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SEXUALLY TRANSMITTED INFECTIONS AND ANTIMICROBIAL RESISTANCE IN *NEISSERIA GONORRHOEAE* IN NEW ZEALAND: SUPPLEMENTARY ANNUAL SURVEILLANCE REPORT 2025

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Ad hoc requests regarding sexually transmitted infections may be emailed to survqueries@phfscience.nz

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Disclaimer

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SUMMARY OF TRENDS

SYPHILIS NOTIFICATIONS

- Counts and rates of infectious syphilis from clinical notifications are presented on the dashboard by year, quarter, sex, ethnicity, age group, region and sexual behaviour for the period 2019-2025.
- In 2025, a total of 605 infectious syphilis cases were notified in New Zealand. This is a 23% decrease compared with 2024, when 784 cases were notified, and the lowest number of annual notifications since 2022.
- The rate of infectious syphilis decreased from 15 per 100,000 in 2024 to 11 per 100,000 in 2025, a 27% decrease. The 2025 rate is the lowest since 2022.
- Between 2024 and 2025, infectious syphilis notifications decreased across all regions except for the South Island | Te Waipounamu where notifications remained stable. The Northern region had the highest infectious syphilis rate in 2025 (13 per 100,000). Midland | Te Manawa Taki, South Island | Te Waipounamu, and Central | Te Ikaroa each had a rate of 11 per 100,000.
- The rate of infectious syphilis in 2025 was more than three times higher among males (18 per 100,000) compared with females (5 per 100,000). Rates decreased in males and females in 2025.
- Men who have sex with men (MSM) continue to be overrepresented among infectious syphilis notifications, with a rate over 61 times that of men who have sex with women (MSW) (557 per 100,000 versus 9 per 100,000). However, there was a notable decrease in infectious syphilis rates among MSM from 2024 (854 per 100,000 (439 cases)) to 2025 (285 cases). HIV and HIV Pre-Exposure Prophylaxis (PrEP) status of infectious syphilis cases among MSM by year is shown in the dashboard. In 2025 50% of infectious syphilis cases among MSM were not on PrEP.
- Infectious syphilis rates among Māori and Pacific peoples (16 and 17 per 100,000, respectively) were around double the rates in European and Other ethnic groups (9 per 100,000). Rates decreased between 20 – 28% across all ethnicities from 2024 to 2025.
- Infectious syphilis rates decreased across all age groups between 2024 and 2025, with the largest decreases among those aged 30–39 years (34 to 23 per 100,000) and 25-29 years (42 to 31 per 100,000). However, rates remain highest among these age groups, followed by those aged 20–24 years (23 per 100,000).
- Counts of infectious syphilis in women of reproductive age (15–44 years) and in pregnancy are presented on the dashboard by year, age group, ethnicity and region for the period 2019-2025. Counts of congenital syphilis cases by year, ethnicity and region from clinical notifications are also shown in the dashboard. Further information on syphilis in pregnancy and congenital syphilis is provided in this report.
- In 2025, there were 107 cases of infectious syphilis among women of reproductive age (15–44 years), a 12% decrease compared with 2024 (121 cases). Most cases were from the Northern (43%) and Central | Te Ikaroa (27%) regions. Māori women continue to be inequitably impacted, accounting for 45% of cases among women of reproductive age.
- The number of infectious syphilis cases in pregnancy were similar between 2024 (30 cases) and 2025 (29 cases). In addition to these cases, 15 cases of syphilis in pregnancy of unknown or more than two years' duration were reported between July and December 2025, after a change to the case definition in June 2025. Māori continue to be inequitably affected by syphilis in

pregnancy, with 11 of 29 cases in Māori in 2025 (37.9%), however, the proportion of antenatal syphilis cases among Māori decreased compared with 2024 (56.7%).

- In 2025, four cases of congenital syphilis were reported, a decrease from six in 2024; two cases occurred in the Northern Region. The 2025 rate of congenital syphilis, 7 per 100,000 live births (4 cases) decreased compared with 2024 (10 per 100,000, 6 cases) and was lower than the peak of 14 per 100,000 seen in 2020 and 2022 (8 cases). There was one case each of Māori, Pacific, Asian, and European/Other ethnicities. Two of the four cases in 2025 received no or late antenatal care, one had no/late testing in antenatal care, and one was a new infection in pregnancy after a negative first trimester test. All cases were liveborn with symptoms.

GONORRHOEA NOTIFICATIONS

- Counts and rates of gonorrhoea cases and rates from laboratory notifications are presented on the dashboard by year, quarter, sex, age group, ethnicity, region and for the period 2019-2025.
- In 2025, 6,306 gonorrhoea cases were notified in New Zealand. This is a 17% decrease compared with 2024, with 7,582 notifications.
- The national gonorrhoea rate decreased by 17% between 2024 and 2025, from 143 per 100,000 in 2024 to 118 per 100,000.
- Gonorrhoea notifications decreased across all regions between 2024 and 2025. The Northern region had the highest gonorrhoea rate in 2025 (169 per 100,000), followed by Midland| Te Manawa Taki (105 per 100,000), Central | Te Ikaroa (96 per 100,000), and South Island | Te Waipounamu (64 per 100,000).
- The gonorrhoea rate among males was 1.6 times that of females (145 per 100,000 versus 90 per 100,000) in 2025. Rates decreased in males and females in 2025.
- Gonorrhoea rates remain markedly higher among Māori and Pacific peoples with rates of 236 and 313 per 100,000 population, respectively in 2025; this is four to five times the rate among European/Other ethnic groups (66 per 100,000). Rates decreased across all ethnicities in 2025.
- Gonorrhoea rates have decreased or remained stable across all age groups between 2024 and 2025, with the largest decrease among 20–24 year olds (from 608 to 434 per 100,000). However, rates remain highest among this age group, followed by 25–29 year olds (349 per 100,000).
- Clinical notifications were received for 56.3% of laboratory-confirmed cases of gonorrhoea in 2025. Clinical gonorrhoea notifications for 2020–2025 are presented on the dashboard by year, quarter, sex, age group, ethnicity, region and sexual behaviour, with rates by sexual behaviour also shown.
- Clinical notifications suggest that MSM are disproportionately affected by gonorrhoea, with a rate of 4,714 per 100,000 population in 2025; this is over 50 times higher than the rate among MSW (93 per 100,000). Gonorrhoea rates decreased 22% among MSM between 2024 and 2025, (from 6,074 to 4,714 per 100,000 population).

ANTIMICROBIAL RESISTANCE IN *N*. GONORRHOEAE

- New Zealand reported its first extensively drug resistant (XDR) *Neisseria gonorrhoeae* isolate in 2025, which was ceftriaxone resistant (MIC 0.25 mg/L) and highly resistant to azithromycin (>256 mg/L).
- There was a notable increase in the proportion of *N. gonorrhoeae* isolates with >1.0 mg/L resistance to azithromycin, increasing to 8.4% in 2025. Previously, cases had decreased from 5.4% in 2021 and fluctuated between 1.5% and 3.2% since 2022.
- Further details are provided in this report.

CHLAMYDIA REPORTS

- While chlamydia is not notifiable, laboratories report chlamydia results to PHF Science. Chlamydia cases and rates for the period 2019-2025 are presented in the dashboard by year, quarter, sex, age group, ethnicity, region and district.
- In 2025, 24,338 chlamydia cases were reported in New Zealand, giving a rate of 457 per 100,000 population. The chlamydia rate decreased by 13% between 2024 and 2025, from a rate of 523 per 100,000 (27,691 cases) in 2024.
- Chlamydia rates decreased across all regions between 2024 and 2025. The Northern region continues to have the highest chlamydia rate in 2025 (498 per 100,000), followed by Midland | Te Manawa Taki (479 per 100,000), Central | Te Ikaroa (453 per 100,000), and South Island | Te Waipounamu (375 per 100,000).
- In 2025, the chlamydia rate among females was 568 per 100,000 compared with 342 per 100,000 among males (1.6 times higher), with rates decreasing for both sexes compared with 2024.
- Chlamydia rates remain highest among Pacific peoples (1,125 per 100,000) and Māori (952 per 100,000) in 2025, followed by European/Other (273 per 100,000), and Asian (234 per 100,000) ethnic groups. Rates are 3.5 and 4 times higher among Māori and Pacific peoples respectively compared to European/Other. Rates decreased in all ethnicities in 2025.
- Chlamydia rates have decreased or remained stable across all age groups between 2024 and 2025, with largest decrease among 20–24 year olds (from 2,791 to 2,422 per 100,000). However, rates remain highest among this age group, followed by 25–29 year olds (1,428 per 100,000), and 15–19 year olds (1,325 per 100,000).

GONORRHOEA AND CHLAMYDIA TESTING

- Gonorrhoea and chlamydia test counts, rates and positivity from laboratory data for the period 2019 to 2025 are shown in the dashboard by sex, ethnicity, age group, region and district.
- Between 2024 and 2025, chlamydia and gonorrhoea test rates remained stable or decreased slightly (around 2%) across all regions, both sexes, and all age groups. By ethnic group, test rates increased slightly for Māori, Asian and Pacific peoples, but decreased for European and Other ethnic groups. Test positivity decreased across all groups.

INTERPRETATION SUMMARY

Overall, rates of gonorrhoea, chlamydia, and infectious syphilis decreased in 2025, continuing a steady decline in gonorrhoea and chlamydia since 2023 and infectious syphilis since quarter 3 2024. While testing data for syphilis are not available, stable testing rates and decreased test positivity for chlamydia and gonorrhoea indicate that these decreases are not due to decreased testing. Particularly marked declines in infectious syphilis and gonorrhoea notifications were seen among MSM, particularly European/other MSM, but declines were seen across other sexual behaviour groups, all ethnicities, most age groups and regions. These decreases are likely to reflect improved STI prevention, testing, treatment and contact management, with increased use of doxycycline post-exposure prophylaxis (doxy-PEP) in MSM possibly also contributing (1, 2). However, STI rates in New Zealand remain high and inequities for Māori and Pacific people, young people and MSM persist, highlighting the continued need for equitable STI prevention, testing and treatment. Stigma and a lack of access to appropriate sexual health services continue to be barriers for many MSM (3). Inequities in the social determinants of health including health care access are persistent for Māori and Pacific peoples (4, 5).

While the number and proportion of cases of syphilis in pregnancy and congenital syphilis among Māori decreased in 2025 compared to 2024, Māori and Pacific continue to be disproportionately impacted by antenatal and congenital syphilis. Since 2017, of 45 cases of congenital syphilis notified, 39 (87%) have been Māori or Pacific infants (31 and 8 cases respectively). Two of the four cases of congenital syphilis in 2025, and 58% (26/45 cases) since 2017 had no or late antenatal care, demonstrating a need for equitable access to antenatal care and also sexual health care prior to pregnancy for Māori and Pacific people. The cases in 2025 with a new infection in pregnancy (20% since 2017 (9/45 cases)), and no/late testing in antenatal care (6% since 2017 (3/45 cases) highlights the importance of education on syphilis detection for people working with pregnant women.

The first detection of an XDR *N*. gonorrhoeae isolate in New Zealand highlights the need to ensure gonorrhoea AMR surveillance is sensitive and timely. Strengthening surveillance through increasing culture numbers and improving geographical consistency, and exploration of enhanced sentinel surveillance and molecular methods may help improve the detection of and response to future increases in resistance in New Zealand. The increase in the proportion and number of isolates with acquired resistance mechanisms to azithromycin (MIC >1 mg/L) in 2025 indicates the need to review the role of azithromycin in dual therapy with ceftriaxone for gonorrhoea in the next national STI management guidelines update.

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
AMR	Antimicrobial resistance
AST	Antimicrobial Susceptibility Testing
CLSI	Clinical and Laboratory Standards Institute
Doxy-PEP	Doxycycline post-exposure prophylaxis
ECOFF	Epidemiological cut-off value
EUCAST	European Committee on Antimicrobial Susceptibility Testing
HIV	Human immunodeficiency virus
LGV	Lymphogranuloma venereum
MSM	Men who have sex with men
MSW	Men who have sex with women
MIC	Minimum Inhibitory Concentration
N. gonorrhoeae	*Neisseria* gonorrhoeae
NHI	National Health Index
PHF Science	The New Zealand Institute for Public Health and Forensic Science
PrEP	Pre-Exposure Prophylaxis
SIR	Susceptible / Intermediate (or Increased exposure) / Resistant
STIs	Sexually transmitted infections
WHO	World Health Organization
WSM	Women who have sex with men
WSW	Women who have sex with women
ZD	Zone Diameter

INTRODUCTION

The 'Sexually transmitted infections and antimicrobial resistance in *Neisseria gonorrhoeae* in New Zealand: Supplementary Annual Surveillance Report' (Supplementary Annual Report) summarises the epidemiology of sexually transmitted infections (STIs) for 2025 (the reporting period) with findings from 2021 to 2024 included for comparison and context, where possible. For congenital syphilis, data from 2017 are included for comparison and context. The Antimicrobial resistance in *Neisseria gonorrhoeae* in New Zealand annual report has been incorporated into the Supplementary Annual Report for 2025.

In 2026 the STI Dashboard has been redesigned to incorporate both the quarterly and annual data. Some data previously presented in the Supplementary Annual Report are now available in the dashboard. For figures demonstrating key trends in syphilis, gonorrhoea, and chlamydia, please refer to the dashboard.

In addition to summarising key trends from the dashboard, this report presents additional data on congenital syphilis, infectious syphilis and gonorrhoea cases from clinical notifications, laboratory surveillance data for antimicrobial resistance in *N. gonorrhoeae,* perinatal gonorrhoea and chlamydia infections, and sentinel clinic surveillance data for first presentation genital warts and lymphogranuloma venereum (LGV).

The COVID-19 pandemic response affected behavioural patterns, access to healthcare, and availability of testing in 2020 and 2021, therefore all data from 2020–2021 should be interpreted with caution.

A full description of methodology can be found in Appendix 2.

TERMINOLOGY AND INTERPRETATION

Sex:

This refers to sex assigned at birth (male, female and unknown where this information is not available in surveillance data). Laboratory data are provided with sex only, rather than gender identity.

Gender identity:

This refers to a person's social and personal identity as male, female or another gender such as non-binary. Cisgender refers to a person whose gender/identity is the same as the sex recorded at their birth. Transgender refers to a person whose gender is different from the sex recorded at their birth. In this report transgender people (male, female and transgender not specified), and non-binary people are reported together due to small numbers.

Age-group:

Based on age at diagnosis and rounded to the nearest year using normal rounding practices.

Ethnicity:

Generally reported using prioritised ethnicity including Māori, Pacific, Asian, and European/Other.

Reporting years:

This report is a 2025 supplementary annual report with data from 2021 to 2024 generally reported to provide context and trends.

Surveillance data sources:

Three primary sources of data are used for surveillance; these include laboratory data, sentinel aggregate clinic data, and clinical notification data.

Laboratory data includes all laboratory results for gonorrhoea and chlamydia alongside demographic information.

Sentinel, aggregate data is received from sentinel Sexual Health clinics for first presentation genital warts and lymphogranuloma venereum (LGV).

Clinical notifications are received for gonorrhoea and syphilis directly from clinicians.

For further information on surveillance data sources and methodology please refer to the methods section.

Decimal place reporting

In-text data is reported to one decimal place. Tables report to one decimal place for percentages <10%; decimal places not reported for percentages 10% and higher.

Sexual Behaviour

Self-reported sexual behaviour of case as reported to the treating clinician at the time of diagnosis.

INFECTIOUS SYPHILIS

Infectious syphilis trends by sex, ethnicity, age group, sexual behaviour and region are available on the New Zealand STI Surveillance dashboard.

The dashboard also provides information on Pre-Exposure Prophylaxis (PrEP) use among MSM. PrEP is a medication for HIV-negative people which significantly reduces the chance of HIV acquisition. PrEP became available in New Zealand as part of a research trial and via importations in 2018, and since 2019 has been funded for those who meet special authority criteria (6). Special authority criteria were expanded in 2022 (7). PrEP users are primarily MSM. MSM taking PrEP are asked to have 3-monthly STI testing for early detection and management (8). In 2025, 50% of MSM diagnosed with infectious syphilis were not taking PrEP, which may indicate an unmet need for PrEP among MSM who would benefit from this HIV prevention tool.

This section of the report presents infectious syphilis cases by district, additional detail on syphilis in pregnancy and congenital syphilis, and cases of syphilis among sex workers. Infectious syphilis cases by year and District are displayed in Table 1.

Table 1: Infectious syphilis cases by year and District: 2021–2025

Year	2021 N = 448[1]	2022 N = 509[1]	2023 N = 740[1]	2024 N = 784[1]	2025 N =605[1]
Auckland	110(24.6%)	173(34.0%)	245(33.1%)	189(24.1%)	133(22.0%)
Bay of Plenty	21(4.7%)	20(3.9%)	24(3.2%)	29(3.7%)	20(3.3%)
Canterbury	30(6.7%)	13(2.6%)	68(9.2%)	102(13.0%)	91(15.0%)
Capital, Coast, and Hutt Valley	63(14.1%)	36(7.1%)	61(8.2%)	92(11.7%)	69(11.4%)
Counties Manukau	54(12.1%)	76(14.9%)	96(13.0%)	94(12.0%)	67(11.1%)
Hawke's Bay	4(0.9%)	12(2.4%)	8(1.1%)	8(1.0%)	8(1.3%)
Lakes	9(2.0%)	3(0.6%)	9(1.2%)	28(3.6%)	13(2.1%)
MidCentral	16(3.6%)	14(2.8%)	5(0.7%)	17(2.2%)	16(2.6%)
Nelson Marlborough	5(1.1%)	4(0.8%)	5(0.7%)	3(0.4%)	11(1.8%)
Northland	19(4.2%)	15(2.9%)	18(2.4%)	12(1.5%)	14(2.3%)
South Canterbury	2(0.4%)	1(0.2%)	2(0.3%)	2(0.3%)	5(0.8%)
Southern	13(2.9%)	6(1.2%)	11(1.5%)	30(3.8%)	28(4.6%)
Tairawhiti	0(0.0%)	0(0.0%)	2(0.3%)	4(0.5%)	3(0.5%)
Taranaki	3(0.7%)	4(0.8%)	5(0.7%)	6(0.8%)	4(0.7%)
Waikato	40(8.9%)	57(11.2%)	98(13.2%)	92(11.7%)	73(12.1%)
Wairarapa	1(0.2%)	1(0.2%)	1(0.1%)	6(0.8%)	4(0.7%)
Waitemata	52(11.6%)	66(13.0%)	79(10.7%)	64(8.2%)	46(7.6%)
West Coast	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Whanganui	6(1.3%)	8(1.6%)	3(0.4%)	6(0.8%)	0(0.0%)

[1] n (%)
[2] Individuals with unknown ages were excluded from the denominator when calculating the proportion of syphilis cases.
[3] Percentages may not total 100% due to rounding infectious syphilis cases in different risk groups.

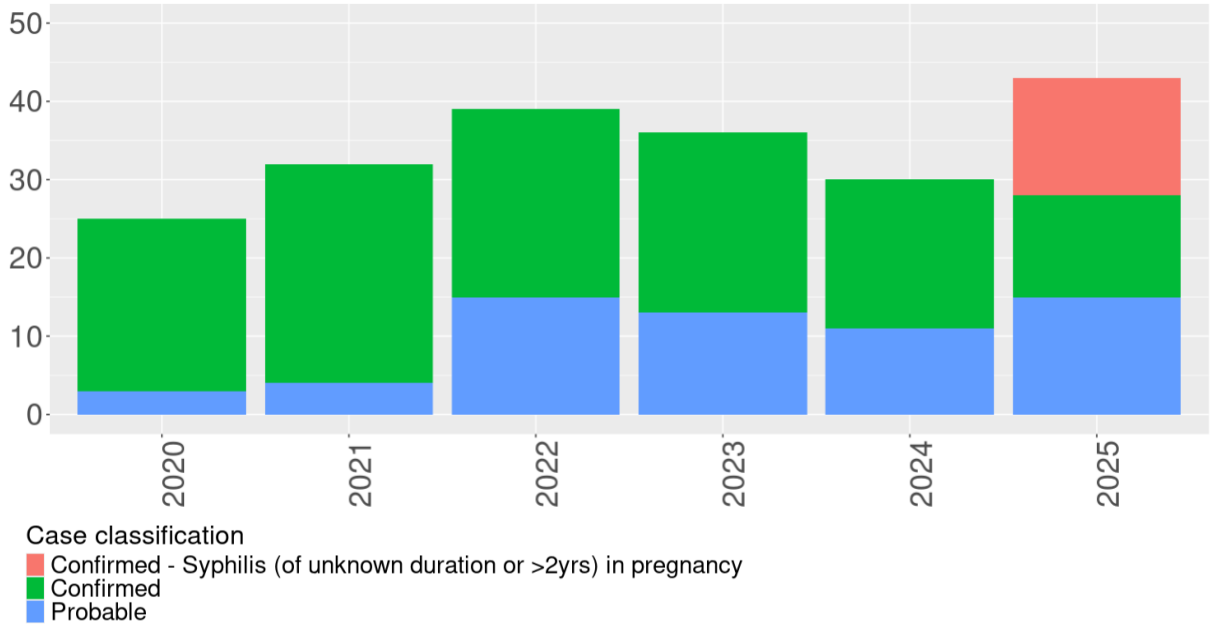
SYPHILIS IN PREGNANCY

Syphilis trends, including among women of reproductive age and pregnant women, by age group, ethnicity, and region are available on the New Zealand STI Surveillance dashboard.

In July 2025, the case definition for syphilis was expanded to include all syphilis diagnosed in pregnancy in addition to infectious syphilis. The previous case definition focused on syphilis stages that could be transmitted sexually (i.e., primary, secondary, and early latent syphilis (infections acquired within the past two years). Late syphilis of over two years' duration is not infectious sexually. However, syphilis of any duration, if untreated, can lead to vertical transmission and congenital syphilis. While the risk of transmission is lower in late latent infection (approximately 10%) compared with early infection (80–100%) (9), it remains clinically significant.

From June 2025 when the new case definition was introduced, to December 2025, 15 cases of syphilis diagnosed in pregnancy of more than two years or unknown duration were reported (Figure 1). Cases of infectious syphilis in pregnancy decreased slightly in 2025 compared to 2024.

Figure 1. Syphilis in pregnancy by case classification, 2020-2025



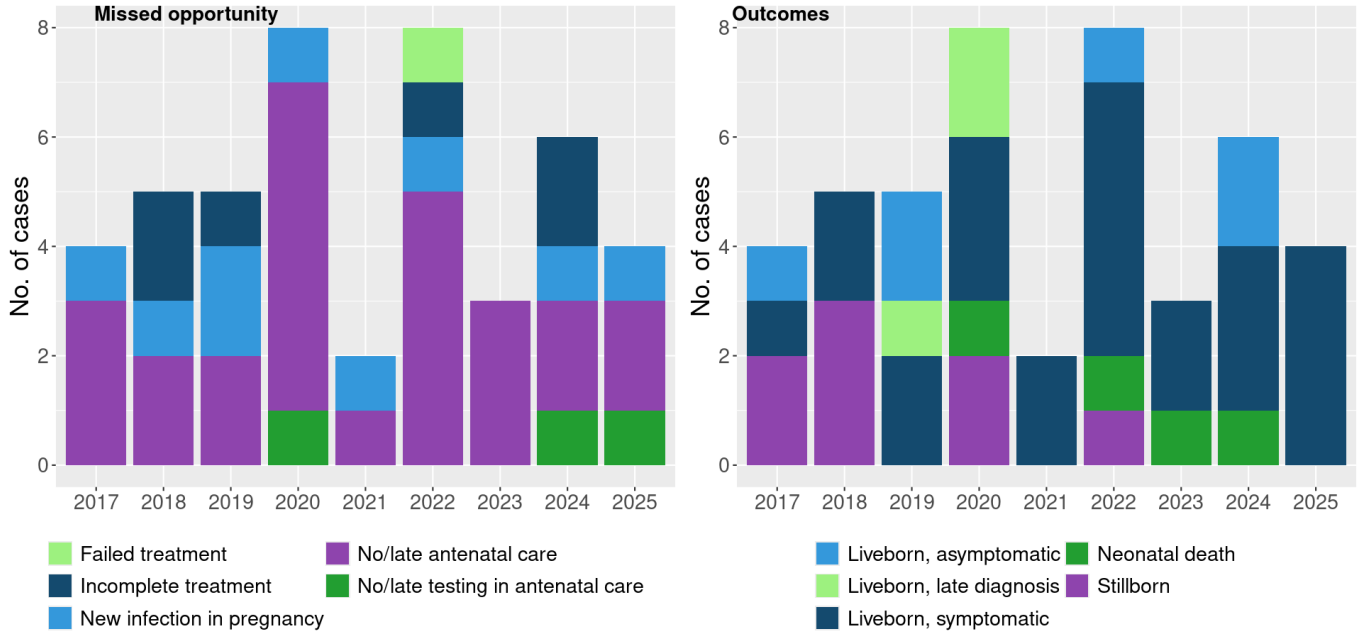
CONGENITAL SYPHILIS

Congenital syphilis trends by ethnic group and region can be viewed on the dashboard.

In order to prevent congenital syphilis, pregnant women must receive antenatal care, which includes first trimester screening for syphilis, then receive treatment appropriate for the stage of disease and pregnancy at least four weeks prior to delivery and remain syphilis free at delivery (10). Analysis of information on case report forms for infants with congenital syphilis and their mothers was undertaken to identify where in the antenatal care pathway the opportunity to prevent a case of congenital syphilis may have been missed.

There were four cases of congenital syphilis reported in 2025. All four were liveborn with symptoms. In two cases, the mother received no or late antenatal care, one case received no/late testing in antenatal care, and one had a new infection in pregnancy after a negative first trimester test (Figure 2).

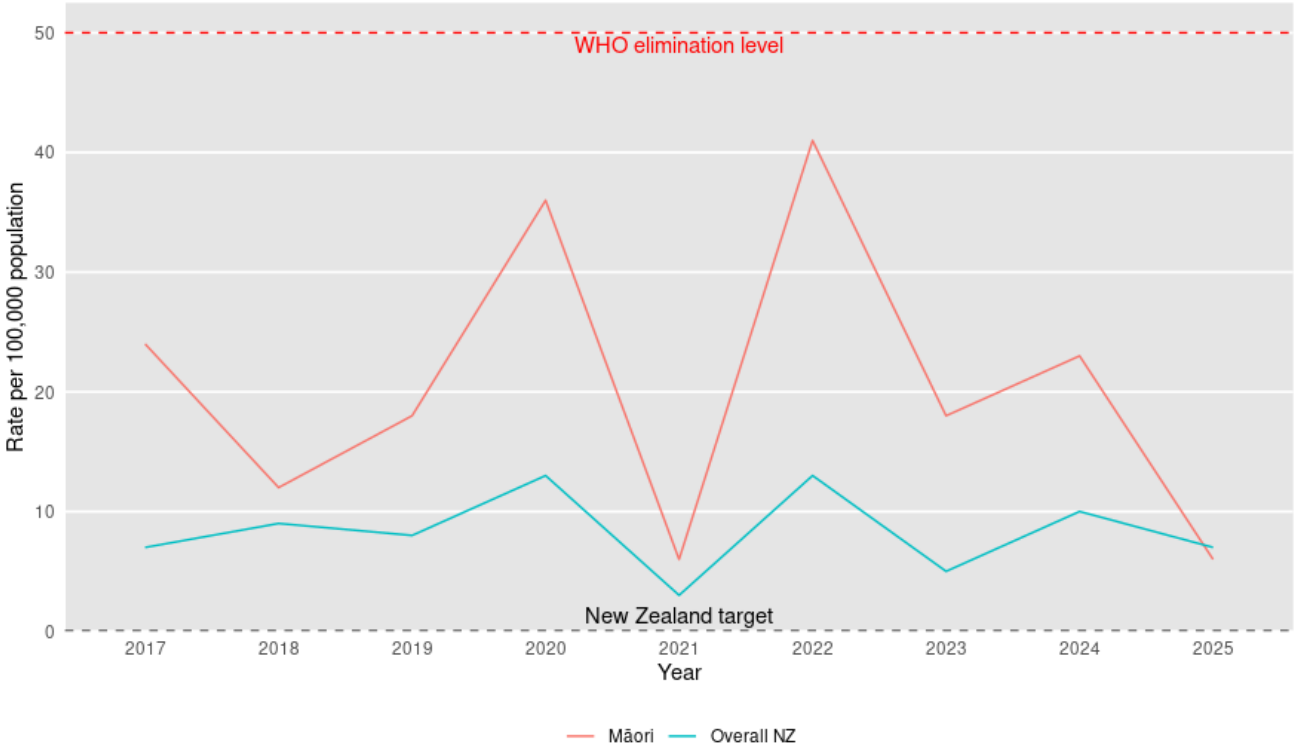
Figure 2. Congenital syphilis: missed opportunities to prevent congenital syphilis and congenital syphilis outcomes: 2017–2025



The World Health Organization (WHO) defines the elimination of congenital syphilis as a rate of ≤50 per 100,000 live births and has set process and impact targets for high prevalence countries (11). One of the goals of Ngā Pokenga Paipai Me Ngā Pokenga Huaketo Mā Te Toto: Te Rautaki O Aotearoa, the Aotearoa New Zealand Sexually Transmitted and Blood Borne Infection Strategy 2025–2030 is the elimination of congenital syphilis in New Zealand, which is defined as zero cases (12).

The rate of congenital syphilis in 2025, seven per 100,000 live births, decreased from 10 per 100,000 in 2024. The 2022 rate of 14 per 100,000 was the highest level seen, equal to that observed in 2020. The rate of congenital syphilis among Māori in 2025 was six per 100,000, though this rate should be interpreted with caution due to the low number of Māori cases (1 case). As displayed in the dashboard, there was one congenital syphilis case among a Pacific infant in 2025, following one case each reported in 2024, 2022, and 2020. The typically higher congenital syphilis burden among Māori and Pacific infants reflects ongoing inequities in access to health care for Māori and Peoples, including antenatal and sexual health care (Figure 3).

Figure 3. Congenital syphilis rates per 100,000 live births 2017–2025



Infectious syphilis in sex workers

In 2025, 14 people (2.3%) with infectious syphilis reported being a sex worker (Table 2). Due to low numbers no further analysis is provided.

Table 2. Sex worker status amongst infectious syphilis cases: 2021–2025

Sex Worker Status	2021	2022	2023	2024	2025
Case is a sex worker	11 (2.5%)	17 (3.3%)	11 (1.5%)	14 (1.8%)	14 (2.3%)
Case is not a sex worker	379 (84.6%)	432 (84.9%)	612 (82.7%)	684 (87.2%)	528 (87.3%)
Unknown	58 (12.9%)	60 (11.8%)	117 (15.8%)	86 (11.0%)	62 (10.2%)
Total	**448**	**509**	**740**	**784**	**605**

[1]Percentages may not total 100% due to rounding

CLINICAL NOTIFICATION SURVEILLANCE OF GONORRHOEA

In 2025, clinical notifications were received for a subset of laboratory confirmed cases (3,553/6,306; 56%). Trends in clinical gonorrhoea notifications by sex, ethnicity, region, age group, and sexual behaviour are shown on the dashboard. This section provides further information from clinical gonorrhoea notifications on cases in sex workers and site of infection by sexual behaviour.

PARTICULAR POPULATIONS NOTIFIED WITH GONORRHOEA IN 2025

Gonorrhoea in sex workers

Of all gonorrhoea clinical notifications received in 2025, 73 (2.1%) reported being sex workers (Table 3). Of these cases, 52 were cisgender women, 11 were cisgender men, eight were transgender women, one was a transgender man and one was a female, gender unknown.

The highest numbers of gonorrhoea clinical notifications identified as sex workers in 2025 were in Auckland (32 cases), followed by Waikato (11 cases). Compared with 2024, the number of cases in 2025 increased in Auckland (28 to 32 cases) and Canterbury (7 to 10 cases) and decreased or remained stable across other districts.

In 2025, most cases amongst sex workers were of European/Other (31/73, 42%) or Māori (26/73, 36%) ethnicity.

Table 3 Sex worker status of gonorrhoea cases by year

Sex Worker Status	2021	2022	2023	2024	2025
Case is a sex worker	59 (1.7%)	70 (2.0%)	66 (1.6%)	67 (1.6%)	73 (2.1%)
Case is not a sex worker	2,874 (80.5%)	2,805 (78.2%)	3,345 (79.2%)	3,206 (76.4%)	2,714 (76.4%)
Unknown	636 (17.8%)	714 (19.9%)	815 (19.3%)	923 (22.0%)	766 (21.6%)
Total	**3,569**	**3,589**	**4,226**	**4,196**	**3,553**

* Decimal places included for percentages <10%

Gonorrhoea site of infection by sexual behaviour (clinical notifications) 2025

Of all gonorrhoea clinical notifications received in 2025, 79% (2,859/3,553) had both site of infection and known sexual behaviour recorded (Table 4). For MSM, the most reported site(s) of infection was multiple sites, followed by the pharynx. For MSW and WSM, urogenital was the most reported site.

Table 4. Gonorrhoea site of infection by sexual behaviour for clinically notified cases, 2025

Specimen sites	MSM	MSW	WSM	WSW	Unknown	Total
Urogenital only	153 (14.0%)	673 (83.2%)	796 (83.5%)	62 (89.9%)	444 (70.3%)	2,128 (59.9%)
Pharynx only	314 (28.8%)	43 (5.3%)	45 (4.7%)	1 (1.4%)	44 (7.0%)	447 (12.6%)
Ano-rectal only	241 (22.1%)	19 (2.3%)	7 (0.7%)	0 (0.0%)	36 (5.7%)	303 (8.5%)
Multiple sites	361 (33.1%)	45 (5.6%)	95 (10.0%)	4 (5.8%)	48 (7.6%)	553 (15.6%)
Unknown	21 (1.9%)	29 (3.6%)	10 (1.0%)	2 (2.9%)	60 (9.5%)	122 (3.4%)
Total	**1,090 (100.0%)**	**809 (100.0%)**	**953 (100.0%)**	**69 (100.0%)**	**632 (100.0%)**	**3,553 (100.0%)**

* Decimal places included for percentages <10%

ADDITIONAL LABORATORY SURVEILLANCE

Gonorrhoea and chlamydia cases and rates from laboratory notifications/reports for the period 2019-2025 are presented on the dashboard by year and quarter, by sex, age group, ethnicity, region and district. Testing numbers, rates and test positivity are also shown in the dashboard. This section provides further detail on site of infection from laboratory data and paediatric gonorrhoea and chlamydia infection, followed by a summary of *N. gonorrhoea* AMR in 2025.

Gonorrhoea by site of infection

The site from which the specimen was taken was recorded for 96.7% (8,550/8,839) of positive specimens. The most common site recorded in 2025 was urogenital for females (83%) (Table 5) and males (54%) (Table 6). Of the 288 other/unknown specimen sites, four were from the eye. Totals in these tables are positive specimens rather than cases of gonorrhoea; therefore, numbers are higher than total gonorrhoea case counts reported elsewhere.

Among males, a higher proportion of gonorrhoea infections are from ano-rectal and pharyngeal specimens compared to females. The proportion of specimens by site remained relatively stable between 2024 and 2025 for both males and females (Table 5, Table 6, Figure 4).

Table 5. Gonorrhoea by site, female, 2021–2025

Specimen site	2021	2022	2023	2024	2025
Ano-rectal	79 (2.6%)	87 (2.5%)	107 (2.9%)	79 (2.4%)	115 (3.9%)
Pharyngeal	160 (5.3%)	214 (6.2%)	260 (7.1%)	268 (8.0%)	224 (7.6%)
Urogenital	2,636 (88%)	2,986 (87%)	3,163 (86%)	2,721 (81%)	2,457 (83%)
Other/Unknown	130 (4.3%)	155 (4.5%)	140 (3.8%)	288 (8.6%)	149 (5.1%)
Total	**3,005**	**3,442**	**3,670**	**3,356**	**2,945**

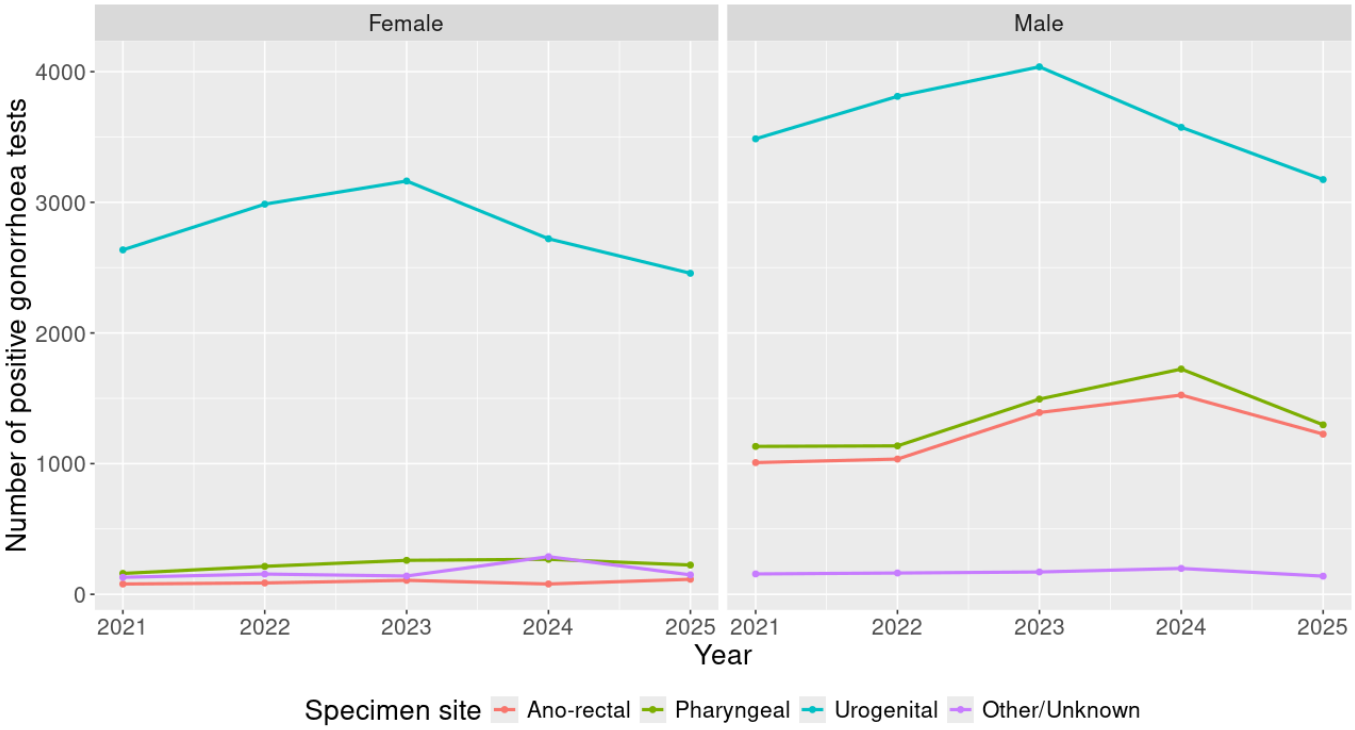
*Tests with unknown or indeterminant recorded for sex were removed from the table (33 – 62 tests per year).

Table 6. Gonorrhoea by site, male, 2021–2025

Specimen site	2021	2022	2023	2024	2025
Ano-rectal	1,008 (17%)	1,035 (17%)	1,391 (20%)	1,525 (22%)	1,226 (21%)
Pharyngeal	1,132 (20%)	1,136 (19%)	1,494 (21%)	1,724 (25%)	1,297 (22%)
Urogenital	3,486 (60%)	3,811 (62%)	4,037 (57%)	3,574 (51%)	3,174 (54%)
Other/Unknown	156 (2.7%)	163 (2.7%)	171 (2.4%)	198 (2.8%)	139 (2.4%)
Total	**5,782**	**6,145**	**7,093**	**7,021**	**5,836**

*Tests with unknown or indeterminant recorded for sex were removed from the table (35 – 62 tests per year).

Figure 4. Number of positive gonorrhoea tests by sex and site of infection, 2021–2025



Chlamydia by site of infection

The site from which the specimen was taken was recorded for 96.6% (26,262 /27,199) of positive specimens in 2025. The most common site recorded in 2025 was urogenital for females (92%) and males (81%). Of the 937 other/unknown specimens in 2025, 70 specimens were from the eye (Table 7, Table 8, and Figure 5).

The number of positive chlamydia urogenital specimens increased slightly in both females and males between 2024 and 2025, while the number of ano-rectal specimens among males decreased over the same period (Table 7 and Table 8).

Table 7. Chlamydia by site, female, 2021–2025

Specimen site	2021	2022	2023	2024	2025
Ano-rectal	224 (1.3%)	218 (1.3%)	311 (1.6%)	279 (1.5%)	267 (1.6%)
Pharyngeal	168 (1.0%)	210 (1.2%)	322 (1.7%)	328 (1.8%)	310 (1.9%)
Urogenital	16,329 (93.6%)	16,175 (93.5%)	17,902 (92.9%)	16,409 (88.7%)	15,340 (92.0%)
Other/Unknown	723 (4.1%)	689 (4.0%)	743 (3.9%)	1,493 (8.1%)	756 (4.5%)
Total	**17,444**	**17,292**	**19,278**	**18,509**	**16,673**

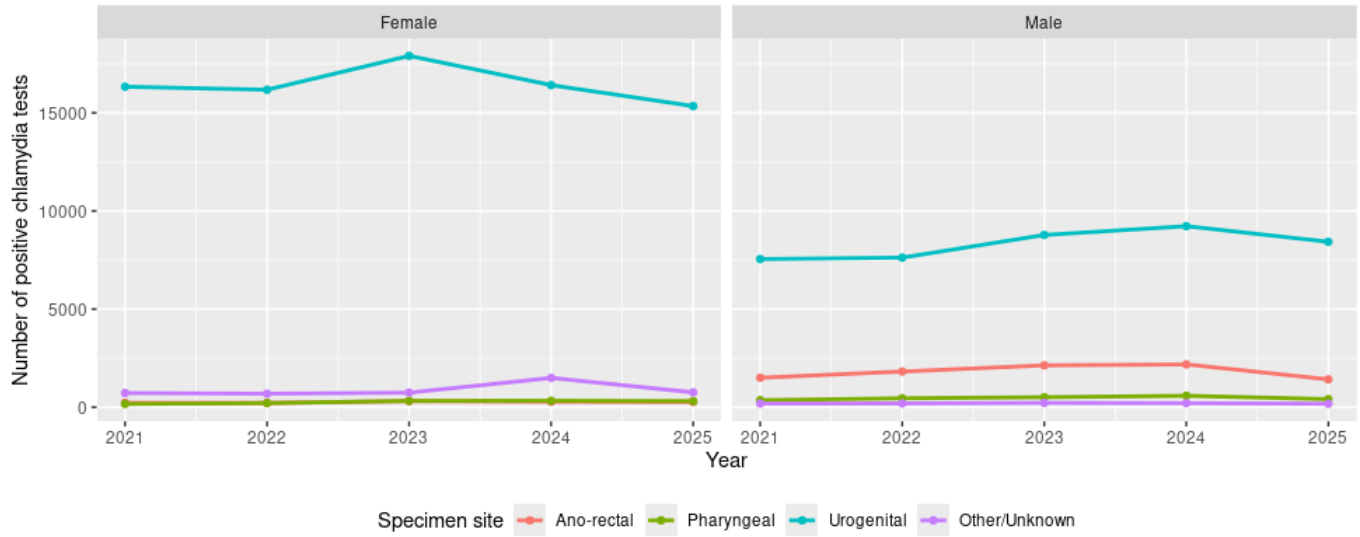
*Tests with unknown or indeterminant recorded for sex were removed from the table (34–238 tests per year)

Table 8. Chlamydia by site, male, 2021–2025

Specimen site	2021	2022	2023	2024	2025
Ano-rectal	1,501 (15.6%)	1,820 (18.0%)	2,133 (18.3%)	2,182 (17.9%)	1,419 (13.6%)
Pharyngeal	357 (3.7%)	455 (4.5%)	511 (4.4%)	583 (4.8%)	411 (3.9%)
Urogenital	7,549 (78.7%)	7,624 (75.5%)	8,776 (75.4%)	9,224 (75.6%)	8,427 (80.8%)
Other/Unknown	187 (1.9%)	193 (1.9%)	221 (1.9%)	206 (1.7%)	178 (1.7%)
Total	**9,594 (100.0%)**	**10,092 (100.0%)**	**11,641 (100.0%)**	**12,195 (100.0%)**	**10,435 (100.0%)**

* Tests with unknown or indeterminant recorded for sex were removed from the table (34–238 tests per year)

Figure 5. Number of positive chlamydia tests by sex and site of infection, 2021–2025



PERINATAL GONORRHOEA AND CHLAMYDIA LABORATORY SURVEILLANCE

If untreated during pregnancy, chlamydia and gonorrhoea can be transmitted from mother to child around the time of birth. The most common presentation in infants is conjunctivitis, which occurs in 30–50% of infants born to mothers with chlamydia or gonorrhoea (13). These perinatal infections are preventable through antenatal STI screening and maternal treatment.

CHARACTERISTICS OF ALL PAEDIATRIC CHLAMYDIA CASES

The number of cases of chlamydia in infants decreased in 2025 (21 cases) compared with 2024 (30 cases) and have been steadily decreasing since 2022 when 56 cases were reported (Table 9). The site of infection was the eye for all paediatric cases for whom a site of infection was reported (20 cases). The highest number of cases was reported in Pacific infants in 2025 (8 cases, 38%), followed by Māori infants (7 cases, 33%). From 2023 to 2025, overall case numbers decreased for Pacific, Māori and European/Other infants, and remained low and similar for Asian and those of unknown ethnicity.

Table 9. Laboratory reported chlamydia among cases <1 year of age, by ethnicity, sex and site of infection: 2021–2025

	2021	2022	2023	2024	2025
Ethnicity					
Māori	21	24	23	17	7
Pacific	7	13	10	8	8
Asian	3	2	2	3	4
European/Other	11	16	7	2	1
Unknown	2	1	0	0	1
Sex					
Female	27	31	22	15	10
Male	17	24	20	15	11
Unknown	0	1	0	0	0
Site of Infection					
Eye	35	50	33	25	20
Unknown	9	6	9	5	1
Total	**44**	**56**	**42**	**30**	**21**

CHARACTERISTICS OF ALL PAEDIATRIC GONORRHOEA CASES

There were eight paediatric gonorrhoea cases in 2025, increasing from three cases in 2024 (Table 10). There were four cases each of Pacific and Māori infants.

Table 10. Laboratory reported gonorrhoea by ethnicity, sex and site of infection: 2021–2025

	2021	2022	2023	2024	2025
Ethnicity					
Māori	7	5	3	0	4
Pacific	1	1	3	2	4
Asian	0	0	0	1	0
European/Other	2	0	0	0	0
Unknown	0	0	0	0	0
Sex					
Female	7	4	4	1	3
Male	3	2	2	2	5
Site of Infection					
Eye	8	4	5	2	4
Unknown	2	2	1	1	4
Total	**10**	**6**	**6**	**3**	**8**

ANTIMICROBIAL RESISTANCE IN *NEISSERIA GONORRHOEAE 2025*

Antimicrobial resistance (AMR) in *Neisseria gonorrhoeae* is a continuing public health threat globally. *N. gonorrhoeae* with third-generation cephalosporin-resistance remains a high priority according to the World Health Organization (WHO) Bacterial Priority Pathogens List 2024 (14).

Dual antibiotic therapy with ceftriaxone and azithromycin is currently the first line treatment for gonorrhoea recommended in New Zealand (15, 16).

Antimicrobial susceptibility data are received as part of STI laboratory surveillance, as detailed in the methods in Appendix 2. The MIC breakpoints used to interpret AST results for 2025 are displayed in Table 11 , with further information on breakpoints in Appendix 2.

Table 11. Minimum inhibitory concentration (MIC) breakpoints for *N. gonorrhoeae*, based on EUCAST Clinical Breakpoints v16.0 2026

Antimicrobial	MIC breakpoint for susceptibility (mg/L)	MIC breakpoint for decreased susceptibility or susceptible, increased exposure (mg/L)	MIC breakpoint for resistance (mg/L)
Ceftriaxone*	<0.06*	0.06 to 0.125*	>0.125
Ciprofloxacin	≤0.03	0.06	>0.06
Penicillin	≤0.06	0.125 to 1	>1
Tetracycline	≤0.5	-	>0.5
Azithromycin	≤1mg/L, at or below the ECOFF. No acquired resistance mechanisms (wild-type)	MIC >1mg/L, above the ECOFF. Suggestive of acquired resistance mechanisms (non-wild type)	

MIC, minimum inhibitory concentration.

* Decreased susceptibility category for ceftriaxone based upon World Health Organization surveillance guidelines; only used for surveillance reporting. This differs from the EUCAST clinical breakpoints where Susceptible is ≤0.125mg/L and Resistant is >0.125mg/L.

CULTURE AND ANTIMICROBIAL SUSCEPTIBILITY TESTING

A detailed breakdown of gonorrhoea infection and culture numbers for 2025 is presented in Table 12. In 2025 1,446/6,306 (22.9%) of the reported gonorrhoea cases had a culture test. Of these, 1,076/1,446 (74.4%) were culture positive for *N. gonorrhoeae* , and AST was undertaken and reported to PHF Science for 1,033 (96%) isolates for ceftriaxone and 681 (63.3%) isolates for azithromycin. Midland | Te Manawa Taki reported the highest proportion of culture testing among positive cases (32.1%) an increase from 26.8% in 2024. The proportion of culture tests also increased in the South Island | Te Waipounamu from 15.9% in 2024 to 22.0% in 2025. PHF Science continues to receive very few azithromycin AST results from the Central | Te Ikaroa region.

Table 12. Total number of gonococcal infections, culture tests, positive culture results, ceftriaxone AST results and azithromycin AST results by region: 2025

Region	No. of infections[1]	No. of culture tests[2]	No. of positive culture results[3]	No. of azithromycin AST results[4]	No. of ceftriaxone AST results[4]
Northern	3,461	829 (24.0%)	581 (70.1%)	404 (69.5%)	550 (94.7%)
Midland | Te Manawa Taki	1,103	354 (32.1%)	258 (72.9%)	150 (58.1%)	258 (100%)
Central | Te Ikaroa[5]	936	86 (9.2%)	68 (79.1%)	8 (11.8%)	56 (82.4%)
South Island | Te Waipounamu	805	177 (22.0%)	169 (95.5%)	119 (70.4%)	168 (99.4%)
Total	**6,306**	**1,446 (22.9%)**	**1,076 (74.4%)**	**681 (63.3%)**	**1,033 (96.0%)**

[1] Infections exclude multiple positive results within a defined period of time (see laboratory methods in Appendix 2).

[2] Deduplicated to exclude multiple positive results within the same episode. Percentage of infections among individuals with a known NHI or PID (personal identifier) who had a culture test.

A 'period of testing' created for results with known NHI or PID and in the same year and month.

All 'periods of testing' without a positive result removed.

All episodes of gonorrhoea with a culture test in the same 'period of testing' included, with 'PCR only' episodes removed.

Calculated number of gonorrhoea cases per region with a known NHI/PID where a culture test was taken.

[3] Of all the culture tests taken, these returned a positive result. A person with a gonococcal infection may return a negative culture test for several reasons, including: an extended transport time resulting in an unviable isolate; testing during the same infection but after treatment has started; and testing from a different anatomical site of the infection.

[4] Includes all positive culture results received with completed Antimicrobial Susceptibility Testing (AST) data in order of preference from minimum inhibitory concentration (MIC) results to SIR results (Susceptible; Susceptible, increased exposure/Intermediate; or Resistant) to disk diffusion results. % of AST results from no. of positive culture results.

[5] Laboratories in the Central | Te Ikaroa Region undertake minimal azithromycin AST.

Numbers of gonorrhoea cases and isolates undergoing azithromycin and ceftriaxone AST from 2021 to 2025 are shown in and Table 13. Annual gonorrhoea notifications decreased nearly 17% in 2025 from 2024. The proportion of cases with a culture test reported increased to 22.9% in 2025, continuing fluctuating trends over the past 5 years.

The percentage of cases undergoing ceftriaxone AST increased from 14.2% in 2024 to 16.4% in 2025. The proportion of gonorrhoea cases undergoing azithromycin testing was stable (10.3% in 2024 and 10.8% in 2025) (**Figure** 6). The proportion of culture tests returning a positive result has ranged from 71.3 to 77.7% over the past 5 years.

Figure 6. Number of gonorrhoea cases reported and isolates subsequently undergoing antimicrobial susceptibility testing for azithromycin and ceftriaxone in New Zealand: 2021–2025

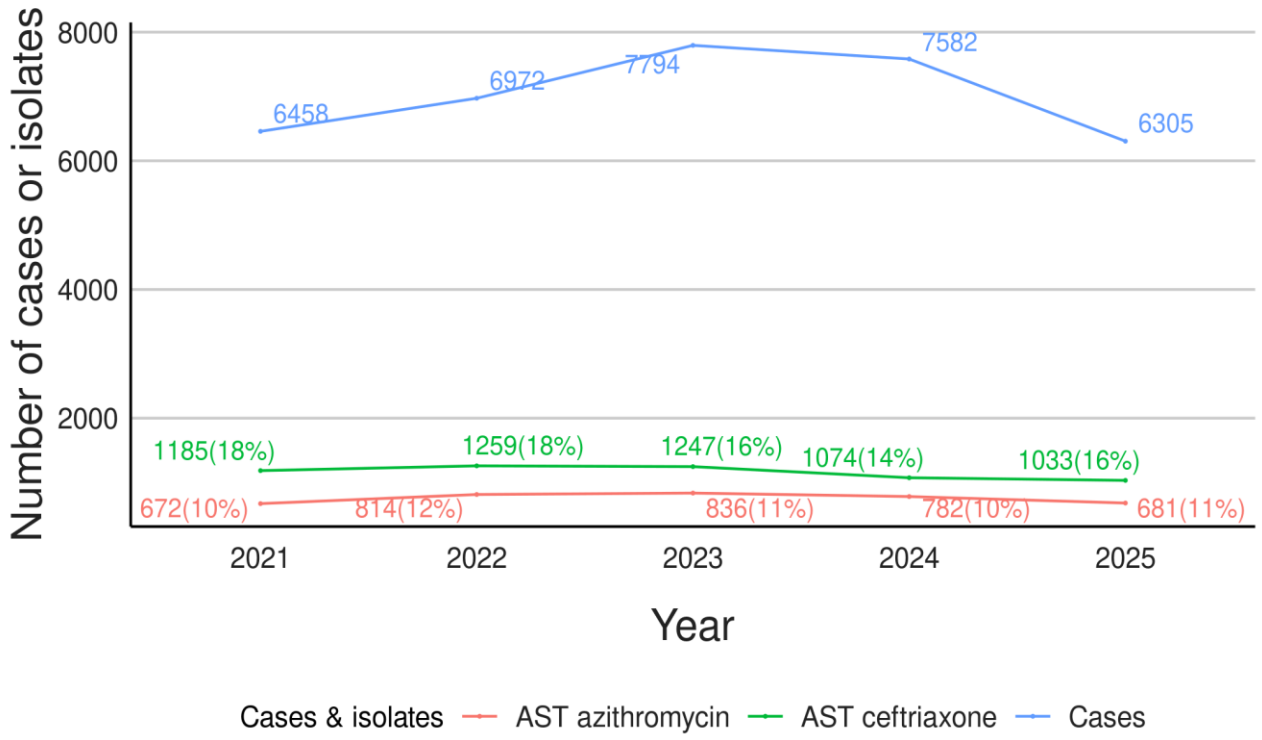


Table 13. Total number of gonococcal infections, culture tests, positive culture results, azithromycin and ceftriaxone AST results by year: 2021–2025

Year	No. of infections	No. of culture tests (%)	No. of positive culture results (%)	No. of Azithromycin AST results (%)	No. of Ceftriaxone AST results (%)
2021	6,458	1,573 (24.4%)	1,223 (77.7%)	672 (10.4%)	1,185 (18.3%)
2022	6,972	1,772 (25.4%)	1,326 (74.8%)	814 (11.7%)	1,259 (18.1%)
2023	7,794	1,726 (22.1%)	1,288 (74.6%)	836 (10.7%)	1,247 (16.0%)
2024	7,582	1,570 (20.7%)	1,119 (71.3%)	782 (10.3%)	1,074 (14.2%)
2025	6,306	1,446 (22.9%)	1,076 (74.4%)	681 (10.8%)	1,033 (16.4%)

AZITHROMYCIN & CEFTRIAXONE ANTIMICROBIAL SUSCEPTIBILITY TESTING RESULTS

In 2025, the first isolate tested in New Zealand with resistance to ceftriaxone was identified. This isolate also had high level resistance to azithromycin (>250 mg/L) and was classified as an extensively drug-resistant (XDR) gonorrhoea isolate. The case acquired the infection overseas and was epidemiologically linked to a known XDR case. There was no ongoing transmission risk in New Zealand, and the case returned overseas after testing and initial treatment.

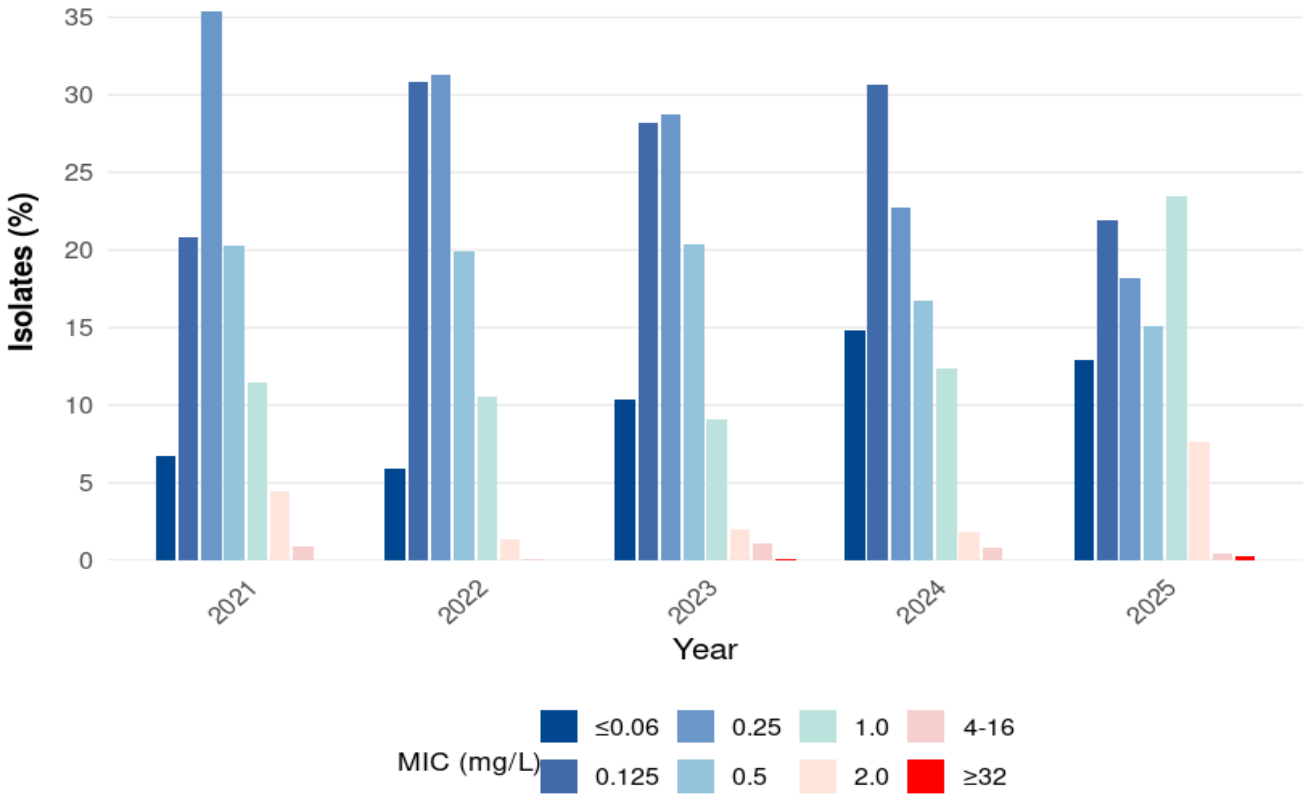
The number of isolates with decreased susceptibility to ceftriaxone (MIC≥0.06 mg/L to 0.125 mg/L) remains low, at 0.5% in 2025 (Table 14). Further data on ceftriaxone susceptibility by sex, age, region, ethnicity and specimen site are shown in Appendix 1 Table 21. Further analysis of cases with decreased susceptibility to ceftriaxone is limited due to low numbers.

Table 14. Azithromycin and ceftriaxone susceptibility data for *N. gonorrhoeae* in New Zealand: 2021–2025

Antibiotic	2021	2022	2023	2024	2025
Azithromycin (MIC >1.0 mg/L)	36/672 (5.4%)	12/814 (1.5%)	27/836 (3.2%)	20/782 (2.6%)	57/681 (8.4%)
Azithromycin (MIC ≥ 256 mg/L)	0	0	0	0	1/681 (0.1%)
Ceftriaxone resistant (MIC > 0.125 mg/L)	0	0	0	0	1/1033 (0.1%)
Ceftriaxone decreased susceptibility (MIC ≥ 0.06 & ≤0.125 mg/L)	14/1185 (1.2%)	8/1259 (0.6%)	9/1247 (0.7%)	6/1074 (0.6%)	5/1033 (0.5%)

The proportion of isolates with azithromycin MIC above the ECOFF (>1.0 mg/L) increased more than 3-fold in 2025 compared to 2024, to 8.4%. The MIC distribution was stable from 2022 to 2024 with the number of isolates with an MIC of 2.0 mg/L between 1.4 - 2.0% before increasing to 7.6% (52/681 isolates) in 2025. The majority of isolates with MIC>1.0 mg/L in 2025 had an MIC of 1 or 2 mg/L (51/57, 89%). An additional three isolates (0.4%) had an MIC of 4.0 mg/L with two isolates respectively reported as 32 mg/L and 256 mg/L (Figure 7). Nearly all isolates with MIC >1.0 mg/L were in the Midland | Te Manawa Taki (7.2%) and Northern (17%) regions. Further data on azithromycin susceptibility by sex, age, region, ethnicity and specimen site are shown in Appendix 1 Table 22.

Figure 7. Azithromycin MIC distribution for *N. gonorrhoeae* by year: 2021-2025



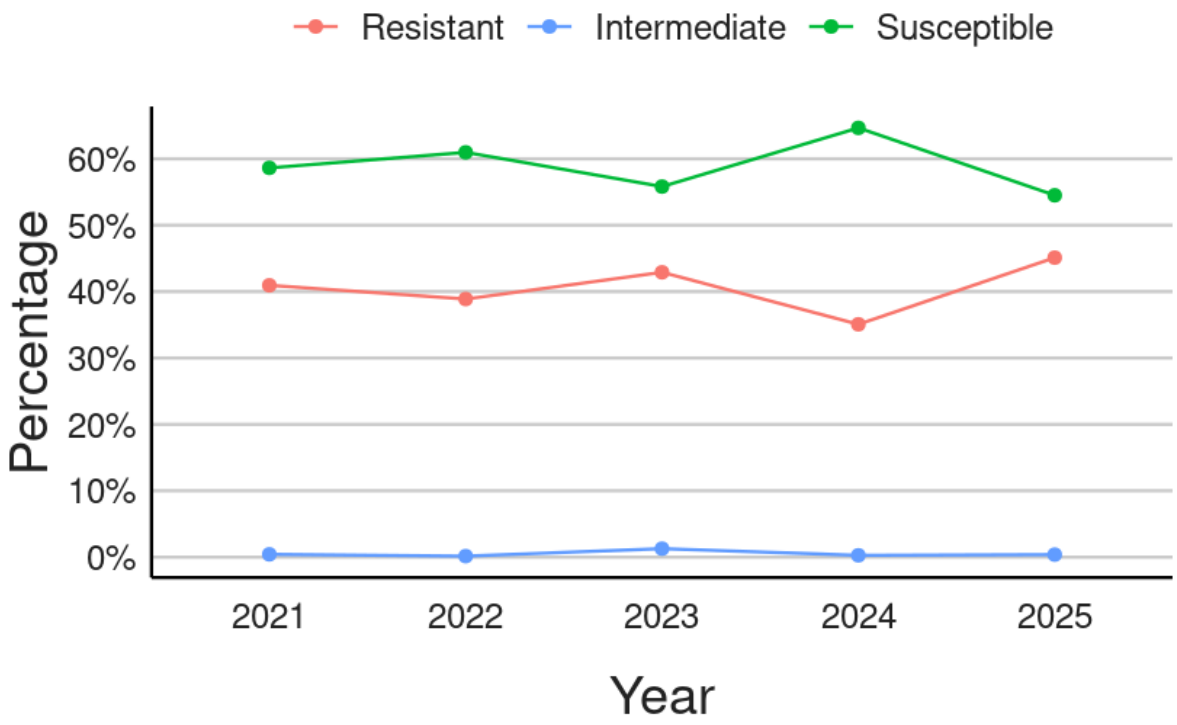
CIPROFLOXACIN RESISTANCE

Ciprofloxacin resistance increased in 2025 to 45%, continuing the annual fluctuating trend (Figure 8) and Appendix 1 Table 24). Isolates categorised as *susceptible, increased exposure* to ciprofloxacin represent <1% (<10 isolates) of AST each year.

By sex, resistance to ciprofloxacin followed the overall trend among males but doubled among females from 14% in 2024 to 31% in 2025.

By age, the proportion of resistant isolates was higher in older age groups in 2025 (34% amongst those aged 15-19 years and 53% amongst those aged 40+ years). By ethnicity, across all reporting years, the highest proportion of resistant isolates (between 43–59% since 2021) were seen among isolates from people of Asian ethnicity (52%) followed by European/other ethnicities (48%).

Figure 8. Proportion of *N. gonorrhoeae isolates* by susceptibility* to ciprofloxacin in New Zealand: 2021–2025



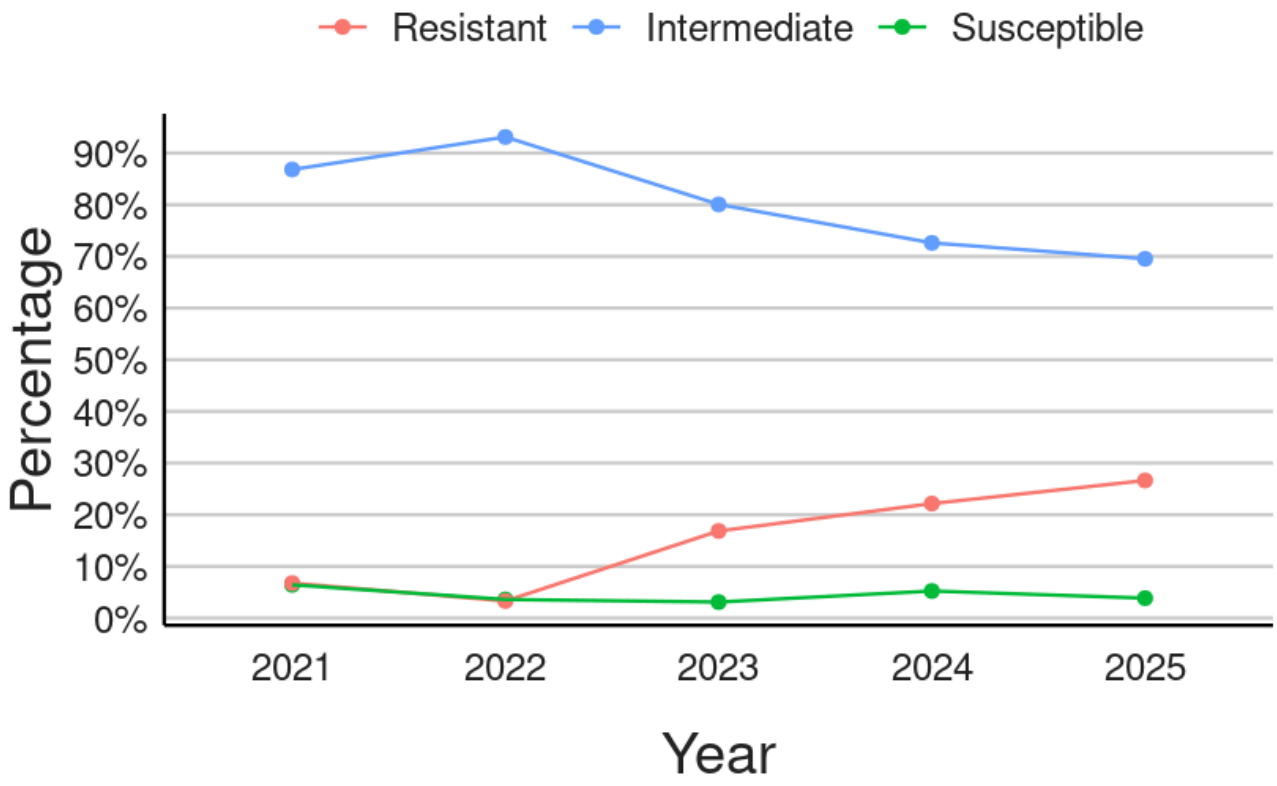
* *Intermediate means susceptible, increased exposure*

PENICILLIN RESISTANCE

The majority of AST for penicillin testing was undertaken in Midland | Te Manawa Taki and South Island | Te Waipounamu regions, with 163 and 146 isolates tested for penicillin susceptibility in these regions, respectively, in 2025. Low numbers of isolates underwent penicillin AST in the Central | Te Ikaroa (5) and Northern (24) regions in 2025. Further information on penicillin susceptibility is provided in Appendix 1 Table 23.

Resistance to penicillin increased further in 2025 to 26.6%, from 22.2% in 2024 (Figure 9). The proportion of isolates with *susceptible, increased exposure* to penicillin decreased concomitantly (69.5% in 2025 from 72.6% in 2024) with the increase in resistance, while the proportion of fully susceptible isolates remained low (3.8%) in 2025.

Figure 9. Proportion of *N. gonorrhoeae* isolates by susceptibility* to penicillin in New Zealand: 2021–2025

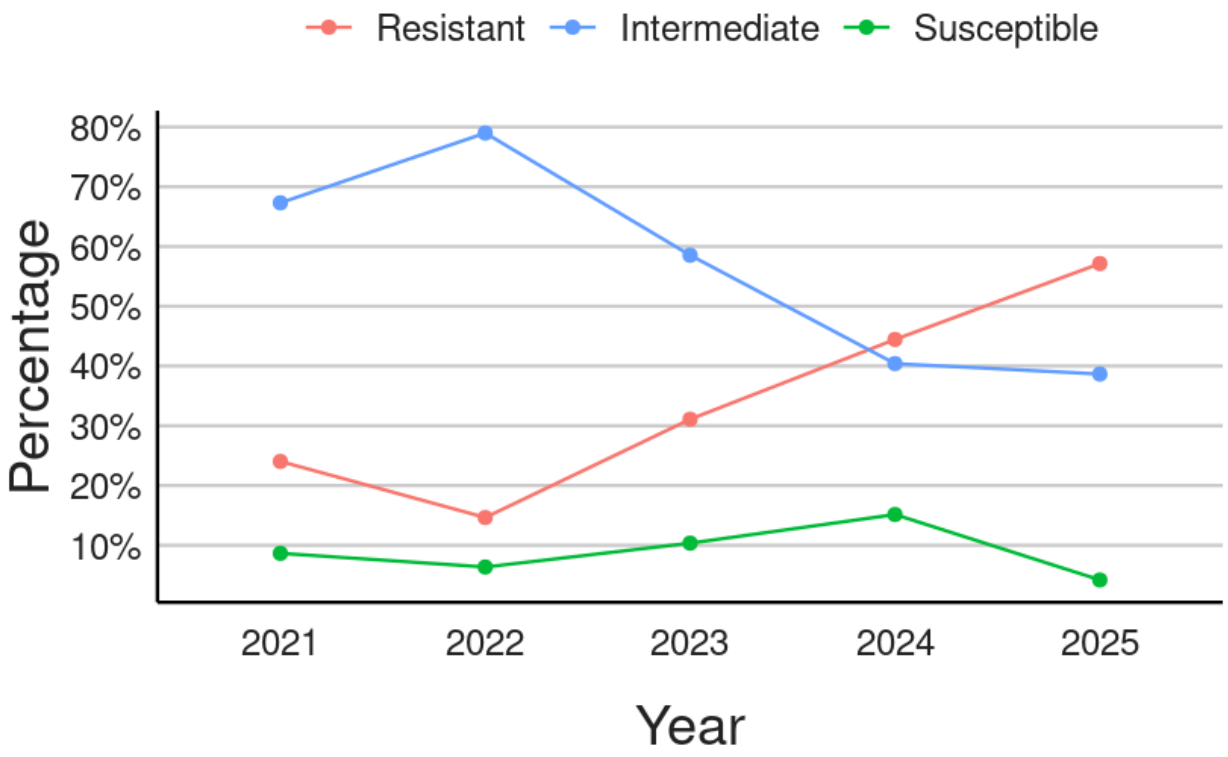


* Intermediate means *susceptible, increased exposure*

TETRACYCLINE RESISTANCE

As in most previous years, tetracycline AST results for 2025 were received from only one laboratory (Canterbury). The number of isolates with AST for tetracycline reported increased in 2025 to 119 from 99 in 2024 (Appendix 1 Table 25). Tetracycline resistance increased again in 2025 to 57%, up from 15.3% in 2022 (Figure 10). The clinical breakpoints for tetracycline and *N. gonorrhoeae* changed in 2023, although, as the majority of results received were interpreted results (SIR instead of MIC or ZD data), the impact of the new breakpoints is unclear. Although the number of resistant isolates is highest amongst males each year, the proportion of resistant isolates by sex fluctuates for each reporting year. Given low isolate numbers, trends by age and ethnicity are not reported.

Figure 10. Proportion of *N. gonorrhoeae* isolates by susceptibility* to tetracycline in New Zealand: 2021–2025



* *Intermediate means decreased susceptibility/susceptible, increased exposure*

GENITAL WARTS

Prior to 2022, data on first presentations of genital warts was reported to PHF Science by sexual health and Family Planning clinics across New Zealand. In 2022, genital warts surveillance shifted to a sentinel surveillance approach, focusing on data from eleven high-volume sexual health clinics across New Zealand which historically reported the majority of New Zealand's first presentations of genital warts cases.

Surveillance of first presentations of genital warts helps monitor the impact of the vaccination for human papillomavirus (HPV). HPV is implicated in the development of genital warts, ano-genital and head and neck cancers. HPV vaccination has been part of the national immunisation programme for girls aged 12 years since 2008 and was extended to include boys aged 12 years from 2017. The HPV vaccine may be offered from nine years of age but is usually given at age 11–12 years of age (17). Table 15 shows the characteristics of reported genital warts cases between 2021 and 2025, from the eleven sexual health clinics participating in this surveillance.

Table 15. Characteristics of first presentation genital warts cases in sentinel clinics by sex, age, ethnicity, and region: 2021–2025

Year	2021, N = 572[1]	2022, N = 473[1]	2023, N = 550[1]	2024, N =541[1]	2025, N =433[1]
Sex					
Female	217 (38%)	169 (36%)	217 (39%)	183 (34%)	124 (30%)
Male	355 (62%)	302 (64%)	330 (60%)	357 (66%)	296 (70%)
Unknown/Other	0	0	3 (1%)	1 (0%)	0
Age Group*					
15–19	16 (3%)	5 (1%)	6 (1%)	6 (1%)	7 (2%)
20–24	130 (23%)	83 (18%)	81 (15%)	56 (10%)	64 (15%)
25–29	133 (23%)	107 (23%)	124 (23%)	126 (23%)	72 (17%)
30–39	155 (27%)	147 (31%)	154 (28%)	166 (31%)	141 (33%)
40+	136 (24%)	131 (28%)	179 (33%)	186 (34%)	148 (34%)
Unknown	0	0	6 (1%)	0	0
Ethnicity					
Māori	80 (14%)	62 (13%)	74 (13%)	72 (13%)	61 (14%)
Pacific Peoples	23 (4%)	27 (6%)	19 (3%)	30 (6%)	25 (6%)
European/Other	461 (81%)	374 (79%)	428 (78%)	432 (80%)	343 (79%)
Unknown	8 (1%)	10 (2%)	29 (5%)	7 (1%)	4 (1%)
Sentinel clinic region					
Auckland	191 (33%)	216 (46%)	198 (36%)	210 (39%)	217 (50%)
Christchurch	78 (14%)	38 (8%)	71 (13%)	75 (14%)	74 (17%)
Dunedin	20 (3%)	8 (2%)	12 (2%)	10 (2%)	6 (1%)
Hamilton	68 (12%)	27 (6%)	55 (10%)	41 (8%)	38 (9%)
Hastings	19 (3%)	1 (0%)	17 (3%)	4 (1%)	3 (1%)
Nelson	65 (11%)	24 (5%)	38 (7%)	47 (9%)	13 (3%)
New Plymouth	32 (6%)	67 (14%)	25 (5%)	31 (6%)	24 (6%)
Palmerston North/ Levin/Dannevirke	5 (1%)	17 (4%)	11 (2%)	93 (17%)	18 (4%)
Rotorua	35 (6%)	4 (1%)	10 (2%)	9 (2%)	9 (2%)
Tauranga	42 (7%)	31 (7%)	25 (5%)	8 (1%)	8 (2%)
Wellington	17 (3%)	40 (8%)	88 (16%)	13 (2%)	23 (5%)

[1] *N (%) *Age-group 0–14 removed as no cases reported most years and 1–2 cases reported other years.*

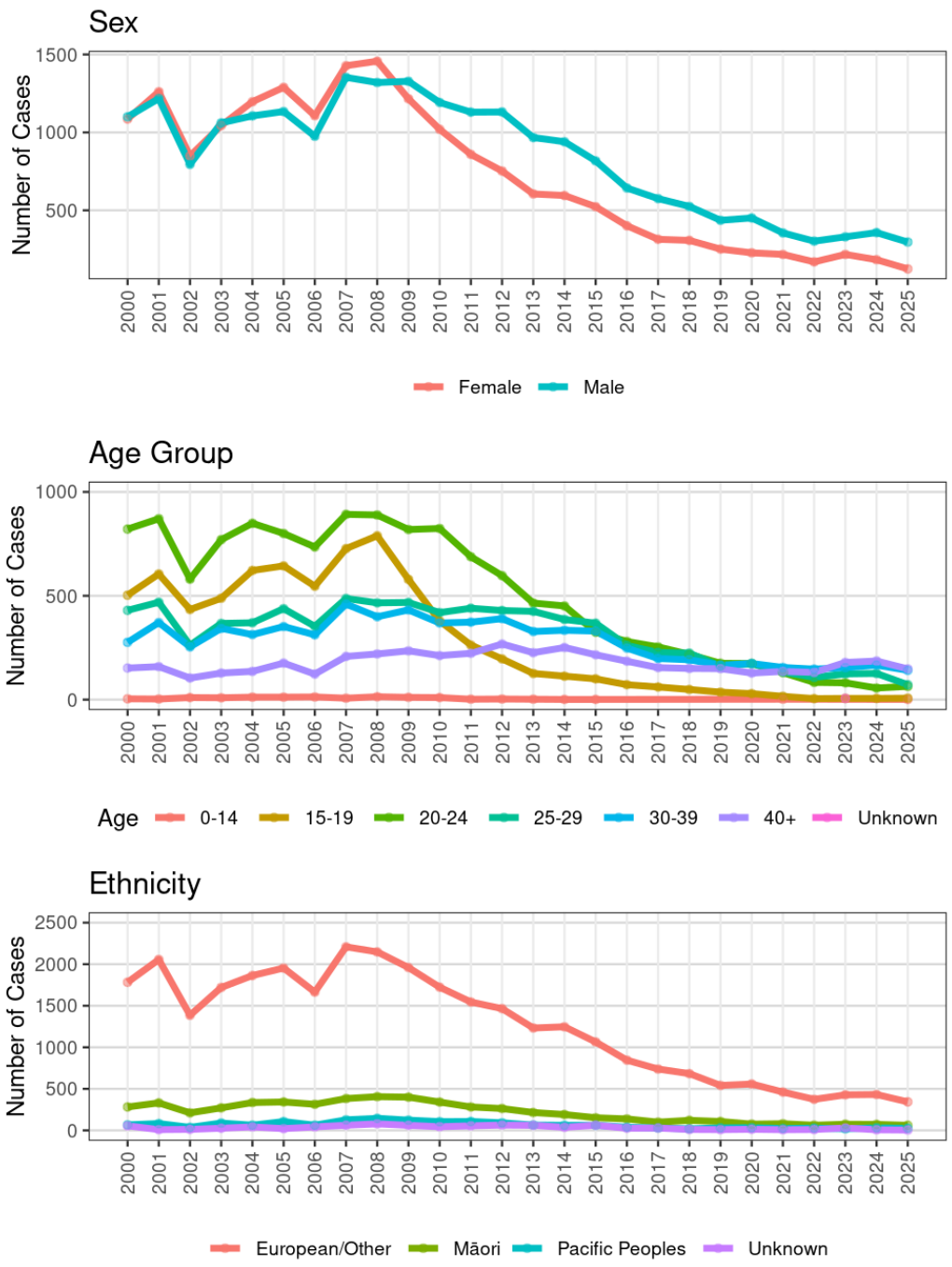
The number of first presentations of genital warts cases reported in 2025 decreased by 108 cases (20%) compared to 2024. The overall number of cases of first presentation genital warts remains substantially lower than that seen in 2019 to 2020 (and prior years), reflecting the impact of the HPV vaccine.

First presentation genital warts by sex, age, and ethnicity

Trends in first presentation genital warts from 2000 to 2025 are displayed in Figure 11 to demonstrate vaccination impact. Data from 2000 to 2021 were restricted to the eleven high-volume sexual health clinics that contributed to sentinel surveillance from 2022. There has been a downward trend across all ages, ethnic groups, and sexes from 2008.

In 2025, males continue to be overrepresented in first presentation genital warts cases, with over twice the numbers of cases in females (Figure 11). Compared with 2024, 2025 case numbers decreased for those aged 25 years and older, with the highest decrease among those aged 25–29. Cases increased among 20–24-year-olds and remained low and stable for those aged 15–19. Case numbers decreased across all ethnic groups, with the largest decrease seen in the European/Other ethnic group.

Figure 11. Genital warts cases by sex, age-group, and ethnicity: 2000–2025



CLINIC SURVEILLANCE OF LYMPHOGRANULOMA VENEREUM (LGV)

There were five cases of LGV reported as part of clinic surveillance in 2025. Two cases each were reported in the Auckland Region and Christchurch, and one case in Wellington. Eight cases of LGV were reported in 2024 and thirteen cases in 2023.

INTERPRETATION

STI TRENDS

Overall, rates of gonorrhoea, chlamydia, and infectious syphilis decreased in 2025. This continues a steady decline in gonorrhoea and chlamydia rates since 2023. Infectious syphilis cases began declining in the second half of 2024, following a record-high number of notifications in 2024 Q2. Data from clinical notifications show a particularly marked drop in infectious syphilis and gonorrhoea notifications among MSM. Notable decreases in syphilis rates were also seen among Pacific peoples, and by region the most pronounced drops were seen in Central | Te Ikaroa region and Northern Regions.

These decreases are likely to reflect improved STI prevention and management efforts, including comprehensive HIV/STI screening, treatment, and contact management. Increased use of doxycycline post-exposure prophylaxis (doxy-PEP) in 2025 may have also contributed to this decline. Following an April 2024 New Zealand Sexual Health Society position statement advising doxy-PEP be proactively offered to people assigned male sex at birth who have sex with men with a diagnosis of syphilis or two other bacterial STIs in the past 12 months, from mid to late 2024, sexual health services began offering doxy-PEP (1, 2). However, the decline in gonorrhoea and chlamydia began prior to this and has also been seen in women. Further research is needed to investigate the impact of doxy-PEP in NZ. Despite the downward trends in 2025, STI rates in New Zealand remain high and inequities persist, highlighting the continued need for equitable STI prevention, testing and treatment.

The 2025 rate of congenital syphilis, 7 per 100,000 live births (4 cases) decreased compared with 2024 and was lower than the peak of 14 per 100,000 seen in 2020 and 2022 (8 cases). However, the rate of this preventable condition continues to be unacceptably high and falls short of New Zealand's National Sexually Transmitted and Blood Borne Infections (STBBI) Strategy goal to eliminate congenital syphilis, defined as zero cases (12).

Sentinel surveillance suggests there has also been a decrease in first episode genital warts cases in 2025 compared to 2023 and 2024. This follows an increase in 2023 after a sustained decline since 2017. Compared with 2024, a decrease in cases was seen across both sexes and all ethnic groups. While the number of cases decreased across most age groups, a slight increase was seen among those aged 15-19, and 20-24 years of age. The overall number of cases of first presentation genital warts remains substantially lower than that seen in 2019 to 2020 (and prior years), particularly among young people and females, reflecting the impact of the HPV vaccine.

INEQUITIES ANALYSIS

MSM continue to be disproportionately impacted by syphilis and gonorrhoea. In 2025, the infectious syphilis and gonorrhoea rates among MSM were 61.9 and 50.4 times that of MSW, respectively. Stigma and a lack of access to appropriate sexual health services continue to be barriers for many MSM (3). Continued strengthening of HIV/STI prevention, treatment, and health promotion initiatives targeting MSM remain critical.

The number of gonorrhoea cases reporting sex work increased in 2025 compared to 2024 (67 to 73 cases), while the number of syphilis cases reporting sex work remained the same (14 cases each). Interpretation of these data is limited by low numbers and an unknown denominator. In addition, ongoing stigma and discrimination experienced by sex workers may affect access to sexual health care and disclosing sex work to clinicians.

Inequities for Māori continue to be seen across all STIs. While the gap in syphilis, gonorrhoea, and chlamydia rates between Māori and the European/Other group did not widen in 2025, the rates among Māori remain substantially higher than in the European/Other ethnic group. Syphilis rates among Māori were 1.9 times those of the European/Other ethnic group. Similarly, gonorrhoea and chlamydia rates among Māori were 4.0 and 3.9 times those among European/Other people respectively.

Syphilis in pregnancy continues to inequitably affect Māori, with 10 European and Māori cases each in 2025, despite Māori comprising 18% of the New Zealand population in 2025 (18). However, the proportion of antenatal syphilis cases among Māori decreased in 2025 compared with 2024, falling from 56.7% to 35.7%.

Similarly, the proportion of congenital syphilis cases among Māori infants also declined. In 2025, one of four congenital syphilis cases occurred among Māori infants, compared with four of six cases in 2024. This is the first time since 2017 that Māori infants did not comprise 50% or more of the congenital syphilis cases in New Zealand. Although case numbers have decreased compared to 2024, Māori continue to be disproportionately impacted by antenatal and congenital syphilis. High proportions of paediatric chlamydia and gonorrhoea infections were also notified in Māori infants (33% and 50% respectively) in 2025.

Inequities for Pacific peoples likewise persist. Rates among Pacific peoples compared to those among the European/Other ethnic group were 2 times higher for syphilis, 5.3 times higher for gonorrhoea, and 4.6 times higher for chlamydia. The numbers of infectious syphilis cases reported in pregnancy for Pacific peoples increased in 2025 (6 cases) compared with 2024 (4 cases) and there was one case of congenital syphilis in a Pacific infant, equal to the number reported in 2024. Half of the paediatric gonorrhoea infections (2 of 4 cases) in 2025, and 38% (8 of 21 cases) of paediatric chlamydia infections were notified in Pacific infants.

The disproportionate burden of STIs and paediatric infections among Māori and Pacific adults and infants demonstrates the need for tailored health promotion strategies and improved access to culturally safe sexual health care and antenatal services for Māori and Pacific women.

Young people continue to be highly affected by STIs, with gonorrhoea rates highest among those aged 20–29 years, and rates of chlamydia highest among those aged 20–24 years.

Together, these trends highlight persistent disparities in STIs, concentrated among key populations across New Zealand. These trends emphasise the need for improved access to timely, high quality, and culturally safe services tailored to the needs of key populations, including young people, Māori and Pacific peoples, gay, bisexual and other MSM, and sex workers. Addressing the underlying structural and social determinants of health remain crucial to eliminating inequities in STIs.

GONORRHOEA AMR

Effective AMR surveillance is crucial for the early detection of resistant strains of *N. gonorrhoeae* and to ensure treatment guidelines remain appropriate. In 2025, the first *N. gonorrhoeae* isolate with ceftriaxone resistance, high-level azithromycin resistance, and classified as XDR was detected in New Zealand, and there was an increase in the proportion of isolates detected with azithromycin MIC above the ECOFF, indicating acquired azithromycin resistance mutations, to 8.4%.

While current New Zealand treatment guidelines for gonorrhoea recommend dual therapy with ceftriaxone and azithromycin, evidence of increased azithromycin resistance and concern about effects of azithromycin on other pathogens has led other countries, including the United Kingdom, the United States and Canada, to recommend single-agent ceftriaxone for uncomplicated gonorrhoea (19-21). There are also growing reports of ceftriaxone resistant and XDR *N. gonorrhoeae*, particularly in the Western Pacific Region, including in Australia (22) (23). In quarters 1-3 of 2025 in Australia, 0.6% of *N. gonorrhoeae* isolates were ceftriaxone-resistant (classified as MIC ≥0.125 mg/L), 6.9% were resistant to azithromycin (MIC >1.0 mg/L) with 15 isolates exhibiting high-level resistance (MIC ≥ 256 mg/L) (24), and 7 XDR isolates reported, with resistance to ceftriaxone and high-level azithromycin resistance (25). Van Hal et al recently suggested that "the demonstrated genomic link between emergence of extremely drug-resistant clones and azithromycin use strengthens calls to re-evaluate the use of azithromycin in empiric therapy" (26). 2025 New Zealand data and the international context indicate the need to review the role of azithromycin in dual therapy as first line treatment in the national gonorrhoea treatment guidelines, and ensure that *N. gonorrhoeae* AMR surveillance is sensitive and timely.

Limitations to current *N. gonorrhoeae* AMR surveillance include unclear national guidelines on gonorrhoea culture with diagnosis made with NAAT, variation in laboratory testing protocols, with small numbers of isolates tested overall and gaps in geographical representation, such as low azithromycin AST in the Central | Te Ikaroa region, and no tetracycline AST beyond the Canterbury district, delays to laboratory data provision and analysis, and potential for transcription errors during the manual process of data referral to PHF Science.

In 2025, culture was undertaken for 23% of gonococcal infections, a slight decrease from over 25% in 2022 but higher than both 2023 and 2024 with an overall proportion of all infections providing a positive culture for AST increasing to 16%. While this is comparable to the proportion of gonorrhoea cases with isolates available for AST in some countries, for example Canada where around 10% of cases undergo AST, it is lower than that reported in Australia (24% in 2025) (27, 28). Comparisons with UK and US AMR surveillance are difficult due to differences in the sentinel surveillance systems in use (29, 30). There are no international guidelines on the proportion of gonorrhoea cases which should have culture for AST for surveillance, and the WHO notes that countries vary substantially in their approach, from predefined sample sizes or time periods from sentinel sites, to passive voluntary surveillance or intermittent surveys (31). However, the WHO gonorrhoea guidelines recommend that specimens from all cases of suspected gonorrhoea infection should be collected for microbiological culture and antimicrobial susceptibility testing, to the extent possible considering local availability of resources (32).

New Zealand *N. gonorrhoeae* AMR data are not systematically sampled and are influenced by swabbing practices. Cultures are primarily taken in sexual health services, with sampling bias potentially affecting generalisability of resistance profiles. An improved understanding of the demographics of those swabbed, including through the integration of clinical and laboratory data, may provide insight. To fully understand site of infection, sexual behaviour is an important consideration, however this is not collected with laboratory data and laboratory results cannot currently be routinely linked with clinical notifications. Strengthening surveillance through national clinical and laboratory guideline changes to increase culture numbers and improve geographical consistency are recommended, along with an exploration of enhanced sentinel surveillance. Implementing an automated data repository for the collection of *N. gonorrhoeae* testing data including AST is also recommended and currently underway.

Monitoring resistance to tetracycline may become more relevant with the increasing use of doxy-PEP (33). Although this report shows a continued increase in resistance to tetracycline in 2025, it is unknown whether this data is representative of tetracycline resistance rates across New Zealand since only one laboratory currently tests *N. gonorrhoeae* against tetracycline. More laboratories would need to introduce tetracycline AST if more comprehensive and representative tetracycline susceptibility data were required.

Continued efforts to increase the proportion of cases for which isolates are referred for culture from clinicians and which are tested for susceptibility to important antimicrobials across all regions are also required. Currently, PHF Science requests isolates with ceftriaxone MIC ≥ 0.125mg/L or azithromycin MIC ≥ 16mg/L to be sent for confirmatory testing.

With the universal use of NAAT for gonorrhoea diagnosis, it would be timely to explore alternative culture-independent methods of *N. gonorrhoeae* surveillance. Although not yet in routine use internationally for national surveillance, research efforts into culture-independent detection of *N. gonorrhoeae* antimicrobial resistance determinants, as well as phylogenetic relationships, using molecular and sequencing techniques, are ongoing, and likely to be an area of rapid future development (34-37).

REFERENCES

1. Scott J, Giola M, Oliphant J. Position statement on doxycycline post-exposure prophylaxis for the prevention of bacterial sexually transmissible infections in Aotearoa New Zealand: the New Zealand Sexual Health Society. Sex Health. 2025;22.
2. The New Zealand Sexual Health Society. NZSHS doxy-PEP statement for Aotearoa New Zealand 2024 [Available from: https://www.nzshs.org/site_files/38652/upload_files/AoNZfinaldoxyPEPstatement.pdf.
3. Ludlam A, Paynter J, McAllister S, Haunui K, Leakey C, Hollingshead B, et al. Inequities in recent STI testing uptake among gay, bisexual, takatāpui and other men who have sex with men 2024 [Available from: https://static1.squarespace.com/static/61c3974599b9f661a10fb3a7/t/6698e89b5a43523953e0cc14/1721297052635/SPOTS+Report+1.6.pdf.
4. Espiner E, Paine SJ, Weston M, Curtis E. Barriers and facilitators for Māori in accessing hospital services in Aotearoa New Zealand. N Z Med J. 2021;134(1546):47-58.
5. Gurney J, Stanley J, Sarfati D. The inequity of morbidity: Disparities in the prevalence of morbidity between ethnic groups in New Zealand. J Comorb. 2020;10:2235042x20971168.
6. PHARMAC. Decision to fund HIV pre-exposure prophylaxis (PrEP) 2018 [Available from: https://pharmac.govt.nz/news-and-resources/consultations-and-decisions/decision-to-fund-hiv-pre-exposure-prophylaxis-prep.
7. Pharmac Te Pātaka Whaioranga. Decision to widen access to antiretrovirals and nitrofurantoin 2022 [Available from: https://pharmac.govt.nz/news-and-resources/consultations-and-decisions/2022-06-15-decision-to-widen-access-to-antiretrovirals-and-nitrofurantoin.
8. New Zealand Sexual Health Society. PrEP and PEP Guidelines for Aotearoa New Zealand Auckland, New Zealand2023 [Available from: https://www.nzshs.org/site_files/38652/upload_files/PrEPandPEPGuidelinesFinalJuly2024.pdf?dl=1.
9. New Zealand Sexual Health Society. Syphilis in Pregnancy. Antenatal Management Guidelines for maternal and congenital syphilis 2020 [Available from: https://www.nzshs.org/site_files/38652/upload_files/SyphilisinPregnancyguidelineSept2020.pdf?dl=1.
10. The New Zealand Sexual Health Society. Syphilis in Pregnancy: Antenatal Management Guidelines for maternal and congenital syphilis2020 September. Available from: https://www.nzshs.org/docman/guidelines/management-of-sexual-health-conditions/syphilis/syphilis-in-pregnancy/397-syphilis-in-pregnancy-v1-sep-2020/file.
11. World Health Organization. Global guidance on criteria and processes for validation: elimination of mother-to child transmission of HIV, syphilis and hepatitis B virus. Geneva: World Health Organization; 2021.
12. Ministry of Health. Ngā Pokenga Paipai Me Ngā Pokenga Huaketo Mā Te Toto: Te Rautaki O Aotearoa 2023–2030 | Aotearoa New Zealand Sexually Transmitted and Blood Borne Infection Strategy 2023–2030. . Wellington: Ministry of Health; 2023.
13. Hammerschlag M. Chlamydial and gonococcal infections in infants and children. Clinical infectious diseases. 2011;53(Suppl 3):S99-S102.
14. World Health Organization. WHO bacterial priority pathogens list, 2024: Bacterial pathogens of public health importance to guide research, development and strategies to prevent and control antimicrobial resistance. 2024.
15. New Zealand Sexual Health Society. Gonorrhoea: Management and Guidelines [Available from: https://sti.guidelines.org.nz/infections/gonorrhoea/.
16. Australian Society for HIV VHaSHM. Australian STI Management Guidelines for use in primary care. 2024.

17. Ministry of Health. HPV Immunisation Programme. Immunisation2021.
18. Stats NZ. Māori population estimates: At 30 June 2025 2025 [Available from: https://www.stats.govt.nz/information-releases/maori-population-estimates-at-30-june-2025/.
19. Fifer H, Ismail MA, Soni S, Nwaosu U, Sadiq ST, Milligan A, et al. British Association of Sexual Health and HIV UK National Guideline for the Management of infection with Neisseria gonorrhoeae, 2025. Int J STD AIDS. 2025:9564624251345195.
20. St Cyr S, Barbee L, Workowski KA, Bachmann LH, Pham C, Schlanger K, et al. Update to CDC's Treatment Guidelines for Gonococcal Infection, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(50):1911-6.
21. Government of Canada. Gonorrhea guide: Treatment and follow-up 2025 [Available from: https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/gonorrhea/treatment-follow-up.html.
22. Ouk V, Pham CD, Wi T, van Hal SJ, Lahra MM. The Enhanced Gonococcal Surveillance Programme, Cambodia. Lancet Infect Dis. 2023;23(9):e332-e3.
23. Zhu X, Xi Y, Gong X, Chen S. Ceftriaxone-Resistant Gonorrhea - China, 2022. MMWR Morb Mortal Wkly Rep. 2024;73(12):255-9.
24. Lahra MM, van Hal S, Hutabarat SN, Hogan TR. Australian Gonococcal Surveillance Program, 1 April to 30 June 2024. Commun Dis Intell (2018). 2025;49.
25. Hogan T, Hurley SM, Van Hal SJ, Lahra MM. Australian Gonococcal Surveillance Program, 1 July to 30 September 2025. 2026.
26. van Hal SJ, Sherry N, Coombs G, Mowlaboccus S, Whiley DM, Lahra MM. Emergence of an extensively drug-resistant *Neisseria gonorrhoeae* clone. Lancet Infect Dis. 2024;24(9):e547-e8.
27. Lahra MM, van Hal S, Hogan TR. Australian Gonococcal Surveillance Programme, 1 October to 31 December 2023. Commun Dis Intell (2018). 2024;48.
28. Sawatzky P, Thorington R, Barairo N, Lefebvre B, Diggle M, Hoang L, et al. Antimicrobial susceptibilities of *Neisseria gonorrhoeae* in Canada, 2022. Can Commun Dis Rep. 2025;51(4):129-36.
29. UK Health Security Agency. Antimicrobial resistance in *Neisseria gonorrhoeae* in England and Wales: Key findings from the Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP 2021). 2022.
30. Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2022: Gonococcal Isolate Surveillance Project Profile 2024 [Available from: https://www.cdc.gov/sti-statistics/media/pdfs/2024/07/2022-GISP-Profiles_National_CLEARED_CLEAN.pdf.
31. Unemo M, Lahra MM, Cole MJ, Marcano Zamora D, Jacobsson S, Galarza P, et al. WHO global gonococcal antimicrobial surveillance programmes, 2019-22: a retrospective observational study. Lancet Microbe. 2025;6(10):101181.
32. World Health Organization. WHO guidelines for the treatment of *Neisseria gonorrhoeae* 2016 [Available from: https://iris.who.int/handle/10665/246114.
33. New South Wales Health. Antimicrobial Resistant Gonorrhoea 2024 [Available from: https://www.health.nsw.gov.au/Infectious/alerts/Documents/2024/AMR-gonorrhoea-GP-ALERT-20240613.pdf.
34. Donà V, Kasraian S, Lupo A, Guilarte YN, Hauser C, Furrer H, et al. Multiplex Real-Time PCR Assay with High-Resolution Melting Analysis for Characterization of Antimicrobial Resistance in Neisseria gonorrhoeae. J Clin Microbiol. 2016;54(8):2074-81.
35. Sati H, Carrara E, Savoldi A, Hansen P, Garlasco J, Campagnaro E, et al. The WHO Bacterial Priority Pathogens List 2024: a prioritisation study to guide research, development, and public health strategies against antimicrobial resistance. Lancet Infect Dis. 2025.
36. Slaats MHC, van der Veer B, van Alphen LB, Hoebe C, Dukers-Muijrers N, Wolffs PFG. Culture-Independent Genotyping Improves Surveillance of Neisseria gonorrhoeae, Especially in Oropharyngeal Samples, the Netherlands, 2017 to 2018. Pathogens. 2022;11(11).

37. Street TL, Sanderson ND, Barker L, Kavanagh J, Cole K, The GonFast Investigators G, et al. Target enrichment improves culture-independent detection of *Neisseria gonorrhoeae* and antimicrobial resistance determinants direct from clinical samples with Nanopore sequencing. Microb Genom. 2024;10(3).

APPENDIX 1: ADDITIONAL TABLES

Table 16. Infectious syphilis by year, sexual behaviour, gender, age, ethnicity, & region: 2021–2025

Sexual Behaviour	2021 N = 448[1]	2022 N = 509[1]	2023 N = 740[1]	2024 N = 784[1]	2025 N =605[1]
MSM	228 (51%)	228 (45%)	439 (59%)	439 (56%)	286 (47%)
MSW	98 (22%)	145 (29%)	155 (22%)	190 (24%)	172 (28%)
WSM	94 (21%)	108 (21%)	104 (14%)	121 (15%)	101 (17%)
WSW	1 (0.2%)	3 (0.6%)	3 (0.4%)	4 (0.5%)	7 (1.2%)
Unknown	27 (6.0%)	25 (4.9%)	39 (5.3%)	30 (3.8%)	39 (6.4%)
Gender Identity					
Cisgender men	325 (73%)	367 (72%)	606 (83%)	622 (79%)	465 (77%)
Cisgender women	101 (23%)	127 (25%)	121 (16%)	138 (18%)	117 (19%)
Transgender & non-binary people	22 (4.9%)	15 (2.9%)	13 (1.8%)	24 (3.1%)	23 (3.8%)
Age Group					
15–19	13 (2.9%)	25 (4.9%)	16 (2.2%)	26 (3.3%)	21 (3.5%)
20–24	73 (16%)	99 (19%)	98 (13%)	78 (9.9%)	75 (12%)
25–29	83 (19%)	84 (17%)	139 (19%)	147 (19%)	107 (18%)
30–39	147 (33%)	142 (28%)	248 (34%)	271 (35%)	183 (30%)
40+	132 (30%)	158 (31%)	239 (32%)	261 (33%)	219 (36%)
Ethnicity					
European/Other	200 (45%)	202 (40%)	355 (49%)	381 (49%)	288 (48%)
Māori	142 (32%)	176 (35%)	173 (24%)	189 (24%)	150 (25%)
Pacific	51 (11%)	69 (14%)	72 (10%)	88 (11%)	63 (10%)
Asian	53 (12%)	57 (11%)	126 (17%)	119 (15%)	100 (17%)
District/Region					
Auckland	110 (25%)	173 (34%)	245 (33%)	189 (24%)	133 (22%)
Bay of Plenty	21 (4.7%)	20 (3.9%)	24 (3.2%)	29 (3.7%)	20 (3.3%)
Canterbury	30 (6.7%)	13 (2.6%)	68 (9.2%)	102 (13%)	91 (15%)
Capital & Coast	45 (10%)	27 (5.3%)	53 (7.2%)	90 (12%)	69 (11%)
Counties Manukau	54 (12%)	76 (15%)	96 (13%)	94 (12%)	67 (11%)
Hawke's Bay	4 (0.9%)	12 (2.4%)	8 (1.1%)	8 (1.0%)	8 (1.3%)
Hutt Valley	18 (4.0%)	9 (1.8%)	8 (1.1%)	2 (0.3%)	0
Lakes	9 (2.0%)	3 (0.6%)	9 (1.2%)	28 (3.6%)	13 (2.1%)
MidCentral	16 (3.6%)	14 (2.8%)	5 (0.7%)	17 (2.2%)	16 (2.6%)
Nelson Marlborough	5 (1.1%)	4 (0.8%)	5 (0.7%)	3 (0.4%)	11 (1.8%)
Northland	19 (4.2%)	15 (2.9%)	18 (2.4%)	12 (1.5%)	13 (2.1%)
South Canterbury	2 (0.4%)	1 (0.2%)	2 (0.3%)	2 (0.3%)	5 (0.8%)
Southern	13 (2.9%)	6 (1.2%)	11 (1.5%)	30 (3.8%)	28 (4.6%)
Tairawhiti	0	0	2 (0.3%)	4 (0.5%)	4 (0.7%)
Taranaki	3 (0.7%)	4 (0.8%)	5 (0.7%)	6 (0.8%)	4 (0.7%)
Waikato	40 (8.9%)	57 (11%)	98 (13%)	92 (12%)	73 (12%)
Wairarapa	1 (0.2%)	1 (0.2%)	1 (0.1%)	6 (0.8%)	4 (0.7%)
Waitemata	52 (12%)	66 (13%)	79 (11%)	64 (8.2%)	46 (7.6%)
Whanganui	6 (1.3%)	8 (1.6%)	3 (0.4%)	6 (0.8%)	0

[1] *N(%). Percentages may not total 100% due to rounding infectious syphilis cases in different risk groups.*

Table 17. Clinical gonorrhoea notifications by sexual behaviour and age, ethnicity and region: 2025

	MSM, N = 1,090[1]	MSW, N = 809[1]	WSM, N = 953[1]	WSW N = 69[1]	Unknown N=632[1]	Total N = 3,553[1,2]
Age Group						
0–14	0	3(0.4%)	7(0.7%)	1(1.4%)	12(1.9%)	23(0.6%)
15–19	45(4.1%)	102(12.6%)	185(19.4%)	14(20.3%)	67(10.6%)	413(11.6%)
20–24	168(15.4%)	188(23.2%)	262(27.5%)	25(36.2%)	134(21.2%)	777(21.9%)
25–29	199(18.3%)	164(20.3%)	178(18.7%)	12(17.4%)	131(20.7%)	684(19.3%)
30–39	384(35.2%)	203(25.1%)	210(22.0%)	14(20.3%)	173(27.4%)	984(27.7%)
40+	294(27.0%)	149(18.4%)	111(11.6%)	3(4.3%)	115(18.2%)	672(18.9%)
Ethnicity						
European/Other	548(50.3%)	248(30.7%)	254(26.7%)	20(29.0%)	209(33.1%)	1,279(36.0%)
Māori	215(19.7%)	308(38.1%)	462(48.5%)	36(52.2%)	217(34.3%)	1,238(34.8%)
Pacific	95(8.7%)	154(19.0%)	184(19.3%)	10(14.5%)	109(17.2%)	552(15.5%)
Asian	198(18.2%)	76(9.4%)	34(3.6%)	1(1.4%)	64(10.1%)	373(10.5%)
Unknown	34(3.1%)	23(2.8%)	19(2.0%)	2(2.9%)	33(5.2%)	111(3.1%)
District/Region						
Auckland	304(27.9%)	106(13.1%)	129(13.5%)	7(10.1%)	185(29.3%)	731(20.6%)
Counties Manukau	94(8.6%)	155(19.2%)	158(16.6%)	13(18.8%)	127(20.1%)	547(15.4%)
Waitemata	96(8.8%)	61(7.5%)	102(10.7%)	13(18.8%)	48(7.6%)	320(9.0%)
Canterbury	103(9.4%)	61(7.5%)	52(5.5%)	6(8.7%)	43(6.8%)	265(7.5%)
Capital, Coast and Hutt Valley	120(11.0%)	43(5.3%)	59(6.2%)	6(8.7%)	51(8.1%)	279(7.9%)
Waikato	139(12.8%)	116(14.3%)	124(13.0%)	3(4.3%)	52(8.2%)	434(12.2%)
Southern	62(5.7%)	35(4.3%)	41(4.3%)	1(1.4%)	15(2.4%)	154(4.3%)
Bay of Plenty	42(3.9%)	41(5.1%)	52(5.5%)	2(2.9%)	22(3.5%)	159(4.5%)
Lakes	29(2.7%)	15(1.9%)	32(3.4%)	3(4.3%)	11(1.7%)	90(2.5%)
MidCentral	29(2.7%)	45(5.6%)	25(2.6%)	7(10.1%)	14(2.2%)	120(3.4%)
Hawke's Bay	17(1.6%)	37(4.6%)	52(5.5%)	4(5.8%)	30(4.7%)	140(3.9%)
Taranaki	7(0.6%)	7(0.9%)	13(1.4%)	0	5(0.8%)	32(0.9%)
Whanganui	4(0.4%)	3(0.4%)	8(0.8%)	0	2(0.3%)	17(0.5%)
Nelson Marlborough	7(0.6%)	13(1.6%)	17(1.8%)	0	2(0.3%)	39(1.1%)
Northland	27(2.5%)	52(6.4%)	62(6.5%)	1(1.4%)	12(1.9%)	154(4.3%)
Tairawhiti	5(0.5%)	13(1.6%)	20(2.1%)	1(1.4%)	7(1.1%)	46(1.3%)
West Coast	0	0	0	0	1(0.2%)	1(0.0%)
Wairarapa	4(0.4%)	0	4(0.4%)	2(2.9%)	2(0.3%)	12(0.3%)
South Canterbury	1(0.1%)	6(0.7%)	3(0.3%)	0(0.0%)	3(0.5%)	13(0.4%)

[1] *N (%) Percentages may not total 100% due to rounding*

[3] *Cases with erroneous/missing ages were removed from the analysis*

Table 18. Clinical gonorrhoea notifications by sexual behaviour and age, ethnicity, District/Region and year

Sexual Behaviour	2021 N = 3,569[1]	2022 N = 3,589[1]	2023 N = 4,226[1]	2024 N = 4,196[1]	2025 N = 3,553[1]
MSM	1,135(32%)	935(26%)	1,183(28%)	1,390(33%)	1,090(31%)
MSW	776(22%)	891(25%)	988(23%)	906(22%)	809(23%)
Unknown	684(19%)	731(20%)	824(19%)	718(17%)	632(18%)
WSM	900(25%)	964(27%)	1,153(27%)	1,110(26%)	953(27%)
WSW	74(2.1%)	68(1.9%)	78(1.8%)	72(1.7%)	69(1.9%)
Gender*					
Cisgender men	2,274(64%)	2,195(61%)	2,568(61%)	2,617(62%)	2,185(61%)
Cisgender women	1,263(35%)	1,358(38%)	1,615(38%)	1,504(36%)	1,295(36%)
Transgender & non-binary people	32(0.9%)	36(1.0%)	40(0.9%)	65(1.5%)	68(1.9%)
Unknown	0(0%)	0(0%)	3(<0.1%)	10(0.2%)	5(0.1%)
Age					
0–14	24(0.7%)	15(0.4%)	15(0.4%)	17(0.4%)	23(0.6%)
15–29	384(11%)	422(12%)	568(13%)	524(12%)	413(12%)
20–24	763(21%)	855(24%)	1,060(25%)	1,058(25%)	777(22%)
25–29	776(22%)	753(21%)	818(19%)	815(19%)	684(19%)
30–39	1,017(28%)	969(27%)	1,095(26%)	1,125(27%)	984(28%)
40+	605(17%)	575(16%)	670(16%)	657(16%)	672(19%)
Ethnicity					
European/Other	1,473(41%)	1,420(40%)	1,663(39%)	1,559(37%)	1,279(36%)
Māori	1,206(34%)	1,211(34%)	1,406(33%)	1,409(34%)	1,238(35%)
Pacific	521(15%)	554(15%)	677(16%)	662(16%)	552(16%)
Asian	310(8.7%)	320(8.9%)	370(8.8%)	421(10%)	373(10%)
Unknown	59(1.7%)	84(2.3%)	110(2.6%)	145(3.5%)	111(3.1%)
District/Region					
Auckland	710(20%)	706(20%)	806(19%)	862(21%)	731(21%)
Counties Manukau	583(16%)	624(17%)	667(16%)	665(16%)	547(15%)
Waitemata	343(9.6%)	305(8.5%)	407(9.6%)	388(9.2%)	320(9.0%)
Canterbury	300(8.4%)	418(12%)	350(8.3%)	297(7.1%)	265(7.5%)
Capital, Coast, and Hutt Valley	343(9.6%)	309(8.6%)	461(11%)	429(10%)	279(7.9%)
Waikato	369(10%)	376(10%)	389(9.2%)	433(10%)	434(12%)
Southern	120(3.4%)	103(2.9%)	154(3.6%)	160(3.8%)	154(4.3%)
Bay of Plenty	208(5.8%)	227(6.3%)	247(5.8%)	208(5.0%)	159(4.5%)
Lakes	122(3.4%)	87(2.4%)	137(3.2%)	98(2.3%)	90(2.5%)
MidCentral	112(3.1%)	104(2.9%)	140(3.3%)	134(3.2%)	120(3.4%)
Hawke's Bay	70(2.0%)	50(1.4%)	87(2.1%)	118(2.8%)	140(3.9%)
Taranaki	59(1.7%)	51(1.4%)	49(1.2%)	37(0.9%)	32(0.9%)
Whanganui	24(0.7%)	44(1.2%)	49(1.2%)	36(0.9%)	17(0.5%)
Nelson Marlborough	61(1.7%)	52(1.4%)	80(1.9%)	63(1.5%)	39(1.1%)
Northland	94(2.6%)	100(2.8%)	112(2.7%)	179(4.3%)	154(4.3%)
Tairawhiti	33(0.9%)	15(0.4%)	46(1.1%)	60(1.4%)	46(1.3%)
West Coast	2(<0.1%)	3(<0.1%)	4(<0.1%)	5(0.1%)	1(<0.1%)
Wairarapa	10(0.3%)	5(0.1%)	17(0.4%)	13(0.3%)	12(0.3%)
South Canterbury	6(0.2%)	10(0.3%)	24(0.6%)	11(0.3%)	13(0.4%)

** An updated case report removed the specific question about transgender status in 2025 with transgender status for 2025 calculated based on reported sex and gender. This is likely to lead to an increase in cases reported as transgender. Data prior to 2025 is calculated as it was previously, using the transgender specific question.*

Table 19. Infectious syphilis: Number of partners in past three months by sexual behaviour of case and sex of partner: 2025

	MSM	MSW	WSM	WSW	
No. of partners					
0	12	9	5	1	3
1	67	83	61	5	3
2–4	33	8	3	1	0
5–10	113	53	25	0	1
10+	42	10	0	0	0
Unknown	18	9	7	0	32

Table 20. Gonorrhoea: Number of partners in past three months by sexual behaviour of case and sex of partner: 2025

	MSM	MSW	WSM	Total
No. of partners				
0	10	10	12	32
1	197	347	509	1,053
2–4	439	329	324	1,092
5–10	216	67	47	330
10+	163	26	36	225
Unknown	65	30	25	120

Table 21. Number & proportion (%) of gonococcal isolates by susceptibility to ceftriaxone*, New Zealand, 2021–2025 by sex, age, ethnicity, region, and specimen site

	2021			2022			2023			2024			2025		
Sex	**S** N = 1,171[1]	**DS** N = 14[1]	**R** N=0	**S** N = 1,251[1]	**DS** N = 8[1]	**R** N=0	**S** N = 1,238[1]	**DS** N = 9[1]	**R** N=0	**S** N = 1,068[1]	**DS** N = 6[1]	**R** N=0	**S** N = 1,027[1]	**DS** N = 5[1]	**R** N = 1[1]
Female	196 (97%)	6 (3.0%)	-	224 (98%)	4 (1.8%)	-	190 (99%)	2 (1.0%)	-	146 (99%)	1 (0.7%)	-	167 (99%)	1 (0.6%)	0
Male	975 (99%)	8 (0.8%)	-	1,027 (100%)	4 (0.4%)	-	1,048 (99%)	7 (0.7%)	-	922 (99%)	5 (0.5%)	-	860 (99%)	4 (0.5%)	1 (0.1%)
Age group															
0–14	8 (100%)	0	-	0	0	-	0	0	-	3 (100%)	0	-	3 (100%)	0	0
15–19	99 (100%)	0	-	102 (100%)	0	-	113 (100%)	0	-	91 (100%)	0	-	103 (100%)	0	0
20–24	223 (98%)	4 (1.8%)	-	303 (99%)	3 (1.0%)	-	269 (100%)	0	-	234 (100%)	1 (0.4%)	-	200 (100%)	0	0
25–29	271 (99%)	2 (0.7%)	-	273 (100%)	1 (0.4%)	-	272 (99%)	3 (1.1%)	-	220 (99%)	2 (0.9%)	-	194 (98%)	2 (1.0%)	1 (0.5%)
30–39	359 (99%)	4 (1.1%)	-	345 (99%)	3 (0.9%)	-	337 (99%)	5 (1.5%)	-	321 (100%)	1 (0.3%)	-	306 (100%)	1 (0.3%)	0
40+	211 (98%)	4 (1.9%)	-	228 (100%)	1 (0.4%)	-	247 (100%)	1 (0.4%)	-	199 (99%)	2 (1.0%)	-	221 (99%)	2 (0.9%)	0
Ethnicity															
Asian	120 (98%)	2 (1.6%)	-	118 (99%)	1 (0.8%)	-	140 (99%)	2 (1.4%)	-	153 (100%)	0	-	139 (100%)	0	0
European/Other	447 (100%)	2 (0.4%)	-	508 (100%)	2 (0.4%)	-	498 (100%)	0	-	394 (100%)	1 (0.3%)	-	372 (100%)	1 (0.3%)	0
Māori	299 (98%)	5 (1.6%)	-	331 (100%)	1 (0.3%)	-	276 (100%)	0	-	317 (99%)	3 (0.9%)	-	323 (98%)	4 (1.2%)	1 (0.3%)
Pacific	167 (99%)	1 (0.6%)	-	197 (99%)	2 (1.0%)	-	184 (100%)	0	-	149 (100%)	0	-	160 (100%)	0	0
Unknown	138 (97%)	4 (2.8%)	-	97 (98%)	2 (2.0%)	-	140 (95%)	7 (4.8%)	-	55 (96%)	2 (3.5%)	-	33 (100%)	0	0
Region															
Central	105 (99%)	1 (0.9%)	-	99 (100%)	0	-	108 (100%)	0	-	96 (100%)	0	-	55 (98%)	1 (1.8%)	0
Northern	573 (99%)	6 (1.0%)	-	561 (99%)	4 (0.7%)	-	606 (100%)	1 (0.2%)	-	568 (100%)	0	-	546 (99%)	3 (0.5%)	1 (0.2%)
Te Manawa Taki	266 (97%)	7 (2.6%)	-	299 (99%)	4 (1.3%)	-	283 (98%)	7 (2.4%)	-	269 (98%)	5 (1.8%)	-	258 (100%)	1 (0.4%)	0
Te Waipounamu	227 (100%)	0	-	292 (100%)	0	-	241 (100%)	1 (0.4%)	-	135 (99%)	1 (0.7%)	-	168 (100%)	0	0
Specimen site															
Ano-rectal	141 (99%)	1 (0.7%)	-	134 (100%)	0	-	166 (100%)	0	-	176 (99%)	1 (0.6%)	-	156 (99%)	0	1 (0.6%)
Other/Unknown	45 (96%)	2 (4.3%)	-	45 (100%)	0	-	36 (100%)	0	-	28 (100%)	0	-	32 (97%)	1 (3.0%)	0
Pharyngeal	48 (96%)	2 (4.0%)	-	64 (98%)	1 (1.5%)	-	88 (98%)	2 (2.2%)	-	86 (99%)	1 (1.1%)	-	71 (100%)	0	0
Urogenital	937 (99%)	9 (1.0%)	-	1,008 (99%)	7 (0.7%)	-	948 (99%)	7 (0.7%)	-	778 (99%)	4 (0.5%)	-	768 (99%)	4 (0.5%)	0

[1]N (row % per year, rounding to 1 decimal place if low counts)

** No Resistant isolates (MIC >0.125 mg/L) reported*

DS = Decreased Susceptibility (MIC 0.06 to 0.125mg/L). Not a clinically important MIC breakpoint; reported for surveillance purposes only

Table 22. Number & proportion (%) of gonococcal isolates with azithromycin MIC >1.0 mg/L*, New Zealand, 2021-2025 by sex, age, ethnicity and region

Sex	2021		2022		2023		2024		2025	
	S N = 636[1, 3]	MIC > 1[2] N = 36[1, 3]	S N = 802[1, 3]	MIC > 1[2] N = 12[1, 3]	S N = 809[1, 3]	MIC > 1[2] N = 27[1, 3]	S N = 762[1, 3]	MIC > 1[2] N = 20[1, 3]	S N = 624[1, 3]	MIC > 1*[2] N = 57[1, 3]
Female	109 (97%)	3 (2.7%)	146 (98%)	3 (2.0%)	131 (98%)	3 (2.2%)	113 (95%)	6 (5.0%)	89 (90%)	10 (10%)
Male	527 (94%)	33 (5.9%)	656 (99%)	9 (1.4%)	678 (97%)	24 (3.4%)	649 (98%)	14 (2.1%)	535 (92%)	47 (8.1%)
Age group										
0–14	4 (100%)	0	-	-	-	-	2 (100%)	0	1 (100%)	0
15–19	44 (94%)	3 (6.4%)	58 (100%)	0	61 (94%)	4 (6.2%)	52 (91%)	5 (8.8%)	49 (94%)	3 (5.8%)
20–24	104 (95%)	6 (5.5%)	200 (99%)	3 (1.5%)	160 (97%)	5 (3.0%)	167 (97%)	5 (2.9%)	116 (91%)	11 (8.7%)
25–29	157 (97%)	5 (3.1%)	157 (98%)	3 (1.9%)	185 (96%)	8 (4.1%)	162 (98%)	3 (1.8%)	140 (95%)	7 (4.8%)
30–39	200 (94%)	12 (5.7%)	244 (99%)	2 (0.8%)	228 (97%)	6 (2.6%)	229 (98%)	4 (1.7%)	185 (91%)	18 (8.9%)
40+	127 (93%)	10 (7.3%)	143 (97%)	4 (2.7%)	175 (98%)	4 (2.2%)	150 (98%)	3 (2.0%)	133 (88%)	18 (12%)
Ethnicity										
Asian	71 (96%)	3 (4.1%)	73 (99%)	1 (1.4%)	107 (99%)	1 (0.9%)	112 (100%)	0	93 (92%)	8 (7.9%)
European/Other	230 (93%)	17 (6.9%)	307 (98%)	6 (1.9%)	309 (97%)	10 (3.1%)	285 (95%)	14 (4.7%)	240 (92%)	21 (8.0%)
Māori	162 (95%)	8 (4.7%)	216 (99%)	3 (1.4%)	165 (97%)	5 (2.9%)	220 (98%)	4 (1.8%)	193 (89%)	24 (11%)
Pacific	77 (97%)	2 (2.5%)	117 (99%)	1 (0.8%)	98 (97%)	3 (3.0%)	101 (100%)	0	93 (96%)	4 (4.1%)
Unknown	96 (94%)	6 (5.9%)	89 (99%)	1 (1.1%)	130 (94%)	8 (5.8%)	44 (96%)	2 (4.3%)	5 (100%)	0
Region										
Central	1 (100%)	0	-	-	-	-	4 (100%)	0	7 (88%)	1 (13%)
Northern	318 (93%)	24 (7.0%)	367 (99%)	3 (0.8%)	416 (98%)	8 (1.9%)	434 (98%)	10 (2.3%)	375 (93%)	29 (7.2%)
Te Manawa Taki	218 (97%)	7 (3.1%)	284 (98%)	5 (1.7%)	232 (93%)	18 (7.2%)	231 (98%)	4 (1.7%)	125 (83%)	25 (17%)
Te Waipounamu	99 (95%)	5 (4.8%)	151 (97%)	4 (2.6%)	161 (99%)	1 (0.6%)	93 (94%)	6 (6.1%)	117 (98%)	2 (1.7%)
Specimen Site										
Ano-rectal	121 (93%)	9 (6.9%)	123 (97%)	4 (3.1%)	163 (100%)	0	163 (98%)	4 (2.4%)	143 (93%)	11 (7.1%)
Other/Unknown	15 (94%)	1 (6.3%)	7 (100%)	0	12 (92%)	1 (7.7%)	9 (90%)	1 (10%)	12 (60%)	8 (40%)
Pharyngeal	41 (87%)	6 (13%)	64 (98%)	1 (1.5%)	86 (97%)	3 (3.4%)	81 (95%)	4 (4.7%)	66 (96%)	3 (4.3%)
Urogenital	459 (96%)	20 (4.2%)	608 (99%)	7 (1.1%)	548 (96%)	23 (4.0%)	509 (98%)	11 (2.1%)	403 (92%)	35 (8.0%)

[1] Susceptible isolates MIC <1mg/L

[2] MIC>1 denotes isolates with MIC >1mg/L

** One isolate with high-level resistance (MIC >256mg/L) reported in NZ in 2025*

[3] N (row % per year, rounding to 1 decimal place if low counts)

Table 23. Number & proportion (%) of gonococcal isolates by susceptibility to penicillin, New Zealand, 2021–2025 by sex, age, ethnicity and region

	2021			2022			2023			2024			2025		
Sex	**S** N = 19[1]	**I** N = 257[1]	**R** N = 20[1]	**S** N = 12[1]	**I** N = 311[1]	**R** N = 11[1]	**S** N = 11[1]	**I** N = 285[1]	**R** N = 60[1]	**S** N = 17[1]	**I** N = 236[1]	**R** N = 72[1]	**S** N = 13[1]	**I** N = 235[1]	**R** N = 90[1]
Female	4 (8.3%)	43 (90%)	1 (2.1%)	0	67 (99%)	1 (1.5%)	2 (3.1%)	56 (86%)	7 (11%)	5 (8.2%)	50 (82%)	6 (9.8%)	6 (8.8%)	47 (69%)	15 (22%)
Male	15 (6.0%)	214 (86%)	19 (7.7%)	12 (4.5%)	244 (92%)	10 (3.8%)	9 (3.1%)	229 (79%)	53 (18%)	12 (4.5%)	186 (70%)	66 (25%)	7 (2.6%)	188 (70%)	75 (28%)
Age group															
0–14	0	1 (100%)	0	-	-	-	-	-	-	0	0	1 (100%)	-	-	-
15–19	1 (6.3%)	15 (94%)	0	1 (4.3%)	22 (96%)	0	2 (6.5%)	24 (77%)	5 (16%)	3 (9.7%)	22 (71%)	6 (19%)	2 (5.4%)	29 (78%)	6 (16%)
20–24	1 (2.2%)	42 (91%)	3 (6.5%)	4 (5.2%)	71 (92%)	2 (2.6%)	3 (4.1%)	59 (80%)	12 (16%)	4 (5.1%)	57 (73%)	17 (22%)	5 (8.3%)	44 (73%)	11 (18%)
25–29	6 (9.5%)	53 (84%)	4 (6.3%)	1 (1.6%)	59 (94%)	3 (4.8%)	4 (5.7%)	55 (79%)	11 (16%)	3 (4.8%)	49 (79%)	10 (16%)	1 (1.8%)	33 (59%)	22 (39%)
30–39	8 (8.2%)	79 (81%)	10 (10%)	5 (5.1%)	91 (93%)	2 (2.0%)	2 (2.2%)	71 (80%)	16 (18%)	5 (5.4%)	64 (69%)	24 (26%)	2 (2.2%)	66 (74%)	21 (24%)
40+	3 (4.1%)	67 (92%)	3 (4.1%)	1 (1.4%)	68 (93%)	4 (5.5%)	0	76 (83%)	16 (17%)	2 (3.3%)	44 (73%)	14 (23%)	3 (3.1%)	63 (66%)	30 (31%)
Ethnicity															
Asian	1 (8.3%)	8 (67%)	3 (25%)	0	13 (100%)	0	0	23 (74%)	8 (26%)	0	22 (79%)	6 (21%)	0	23 (66%)	12 (34%)
European/Other	3 (2.7%)	98 (89%)	9 (8.2%)	5 (3.0%)	156 (95%)	4 (2.4%)	4 (2.7%)	117 (78%)	29 (19%)	3 (2.2%)	91 (67%)	42 (31%)	5 (3.6%)	99 (71%)	36 (26%)
Māori	7 (8.5%)	70 (85%)	5 (6.1%)	6 (4.9%)	113 (92%)	4 (3.3%)	4 (4.2%)	83 (87%)	8 (8.4%)	14 (10%)	108 (78%)	17 (12%)	8 (5.6%)	103 (72%)	32 (22%)
Pacific	3 (20%)	11 (73%)	1 (6.7%)	0	10 (91%)	1 (9.1%)	2 (12%)	11 (65%)	4 (24%)	0	10 (77%)	3 (23%)	0	7 (47%)	8 (53%)
Unknown	5 (6.5%)	70 (91%)	2 (2.6%)	1 (4.5%)	19 (86%)	2 (9.1%)	1 (1.6%)	51 (81%)	11 (17%)	0	5 (56%)	4 (44%)	0	3 (60%)	2 (40%)
Region															
Central	4 (29%)	10 (71%)	0	1 (17%)	4 (67%)	1 (17%)	2 (18%)	8 (73%)	1 (9.1%)	4 (17%)	15 (65%)	4 (17%)	1 (20%)	3 (60%)	1 (20%)
Northern	6 (33%)	12 (67%)	0	0	4 (100%)	0	1 (11%)	7 (78%)	1 (11%)	1 (5.6%)	17 (94%)	0	3 (13%)	15 (63%)	6 (25%)
Te Manawa Taki	9 (6.1%)	134 (91%)	4 (2.7%)	11 (6.8%)	148 (91%)	3 (1.9%)	7 (4.5%)	134 (87%)	13 (8.4%)	11 (6.7%)	137 (83%)	17 (10%)	7 (4.3%)	137 (84%)	19 (12%)
Te Waipounamu	0	101 (86%)	16 (14%)	0	155 (96%)	7 (4.3%)	1 (0.5%)	136 (75%)	45 (25%)	1 (0.8%)	67 (56%)	51 (43%)	2 (1.4%)	80 (55%)	64 (44%)

[1]*N (row % per year, rounding to 1 decimal place if low counts)*

Table 24. Number & proportion (%) of gonococcal isolates susceptible or resistance to ciprofloxacin, New Zealand, 2021–2025 by sex, age, ethnicity and region

	2021			2022			2023			2024			2025		
Sex	**S** N = 686[1]	**I** N = 5[1]	**R** N = 479[1]	**S** N = 770[1]	**I** N = 2[1]	**R** N = 491[1]	**S** N = 696[1]	**I** N = 16[1]	**R** N = 535[1]	**S** N = 695[1]	**I** N = 3[1]	**R** N = 377[1]	**S** N = 563[1]	**I** N = 4[1]	**R** N = 466[1]
Female	156 (80%)	1 (0.5%)	38 (19%)	184 (81%)	0	44 (19%)	151 (79%)	4 (2.1%)	37 (19%)	127 (86%)	0	20 (14%)	112 (67%)	2 (1.2%)	52 (31%)
Male	530 (54%)	4 (0.4%)	441 (45%)	586 (57%)	2 (0.2%)	447 (43%)	545 (52%)	12 (1.1%)	498 (47%)	568 (61%)	3 (0.3%)	357 (38%)	451 (52%)	2 (0.2%)	414 (48%)
Age group															
0–14	7 (100%)	0	0	-	-	-	-	-	-	3 (100%)	0	0	2 (100%)	0	0
15–19	78 (80%)	1 (1.0%)	18 (19%)	67 (65%)	0	36 (35%)	89 (79%)	0	24 (21%)	73 (80%)	0	18 (20%)	68 (66%)	0	35 (34%)
20–24	153 (68%)	3 (1.3%)	68 (30%)	206 (67%)	0	102 (33%)	168 (62%)	6 (2.2%)	95 (35%)	171 (73%)	0	64 (27%)	121 (61%)	1 (0.5%)	78 (39%)
25–29	153 (56%)	0	119 (44%)	180 (65%)	1 (0.4%)	94 (34%)	153 (56%)	3 (1.1%)	119 (43%)	148 (66%)	2 (0.9%)	73 (33%)	112 (57%)	1 (0.5%)	85 (43%)
30–39	197 (55%)	1 (0.3%)	162 (45%)	187 (54%)	1 (0.3%)	160 (46%)	170 (50%)	6 (1.8%)	166 (49%)	182 (57%)	0	140 (43%)	157 (51%)	0	150 (49%)
40+	98 (47%)	0	112 (53%)	130 (57%)	0	99 (43%)	116 (47%)	1 (0.4%)	131 (53%)	118 (59%)	1 (0.5%)	82 (41%)	103 (46%)	2 (0.9%)	118 (53%)
Ethnicity															
Asian	49 (41%)	0	71 (59%)	50 (42%)	0	69 (58%)	61 (43%)	1 (0.7%)	80 (56%)	82 (53%)	0	72 (47%)	67 (48%)	0	72 (52%)
European/Other	226 (51%)	2 (0.5%)	214 (48%)	271 (53%)	1 (0.2%)	241 (47%)	239 (48%)	7 (1.4%)	252 (51%)	221 (56%)	1 (0.3%)	173 (44%)	193 (52%)	1 (0.3%)	180 (48%)
Māori	208 (70%)	2 (0.7%)	89 (30%)	220 (66%)	1 (0.3%)	111 (33%)	177 (64%)	3 (1.1%)	96 (35%)	240 (75%)	0	80 (25%)	185 (57%)	1 (0.3%)	141 (43%)
Pacific	111 (66%)	1 (0.6%)	55 (33%)	150 (75%)	0	49 (25%)	122 (66%)	1 (0.5%)	61 (33%)	111 (74%)	1 (0.7%)	37 (25%)	99 (62%)	0	61 (38%)
Unknown	92 (65%)	0	50 (35%)	79 (79%)	0	21 (21%)	97 (66%)	4 (2.7%)	46 (31%)	41 (72%)	1 (1.8%)	15 (26%)	19 (58%)	2 (6.1%)	12 (36%)
Region															
Central	59 (58%)	0	43 (42%)	43 (43%)	1 (1.0%)	56 (56%)	50 (46%)	0	58 (54%)	63 (66%)	0	33 (34%)	28 (48%)	0	30 (52%)
Northern	288 (50%)	3 (0.5%)	285 (49%)	298 (53%)	0	267 (47%)	334 (55%)	0	273 (45%)	368 (65%)	0	201 (35%)	329 (60%)	0	221 (40%)
Te Manawa Taki	192 (71%)	0	80 (29%)	230 (75%)	1 (0.3%)	75 (25%)	209 (72%)	5 (1.7%)	76 (26%)	214 (78%)	3 (1.1%)	57 (21%)	133 (52%)	3 (1.2%)	120 (47%)
Te Waipounamu	147 (67%)	2 (0.9%)	71 (32%)	199 (68%)	0	93 (32%)	103 (43%)	11 (4.5%)	128 (53%)	50 (37%)	0	86 (63%)	73 (43%)	1 (0.6%)	95 (56%)

[1]*N (row % per year, rounding to 1 decimal place if low counts)*

Table 25. Number & proportion (%) of gonococcal isolates by susceptibility to tetracycline, New Zealand, 2021–2025 by sex, age, ethnicity and region

	2021			2022			2023			2024			2025		
Sex	**S** N = 9[1]	**I** N = 70[1]	**R** N = 25[1]	**S** N = 10[1]	**I** N = 124[1]	**R** N = 23[1]	**S** N = 17[1]	**I** N = 96[1]	**R** N = 51[1]	**S** N = 15[1]	**I** N = 40[1]	**R** N = 44[1]	**S** N = 5[1]	**I** N = 46[1]	**R** N = 68[1]
Female	0	10 (91%)	1 (9.1%)	1 (4.2%)	20 (83%)	3 (13%)	2 (7.4%)	16 (59%)	9 (33%)	3 (25%)	5 (42%)	4 (33%)	1 (5.9%)	8 (47%)	8 (47%)
Male	9 (9.7%)	60 (65%)	24 (26%)	9 (6.8%)	104 (78%)	20 (15%)	15 (11%)	80 (58%)	42 (31%)	12 (14%)	35 (40%)	40 (46%)	4 (3.9%)	38 (37%)	60 (59%)
Age group															
0–14	-	-	-	-	-	-	-	-	-	0	0	1 (100%)	-	-	-
15–19	0	4 (100%)	0	0	5 (71%)	2 (29%)	0	6 (75%)	2 (25%)	1 (14%)	4 (57%)	2 (29%)	0	6 (75%)	2 (25%)
20–24	2 (15%)	6 (46%)	5 (38%)	4 (11%)	30 (83%)	2 (5.6%)	3 (9.7%)	20 (65%)	8 (26%)	7 (28%)	9 (36%)	9 (36%)	2 (13%)	8 (53%)	5 (33%)
25–29	2 (14%)	7 (50%)	5 (36%)	1 (3.0%)	28 (85%)	4 (12%)	3 (8.8%)	18 (53%)	13 (38%)	2 (17%)	4 (33%)	6 (50%)	0	5 (22%)	18 (78%)
30–39	3 (7.9%)	27 (71%)	8 (21%)	2 (4.5%)	33 (75%)	9 (20%)	5 (11%)	24 (55%)	15 (34%)	5 (14%)	15 (41%)	17 (46%)	0	9 (32%)	19 (68%)
40+	2 (5.7%)	26 (74%)	7 (20%)	3 (8.1%)	28 (76%)	6 (16%)	6 (13%)	28 (60%)	13 (28%)	0	8 (47%)	9 (53%)	3 (6.7%)	18 (40%)	24 (53%)
Ethnicity															
Asian	0	5 (63%)	3 (38%)	0	9 (100%)	0	4 (17%)	16 (70%)	3 (13%)	2 (14%)	7 (50%)	5 (36%)	0	3 (23%)	10 (77%)
European/Other	3 (4.6%)	52 (80%)	10 (15%)	6 (6.1%)	80 (82%)	12 (12%)	9 (9.6%)	55 (59%)	30 (32%)	6 (10%)	21 (36%)	31 (53%)	4 (5.9%)	30 (44%)	34 (50%)
Māori	3 (14%)	10 (45%)	9 (41%)	3 (8.6%)	26 (74%)	6 (17%)	3 (14%)	9 (43%)	9 (43%)	5 (26%)	8 (42%)	6 (32%)	0	9 (31%)	20 (69%)
Pacific	3 (50%)	1 (17%)	2 (33%)	0	2 (100%)	0	0	2 (33%)	4 (67%)	1 (50%)	0	1 (50%)	0	2 (33%)	4 (67%)
Unknown	0	2 (67%)	1 (33%)	1 (7.7%)	7 (54%)	5 (38%)	1 (5.0%)	14 (70%)	5 (25%)	1 (17%)	4 (67%)	1 (17%)	1 (33%)	2 (67%)	0
Region															
Central	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern	-	-	-	0	1 (50%)	1 (50%)	0	0	2 (100%)	-	-	-	-	-	-
Te Manawa Taki	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Waipounamu	9 (8.7%)	70 (67%)	25 (24%)	10 (6.5%)	123 (79%)	22 (14%)	17 (10%)	96 (59%)	49 (30%)	15 (15%)	40 (40%)	44 (44%)	5 (4.2%)	46 (39%)	68 (57%)

[1]*N (row % per year, rounding to 1 decimal place if low counts)*

Table 26. Azithromycin AST by specimen site

	2021		2022		2023		2024		2025	
Specimen Site	**Female** N = 127[1]	**Male** N = 588[1]	**Female** N = 156[1]	**Male** N = 695[1]	**Female** N = 145[1]	**Male** N = 732[1]	**Female** N = 126[1]	**Male** N = 692[1]	**Female** N = 102[1]	**Male** N = 613[1]
Ano-rectal	4 (3.1%)	137 (23%)	6 (3.8%)	131 (19%)	8 (5.5%)	162 (22%)	1 (0.8%)	180 (26%)	6 (5.9%)	157 (26%)
Other/Unknown	1 (0.8%)	16 (2.7%)	1 (0.6%)	6 (0.9%)	2 (1.4%)	12 (1.6%)	1 (0.8%)	11 (1.6%)	4 (3.9%)	16 (2.6%)
Pharyngeal	4 (3.1%)	53 (9.0%)	5 (3.2%)	66 (9.5%)	2 (1.4%)	94 (13%)	4 (3.2%)	88 (13%)	2 (2.0%)	79 (13%)
Urogenital	118 (93%)	382 (65%)	144 (92%)	492 (71%)	133 (92%)	464 (63%)	120 (95%)	413 (60%)	90 (88%)	361 (59%)

[1]N (%)

Note: these results are not deduplicated and include results for all isolates that underwent AST. Thus isolate numbers will be higher than those reported in Appendix Table 1 and Appendix Table 2 as those report one result per episode

Table 27. Ceftriaxone AST by specimen site

	2021		2022		2023		2024		2025	
Specimen Site	**Female** N = 222[1]	**Male** N = 1,017[1]	**Female** N = 237[1]	**Male** N = 1,071[1]	**Female** N = 206[1]	**Male** N = 1,090[1]	**Female** N = 157[1]	**Male** N = 968[1]	**Female** N = 187[1]	**Male** N = 906[1]
Ano-rectal	4 (1.8%)	149 (15%)	6 (2.5%)	139 (13%)	8 (3.9%)	165 (15%)	1 (0.6%)	190 (20%)	6 (3.2%)	160 (18%)
Other/Unknown	14 (6.3%)	36 (3.5%)	5 (2.1%)	44 (4.1%)	3 (1.5%)	35 (3.2%)	1 (0.6%)	29 (3.0%)	5 (2.7%)	29 (3.2%)
Pharyngeal	5 (2.3%)	55 (5.4%)	5 (2.1%)	66 (6.2%)	2 (1.0%)	95 (8.7%)	4 (2.5%)	90 (9.3%)	2 (1.1%)	81 (8.9%)
Urogenital	199 (90%)	777 (76%)	221 (93%)	822 (77%)	193 (94%)	795 (73%)	151 (96%)	659 (68%)	174 (93%)	636 (70%)

[1]N (%)

Note: these results are not deduplicated and include results for all isolates that underwent AST. Thus isolate numbers will be higher than those reported in Appendix Table 1 and Appendix Table 2 as those report one result per episode

APPENDIX 2: DESCRIPTION OF STI SURVEILLANCE AND METHODOLOGY

PHF Science undertakes sexually transmitted infection (STI) surveillance on behalf of the Ministry of Health. The purposes on New Zealand STI surveillance system are:

- to understand the burden of disease (as an input to planning, policy development, prioritisation and resource allocation),
- to monitor inequalities in the burden of disease between population groups,
- to monitor trends in the burden of disease over time,
- to identify emerging problems, and outbreaks or clusters of disease, and
- to evaluate the effectiveness of policies and programmes.

Before the Health (Protection) Amendment Act 2016 came into force, STI surveillance comprised a combination of voluntary sentinel clinic surveillance from Sexual Health and Family Planning Clinics, enhanced syphilis surveillance from these clinics, and laboratory surveillance of chlamydia and gonorrhoea. Significant changes were made to the STI surveillance system after the Health (Protection) Amendment Act 2016 came into force in January 2017, making syphilis, gonorrhoea, HIV and AIDS notifiable to the Medical Officer of Health without identifying information (name, address and place of work), whereas previously only AIDS was notifiable. Because these diseases were the first to require notification without identifying information, there were substantial administrative difficulties designing and implementing a system which would integrate with the existing notifiable disease database EpiSurv. An interim solution was put in place from November 2018 using REDCap, a secure web application hosted on an PHF Science server, to collect data for syphilis, gonorrhoea and HIV in a survey format. This interim system remains in place. Each part of the system is described below.

REDCAP

REDCap is a secure web application hosted on an PHF Science server to collect notification/enhanced data for syphilis, gonorrhoea and HIV in a survey format. Sexual health clinic staff have individual logins to REDCap, managed by PHF Science. This means they can enter data and update information as required.

Gonorrhoea enhanced data can also be entered by non-sexual health clinic staff, such as general practitioners, by entering a generic survey website link which provides one-time access to a REDCap survey. Clinicians are directed to this link along with the positive laboratory result. Once the form is completed the clinician cannot access the form again.

Gonorrhoea case notifications entered into REDCap can be matched with laboratory data by NHI which provides an indication of how many cases are not notified (underreporting), and by comparing basic demographics, how representative notified cases are.

For syphilis, laboratory results are not automatically notified. Clinicians are directed to notify the case when a reactive laboratory result is received. Clinicians notify either using REDCap (sexual health clinics) or emailing a PDF (all other clinicians). Sexual health clinics and public health units can access all syphilis data in REDCap from within their own region only without identifying details. Emailed forms are received and processed into REDCap by a PHF Science syphilis surveillance email address.

Limitations of REDCap data

Comparison of gonorrhoea laboratory and REDCap notifications in 2025 show that clinical notifications were made for just over half (3,552/6,306, 56%) of total positive cases. Representativeness with regard to sexual behaviour is unknown because this information is not collected for laboratory data.

Manual data entry to the REDCap forms is likely to significantly contribute to underreporting.

Likewise, syphilis notifications are often incomplete. Because there is no laboratory reporting of syphilis, the degree of underreporting at a national level is currently unknown. There is often requirement for follow up by PHF Science to determine the case definition.

The numbers reported in this report reflect those in REDCap on date of extraction. As this surveillance database can be updated by clinicians at any time, the counts and rates presented here may differ from those included in previous reports.

LABORATORY DATA

All laboratories in NZ have provided all positive and negative test results for chlamydia and gonorrhoea monthly since 2015. Demographic information, individual identifiers (NHI or provisional individual identifier), and site of infection are provided with the laboratory results.

Test results are received via excel spreadsheets into a portal, cleaned using R scripts and housed in SQL servers. Once cleaned, they are sent to the Ministry to be matched by NHI for ethnicity. This enables identification of all negative and positive results, duplicate results, testing coverage, proportion positive and reinfections by age, sex, region, and ethnicity. Identification of duplicate results by NHI ensure only one positive result is counted for each episode, and multiple tests and episodes for the same person can be identified over time (Table 14).

Table 28. Time period to identify duplicate tests to determine one episode/case

Chlamydia	< 6 weeks after a previous positive test
Gonorrhoea	Culture <10 days after previous positive test (it does not matter if previous positive test was a NAAT or culture)
	NAAT <=21 days after the previous positive test (it does not matter if previous positive test was a NAAT or culture)

Gonorrhoea antimicrobial susceptibility laboratory data interpretation

Ceftriaxone AST results for 2025 were interpreted using EUCAST v15.0 breakpoints together with an additional decreased susceptibility category, in line with the World Health Organization (WHO) 2024 guidelines.

Azithromycin AST results were interpreted using an epidemiological cut-off value (ECOFF) of 1 mg/L, in line with current EUCAST guidelines. This cutoff may be used to differentiate wildtype from non-wildtype (absence or presence of acquired resistance mechanisms, respectively). Some laboratories do not perform azithromycin AST, particularly in the Central region.

The MIC breakpoints used to interpret AST results for ciprofloxacin, penicillin and tetracycline for 2025 are based on EUCAST clinical breakpoint tables v16.0, published in January 2026 (European Committee on Antimicrobial Susceptibility Testing 2026). The EUCAST breakpoint for tetracycline changed in 2023 with resistance defined as MIC >0.5 mg/L compared to >1.0 mg/L in previous years. This may change previously reported results. For ciprofloxacin, penicillin and tetracycline, a small number of results were received as zone diameter rather than an MIC; CLSI 2024 breakpoints were used to interpret these results as there are no EUCAST criteria for zone diameters.

Limitations of laboratory data

Approximately 6% of laboratory notifications are missing NHI and therefore cannot be matched to ethnicity. Although all laboratories report chlamydia and gonorrhoea tests and results, not all laboratories report AMR testing and results for gonorrhoea. Although nearly all positive culture results undergo AST for ceftriaxone, this is not the case for other antibiotics. Therefore, information on AMR collected may not be generalizable.

SENTINEL CLINIC DATA

Annually, collaborating sentinel Sexual Health clinics manually extract data and provide aggregate data to PHF Science via excel spreadsheets. This includes the total number of clinic consultations for lymphogranuloma venereum and first episode genital warts by age, sex, ethnicity, gender identity and sexual behaviour where available.

Generalisability of clinic data

Clinics participating in STI sentinel surveillance are located in cities and some larger rural towns. First episodes of genital warts are also be seen in other sexual health clinics, Sexual Wellbeing Aotearoa clinics and General Practices. The sentinel clinic surveillance data can provide an alert for changes occurring in the wider population.

Limitations of clinic data

Methods for data extraction and data quality and completeness vary by clinic and will depend on coding completeness. Manual processes for data extraction, aggregation, entry and transfer using excel spreadsheets and email introduces potential for errors. The representativeness of the data is unknown as there is no sample strategy.

ANALYTIC METHODS

Numerator data

Gonorrhoea positive cases (episodes): the total number of laboratory-confirmed cases (Table 13) reported after exclusion of repeat tests for an individual within a defined episode period.

Chlamydia positive cases (episodes): the total number of laboratory-confirmed cases reported after exclusion of repeat tests for an individual within a defined episode period.

Gonorrhoea positive test: the total of all positive results for gonorrhoea regardless of type of test, specimen type or time in-between test (not deduplicated).

Chlamydia positive test: the total of all positive results for chlamydia regardless of specimen type or time in-between test (not deduplicated).

Number of syphilis cases by sexual behaviour: the number of cases reported by sexual behaviour.

Denominator data

New Zealand population by ethnicity: the proportion of people in each ethnic group from the 2023 Census 'usually resident population' applied to the 2025 mid-year population estimates from Statistics New Zealand. Ethnicity is prioritised in the following order: Māori, Pacific peoples, Asian, European or Other (including New Zealander) ethnic groups.

Estimated New Zealand population by sexual behaviour: The denominator for MSM was calculated by multiplying the male population between 16 and 74 years of age (by the proportion of MSM estimated by the health survey 2014/2015 (2.6%). The remaining 97.4% of the male population between 16 and 74 was considered to be MSW and for women, the entire female population between 16 and 74 was considered WSM.

Rates calculations:

General: Calculating rates from fewer than five cases produces rates that are unstable for the purpose of comparison and are therefore not calculated for gonorrhoea, chlamydia, and syphilis. Caution is also advised when interpreting and comparing rates based on fewer than 20 cases. It is important when interpreting the results to consider the size of the risk group in the denominator, since rates calculated in smaller groups can have wide confidence intervals. Prioritised ethnicity is provided by the Ministry of Health using NHI number provided by the laboratories. Where NHI is not provided, ethnicity is described as 'unknown'.

Testing coverage rates (people tested): the number of people tested based on NHI and patient ID numbers and using the age and location of the individual at the time of the first test of the year. These rates do not include multiple tests within the year for the same individual.

Rate of syphilis by sexual behaviour: the reported number of cases by sexual behaviour was divided by the estimated NZ population by sexual behaviour and multiplied by 100,000 for a rate of syphilis per 100,000 population.

Rate of gonorrhoea by sexual behaviour: the proportion of cases by sexual behaviour from clinical notifications is applied to laboratory notifications, divided by the estimated NZ population by sexual behaviour and multiplied by 100,000 for a rate of gonorrhoea per 100,000 population.

Age groups

For this publication we have adopted the age groups 0–14, 15–19, 20–24, 25–29, 30–39, 40+. Several different age groupings have been used previously across different New Zealand publications. These groupings provide for more detail at ages for which numbers are much higher. It is limited to six age categories, which gives enough detail and makes the graphs look clearer than with more age categories. However, it does result in loss of detail at higher ages and these data can be requested as needed.

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