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January 27, 2023, 1430 EDT (2:30 PM EDT)
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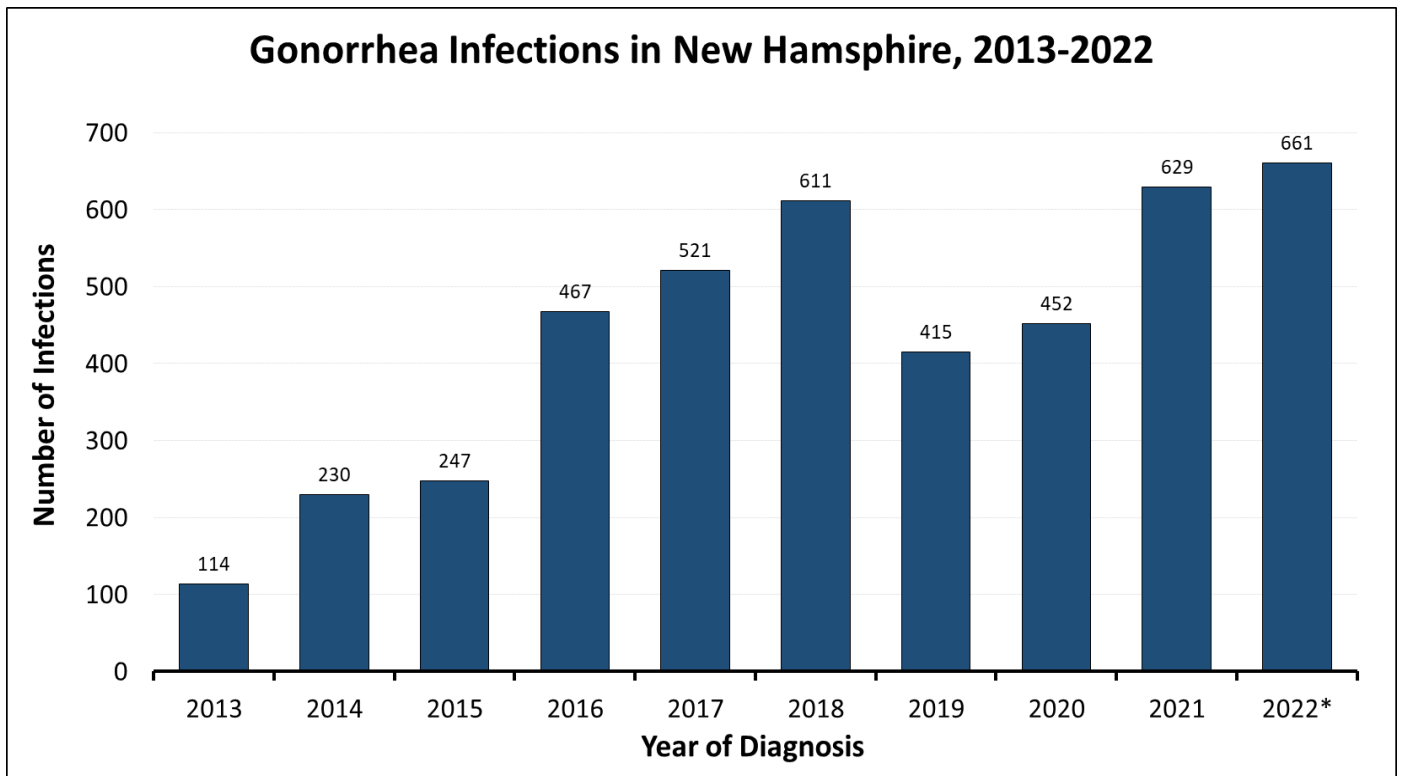


Gonorrhea with Resistance or Reduced Susceptibility to Multiple Antibiotics Identified in Massachusetts

Key Points and Recommendations:

- Review the attached communication from CDC's Division of STD Prevention about a novel strain of *Neisseria gonorrhoeae* identified in Massachusetts with resistance or reduced-susceptibility to multiple antibiotics, including ceftriaxone, cefixime, and azithromycin.
 - For more details, see link to the original Massachusetts Department of Public Health (MDPH) [clinical alert](#). Note that NH Division of Public Health Services (DPHS) is not adopting the MDPH expanded testing guidance.
- Gonococcal infections in NH have significantly increased over the last decade (see graph). Other sexually transmitted infections (STIs) like syphilis have also increased.
- Review CDC's current [2021 STI treatment guidelines](#).
 - Only ceftriaxone is recommended for treatment of gonorrhea – the dose and route of administration depends on age, weight, and type/site of infection.
 - For uncomplicated gonococcal infection of the cervix, urethra, pharynx, or rectum in adolescents or adults weighing <150 kg, administer ceftriaxone 500 mg IM in a single dose.
 - For persons weighing ≥150 kg, administer 1 gram IM in a single dose.
 - Also treat patients for chlamydia, if chlamydia co-infection has not been excluded.
- Consultation with a clinical infectious disease specialist is available through the National Network of STD Clinical Prevention Training Centers: <https://www.stdccn.org/render/Public>.
- Due to regional emergence of more resistant gonorrhea, NH DPHS will be working with selected clinical partners to conduct *N. gonorrhoeae* culture and antimicrobial susceptibility testing (AST) on gonorrhea-positive patients for surveillance to detect circulation of resistant strains.
- *N. gonorrhoeae* culture should be performed by all providers on patients in whom treatment failure is suspected; culture is necessary to conduct AST and detect antibiotic resistance.
 - Culture requires obtaining endocervical, urethral, pharyngeal, and/or rectal swabs from sites of sexual exposure.
 - Consult with your local clinical lab to determine how to optimize gonococcal culture (i.e., swabs and special transport media).
 - Culture and AST for *N. gonorrhoeae* can be requested free-of-charge from our NH Public Health Laboratories (PHL) by following these instructions:
 - Call the NH PHL Microbiology Unit at 603-271-0327.
 - Fill out the [Test Requisition Form](#) and check the *N. gonorrhoeae* testing option under the "Epidemiology Study" section (submit the completed form with the specimen).

- Send specimen in Amies transport media to the PHL within 18 hours of collection (calling the PHL phone number above will help expedite transport).
- o Any *N. gonorrhoeae* culture isolates from a clinical lab should be sent to our NH PHL for further testing.
- Report all gonococcal infections to NH DPHS by completing the [STI Reporting Form](#), and submit via confidential fax to 603-696-3017. For questions about reporting, please call 603-271-4496 (after hours 603-271-5300 and ask for the public health professional on call).



* 2022 data is preliminary and subject to change due to ongoing receipt of 2022 case reports

- For any questions regarding this notification, please call the NH DHHS, DPHS, Bureau of Infectious Disease Control at (603) 271-4496 during business hours (8:00 a.m. – 4:30 p.m.).
- If you are calling after hours or on the weekend, please call the New Hampshire Hospital switchboard at (603) 271-5300 and request the Public Health Professional on-call.
- To change your contact information in the NH Health Alert Network, please send an email to DHHS.Health.Alert@dhhs.nh.gov or visit www.nhhan.org.

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From: Benjamin P. Chan, MD, MPH; State Epidemiologist
Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

Attachments: CDC Division of STD Prevention Notification



Dear Colleagues,

We are writing to inform you of two gonococcal infections with concerning lab results identified in Massachusetts (see [clinical alert](#)). The first case had a cultured isolate which showed decreased susceptibility to ceftriaxone, cefixime and azithromycin, as well as resistance to ciprofloxacin, tetracycline, and penicillin. Molecular testing confirmed that the reduced susceptibility to ceftriaxone was caused by a mutation in the *penA60* allele and a second case was found to have the *penA60* allele through molecular surveillance. Although both cases were successfully clinically and microbiologically cured following treatment with ceftriaxone, these findings are concerning.

Background

A patient presented to a primary care clinic with symptoms of urethritis. *N. gonorrhoeae* was isolated from a clinical specimen. The Massachusetts State Laboratory identified a concerning susceptibility pattern through culture testing and sent isolates to CDC for further testing (see box).

Box 1: Minimum Inhibitory Concentrations (MIC) by Agar Dilution of the Massachusetts Gonococcal Isolate of Concern

Drug	MIC	Susceptible	Intermediate Resistance
Ceftriaxone	1.0 µg/mL	≤ 0.25 µg/mL	UD [^]
Cefixime	>1.0 µg/mL	≤ 0.25 µg/mL	UD [^]
Azithromycin	2.0 µg/mL	≤ 1.0 µg/mL	UD [^]
Ciprofloxacin	16.0 µg/mL	≤ 0.06 µg/mL	0.12–0.5 µg/mL
Tetracycline	2.0 µg/mL	≤ 0.25 µg/mL	0.5–1.0 µg/mL
Gentamicin	8 µg/mL	UD [^]	UD [^]
Penicillin	32.0 µg/mL	≤ 0.06 µg/mL	0.12–1.0 µg/mL

[^]UD: undefined

Follow-up testing performed by the Centers for Disease Control and Prevention's Sexually Transmitted Disease (STD) Laboratory identified the *penA60* allele, previously associated with ceftriaxone non-susceptible cases, as well as an additional case with the *penA60* allele as part of molecular surveillance.

This is the first case of documented resistance to 6 of the 7 drugs tested on the standard [GISP](#) (Gonococcal Isolate Surveillance Project) panel, and these are the second and third identified gonococcal cases in the US with the *penA60* allele. The first *penA60* allele was identified in [Las Vegas, Nevada](#) in December 2019. The United Kingdom (UK) also recently published a case series of [ten ceftriaxone-resistant cases](#), nine carrying the *penA60* allele. All isolates were identified in the first six months of 2022 and most reported travel to Asia. All were cured with UK's recommended gonorrhea treatment – a single injection of ceftriaxone 1g intramuscularly. In the United States, the [recommended regimen](#) is a single injection of ceftriaxone 500 mg intramuscularly. CDC also recommends routine test of cure for all known pharyngeal infections.

What to do if treatment failure is suspected

There are specific actions you can take if there is suspicion of a gonococcal treatment failure in any patient at any anatomic site:

- Conduct a thorough sexual history to evaluate for possible reinfection.
- If reinfection has been ruled out, repeat NAAT testing at all exposed anatomic sites, along with collection of specimens for gonococcal culture and antimicrobial susceptibility testing (AST). Clinics that do not have access to culture and AST can reach out to [two regional laboratories](#).
- Treating clinicians should consult a [STD Clinical Prevention Training Center clinical expert](#) or [CDC](#) for advice on obtaining cultures, antimicrobial susceptibility testing, and treatment.
- **Presumptive treatment failures, where re-infection has been ruled out, [should be reported to CDC](#) through the local or state health department within 24 hours of diagnosis.**

This is a reminder that antimicrobial-resistant gonorrhea remains an urgent public health threat nationally and internationally; all providers in all clinical settings need to remain vigilant. Timely identification and treatment, as well as rapid public health response, are essential to keeping patients safe and reducing the risk of community transmission. We must all remain alert for potential gonococcal treatment failures as we combat the growing threat of antimicrobial resistance in the US.

Thank you for your ongoing commitment to STI prevention.

Regards,

/Laura Hinkle Bachmann/

Laura Hinkle Bachmann, MD, MPH, FIDSA, FACP
Chief Medical Officer
Division of STD Prevention
National Center for HIV, Viral Hepatitis, STD and TB Prevention
Centers for Disease Control and Prevention