

# Antimicrobial resistance to *Neisseria gonorrhoeae* in New Zealand: A surveillance data update 2018-2022

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## Background:

All positive and negative laboratory results for *Neisseria gonorrhoeae* (NG) in New Zealand have been collected by ESR, including antimicrobial resistant (AMR) data where possible and relevant, since 2013. AMR isolate numbers, testing methods, and reporting practices vary between laboratories, with some laboratories testing but not reporting AMR. This study aimed to provide an overview of trends in NG AMR surveillance data in New Zealand between 2018 and 2022.

## Methods:

Data are received from laboratories as spreadsheets, cleaned, and housed in SQL. Data is then deduplicated by infection episode using a personal identifier and cleaned further in R prior to analysis. Fields collected include age, sex, ethnicity, geographic region, site of infection, and antimicrobial susceptibility testing (AST) results.

## Results:

No NG isolates were reported to be resistant to ceftriaxone or highly-resistant to azithromycin between 2018 and 2022. Reduced susceptibility to ceftriaxone peaked at 1.4% in 2020. Resistance to azithromycin fluctuated, peaking at 9.2% in 2020 but decreasing to 2.3% in 2022. Surveillance of tetracycline is limited and unlikely to be representative, however susceptibility has decreased from >60% in 2018 to 5% in 2022. Intermediate and resistant isolates have increased from 22% and 16% respectively to 60% and 35% in 2022.

## Conclusion:

Susceptibility to the current treatment regime in New Zealand (ceftriaxone and azithromycin) remains, following an increase in azithromycin resistance in 2020. The proportion of isolates that are cultured should be maintained or increased for public health surveillance purposes. Limited tetracycline surveillance data suggests an increase in resistance since 2018. Surveillance of tetracyclines may need to be strengthened in light of an increase in Doxycycline use for STI prevention (DoxyPEP).

## Disclosure of Interest Statement:

*ESR undertakes surveillance of notifiable diseases in New Zealand on behalf of Manatū Hauora (Ministry of Health). No specific funding was received for the development of this study.*