

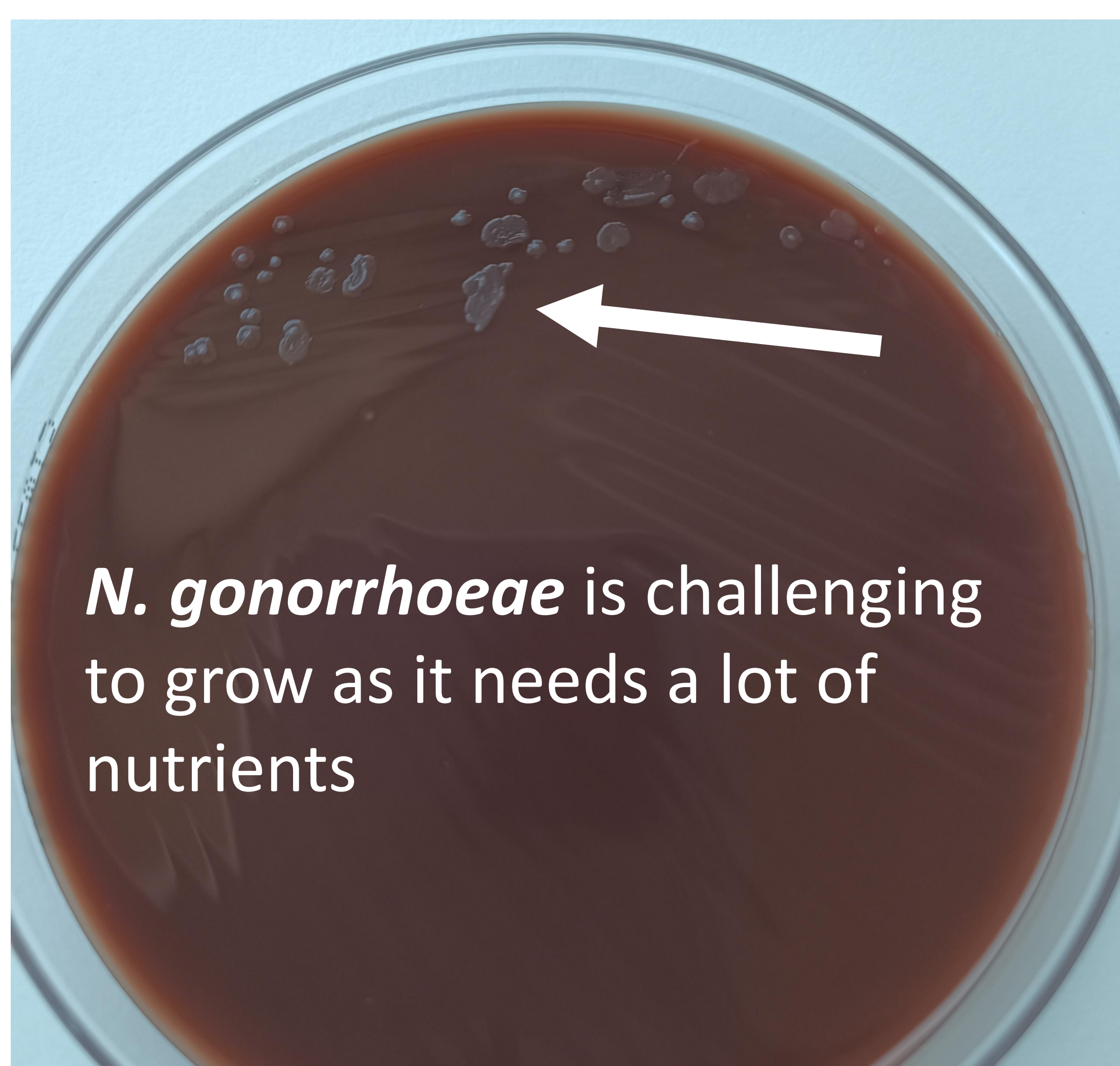
Facts about gonorrhoea:

Causative agent	<i>Neisseria gonorrhoeae</i>
Transmission	Through vaginal, oral and anal sex or during birth
Symptoms	Discharge from vagina/ penis; burning pain when urinating; but <i>N.gonorrhoeae</i> can also cause pain and itching in the anus, sore throat, red eyes combined with pain and discharge
Caution	Very often patients don't experience any symptoms and this can lead to silent spread
Treatment	But untreated gonorrhoea can lead to serious complications such as pelvic inflammatory disease and prostatitis
Numbers of cases / year	In 2023: ↑ increase by 25% compared to 2022

Diagnosis and antimicrobial susceptibility testing

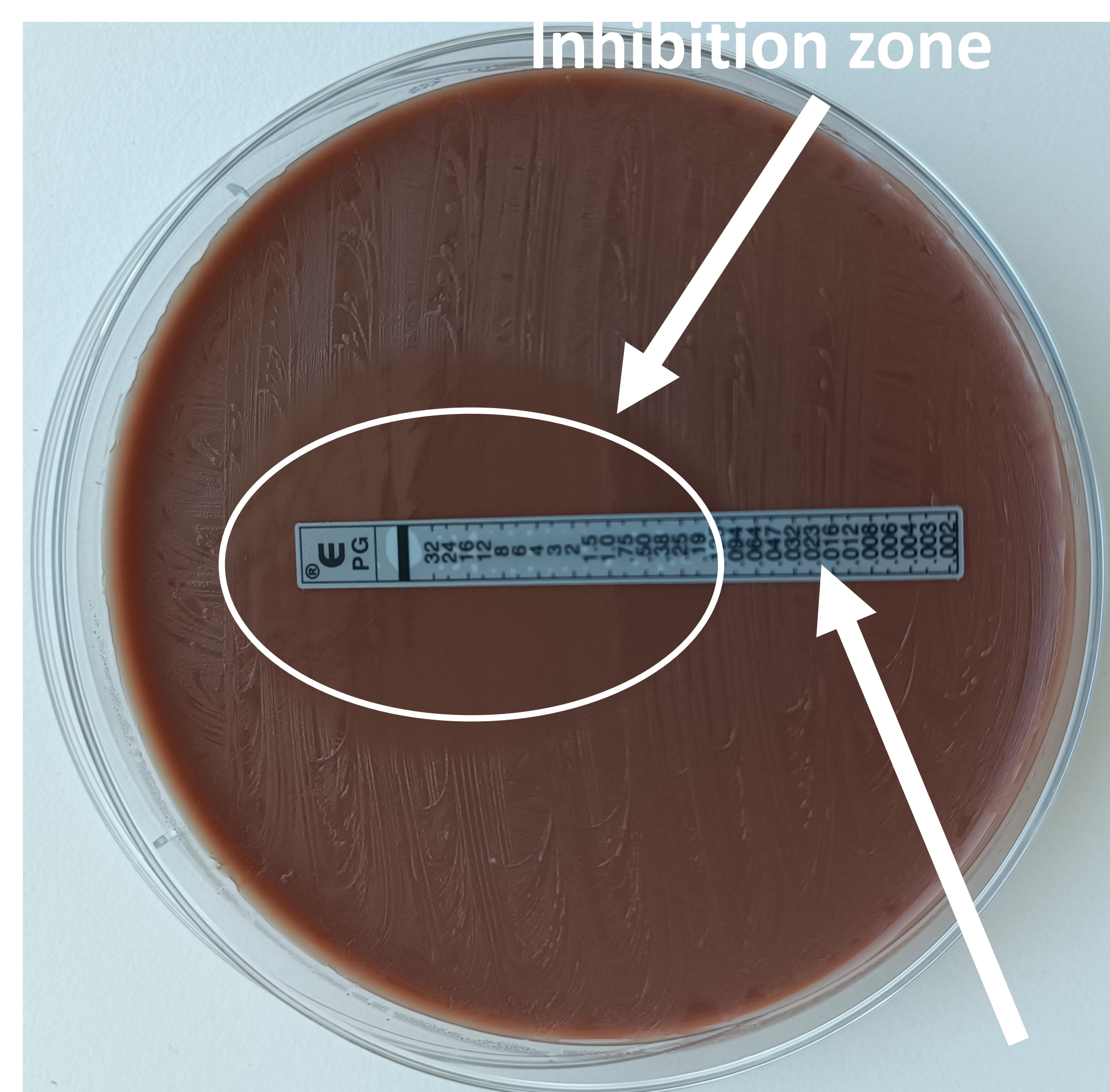
Molecular tests (such as PCR) are useful for rapid diagnosis of *N.gonorrhoeae* infection but culture remains the gold standard as it allows surveillance of antibiotic resistance. Antibiotic sensitivity has changed significantly over the past 20 years, with increasingly resistant strains, making treatment challenging. At LNS, we perform antimicrobial susceptibility testing on isolated strains sent to us by the different laboratories in the country. Using the recommended ECDC method, following antibiotics are performed: Penicilline G, ceftriaxone, cefixime, azithromycin, ciprofloxacin, tetracycline and spectinomycin

Step 1: Growth on agar

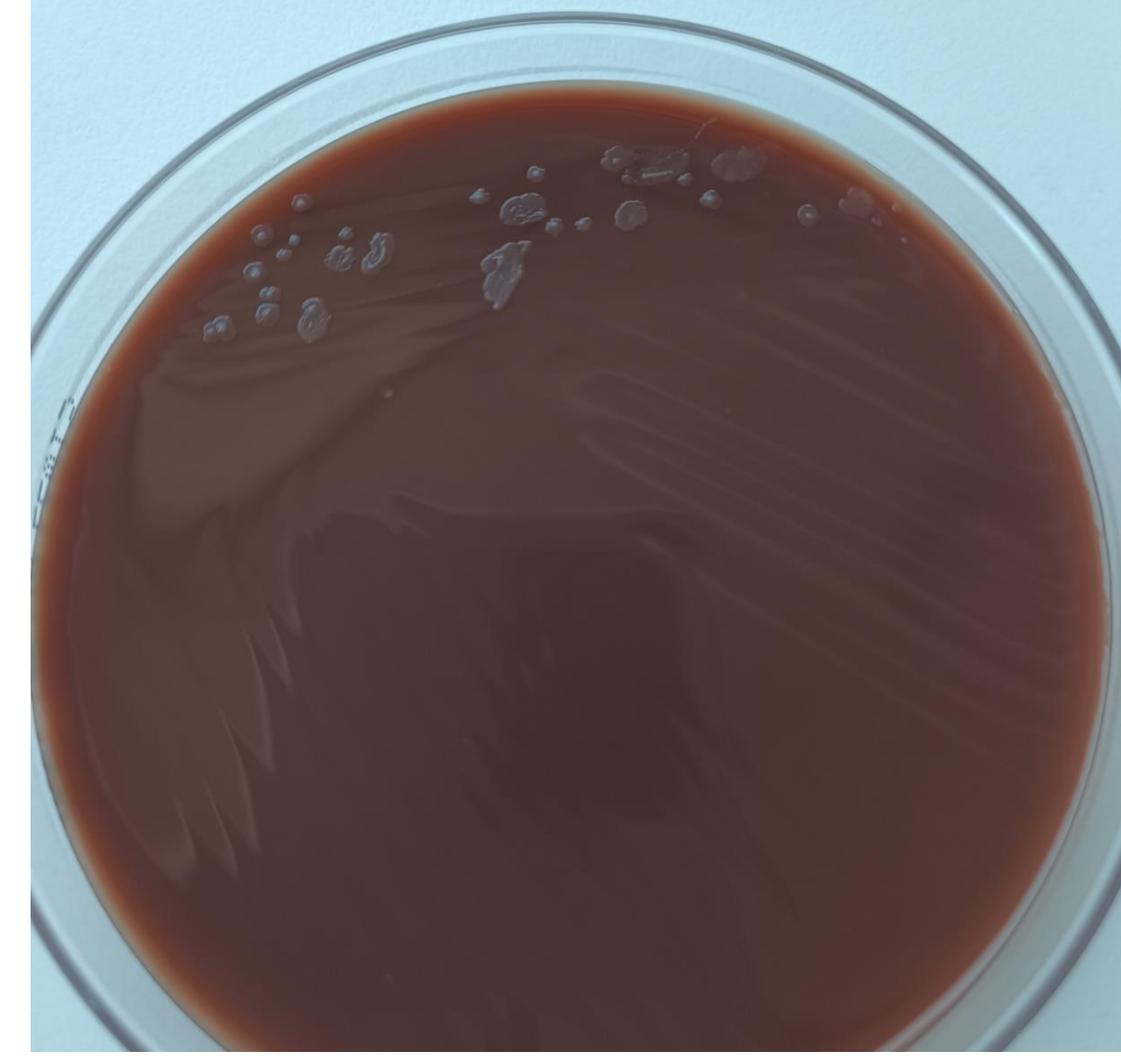


Colonies of *N. gonorrhoeae*

Step 2: Antimicrobial susceptibility testing



E-Tests with predefined antibiotic concentrations



Antimicrobial susceptibility testing : Data of Luxembourg (2024)

From 1st of January to the 31st of December 2024, LNS received and tested in total 80 *N.gonorrhoeae* isolates. The gender was reported in 81% of the cases. The majority of specimens were from male patients (91%) and were aged from 16 to 76 years (median age of 31 years). **One** isolate was extensively drug-resistant (**XDR**) with none-susceptibility to all antimicrobial tested except spectinomycin. **23%** of the isolates were resistant to azithromycin and **61%** resistant to ciprofloxacin. None of the tested isolates were resistant to spectinomycin.

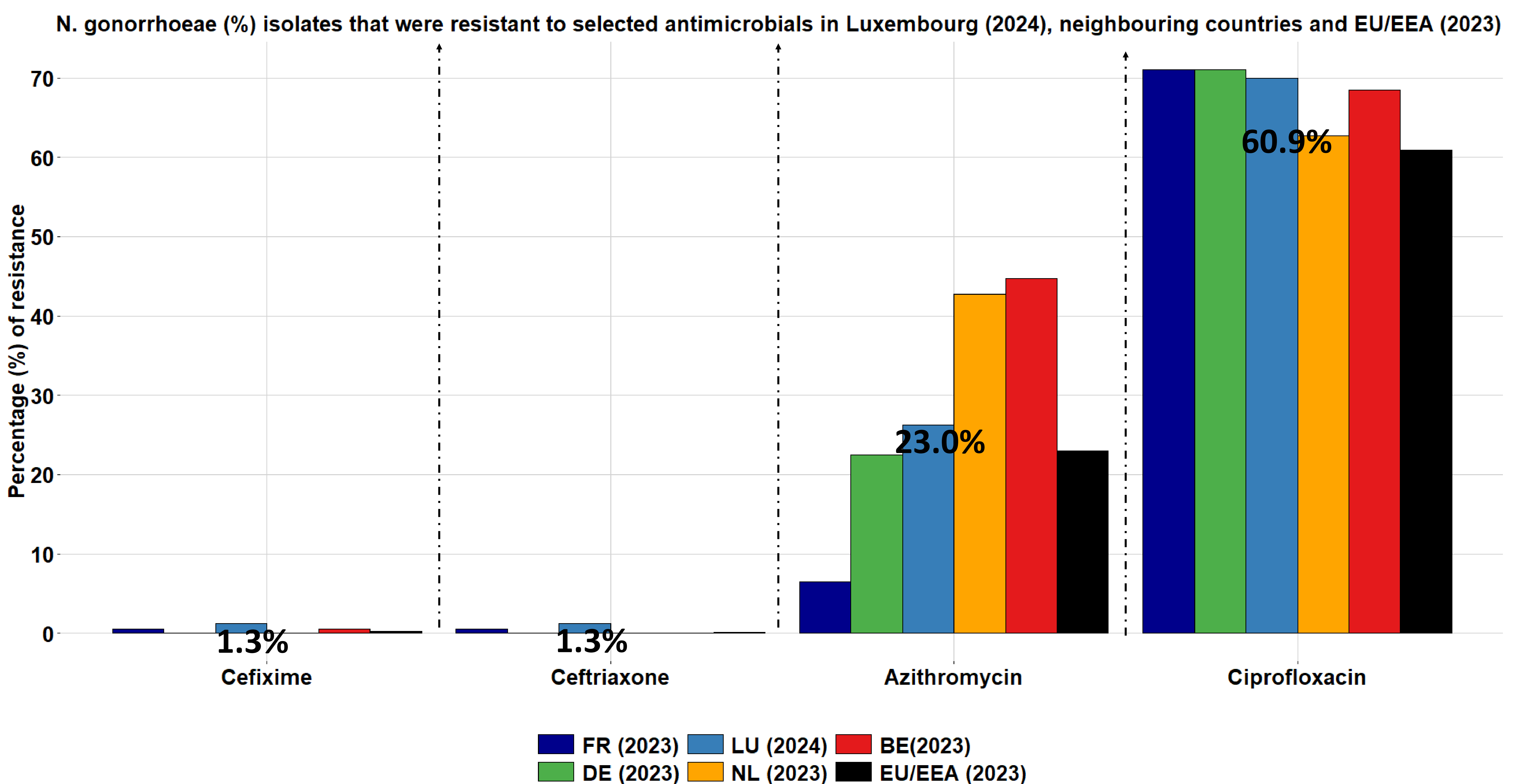


Figure 1: compares resistance to tested antimicrobials by neighboring countries and overall EU/EEA. Of note antimicrobial susceptibility testing was only restarted in Luxembourg in 2024. Data from other countries in 2024 is not available yet, hence compared with 2023 data.

FR-France, LU-Luxembourg, BE-Belgium, DE-Germany, NL-Netherlands, EU/EEA- European Union/ European Economic Area (data from <https://atlas.ecdc.europa.eu/public/index.aspx>)

Conclusion

To prevent AMR is it important **to reduce the burden** of *N. gonorrhoeae*. Transmission can be prevented by promoting safer sexual practices including consistent condom use. Second, **monitoring antimicrobial resistance** is essential to detect XDR strains as quickly as possible and inform infection prevention and control policies and responses.

References:

- <https://www.ecdc.europa.eu/en/publications-data/gonococcal-antimicrobial-susceptibility-surveillance-eu-eea>
- [https://www.who.int/news-room/fact-sheets/detail/gonorrhoea-\(neisseria-gonorrhoeae-infection\)](https://www.who.int/news-room/fact-sheets/detail/gonorrhoea-(neisseria-gonorrhoeae-infection))
- <https://www.who.int/initiatives/gonococcal-antimicrobial-surveillance-programme>
- <https://atlas.ecdc.europa.eu/public/index.aspx>