

## TITLE

**Low rates of gonorrhoea culture in the era of nucleic acid amplification testing have implications for anti-microbial surveillance.**

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**Aims:** Firstly to determine whether a switch in testing methodology from direct plating to using transport swabs had affected sensitivity of gonorrhoea culture at Auckland Regional Sexual Health Service and secondly to determine whether staff were adhering to clinic guidelines for performing gonorrhoea culture.

**Method:** Two successive audits of gonorrhoea testing data from Auckland Regional Sexual Health Service clinics were undertaken using quarterly laboratory data reports from the hospital laboratory. Three quarterly time periods between 2017 and 2019 were audited.

**Results:** The total volume of nucleic acid amplification tests (NAATs) being taken increased over time and also the number of positive gonorrhoea NAATs increased, however the number of positive gonorrhoea cultures decreased by 35%. Staff were not following clinic guidelines for performing gonorrhoea culture. Although the sensitivity of culture dropped slightly after the change in methodology this should not have reduced the overall number of positive cultures had staff been adhering to clinic guidelines.

**Conclusion:** Although the introduction of NAAT testing for gonorrhoea has improved sensitivity and acceptability of testing for patients, positive gonorrhoea culture rates have fallen. This has the potential to negatively impact on the reliability of anti-microbial resistance (AMR) surveillance. New measures will need to be introduced to improve staff adherence to clinic guidelines.