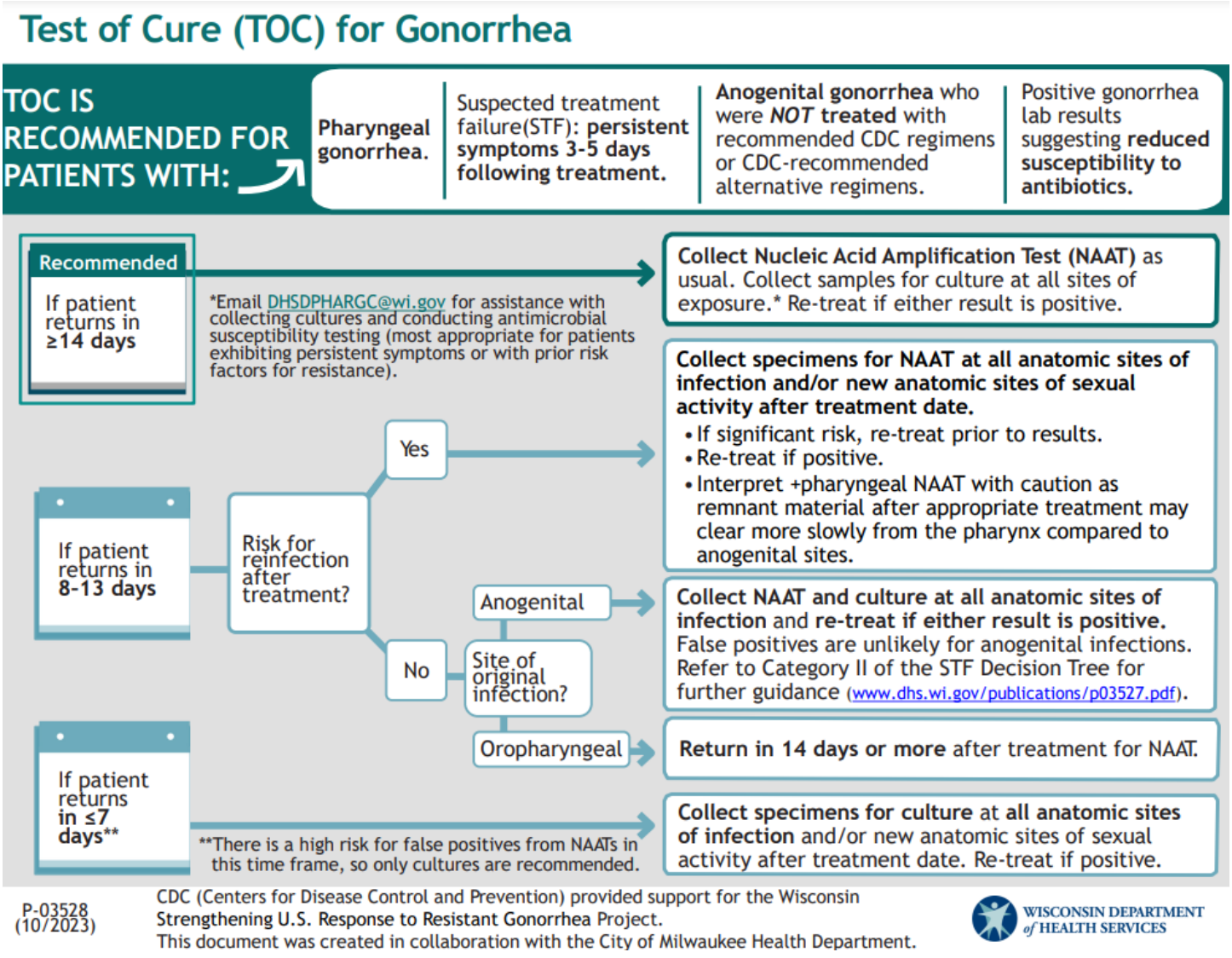
Appendix B – Suspected Treatment Failure Decision Tree

Suspected Treatment Failure Decision Tree



Appendix C – Test of Cure (TOC) Decision Tree

Test of Cure (TOC) Decision Tree



P-03528
(10/2023)

CDC (Centers for Disease Control and Prevention) provided support for the Wisconsin Strengthening U.S. Response to Resistant Gonorrhea Project.
This document was created in collaboration with the City of Milwaukee Health Department.

WISCONSIN DEPARTMENT of HEALTH SERVICES

Appendix D – Sample alert notification email to CDC

Hello,

On [date of test result] DI #xxxxxxxxx was identified as a [probable/suspect/confirmed] case of antibiotic resistant gonorrhea. This determination was made as a result of the patient exhibiting [paste and adapt points from clinical and laboratory criteria relevant from the case definition].

Further information will be gathered on the case and any contacts they provide. At this point, we know the following demographic information on the case: [Age - ; Sex - ; Gender - ; Race - ; Ethnicity - ; sexual orientation - ; and Jurisdiction - .]

We will provide updates on this case and determination of necessary outbreak response following interview report from the investigator assigned to the case.

Thank you,

Appendix E – HAN Template

The CDC has provided a HAN template that may be adapted by state and local health departments who identify a case of ARGC. This may be found on the CDC website, or a copy is included below:

Summary

- As of ***[date], [health department]*** has identified ***[description of case, cluster, or isolates, timeframe, location]***. **NOTE**: Discuss what resistance patterns you are seeing and among what population(s).
- CDC-recommended treatment is still highly effective for treatment of gonorrhea. To date, CDC has not identified a confirmed case of gonorrhea in the United States that was not successfully treated because of resistance to currently recommended treatment.
- Providers should continue using CDC-recommended treatment for gonorrhea **(500 mg ceftriaxone** intramuscular **(IM) as a single dose for persons weighing more than 150 kg)** (see STI Treatment Guidelines).
- **Report immediately** (within 24 hours) to the health department any **suspected cases of gonorrhea treatment failure** (i.e., someone with persistent symptoms or who remains infected despite recommended therapy after reinfection has been ruled out) to ***[name]*** at ***[phone]***, or after hours ***[number]***. The health department can provide guidance on treatment and testing recommendations.
- ***[Jurisdictions can consider including]*** Laboratories are encouraged to maintain all *Neisseria gonorrhoeae* isolates demonstrating reduced cephalosporin susceptibility until further notice. ***[Jurisdictions can consider encouraging laboratories to maintain all isolates from patients with suspected treatment failures and can consider defining the laboratory thresholds for reduced cephalosporin susceptibility, such as ceftriaxone MICs of greater than or equal to 0.125 µg/ml (used by the Gonococcal Isolate Surveillance Project) or greater than or equal to 0.5µg/ml as per the Clinical & Laboratory Standards Institute (CLSI).]***

Background

The ***[health department]*** has identified ***[description of case, cluster, or isolates, timeframe, location]***.

[Insert statement about why this is of public health significance, which may include characteristics of the public health event (e.g., the first such case, an increase in cases, the largest cluster) and that an isolate with reduced susceptibility was detected to the only remaining CDC-recommended treatment for gonorrhea (ceftriaxone).]

N. gonorrhoeae, the bacterium that causes gonorrhea, has progressively developed resistance to the antibiotics prescribed to treat it. Following the spread of gonococcal fluoroquinolone resistance, the cephalosporin antibiotics have been the foundation of recommended treatment for gonorrhea. Health care providers should stay up to date on CDC treatment guidelines. The current CDC-recommended treatment for gonorrhea is 500 mg of ceftriaxone as a single IM dose for patients <150 kg. Following the recommended treatment guidelines every time may help slow the emergence of antimicrobial resistance.

Identification of *N. gonorrhoeae* infections with reduced ceftriaxone susceptibility can be a sign of emerging resistance. CDC-recommended treatment is still highly effective. To date, CDC has not identified a confirmed case in the United States of unsuccessful gonorrhea treatment due to resistance to recommended therapy.

Recommendations

- Screen for gonorrhea using nucleic acid amplification tests (NAATs):
    - Screening should be performed at all anatomic sites of sexual exposure **regardless of condom use**, using pharyngeal swabs, rectal swabs, and either urethral/endocervical/vaginal swabs or urine specimens.
    - **Women:** annually in sexually active women younger than25 years old and women25 or older if at increased risk for STIs (for example, a new sex partner, multiple sex partners, a sex partner with

concurrent partners, a sex partner with an STI, any STI during pregnancy, and exchange of sex for money or drugs). Pharyngeal and rectal gonorrhea screening can be considered in women based on reported sexual behaviors and exposure, through shared clinical decision making.
    - **Men who have sex with men (MSM)**: annually in all sexually active MSM and every 3 to 6 months in those with increased risk. Screening recommendations for transgender and gender diverse people should be adapted based on anatomy and reported sexual behaviors and exposure.
    - **People living with HIV**: at initial HIV care visit and at least annually. More frequent screening might be appropriate depending on individual risk behaviors and local epidemiology.
    - **Pregnant people**: all pregnant people less than 25 years old and pregnant people25 years and older if at increased risk for STIs (for example, , a new partner, multiple partners, a sex partner with concurrent partners, a sex partner with an STI, any STI during pregnancy, and exchange of sex for food or housing): **If infected, treat immediately and retest within three months. Retest during the third trimester if less than25 years old or if at risk**.
    - **Rescreen all individuals** (that is, women, MSM, MSW, transgender, and gender diverse people) **with gonorrhea three months after treatment**.
    - **Conduct a test of cure (TOC) for all cases of pharyngeal gonorrhea** 7–14 days after initial treatment by using either culture or NAAT.
- Treat gonorrhea (urethritis, cervicitis, and extra-genital gonorrhea) with **ceftriaxone 500 mg IM once** (for people weighing <150 kg)whenever possible (see STI Treatment Guidelines). Evaluate and treat the patient's sex partner(s) during the previous 60 days. ***[Include information on expedited partner therapy (EPT) if legal in your state.]***
- Remain vigilant for patients not responding to CDC-recommended treatment. Contact [***local STI program***] about treatment failures by calling [***name***] at [p***hone***], after hours [p***hone***]. Symptoms that persist after treatment should be evaluated by culture for *N. gonorrhoeae* (with or without simultaneous NAAT), and any gonococci isolated should undergo culture-based antimicrobial susceptibility testing.
- All persons who are diagnosed with gonorrhea should be screened for other STIs, including chlamydia, syphilis, and HIV (see STI Screening Recommendations).
- Assistance or reports of suspected treatment failures may be sent directly to Wisconsin DHS at dhsdphargc@dhs.wisconsin.gov.

Appendix F – Post Outbreak Report Template

1. Introduction
    a. Date and time notification was received by DHS
    b. Define the outbreak by:
        - Who - population affected
        - Where - location/place/setting
        - When - time and date of onset
        - What - describe clinical findings
        - Why - suspected or known etiology or risk factors
    c. Date and time investigation was initiated by the agency
    d. Describe the primary objective(s) of the investigation

2. Background
    a. Brief scientific background ARGC
    b. Context to better understand the outbreak

3. Investigation Methods
    a. Epidemiologic:
        - Case definition
        - Data collection (case-finding and line listing, medical record reviews)
        - Data analysis methods
    b. Microbiological
        - Laboratories involved.
        - Type of clinical specimens and sources
        - Laboratory methods

4. Results
    a. Epidemiological- descriptive epidemiology results including:
        - Cases
            1. Demographic data
            2. Clinical data (symptoms, signs, duration of illness, incubation period)
            3. Outcome of illness (hospitalization, death, chronic effects)
        - Location of cases (facility, county, city, etc.)
        - Epidemic curve and other visualizations where appropriate
            *Note, ARGC outbreaks may not have enough cases and partners to create a curve
        - Compare characteristics of cases and controls, if applicable
        - Describe exposed population, if applicable
        - Describe the results of analytical studies
    b. Microbiological
        - Number and source of specimens submitted for testing and results of laboratory testing

5. Limitations and challenges faced during the outbreak response
    a. Document any aspects of the response that were unable to be resolved or complicated. This could relate to capacity challenges, difficulties accessing patients and partners, or any other factors that should be considered for future outbreaks.

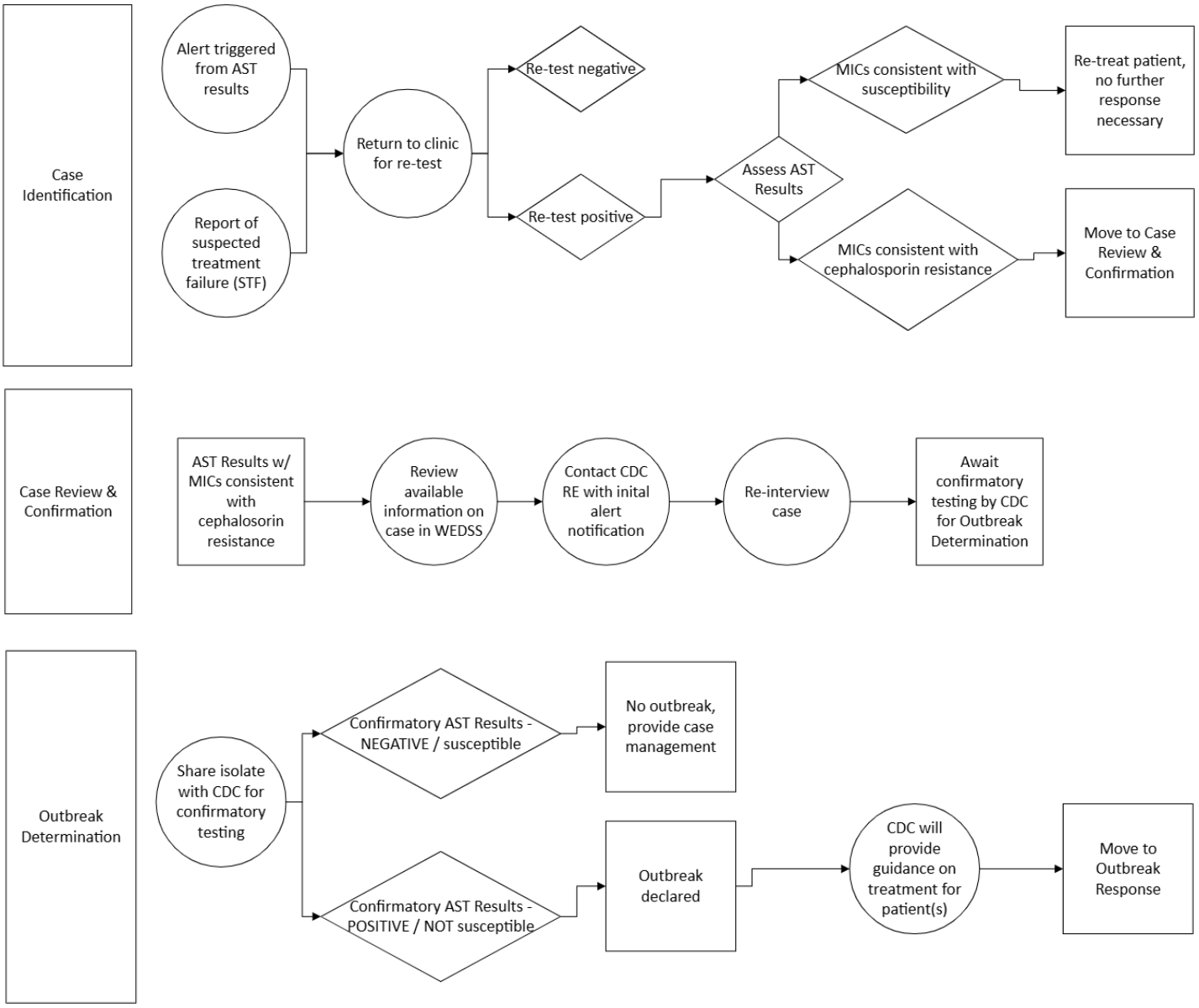
6. Conclusion / Discussion: Analysis and interpretation of the investigation results and any conclusions drawn as a result of this investigation
    a. Discuss the main hypothesis

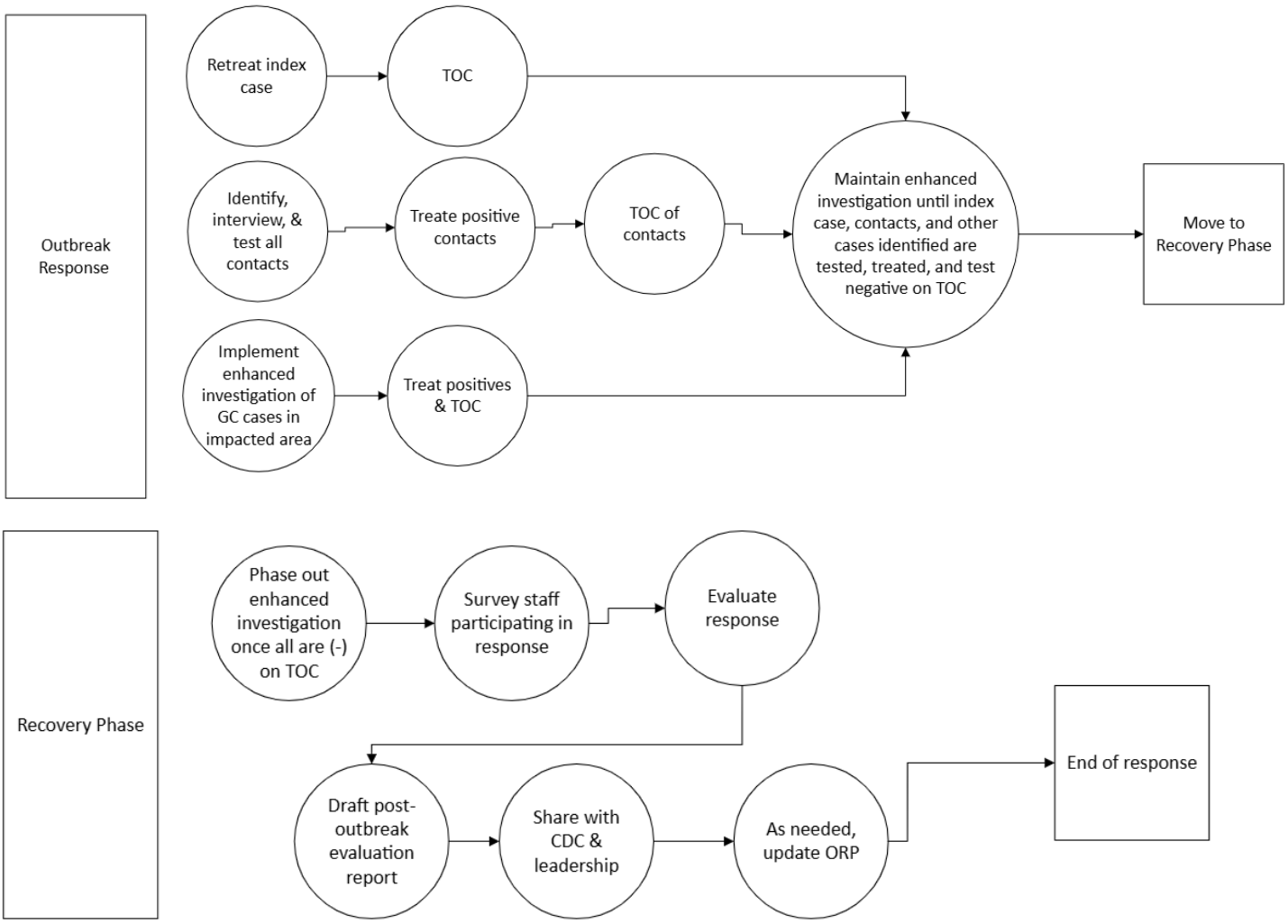
b. Describe the risk factors
c. Explain what was done to control the outbreak.
d. Describe the conclusions and actions taken

7. Discuss lessons learned and recommendations for controlling disease and/or preventing/mitigating exposure:
    a. Recommendations to improve investigation and management of such outbreaks in the future
    b. Measures to prevent similar outbreaks in the future
    c. Educational message to the public, public health professionals and policy maker.

Appendix G: Response Flow Charts

Visual Representation of Outbreak Response




Outbreak Response
Retreat index case
TOC
Identify, interview, & test all contacts
Treate positive contacts
TOC of contacts
Maintain enhanced investigation until index case, contacts, and other cases identified are tested, treated, and test negative on TOC
Move to Recovery Phase
Implement enhanced investigation of GC cases in impacted area
Treat positives & TOC
Recovery Phase
Phase out enhanced investigation once all are (-) on TOC
Survey staff participating in response
Evaluate response
Draft post-outbreak evaluation report
Share with CDC & leadership
As needed, update ORP
End of response

Outbreak Response Activation and Communications Cascade for Response Activation

The ORP may be triggered via:

1. Direct provider report of STF

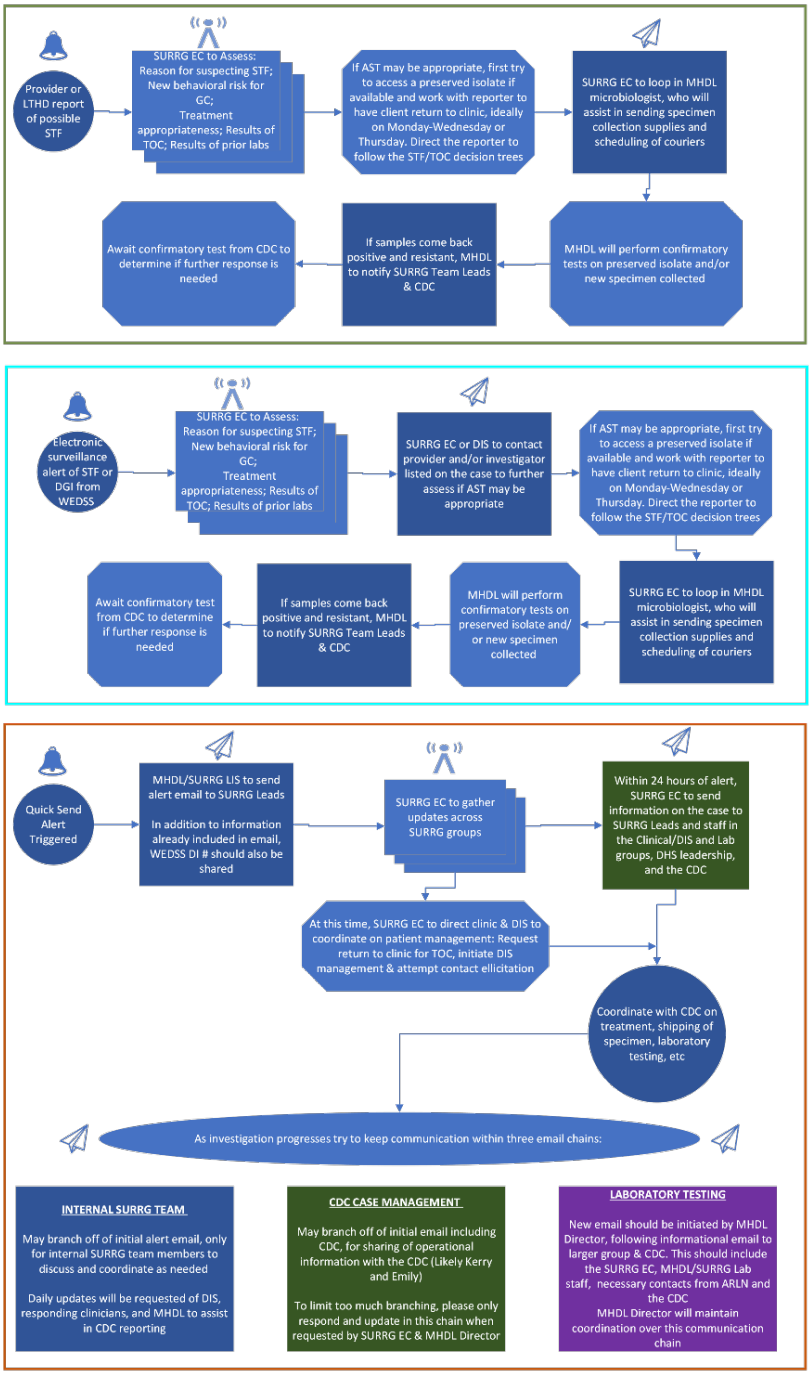
2. Electronic Case Surveillance, with an STF or DGI being detected, automatically alerting the SURRG EC & DM.

3. Laboratory based surveillance of SURRG Sites, with an alert or quick-send alert being sent if ETest of a sample yeilds MIC Values of:

*In all instances, response will be initiated if the patients' TOC is positive AND ETest results exhibit reduced susceptibility or resistance to cephalosporins, confirmed by the CDC via agar dillution

MICs by Antibiotic & Interpretation					
AZI	CFX	CRO	CIP	GEN	CLSI Interpretation
>1	> 0.25	> 0.25		N/A	Reduced susceptible
≥ 2	≥ 0.25	≥ 0.125	> 0.06	N/A	Intermediate Resistance
≥ 16	≥ 1	≥ 1	≥ 1	N/A	Resistant

Communications Cascade



Appendix H: Social Media Posts for before, during, and after outbreaks

Post #1	
How to use this post: During an outbreak, patients who test positive for a STI may be contacted by DIS. These posts are recommended to provide people in your community, including clinicians who may not be used to communication with DIS, with an understanding of who these professionals are and expectations if they are contacted.	

<table>
<tr>
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<tr>
<td>How to use this post: These posts are recommended to provide a local community with an understanding of gonorrhea infections and trends that could boost public awareness around the importance of testing.</td>
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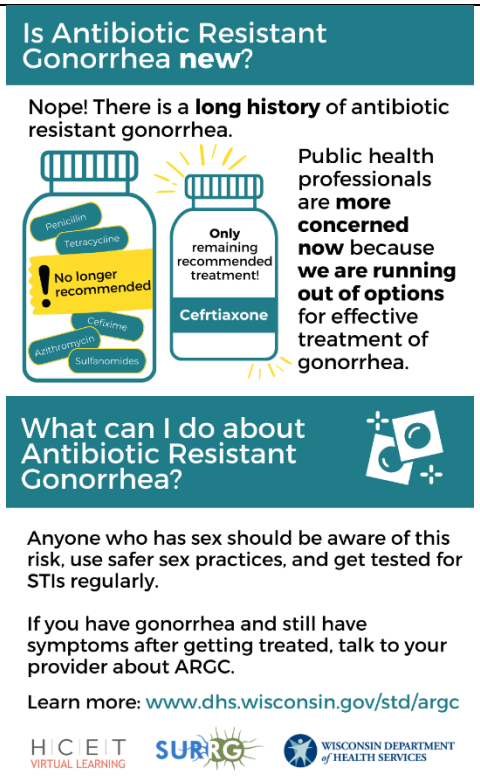
50%
About half of all gonorrhea infections each year are resistant to at least one antibiotic.
1
Today, the U.S. has just one recommended gonorrhea treatment remaining.
28%
Since 2017, there has been a 28% increase in gonorrhea cases in the U.S.
2011
2020
Gonorrhea — Rates of Reported Cases by State, United States and Territories, 2011-2020
Since 2011, nearly every U.S. state has reported more and more cases of gonorrhea.
Let's reverse the trend!
Controlling gonorrhea in the U.S. relies on the ability of medical providers to detect and treat each case quickly and effectively with the right antibiotic.
Learn how WI DHS is responding to antibiotic resistant gonorrhea by visiting the DHS website: www.dhs.wi.gov/std/argc.
Contact dhsdphargc@dhs.wisconsin.gov for guidance if you are working with a patient who has persistent symptoms following treatment.
HCET VIRTUAL LEARNING
SURRG
WISCONSIN DEPARTMENT of HEALTH SERVICES

How to use this post: If an outbreak occurs, it will be necessary to ensure tests of cure (TOCs) for patients who tested positive for gonorrhea in the area. This series of posts would be helpful to inform the public about the importance of TOCs, as well as the timing of when a TOC should be pursued.	

	
How to use this post: This post is targeted to health care providers and would be helpful to release during an outbreak of ARGC to ensure awareness and alert them as to where resources from DHS may be found.	

The increase of gonorrhea may mean **more people** are being infected **more than once.**

Re-infection may **increase the chance of developing antibiotic resistance** to treatment.

NAATs are the most common test for gonorrhea, but they can only tell if a patient has gonorrhea.

Culture and antimicrobial susceptibility testing is the only way to identify antibiotic resistant gonorrhea.

WHAT DHS IS DOING

DHS is offering culture and antimicrobial susceptibility testing for gonorrhea at no cost to providers and health departments in Wisconsin.

To access these services, consult with DHS by emailing DHSDPHARGC@dhs.wisconsin.gov

H|C|E|T VIRTUAL LEARNING SURRG WISCONSIN DEPARTMENT of HEALTH SERVICES

How to use this post: These posts would be helpful during an outbreak to alert providers to look out for treatment failures among their patients. These also provide resources providers may use to access resources.

<table>
<tr>
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<tr>
<td>How to use this post: If an outbreak occurs, it will be necessary to ensure TOCs for patients who tested positive for gonorrhea in the area. This series of posts would be helpful to inform providers about the importance of TOCs, as well as the timing of when a TOC should be ordered.</td>
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When is a TOC recommended for patients?

Patients with anogenital gonorrhea who were NOT treated with the recommended or alternative CDC regimen.

When is a TOC recommended for patients?

All patients with pharyngeal gonorrhea.

When is a TOC recommended for patients?

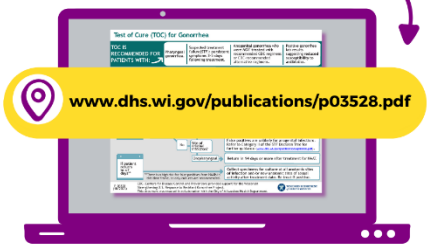
Any patient whose samples show reduced susceptibility to recommended antibiotics.

When is a TOC recommended for patients?

Patients who still have symptoms 3-5 days after treatment, also called suspected treatment failure (STF).

Not sure when a TOC may be needed for patients treated for gonorrhea?

See the **Wisconsin DHS decision tree** or contact DHSDPHARGC@wi.gov.



Medical providers have the power to limit the spread of antibiotic resistant gonorrhea.

For more information, visit **www.dhs.wi.gov/std/argc**

HICEIT VIRTUAL LEARNING SURRG WISCONSIN DEPARTMENT of HEALTH SERVICES