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NSW Health

# NSW Sexually Transmissible Infections Data Report

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January to December 2022



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*We acknowledge Aboriginal people as the Traditional Custodians of the lands and waters in which we all work, live and learn. We recognise the incredible richness, strength and resilience of the world's oldest living cultures, including cultural practices, languages and connection to Country*



The artwork is called 'Baalee'. It is inspired by the original artwork of Aboriginal artist Tanya Taylor and designed by the National Aboriginal Design Agency. This artwork symbolises the Centre for Aboriginal Health working in partnership with Aboriginal people to support wholistic health and wellbeing and its role in the health system to build a culturally safe and responsive health service.

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# Key Data

## Notifications

Condition	Population	2022	2021	Change from 2021 %
Number of congenital syphilis notifications	All	3	2	NA
Infectious syphilis rates (per 100,000 population)	All	23.8	22.1	7.7%
	Female	4.6	3.1	48.4%
	Male	43.1	41.2	4.6%
Gonorrhoea rates (per 100,000 population)	All	123.4	91.1	35.5%
	Female	49.6	35.0	41.8%
	Male	198.0	147.5	34.3%
Chlamydia rates (per 100,000 population)	All	314.0	304.9	3.0%
	Female	278.5	282.9	-1.6%
	Male	349.1	326.2	7.0%

# Key Messages

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## Executive Summary

In 2022, New South Wales (NSW) reported an increase in notification rates for all sexually transmitted infections (STIs) compared to the previous year. Infectious syphilis rates were the highest in the last decade. While rates of chlamydia, gonorrhoea and lymphogranuloma venereum (LGV) have also increased, they have been slower to rebound post the COVID-19 pandemic.

The notification rate of infectious syphilis was 23.8 per 100,000 population in 2022 and was the highest annual rate in the past decade, increasing by 7.7% between 2021 and 2022. In 2022, the rate was 8.2% above the NSW Sexually Transmissible Infections Strategy 2022–2026 (the Strategy) target of 22.0 per 100,000 population. The male rate at 43.1 notifications per 100,000 males was 3.1% above the Strategy target of 41.8 notifications per 100,000 males.

Historically, infectious syphilis notifications were predominately reported amongst males, particularly men who have sex with men (MSM). While MSM continue to represent the majority of infections, over the past five years the rate of infectious syphilis in females has more than doubled. In 2022, females represented 9.7% of notifications and the infectious syphilis rate at 4.6 notifications per 100,000 females was 43.3% above the 2026 Strategy target. The ratio of male to female notifications has substantially decreased from 20.3 in 2013 to 9.5 in 2022 and highlights the increasing burden of infectious syphilis in the NSW female population. Among notifications of females of reproductive age, 15.7% were pregnant and three cases of congenital syphilis were notified in 2022. Each congenital syphilis case reflects a failure of health systems for antenatal care and syphilis control programs.

The notification rate of gonorrhoea increased by 35.5% between 2021 and 2022, with 123.4 notifications per 100,000 population. The 2022 rate was slightly above the 2026 Strategy target of 123.1 notifications per 100,000 population. Notifications remain concentrated around metropolitan Sydney, particularly South Eastern Sydney and Sydney Local Health Districts (LHD) which are areas in which greater concentrations of MSM reside. The Mid-North Coast LHD reported the largest increase in notifications compared to 2021.

While the total number of gonorrhoea tests performed in 2022 decreased by 0.1% compared to 2021 and was 20% below the peak in 2019, the notification to test ratio increased to 1.3 notifications per 100 gonorrhoea tests, representing a 35% increase compared to 2021. An increase in the notification to test ratio is suggestive of improvements in screening programs targeting people at increased risk of infection in conjunction with increases in gonorrhoea transmission.

In 2022, there were 29 antimicrobial resistant (AMR) gonorrhoea notifications in NSW, including 23 notifications of a locally acquired NSW strain with decreased susceptibility to ceftriaxone (0.125 mg/L ≤ MICs <0.5 mg/L). The 29 notifications in 2022 were the highest number of notifications since the introduction of dual therapy in 2014. Both the importation of AMR gonorrhoea and the transmission of a local strain present a disease control threat. Easing of COVID-19 travel restrictions in 2022 are likely to have impacted on the risk of AMR gonorrhoea in NSW.

The notification rate of chlamydia increased by 3% between 2021 and 2022, with 314 notifications per 100,000 population, but remained 21% below the 2019 peak rate of 397 notifications per 100,000 population. The total number of chlamydia tests performed increased 1% compared to 2021 but remained 20.5% below the peak in 2019. The notification to test ratio remained stable at 4.8 per 100 chlamydia tests.

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# NSW Sexually Transmissible Infections Strategy 2022–2026

The NSW Sexually Transmissible Infections Strategy 2022–2026 (the Strategy) launched in September 2022. The Strategy aims to reduce the prevalence and impacts of STIs including a new focus on equity and access to safeguard the sexual health and wellbeing of everyone living in NSW. NSW Health has introduced ambitious targets to track progress towards this vision (page vii).

The four key initiatives include:

1. **Prevent** new infections through new and existing methods, education and health promotion;
2. **Test** often, normalise testing, and promoting innovative testing models;
3. **Treat** STIs rapidly and effectively and reduce onward transmission, and;
4. **Equity and Access** to services, reduce STI-related stigma, discrimination, and anxiety, and removing barriers for those seeking healthcare.

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## Increased response to syphilis in pregnancy

NSW Health is committed to addressing concerning increases in the number of women diagnosed with syphilis in pregnancy (maternal syphilis) and congenital syphilis that results in adverse outcomes including preterm birth, low birth weight, congenital anomalies, fetal loss or stillbirth, and neonatal death.

In 2022, the NSW Ministry of Health convened a time-limited *Syphilis in Pregnancy Steering Committee* to provide expert advice on the development and implementation of guidance, tools, and other interventions. This group comprised experts in infectious diseases, sexual health medicine, obstetrics, midwifery and stakeholders from public health units, Sydney Children’s Hospital Network, Royal Australian and New Zealand College of Obstetricians and Gynaecologists, and associated organisations.

With the aim of eliminating congenital syphilis in NSW, NSW Health has subsequently introduced a second universal antenatal syphilis screen at 26-28 weeks gestation and additional and opportunistic screening for pregnant women at high-risk of syphilis infection to increase detection and treatment.

# NSW Sexually Transmissible Infections Strategy Targets 2022 – 2026

## Prevent

new infections through new and existing methods, education and health promotion

Target	Baseline	2022	2026 Target
Sexually active young people use condoms with casual partners	-	This data point will be available in future reports	75.0%
5% reduction in notification rates of infectious syphilis and gonorrhoea by 2026			
Infectious syphilis (notifications per 100,000 population)	23.2	23.8	22.0
Gonorrhoea (notifications per 100,000 population)	129.6	123.4	123.1

## Test

Often, normalise testing, and promote innovative testing models

100% of pregnancies are screened for syphilis at least once	-	95.3%*	100.0%
5% increase each year in comprehensive STI testing in the target priority populations MSM, sex workers, trans and gender diverse people, and Aboriginal people	-	This data point will be available in future reports	

## Treat

STIs rapidly and effectively, and reduce onward transmission

Eliminate congenital syphilis		3	0
95% of people diagnosed with infectious syphilis are treated within two weeks of being tested	-	This data point will be available in future reports	95%

## Equity and Access

to services, reduce STI-related stigma, and remove barriers to seeking healthcare

At least 90% of STI notifications have Aboriginal status specified	-	89.9% infectious syphilis	90.0%
75% reduction in reported experience of stigma related to STI service provision in healthcare settings	-	This data point will be available in future reports	

\*Excludes all women who gave birth in private hospitals, delivered by independent midwives and at Sydney and South Western Sydney Local Health Districts

# Glossary of terms

<b>ABS</b>	Australian Bureau of Statistics
<b>ART</b>	Antiretroviral therapy
<b>CDR</b>	Communicable Diseases Register
<b>GBM</b>	Gay and bisexual men
<b>GU</b>	Genitourinary tract
<b>HIV</b>	Human immunodeficiency virus
<b>LGV</b>	<i>Lymphogranuloma venereum</i>
<b>LHD</b>	Local Health District
<b>MSM</b>	Men who have sex with men
<b>NAAT</b>	Nucleic acid amplification testing
<b>NAT</b>	Nucleic acid testing
<b>NCIMS</b>	Notifiable Conditions Information Management System
<b>NSW</b>	New South Wales
<b>PFSHSs</b>	Publicly funded sexual health services
<b>SAPHaRI</b>	Secure Analytics for Population Health Research and Intelligence



# 1. Syphilis

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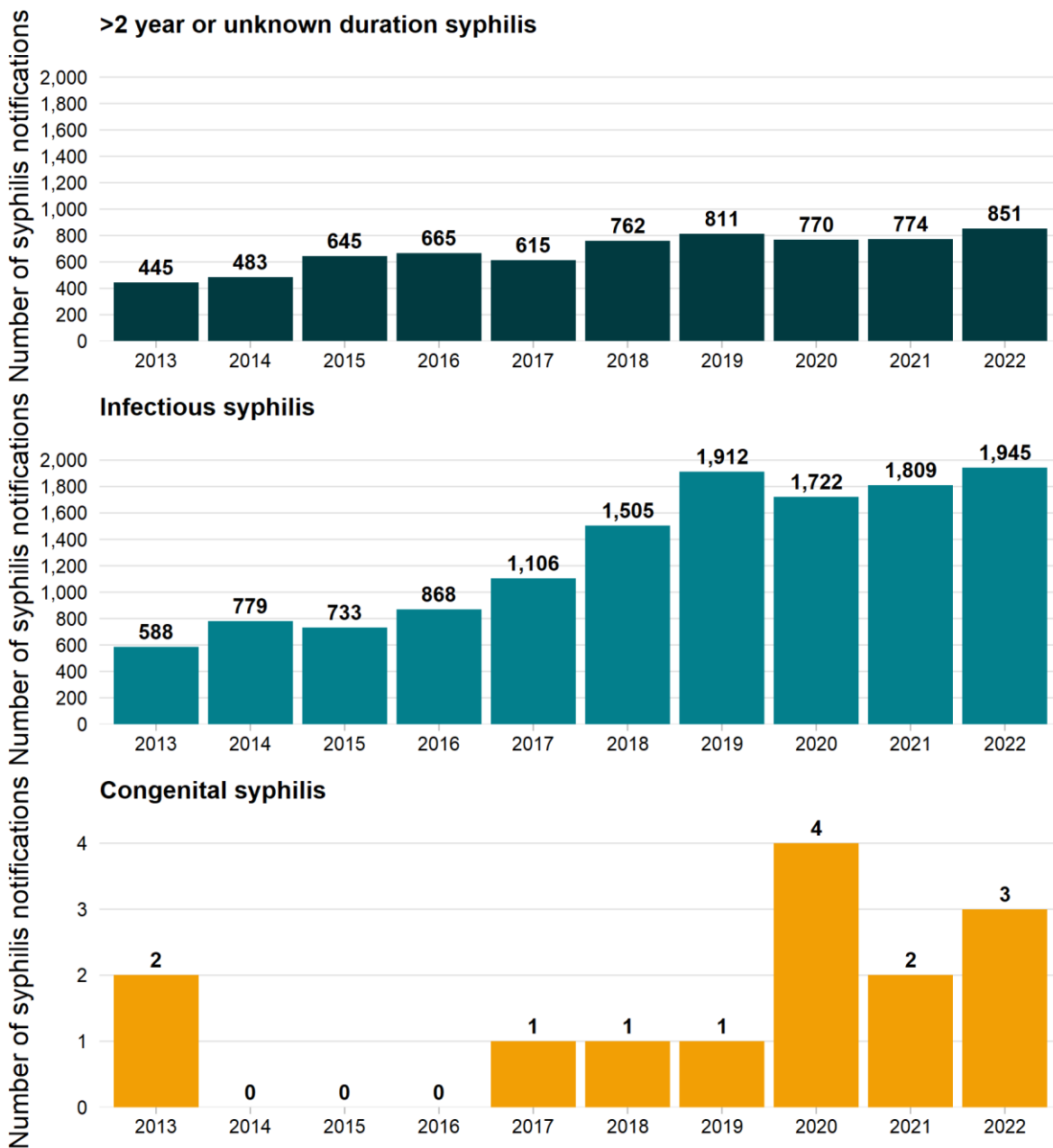
Prevention, testing and appropriate treatment and management including partner notification are the cornerstones of syphilis control and are embedded in the current STI strategy. Syphilis notification data does not reflect the true incidence of syphilis infection as it only represents a proportion of infections in the population that have been tested and diagnosed, however it is useful for monitoring trends in diagnosed infections.

Syphilis is a notifiable disease under the *NSW Public Health Act 2010*. A confirmed or probable infectious syphilis case requires laboratory evidence or a combination of laboratory, clinical and epidemiological evidence (see Appendix B: Case definitions for full details). Only probable or confirmed cases of infectious syphilis and confirmed cases of syphilis >2 years or unknown duration are included when reporting syphilis notifications. Enhanced surveillance information is routinely collected for people notified with syphilis which includes demographic, testing, treatment and risk exposure information.

# 1.1 Syphilis notifications

In 2022 there were 1,945 infectious syphilis notifications, which is the largest annual count in the past decade (Figure 1). Three congenital syphilis cases were also notified in 2022. Among the twelve cases of congenital syphilis reported since 2017, 11 (92%) were residents of metropolitan Sydney. Congenital syphilis is an entirely preventable disease and represents a failure of services that deliver antenatal care and implement syphilis control programs. In NSW, all cases of congenital syphilis are investigated to identify and remedy gaps in service delivery.

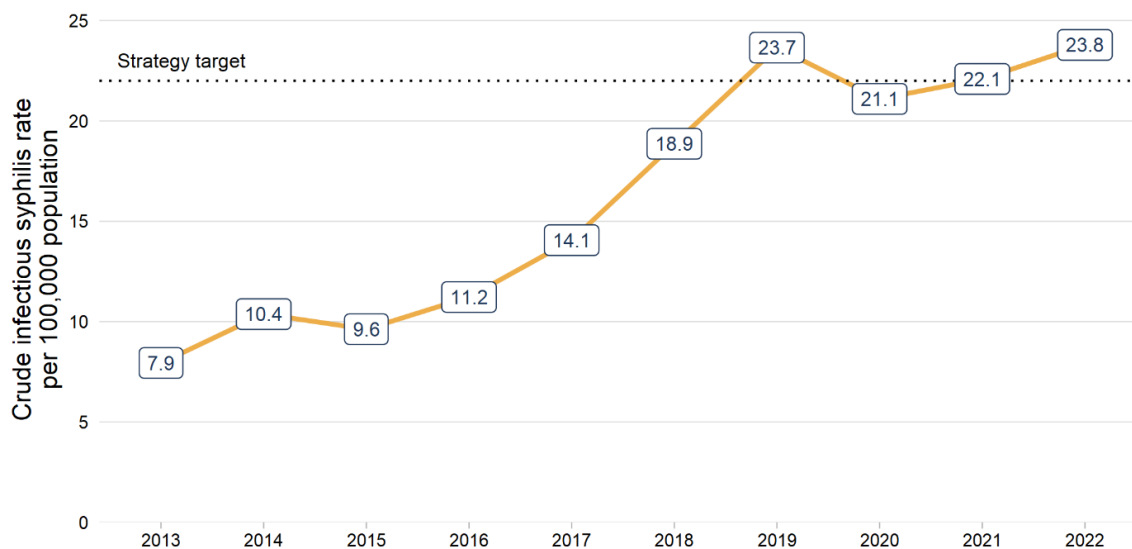
Figure 1: Number of syphilis notifications by classifications, NSW, 2013 – 2022



Data source: NCIMS, NSW Health; data extracted 20 June 2023. Note: Excluded non-NSW residents. Year is based on calculated onset date.

The infectious syphilis notification rate in 2022 was 23.8 notifications per 100,000 population (Figure 2). This represents a 7.7% increase in the infectious syphilis notification rate from 2021 and an almost 3-fold increase since 2013 when the rate was 7.9 notifications per 100,000 population. The 2022 infectious syphilis rate is 8.2% above the Strategy target of 22.0 notifications per 100,00 population. The Strategy target represents a 5% decrease from the 2016–2019 peak rate.

**Figure 2: Infectious syphilis notification rate, NSW, 2013 – 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents. Year is based on calculated onset date.

The Strategy Target is the infectious syphilis target rate from the NSW Sexually Transmissible Infections Strategy 2022 – 2026

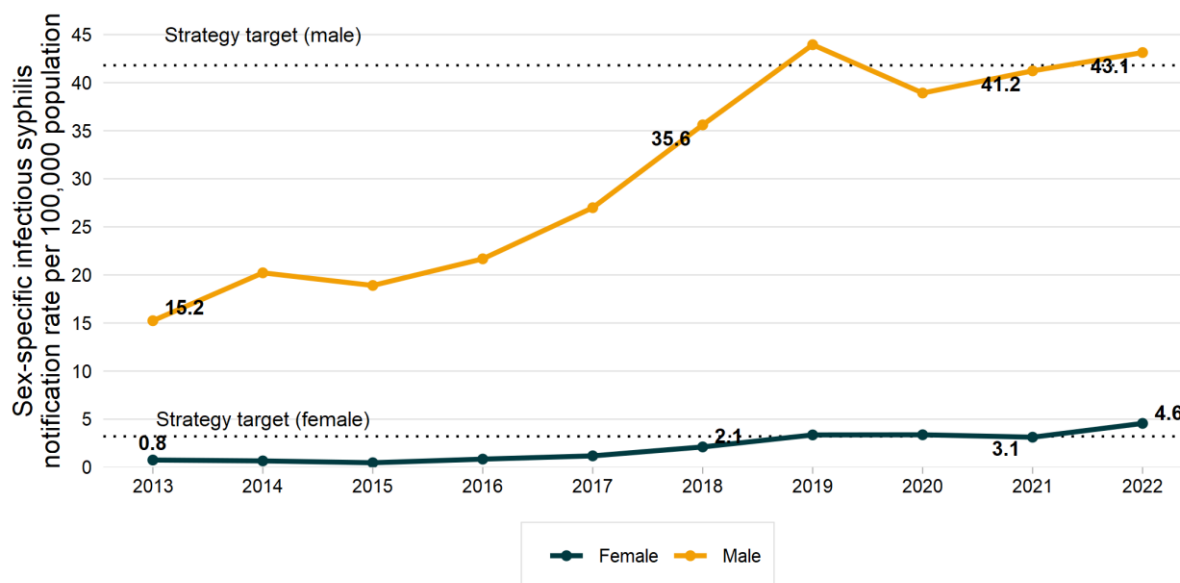
Among the 1,945 infectious syphilis notifications in 2022, females accounted for 9.7% of infectious syphilis notifications (N=188), while the majority were reported in males (N=1,748, 89.9%). Transgender people accounted for less than 1% of notifications. Sex was not reported for less than 1% of notifications. Compared to prior years, females represented a slightly higher proportion of 2022 infectious syphilis notifications (2021: 7%, 2020: 8%).

The median age of female infectious syphilis cases was 33 years in 2022 and has ranged between 29–38 years since 2013. The median age of males has remained steady at 36 years.

In 2022, the female infectious syphilis rate increased by 48.4% from 3.1 to 4.6 notifications per 100,000 females (N=129 to N=188) (Figure 3). Over the past five years the female rate has more than doubled and in 2022 was 43.3% above the target rate of 3.21 notifications per 100,000 females (N=85 to N=188). The male infectious syphilis rate increased by 4.6% compared with 2021 to 43.1 notifications per 100,000 males (N=1,675 to N=1,748). This rate was 3.1% above the target rate of 41.8 notifications per 100,000 males.

Whilst the number of infectious syphilis notifications in females remains relatively small, the ratio of male to female notifications has substantially decreased from 20.3 in 2013 to 9.5 in 2022, highlighting the increasing burden of infectious syphilis among females NSW (Table 1).

**Figure 3: Sex specific infectious syphilis notification rates, NSW, 2013 – 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year of onset is based on calculated onset date. The sex specific infectious syphilis targets are from the NSW Sexually Transmissible Infections Strategy 2022 – 2026.

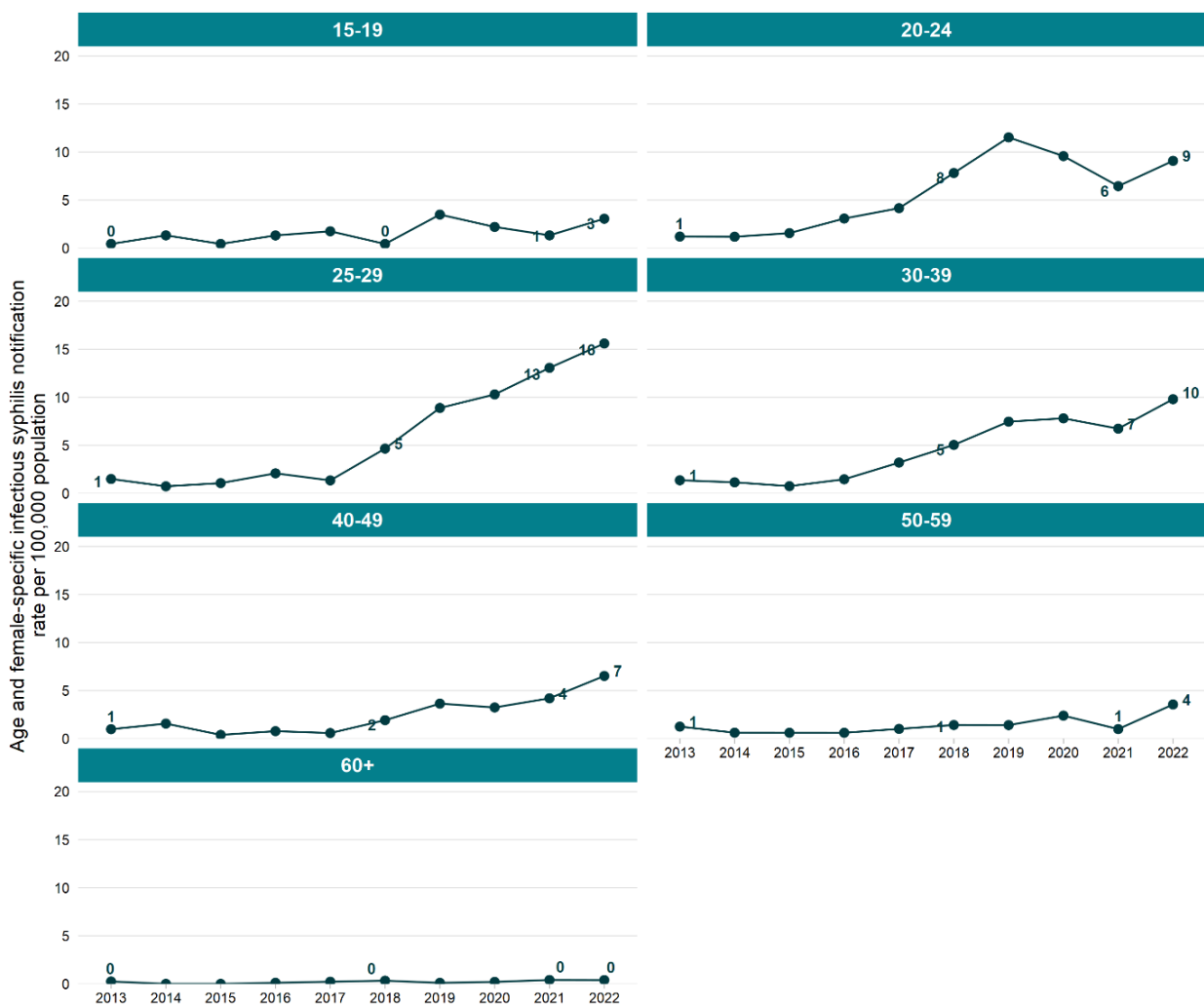
**Table 1: Infectious syphilis notification rates by gender and ratio of male to female rates, NSW, 2013 – 2022**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female rate per 100,00 females	0.8	0.7	0.5	0.8	1.2	2.1	3.4	3.4	3.1	4.6
Male rate per 100,000 males	15.2	20.2	18.9	21.7	27.0	35.6	43.9	38.9	41.2	43.1
Ratio of male to female notification rates	20.3	30.6	40.3	25.6	22.8	16.8	13.1	11.5	13.2	9.5

After decreases in 2020–2021, the infectious syphilis rate in females aged 20–24 years increased by 40.0% from 6.5 to 9.1 notifications per 100,000 females between 2021 and 2022 (Figure 4).

The infectious syphilis rates continued to be highest among females aged 25–29 years (N=44, 15.6 notifications per 100,000 females) and 30–39 years (N=59, 9.8 notifications per 100,000 females). Increasing rates in these female age groups are concerning due to the potential risk of congenital syphilis. Infectious syphilis rates among females have increased over the past 5 years for all age groups, except the over 60 age group.

**Figure 4: Female infectious syphilis notification rates by age, aged 15 years and over, NSW, 2013 – 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year is based on calculated onset date.

Among males, infectious syphilis rates continued to be highest among those aged 30–39 years (N=682, 116 notifications per 100,000 males) and 25–29 years (N=266, 91 notifications per 100,000 males) (Figure 5). While the rate increased compared to 2021 in males aged 30–39 years (7% from 109 to 116 notifications per 100,000 males), the rate in males aged 25–29 years decreased slightly (7% from 98 to 91 notifications per 100,000 males). A large annual increase was also reported by males aged 20–24 years between 2021 and 2022 (45% from 34.5 to 50 notifications per 100,000 males).

Rates among males have increased across almost all age groups over the past 5 years. The two age groups where infectious syphilis has not increased are the age groups with the lowest overall numbers of notifications: males 15–19 years and over 60-years of age. The most substantial relative difference over this 5-year period is among males 30–39 years, where the rate increased 59% from 73 in 2018 to 116 notifications per 100,000 males in 2022.

**Figure 5: Male infectious syphilis notification rates by age, aged 15 years and over, NSW, 2013 – 2022**



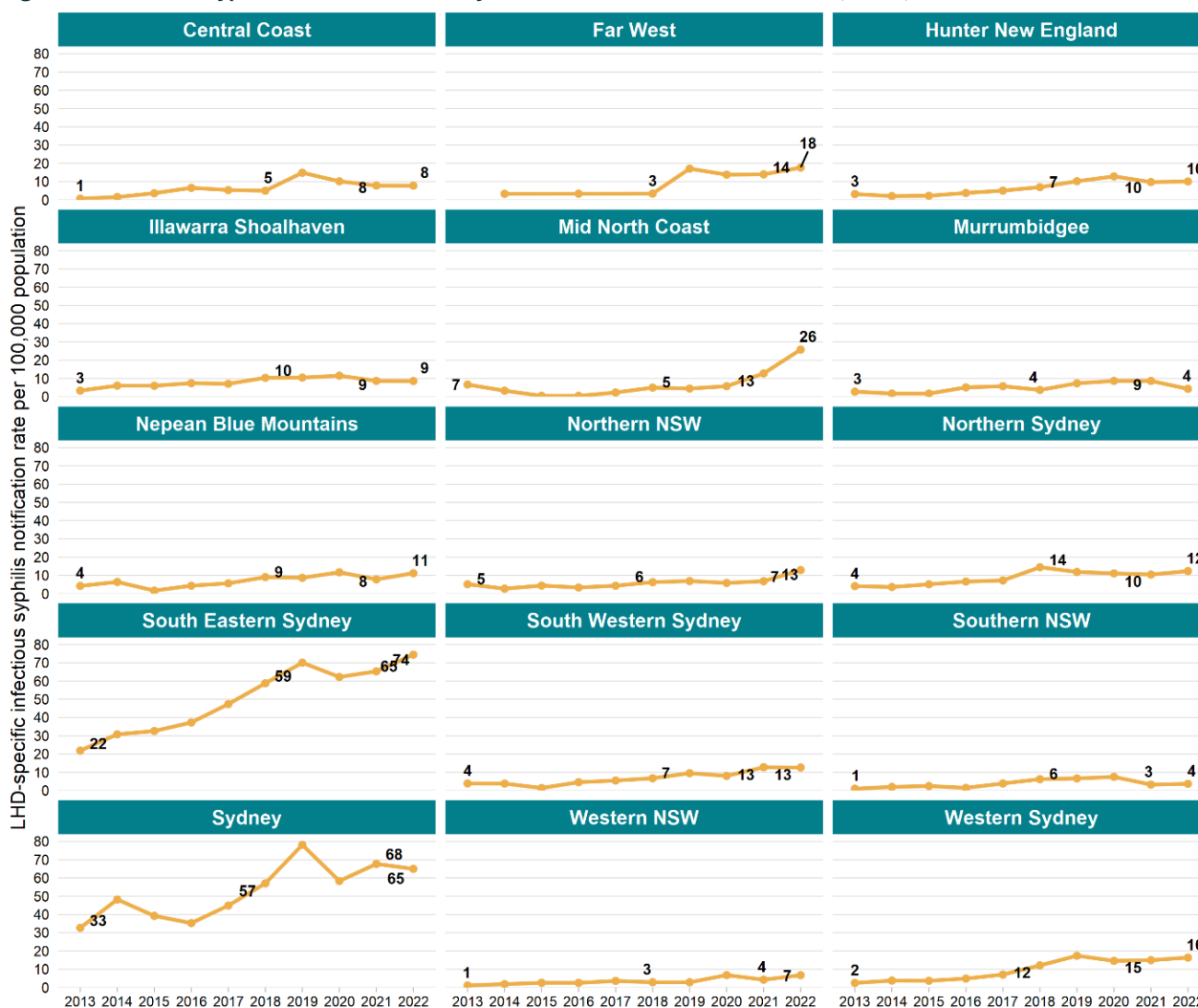
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year is based on calculated onset date.

In 2022, the highest infectious syphilis notification rates continued to be in South Eastern Sydney and Sydney LHDs (N=696, 74 notifications per 100,000 population and N=451, 65 notifications per 100,000 population, respectively) (Figure 6). It should be noted that MSM populations are unequally distributed among local health districts and continuing high infectious syphilis notification rates among males in the Sydney and South Eastern Sydney LHDs likely reflect large populations of MSM in these areas.

The largest increases in the infectious syphilis notification rates in 2022 compared with 2021 occurred in regional LHDs, in the Mid North Coast (N=29 to N=59, 102.5% increase) and Northern NSW (N=21 to N=40, 90% increase). Between 2018 and 2022 the infectious syphilis rate in Mid North Coast residents increased more than five-fold from 5.0 to 25.8 notifications per 100,000 population (N=11 to N=59) and two-fold from 6.3 to 13.0 notifications per 100,000 population for residents of Northern NSW (N=19 to N=40).

Note that rates in areas with small annual numbers of notifications fluctuate and should be interpreted with caution.

**Figure 6: Infectious syphilis notification rate by Local Health District of residence, NSW, 2013 – 2022**



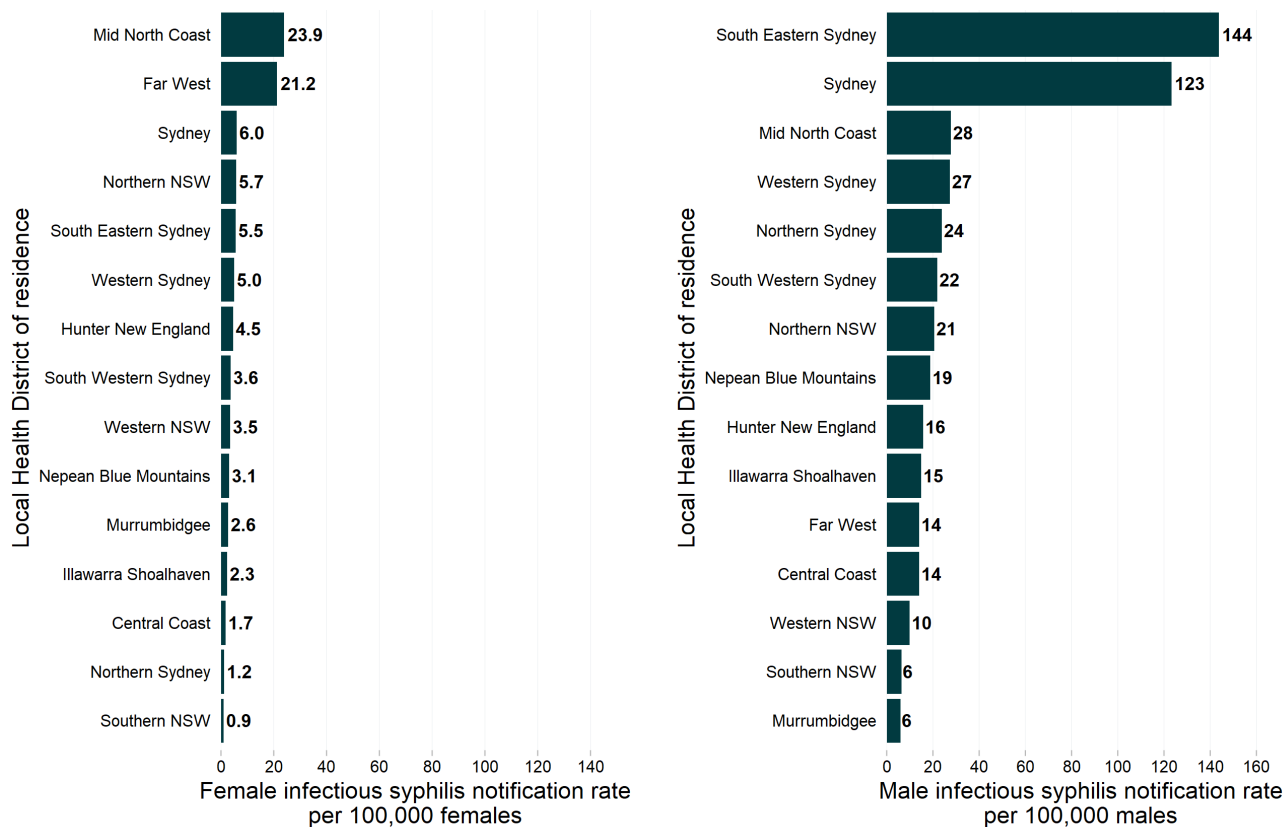
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents and notifications from Justice Health. Year is based on calculated onset date. See Appendix C Table 5 for a detailed overview of total notification numbers by LHD. See Appendix C Table 6 for a full overview of notification rates by year for each local health district.

The highest infectious syphilis rates in females in 2022 were Mid North Coast and Far West LHDs (Figure 7). The female rate in Mid North Coast increased from 6.8 in 2021 to 23.9 notifications per 100,000 population in 2022 (data not shown).

In males, the highest infectious syphilis rates continue to be in the Sydney and South Eastern Sydney LHDs (Figure 7).

Note that rates in areas with small annual numbers of notifications fluctuate and should be interpreted with caution.

**Figure 7: Infectious syphilis notification rates by sex and Local Health District, NSW, January – December 2022**



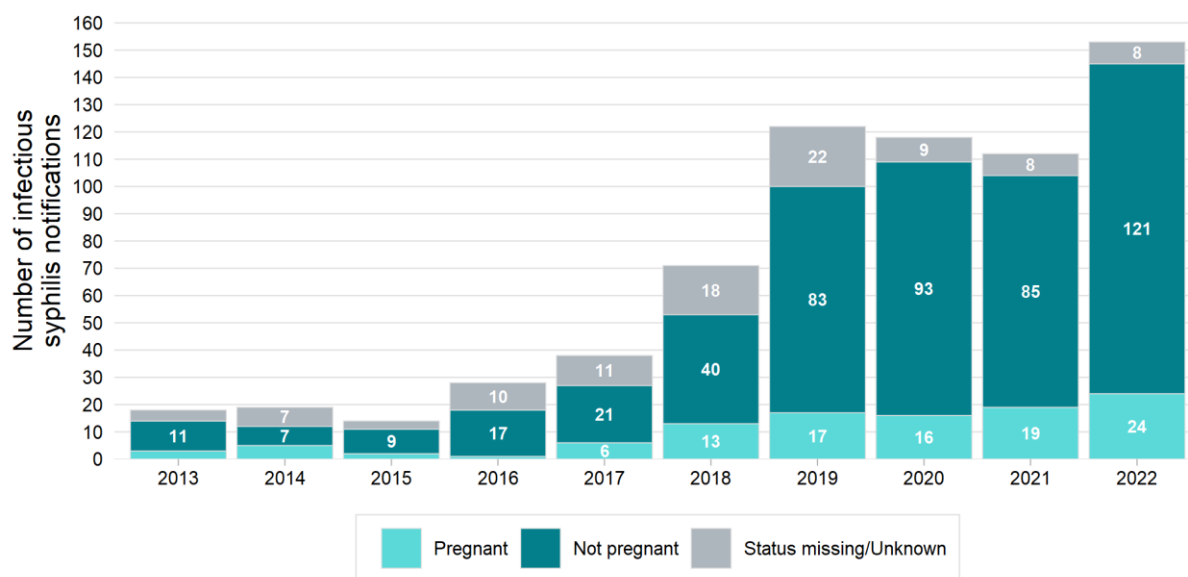
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), persons whose sex was not reported and notifications from Justice Health. Year is based on calculated onset date.



Although the absolute number of infectious syphilis numbers are low, there has been a continued increase in the number of infectious syphilis notifications in women of reproductive age (15–45 years), N=153 (Figure 8). In 2022, there were 24 women diagnosed with infectious syphilis who were pregnant, this is an increase of 26% compared to 2021. Pregnant women represented 15.7% of women of reproductive age notified with infectious syphilis in 2022, which is consistent to the average of 15% over the prior decade.

Note: As the number of infectious syphilis notifications are small, trends should be interpreted with caution. Data from before 2020 should be interpreted with caution due to the higher proportion of women with unknown pregnancy status.

**Figure 8: Number of infectious syphilis notifications in women of reproductive age by pregnancy status at the time of diagnosis, NSW, 2013 – 2022**

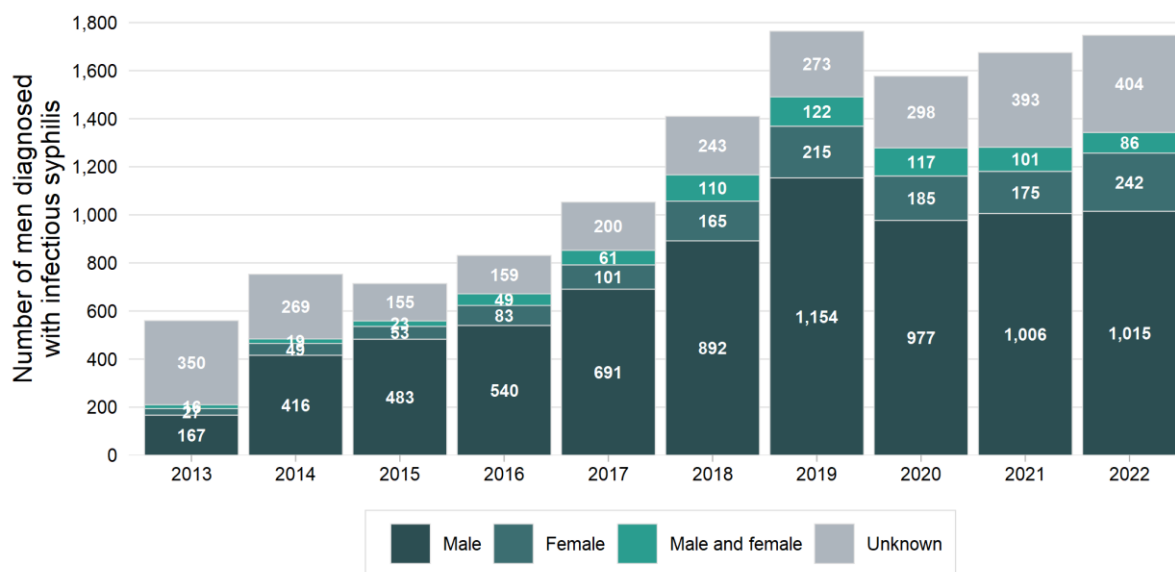


Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 20 June 2023. Reproductive age is defined as 15–45 years. Excludes non-NSW residents. Year is based on calculated onset date.

In 2022, sexual exposure was known for 1,343 (77%) males diagnosed with infectious syphilis (Figure 9). Among these men, the reported sexual exposure continued to be predominantly male-to-male sex (N=1,015, 76%).

Female only sexual exposure was reported by 242 males with infectious syphilis in 2022, which represents 18% of males with infectious syphilis. This is highest proportion in the past decade. Over the prior five years the proportion of males reporting female only sexual exposures ranged between 12% to 14.5%. Male and female exposure was reported by 86 males, representing 8.0% of male infectious syphilis cases in 2022. This represents a slight decrease compared to 2021, where 175 males reported female and male sexual exposures (9.1% of male cases).

**Figure 9: Reported gender of sexual partner(s) of men diagnosed with infectious syphilis, NSW, 2013 – 2022**



Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 03 August 2022. Note: Excludes non-NSW residents. Year is based on calculated onset date.

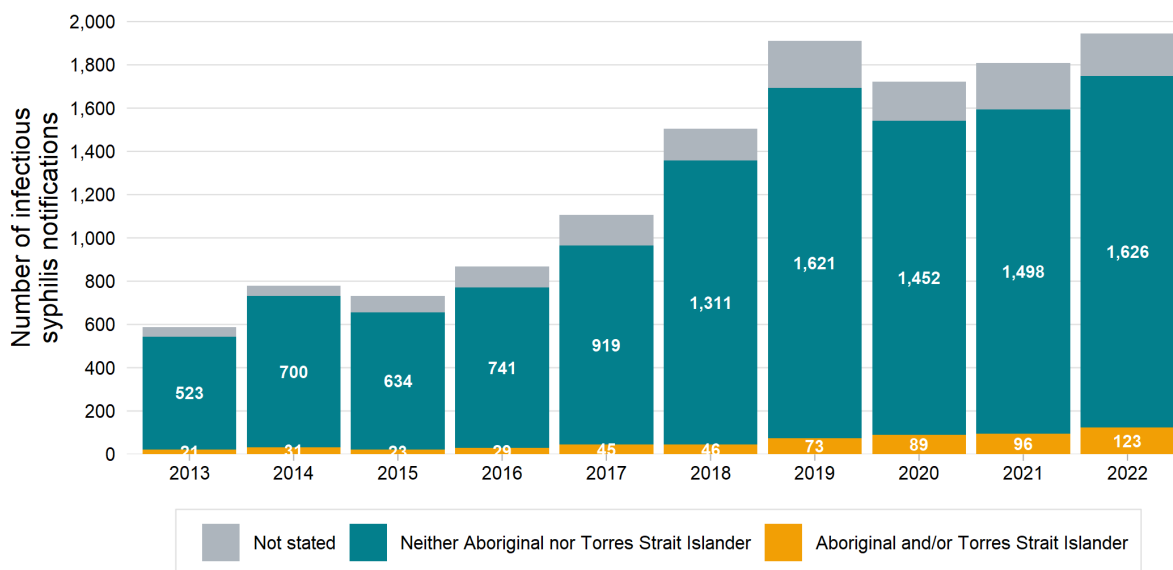
## 1.2 Infectious syphilis notifications among Aboriginal people

Of 1,945 infectious syphilis notifications in 2022, Aboriginal status was reported for 1,749 people, representing 89.9% of infectious syphilis notifications (Figure 10). This is just below the Strategy target of at least 90% of notifications have Aboriginal status specified. The proportion of notifications with Aboriginal status known in 2022 represents a slight increase from 2021 (88.0%).

Over the period 2013 to 2022, the number of infectious syphilis notifications reported among Aboriginal and Torres Strait Islander people varied from 21 in 2013 to 123 in 2022. Over the same period, the percentage of all infectious syphilis notifications that were notified in Aboriginal and Torres Strait Islander people ranged from 3.1% to 6.3% and was 6.3% in 2022. At the 2021 Census, 3.4% of the NSW population was reported as Aboriginal and/or Torres Strait Islander.<sup>1</sup> In 2022, Aboriginality was not stated for 196 infectious syphilis notifications (10.1%).

Trends in notifications among Aboriginal and Torres Strait Islander people are difficult to interpret due to variation in reporting of Aboriginality over time, including the proportion of people for whom Aboriginality was not stated. Notification rates among Aboriginal and Torres Strait Islander people will be provided in future annual reports when projected populations using the 2021 Census become available from the Australian Bureau of Statistics.

**Figure 10: Number of infectious syphilis notifications by Aboriginal status, NSW, 2013 – 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 20 June 2023. Note: Excludes non-NSW residents. Year is based on calculated onset date.

<sup>1</sup> Australia Bureau of Statistics. Australia: Aboriginal and Torres Strait Islander population summary [Internet]. Canberra; 2022. Available from: <https://www.abs.gov.au/articles/australia-aboriginal-and-torres-strait-islander-population-summary#where-aboriginal-and-torres-strait-islander-people-live>

# 2. Gonorrhoea

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Prevention, testing, and appropriate treatment and management with partner notification are the cornerstones of gonorrhoea control and are embedded in the NSW Sexually Transmissible Infections Strategy 2022–2026. Gonorrhoea notification data does not reflect the true incidence of gonorrhoea infection as it only represents a proportion of the population that have been tested and diagnosed, however it is useful for monitoring trends in diagnosed infections.

Gonorrhoea is a notifiable disease under the NSW *Public Health Act 2010*. A confirmed case requires isolation of *Neisseria gonorrhoeae* from culture or detection by nucleic acid amplification testing (NAAT). Only confirmed cases of gonorrhoea are counted when reporting gonorrhoea notifications. Patient care and contact tracing are the responsibility of the treating doctor. Information on risks (e.g., sexual exposure) is not routinely collected.

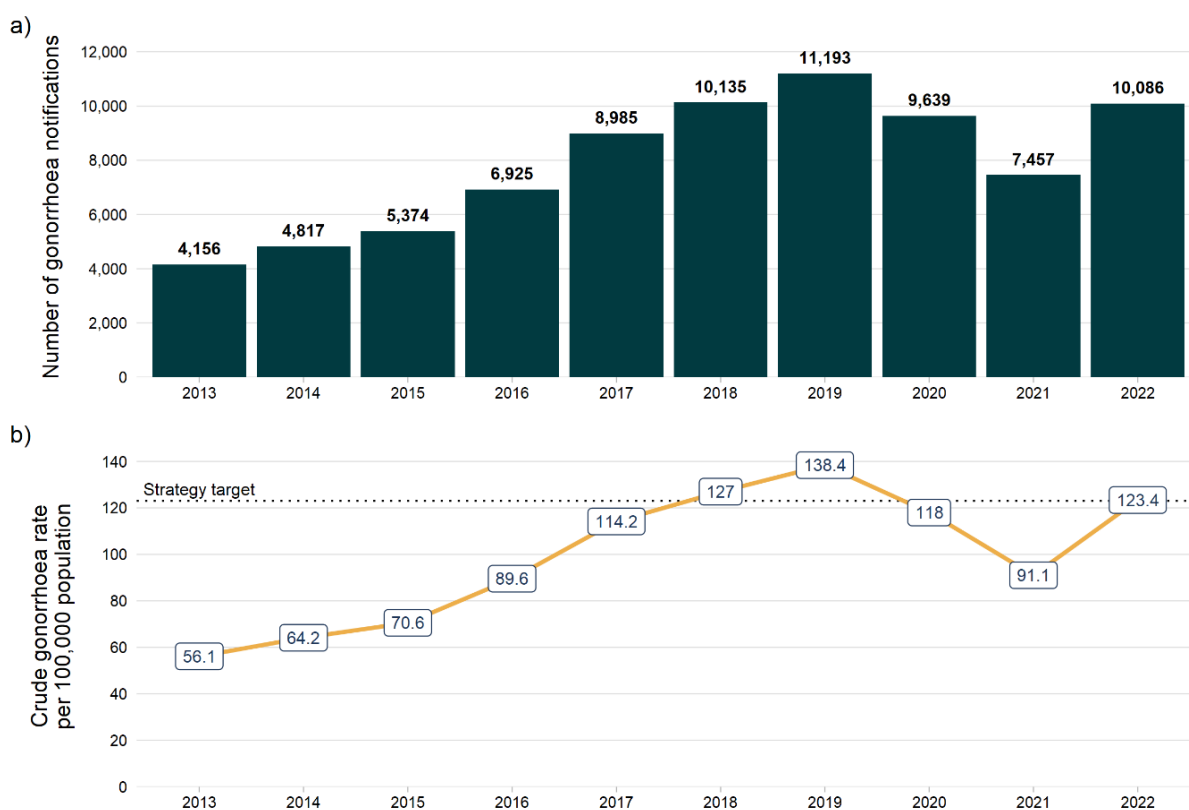
It is important to note that there may be multiple specimens collected for each individual who was tested for gonorrhoea. Hence the number of gonorrhoea tests done is greater than the number of individuals tested. However, an individual with multiple specimens that are taken close in time that are positive for gonorrhoea are counted as one notification.

## 2.1 Gonorrhoea notifications

In 2022 there were 10,086 notifications of gonorrhoea recorded in NSW residents, which is the third highest annual total recorded in the past decade. The 2022 gonorrhoea notification rate was 123 notifications per 100,000 population (Figure 11a). After two years of declines coinciding with the COVID-19 pandemic restrictions and related changes in health seeking behaviours, service provision and access, the notification rate began to increase again in 2022. The 2022 gonorrhoea notification rate increased 35.5% from 91.1 notifications per 100,000 population from 2021 but remains 11% lower than the previous peak of 138 notifications per 100,000 population in 2019.

The 2022 gonorrhoea notification rate at 123.4 is slightly above the strategy target of 123.1 notifications per 100,000 population (Figure 11b). The target rate represents a 5% decrease from the 2016–2019 peak.

**Figure 11: Number and crude rate of gonorrhoea notifications, NSW, 2013 – 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 04 July 2023. Note: Excludes non-NSW residents. Year of onset is based on calculated onset date.

The horizontal line represents the gonorrhoea target rate from the NSW Sexually Transmissible Infections Strategy 2022 – 2026

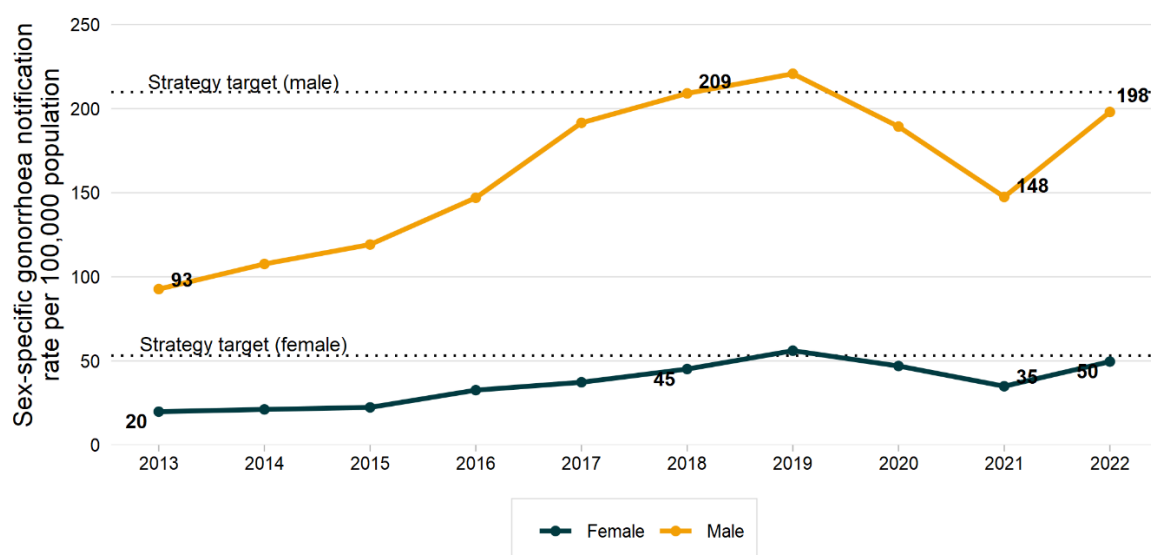
In 2022, 20% of gonorrhoea notifications were in females (N=2,045) and 79.5% were in males (N=8,022). Less than 1% of notifications were in transgender people (N=7). Sex was not reported for 12 people.

The median age of females diagnosed with gonorrhoea in 2022 was 27 years, which is consistent with the previous five years (range 27–29 years), and slightly lower than the median age of males (33 years, range 32–33 years).

The female rate increased by 42% compared to 2021 to 50 notifications per 100,000 females (N=1,443 to N=2,045), while the male notification rate increased 34% from 2021 to 198 notifications per 100,000 males (N=5,994 to N=8,022) (Figure 12). Consistent with prior years, the male gonorrhoea notification rate was substantially higher than the female rate. In 2022 the male rate was 4-fold higher than females (Table 2).

Both female and male rates in 2022 were below their respective targets from the NSW Sexually Transmissible Infections Strategy 2022–2026. The female rate at 50 was 6% lower than the target of 53.2 notifications per 100,000 females. The male rate at 198 was 6% lower than the target of 209.9 notifications per 100,000 males.

**Figure 12: Sex-specific gonorrhoea notification rates, NSW, 2013–2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 04 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year of onset is based on calculated onset date. The sex specific gonorrhoea targets are from the NSW Sexually Transmissible Infections Strategy 2022 – 2026.

**Table 2: Gonorrhoea notification rates per 100,000 by gender and ratio of male to female rates, NSW, 2013–2022**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female rate per 100,000 females	19.9	21.2	22.4	32.6	37.3	45.2	56.1	47.0	35.0	49.6
Male rate per 100,000 males	92.7	107.7	119.2	147.0	191.6	209.1	220.8	189.4	147.5	198.0
Ratio of male to female rates	4.7	5.1	5.3	4.5	5.1	4.6	3.9	4.0	4.2	4.0

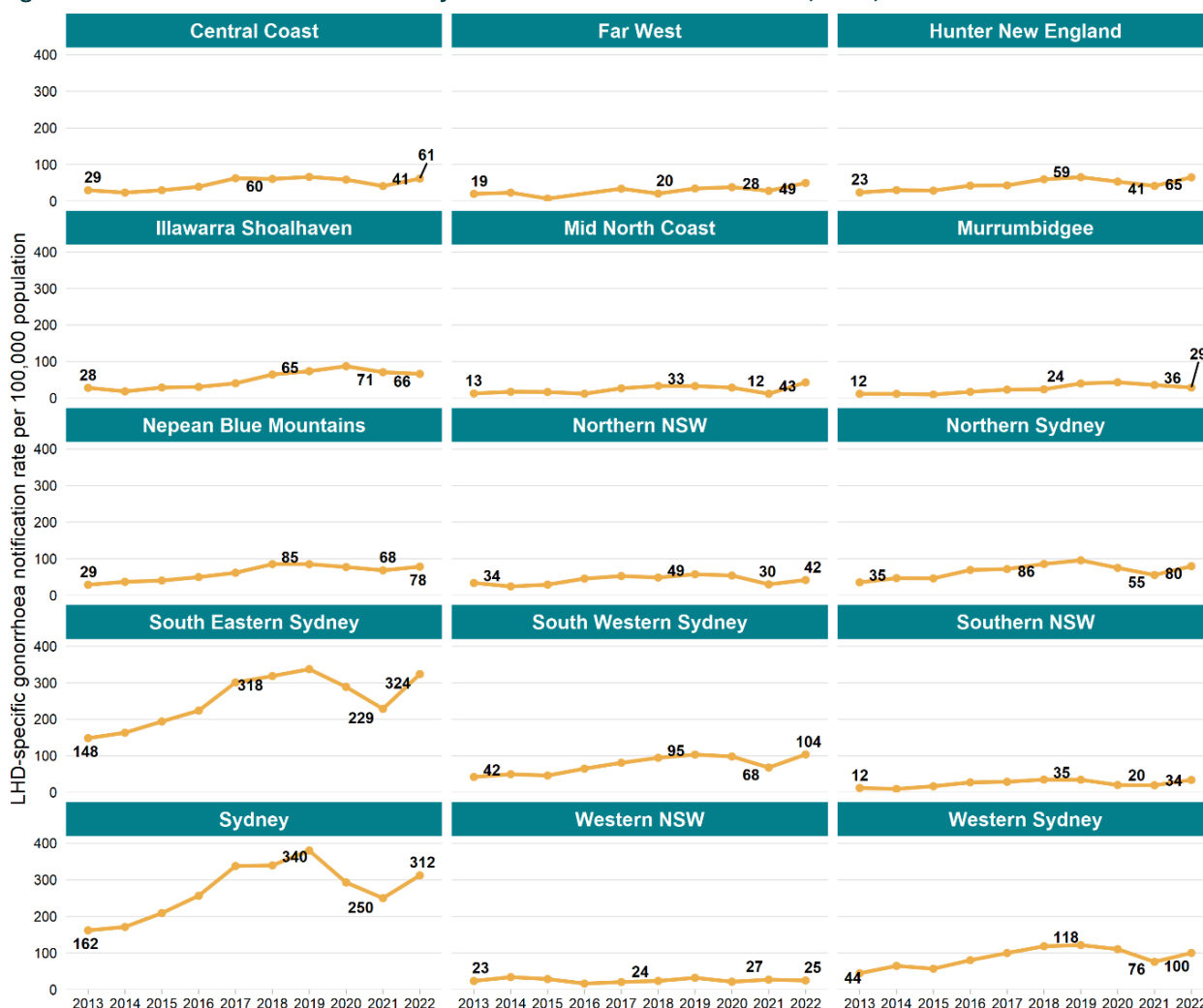
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 04 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year of onset is based on calculated onset date. The sex specific targets from the NSW Sexually Transmissible Infections Strategy 2022 – 2026, NSW, 2013 – 2022

Gonorrhoea notification rates increased across most Local Health Districts (LHDs) in 2022 (Figure 13). The largest increase from 2021 was reported in the Mid North Coast where the rate increased 2.6 times from 12 to 43 notifications per 100,000 population. Substantial increases compared to 2021 were also reported in the Far West (77% increase from 28 to 49 notifications per 100,000 population) and Southern NSW LHDs (75% increase from 19.5 to 34 notifications per 100,000 population). Decreases in notification rate between 2021 and 2022 were recorded three LHDs; Murrumbidgee (20% decrease), Western NSW (8% decrease) and Illawarra Shoalhaven (6% decrease).

Gonorrhoea notification rates in 2022 are currently relatively consistent to rates in 2018, with ten LHDs currently having change within 10% above or below the 2018 values.

Over the past five years, the largest increases in gonorrhoea notification rates occurred in the Far West (144% increase), Illawarra Shoalhaven (75% increase) and Murrumbidgee (54% increase) LHDs.

Figure 13: Gonorrhoea notification rates by Local Health District of residence, NSW, 2013 – 2022

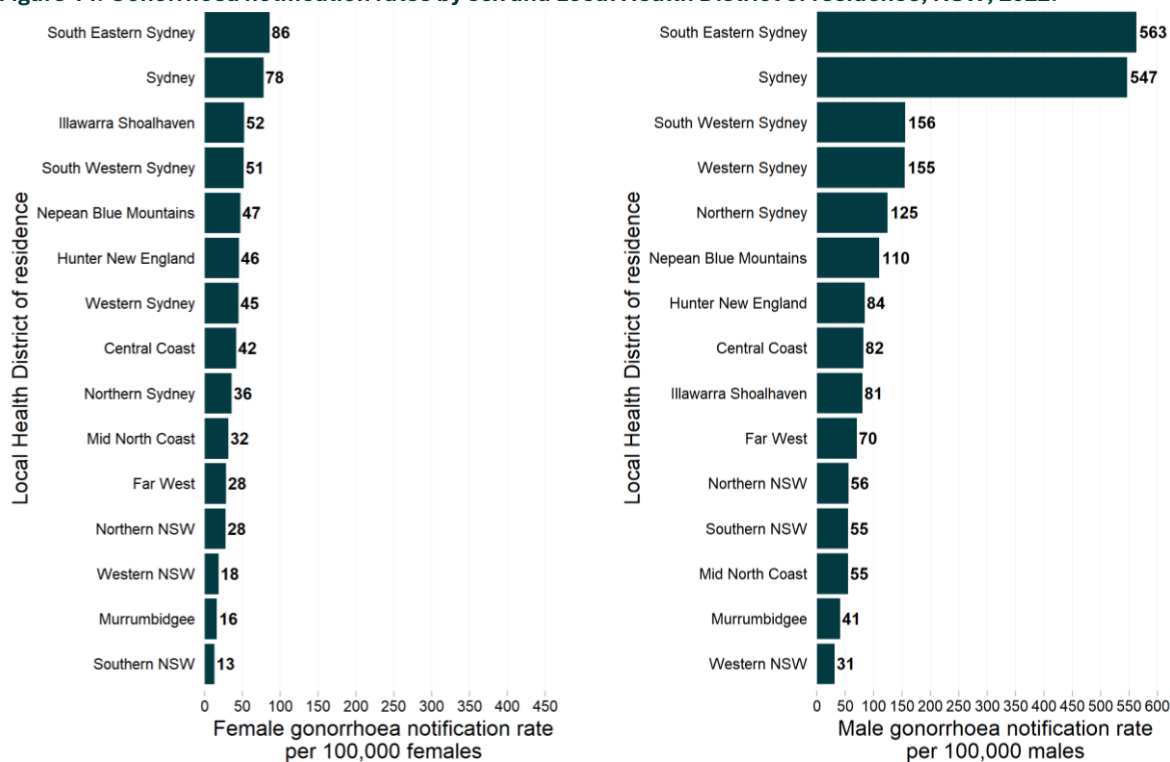


Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 04 July 2023. Note: Excludes non-NSW residents and notifications from Justice Health. Year of onset is based on calculated onset date.

In 2022, South Eastern Sydney (86 notifications per 100,000 females) and Sydney LHDs (78 notifications per 100,000 females) recorded the highest female notification rates, followed by Illawarra Shoalhaven LHD (52 notifications per 100,000 females) (Figure 14). In 2021, Illawarra Shoalhaven LHD had the highest female gonorrhoea notification rate. Whilst this 2021 result was likely due to a decreasing rate in South Eastern Sydney and Sydney LHDs during this period, the female gonorrhoea notification rate in the Illawarra Shoalhaven LHD has increased by 34% since 2018, while female notification rates in South Eastern Sydney LHD increased by 11.5% and decreased by 4% in Sydney LHD over this same period.

For males, the LHDs reporting the highest gonorrhoea notification rates in 2022 continued to be those in metropolitan Sydney, in particular South Eastern Sydney (563 notifications per 100,000 males) and Sydney LHDs (547 notifications per 100,000 males) (Figure 14). Current rates in these LHDs are relatively consistent to those reported in 2018 (1% increase and an 8.5% decrease in South Eastern Sydney and Sydney LHDs, respectively). It should be noted that MSM populations are unequally distributed among LHDs. Continuing high notification rates among males in the Sydney and South Eastern Sydney LHDs reflect large concentrations of MSM in these areas. These populations also have a high uptake of pre-exposure prophylaxis (PrEP) for HIV<sup>2</sup>. Persons on PrEP are regularly tested for STIs.

**Figure 14: Gonorrhoea notification rates by sex and Local Health District of residence, NSW, 2022.**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 04 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), persons whose sex was not reported and notifications from Justice Health. Year of onset is based on calculated onset date. See Appendix C Table 5 & 7 for a detailed overview of total notification numbers and rates by sex and LHD.

<sup>2</sup> Grulich AE, Guy R, Amin J, Jin F, Selvey C, Holden J, Schmidt HM, Zablotska I, Price K, Whittaker B, Chant K. Population-level effectiveness of rapid, targeted, high-coverage roll-out of HIV pre-exposure prophylaxis in men who have sex with men: the EPIC-NSW prospective cohort study. *The Lancet HIV*. 2018;5(11):e629-37.

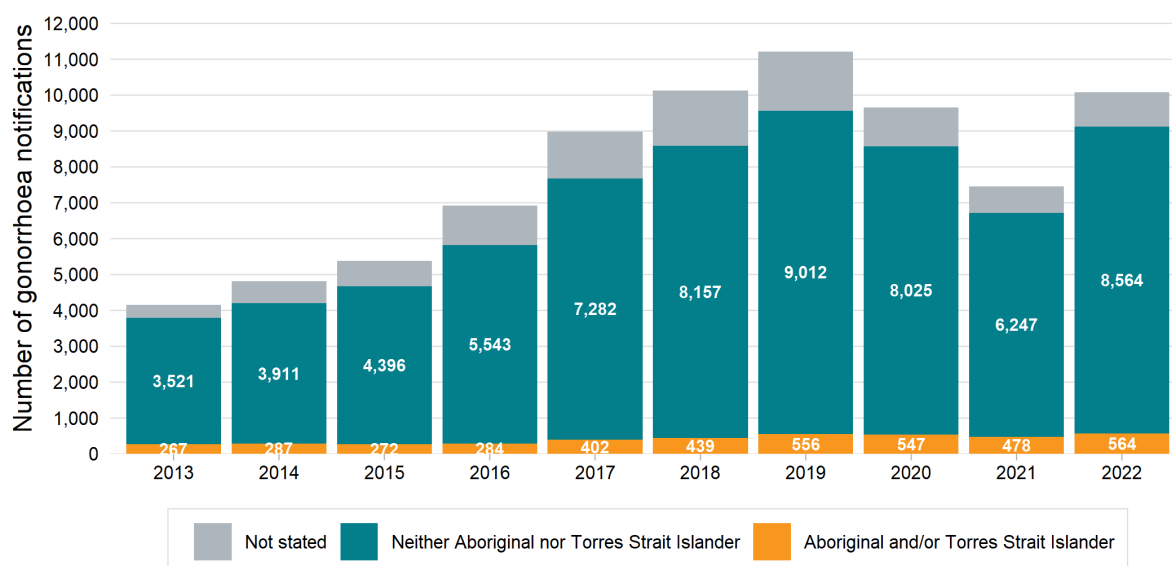


## 2.2 Gonorrhoea notifications among Aboriginal people

Over the period 2013 to 2022, the number of gonorrhoea notifications reported among Aboriginal and Torres Strait Islander people varied from 267 notifications in 2013 to 564 notifications in 2022 (Figure 15). Over the same period, the percentage of all gonorrhoea notifications that were notified in Aboriginal and Torres Strait Islander people ranged from 4.1% to 6.4% and was 6.4% in 2022. At the 2021 Census, 3.4% of the NSW population were reported as Aboriginal and/or Torres Strait Islander.<sup>3</sup> In 2022, Aboriginality was not stated for 957 notifications (9.5%).

Trends in notifications among Aboriginal and Torres Strait Islander people are difficult to interpret due to variation in reporting of Aboriginality over time, including the proportion of people for whom Aboriginality was not stated. Differences in reported Aboriginality in the Communicable Disease Register (CDR) compared to previous reports may also be due to improved record linkage. Notification rates among Aboriginal and Torres Strait Islander people will be provided in future annual reports when projected populations using the 2021 Census become available from the Australian Bureau of Statistics.

**Figure 15: Number of gonorrhoea notifications by Aboriginal status, NSW, 2013 – 2022**



Data source: Communicable Diseases Register, NSW Ministry of Health (via SAPHARI); data extracted 18 September 2023. Note: Excludes non-NSW residents. Year is based on calculated onset date.

<sup>3</sup> Australia Bureau of Statistics. Australia: Aboriginal and Torres Strait Islander population summary [Internet]. Canberra; 2022. Available from: <https://www.abs.gov.au/articles/australia-aboriginal-and-torres-strait-islander-population-summary#where-aboriginal-and-torres-strait-islander-people-live>

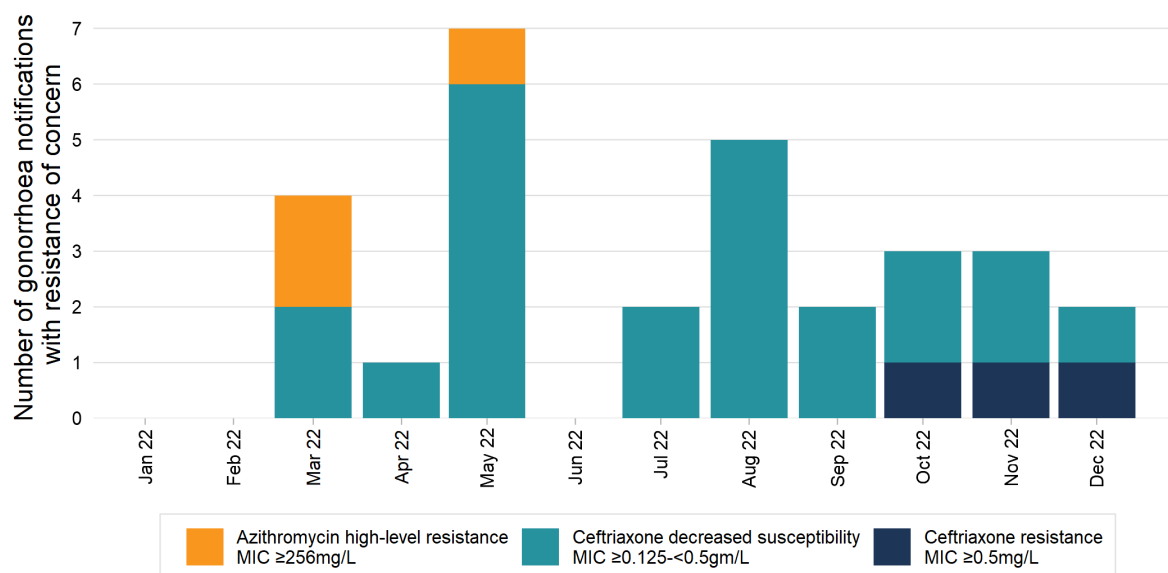
## 2.3 Antimicrobial resistant gonorrhoea

Antimicrobial resistant (AMR) gonorrhoea is a growing concern and poses health security risks nationally and globally. Bacterial culture must be performed to detect AMR gonorrhoea as AMR cannot be detected by NAAT alone. In 2022, 27% of gonorrhoea notifications in NSW were cultured and antimicrobial susceptibility testing (AST) performed.<sup>4</sup> This was an increase of 3% from 2021, but remained 4% lower than 2019, when 31% of gonorrhoea notifications received AST.<sup>5,6</sup>

From January 2022 to December 2022, NSW reported 29 notifications of AMR gonorrhoea including three notifications with high-level resistance to azithromycin (MICs  $\geq 256$ mg/L), three notifications with resistance to ceftriaxone (MICs  $\geq 0.5$ mg/L) and 23 notifications with decreased susceptibility to ceftriaxone ( $0.125$  mg/L  $\leq$  MICs  $< 0.5$  mg/L) (Figure 16). Cases were predominantly in metropolitan Sydney (93%), aged 17–64 years (median age 40), and included heterosexual males (51%), females (21%), and men who have sex with men (28%). Most cases had symptomatic presentations (59%) with only 6 cases asymptotically screened. All cases with high-level azithromycin resistance were linked to South America (100%) and all cases with resistance to ceftriaxone were linked to Asia. Epidemiological and genomic mapping of the 23 cases with decreased susceptibility to ceftriaxone identified expansion of a local clone of limited genomic diversity of multilocus sequence type (MLST) ST-7827.<sup>4</sup> These cases were predominately linked to heterosexual exposure (78%).

Prior to 2022, the last notification of AMR gonorrhoea in NSW was in April 2020. No cases of AMR gonorrhoea were reported in 2021. NSW AMR gonorrhoea notifications are at their highest since dual therapy was introduced in 2014. Sporadic importation of AMR gonorrhoea and threat of an established local strain pose challenges to disease control. While clinicians commonly use molecular testing because of rapidity of receiving results, culture-based susceptibility testing remains crucial for ongoing AMR surveillance.

**Figure 16: Number of gonorrhoea notifications with antimicrobial resistance of concern, NSW, 2022**



<sup>4</sup> Monica M Lahra, Sebastiaan J van Hal and Tiffany R Hogan for the National Neisseria Network, Australia. Australian Gonococcal Surveillance Programme Annual Report, 2022. Commun Dis Intell, 2023;47.

<sup>5</sup> Monica M Lahra, Tiffany R Hogan and Benjamin H Armstrong for the National Neisseria Network, Australia. Australian Gonococcal Surveillance Programme Annual Report, 2021. Commun Dis Intell, 2022;46

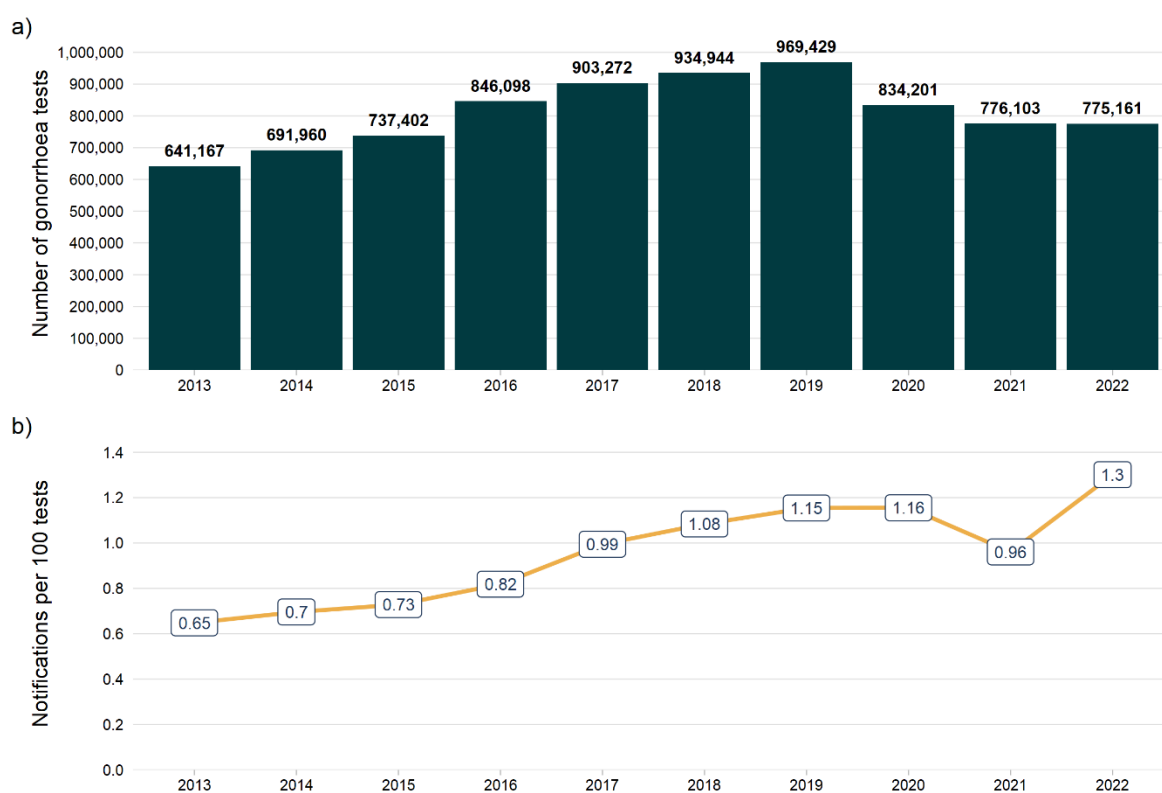
<sup>6</sup> Monica M Lahra, Masoud Shoushtari, CR Robert George, Benjamin H Armstrong and Tiffany R Hogan for the National Neisseria Network, Australia. Annual Report, 2019. Commun Dis Intell, 2020;44

## 2.4 Gonorrhoea testing

In 2022, there were 775,161 gonorrhoea tests (NAAT and culture) performed in NSW, indicating a continued decrease in testing numbers since 2019 (Figure 17a). Compared to 2021, the gonorrhoea testing level decreased slightly by 0.1% and compared to the previous peak in 2019, decreased 20%.

The notification to test ratio increased to its highest level in the past decade in 2022. At 1.3 notifications per 100 gonorrhoea tests this represents a 35% increase compared to 2021 (Figure 17b). Decreases in testing in 2020, 2021 and 2022 were likely related to the impact of COVID-19 on visits to primary health care providers and disruptions to screening programs. An increase in the notification to test ratio is suggestive of improvements in screening programs targeting people at higher risk for infection, as well as increases in gonorrhoea transmission.

**Figure 17: Number of gonorrhoea tests and notifications per 100 test ratio, NSW, 2013 – 2022**



Data source: NCIMS (via SAPHaRI) and NSW Denominator Data Project, NSW Health. Data extracted 16 June 2022.

# 3. Chlamydia

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Prevention, testing and appropriate treatment and management are the cornerstones of chlamydia control and are embedded in the current STI Strategy. Chlamydia notification data does not reflect the true incidence of chlamydia infection as it only represents a proportion of the population that have been tested and diagnosed, however it is useful for monitoring trends in diagnosed infections. Chlamydia notification data are heavily influenced by testing practices. It is estimated in 2021 that 28% of new chlamydia infections in people aged 15–29 years were diagnosed nationally.<sup>7</sup>

Chlamydia is a notifiable disease under the NSW *Public Health Act 2010*. A confirmed case requires isolation of *Chlamydia trachomatis* from culture or detection by nucleic acid testing (NAAT) or antigen. Only confirmed cases of chlamydia are counted when reporting chlamydia notification data. Patient care and contact tracing are the responsibility of the treating doctor. Information on risks (e.g., sexual exposure) is not routinely collected.

It is important to note that there may be multiple specimens collected for each individual tested for chlamydia. Hence the number of chlamydia tests is greater than the number of individuals tested. However, an individual with multiple specimens that are positive for *Chlamydia trachomatis* will generate only one notification.

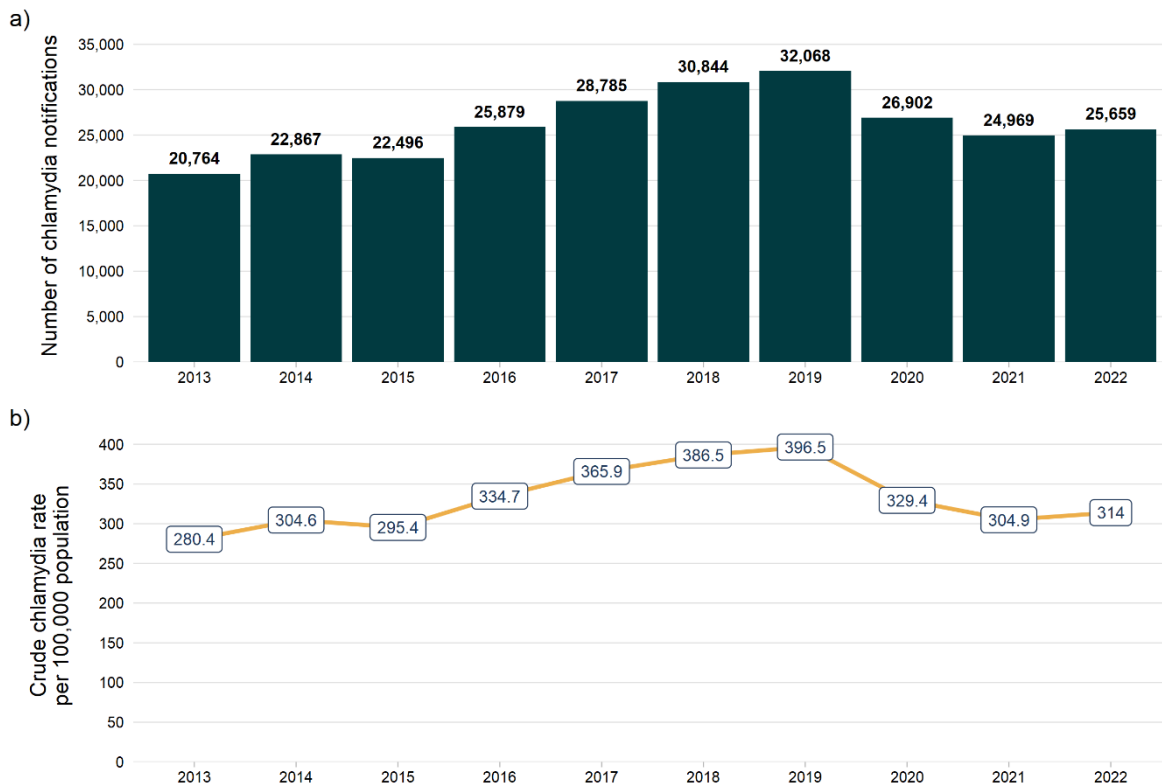
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<sup>7</sup> Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report 2022. Sydney: Kirby Institute, UNSW Sydney; 2022.

### 3.1 Chlamydia notifications

In 2022, there were 25,659 notifications of chlamydia recorded in NSW residents (Figure 18a). At 314 notifications per 100,000 population, the 2022 chlamydia notification rate slightly increased since 2021 (3% increase from 304.9 notifications per 100,000 population) but remains 21% below the 2019 peak rate of 396.5 notifications per 100,000 population (Figure 18b). The rate decline from 2020 to 2022 can be partially explained by changes in social mixing and sexual behaviours caused by COVID-19 restrictions and altered health seeking behaviours, service provision and access, as well as disruptions to screening programs.

**Figure 18: Number and crude rate of chlamydia notifications, NSW, 2013 – 2022**



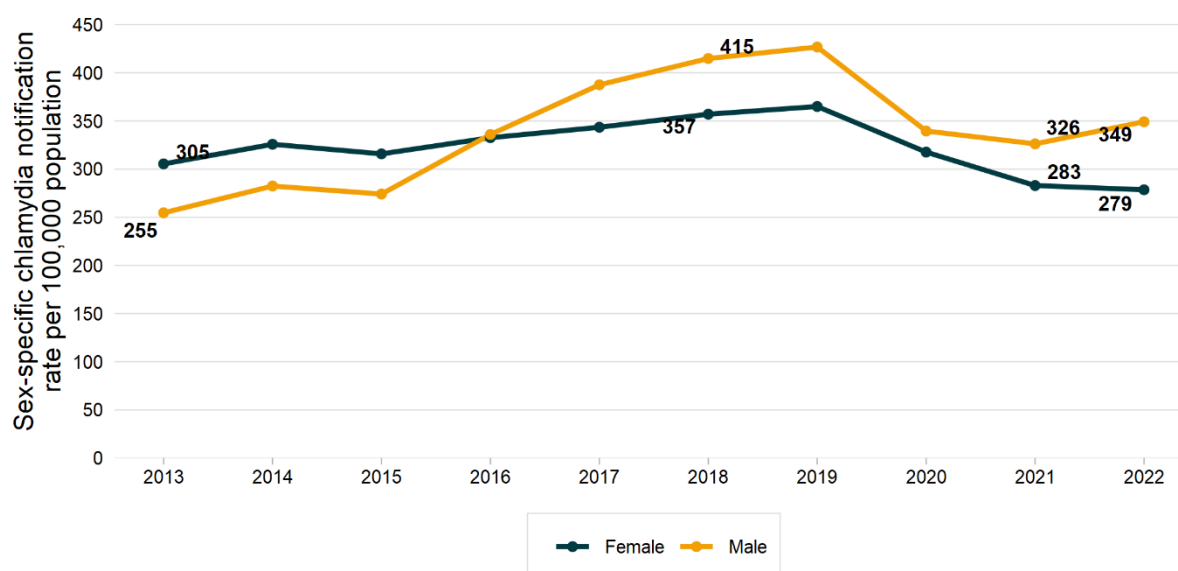
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 06 July 2023. Note: Excludes non-NSW residents.

Among total chlamydia notifications in 2022, 44.7% were reported in females (N=11,481) and 55.1% in males (N= 14,142). Five notifications were reported in transgender individuals and sex was not reported for 31 notifications.

In 2022, the median age of females at time of notification was 23 years. Since 2013, the median age of females has ranged from 22 to 23 years. The median age of males at the time of chlamydia notification in 2022 was 29 years. Since 2013, the median age of males has ranged between 26 and 29 years.

For females, the notification rate in 2022 was 279 notifications per 100,000 females and represents a decrease of 1.6% compared to 2021 when the rate was 283 notifications per 100,000 females (Figure 19). In 2022 the male chlamydia notification rate was 349 notifications per 100,000 which represents a 7% increase compared to 2021 when the rate was 326 per 100,000 males. This divergent trend has further increased the male to female notification ratio, which in 2022 was 1.3-fold higher for males than females (Table 3).

**Figure 19: Sex specific chlamydia notification rates, NSW, 2013 – 2022**



Data source: NCRES (via SAPHaRI). Data extracted 06 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year of onset is based on calculated onset date.

**Table 3: Chlamydia notification rates per 100,000 by gender and ratio of male to female rates, NSW, 2013 – 2022**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female rate per 100,000 females	305.4	325.8	315.8	332.6	343.4	357.0	365.0	317.6	282.9	278.5
Male rate per 100,000 males	254.6	282.4	274.1	335.9	387.5	414.8	426.8	339.5	326.2	349.1
Ratio of male to female rates	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.1	1.2	1.3

Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 06 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), and persons whose sex was not reported. Year of onset is based on calculated onset date.

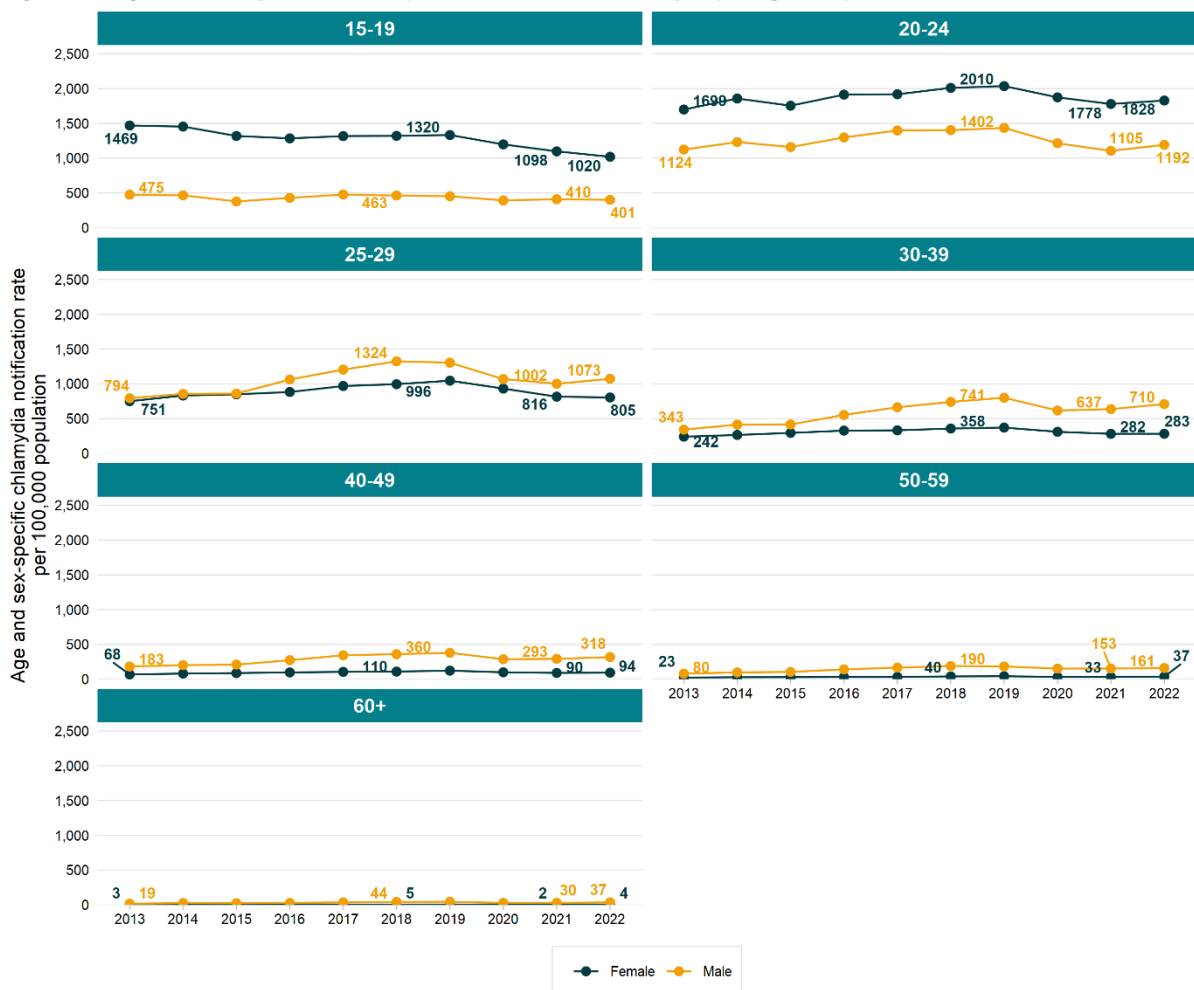
Chlamydia notification rates in females and males aged 15–19 years continued to decline from 2021, with a decrease of 7% to 1020 notifications per 100,000 females and 2% to 401 notifications per 100,000 males, respectively (Figure 20).

Females aged 20–24 years continued to report the highest notifications rates in 2022 with 1828 notifications per 100,000 females, followed by males of the same age with 1192 notifications per 100,000 males.

A slight decrease of 1.5% compared to 2021 was reported in females aged 25–29 years, from 804 to 804 notifications per 100,000 females, while notifications among males of the same age increased by 7% from 1002 to 1073 notifications per 100,000 males.

The rate in females 30–39 remained stable in 2022. In contrast, the most substantial rate increase occurred amongst males aged 30–39 of 11%, from 637 to 710 notifications per 100,000 males.

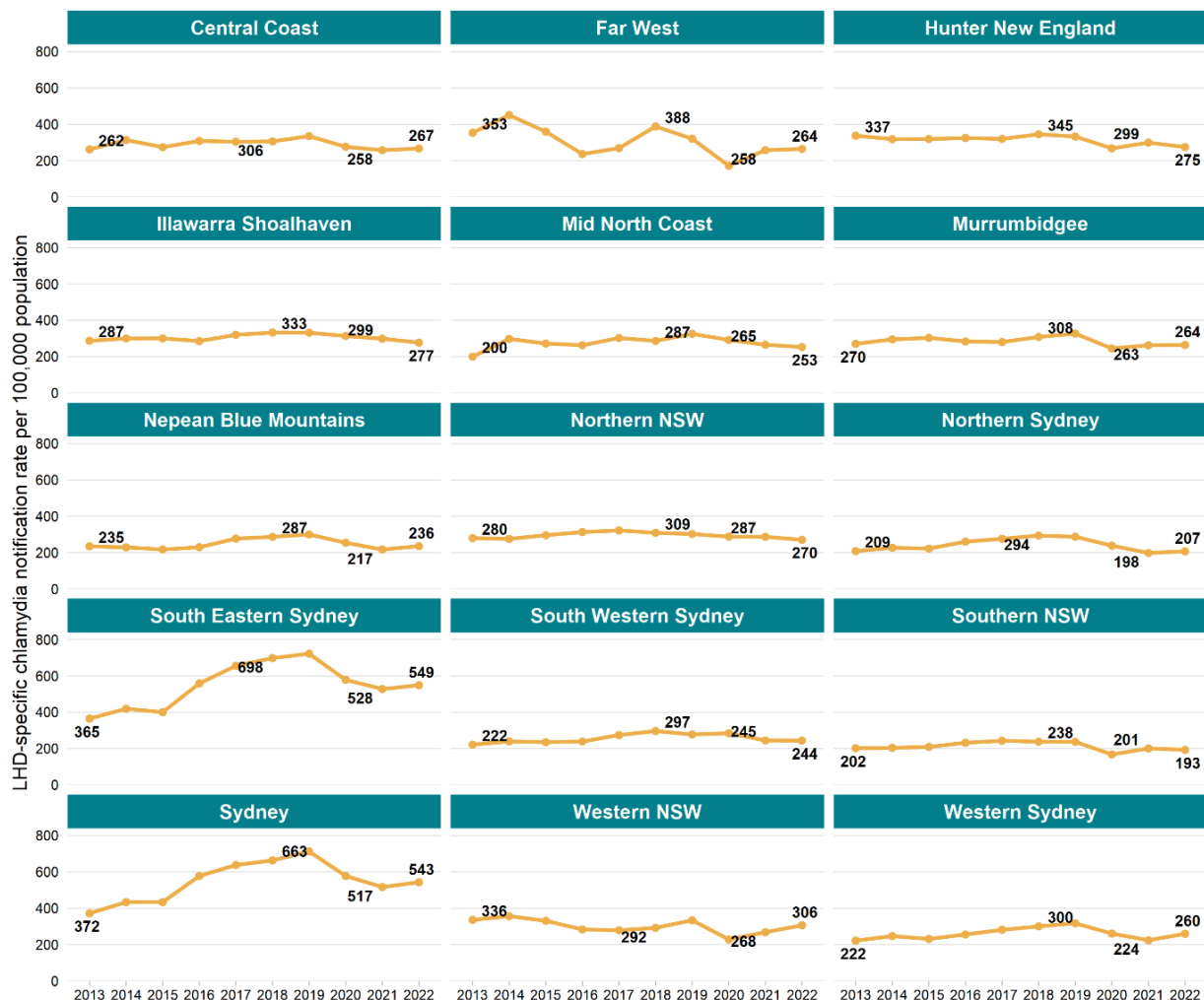
**Figure 20: Age and sex specific chlamydia notification rates in people aged 15 years and over, NSW, 2013 – 2022**



Data source: NCRES and ABS population estimates (via SAPHaRI). Data extracted 07 July 2023. Note: Excludes non-NSW residents. Year of onset is based on calculated onset date.

In 2022, South Eastern Sydney and Sydney LHDs continued to report the highest chlamydia rates (Figure 21). Compared to 2021, chlamydia notification rates remained relatively stable by LHD. The largest annual increases were reported in Western Sydney LHD (16% increase from 224 to 260 notifications per 100,000 population) and Western NSW LHD (14% increase from 268 to 306 notifications per 100,000 populations). An eight-percent decrease was also reported in Hunter New England LHD (from 299 to 275 notifications per 100,000 population).

Figure 21: Chlamydia notification rates by Local Health District of residence, NSW, 2013 – 2022



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 07 July 2023. Note: Excludes non-NSW residents and notifications from Justice Health. For Justice Health notifications, see Appendix C: Table 5. Year of onset is based on calculated onset date.

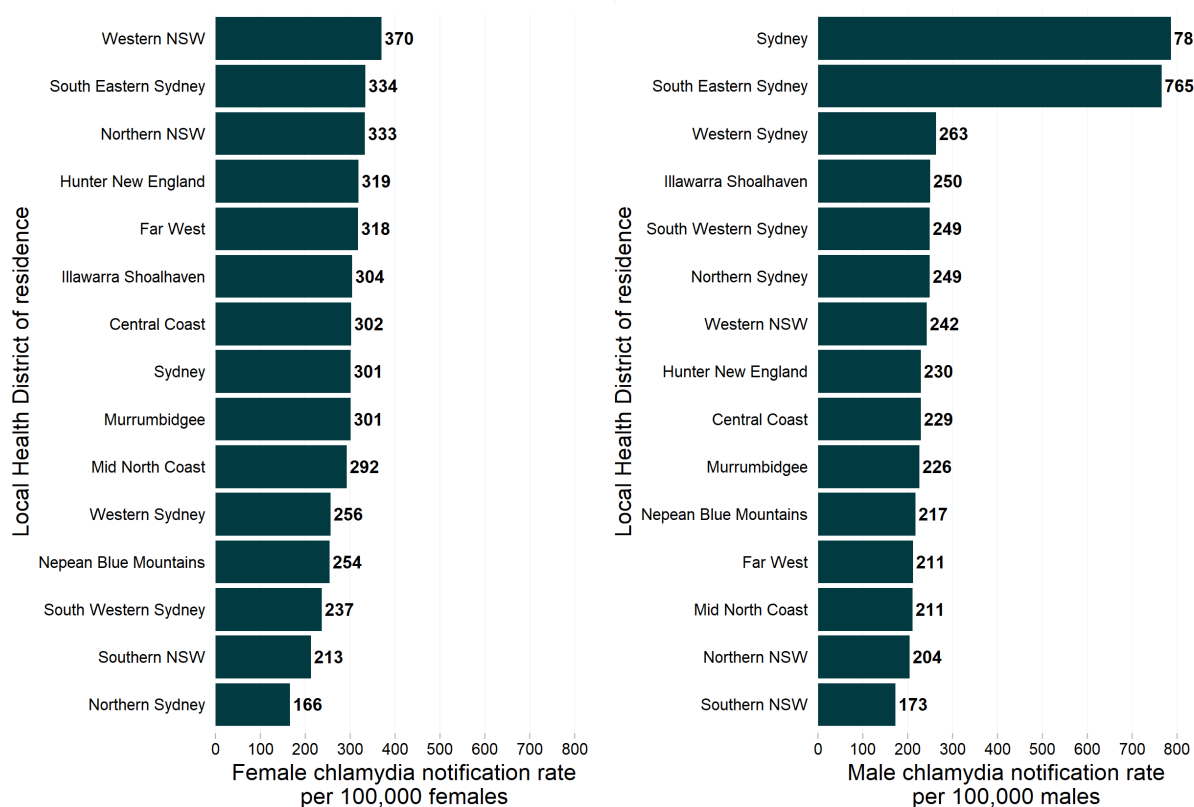


In 2022, four of the five highest female chlamydia rates were reported in regional LHDs (Western NSW, Northern NSW, Hunter New England and Far West) (Figure 22). This was relatively consistent to 2021.

For males, the LHDs reporting the highest chlamydia notification rates in 2022 continued to be those in metropolitan Sydney, in particular South Eastern Sydney and Sydney LHDs (Figure 22). Eleven out of 15 LHDs reported a decrease in the male rate in 2022.

It should be noted that MSM populations are unequally distributed among local health districts. Continuing high notification rates among males in the Sydney and South Eastern Sydney LHDs reflect large concentrations of MSM in these areas. These populations also have a high uptake of pre-exposure prophylaxis (PrEP) for HIV.<sup>8</sup> Persons on PrEP are regularly tested for STIs.

**Figure 22: Chlamydia notification rates by sex and Local Health District of residence, NSW, 2022**



Data source: NCRES and ABS population estimates (via SAPHaRI). Data extracted 07 July 2023. Note: Excludes non-NSW residents, persons reported as transgender (due to small numbers), persons whose sex was not reported and notifications from Justice Health. Year of onset is based on calculated onset date. See Tables 5 & 8 in Appendix C for a detailed overview of total notification numbers and rates by sex and LHD.

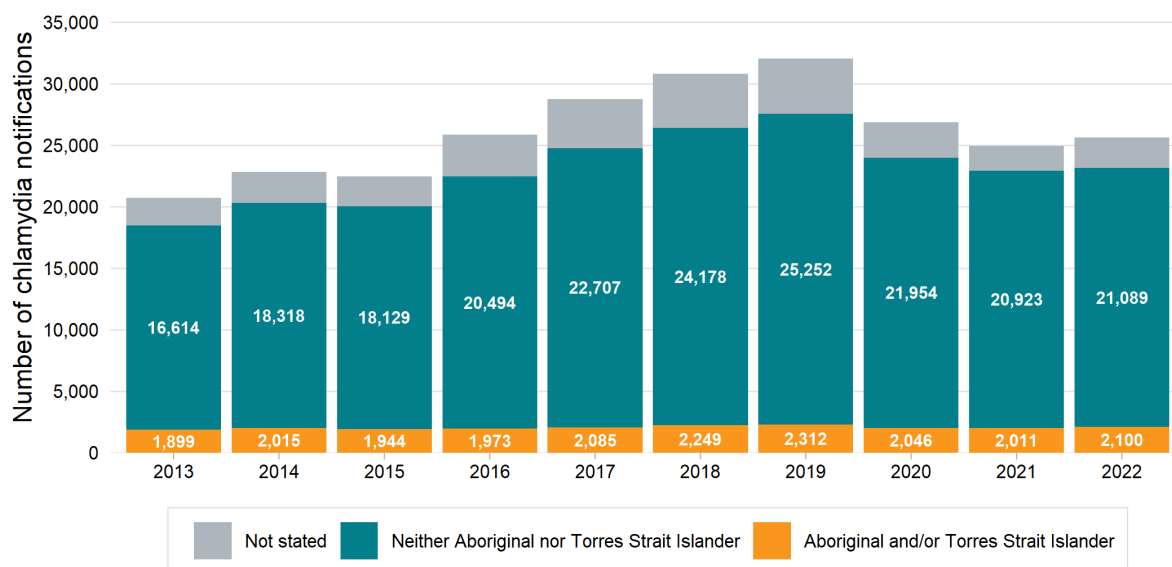
<sup>8</sup> Grulich AE, Guy R, Amin J, Jin F, Selvey C, Holden J, Schmidt HM, Zablotska I, Price K, Whittaker B, Chant K. Population-level effectiveness of rapid, targeted, high-coverage roll-out of HIV pre-exposure prophylaxis in men who have sex with men: the EPIC-NSW prospective cohort study. *The Lancet HIV*. 2018;5(11):e629-37.

## 3.2 Chlamydia notifications among Aboriginal people

Over the period 2013 to 2022, the number of chlamydia notifications reported among Aboriginal and Torres Strait Islander people varied from 1899 in 2013 to 2312 in 2019 and was 2100 notifications in 2022 (Figure 23). Over the same period, the percentage of all chlamydia notifications that were notified in Aboriginal and Torres Strait Islander people ranged from 7.2% to 9.2% and was 8.2% in 2022. At the 2021 Census, 3.4% of the NSW population was reported as Aboriginal and/or Torres Strait Islander<sup>9</sup>. In 2022, Aboriginality was not stated for 2,457 chlamydia notifications (9.6%).

Trends in notifications among Aboriginal and Torres Strait Islander people are difficult to interpret due to variation in reporting of Aboriginality over time, including the proportion of people for whom Aboriginality was not stated. Differences in reporting of Aboriginality in the Communicable Disease Register (CDR) compared to previous reports may also be due to improved record linkage. Notification rates among Aboriginal and Torres Strait Islander people will be provided in future annual reports when projected populations using the 2021 Census become available from the Australian Bureau of Statistics.

**Figure 23: Number of chlamydia notifications by Aboriginal status, NSW, 2013 – 2022**



Data source: Communicable Diseases Register, NSW Ministry of Health (via SAPHaRI); data extracted 18 September 2023. Note: Excludes non-NSW residents.

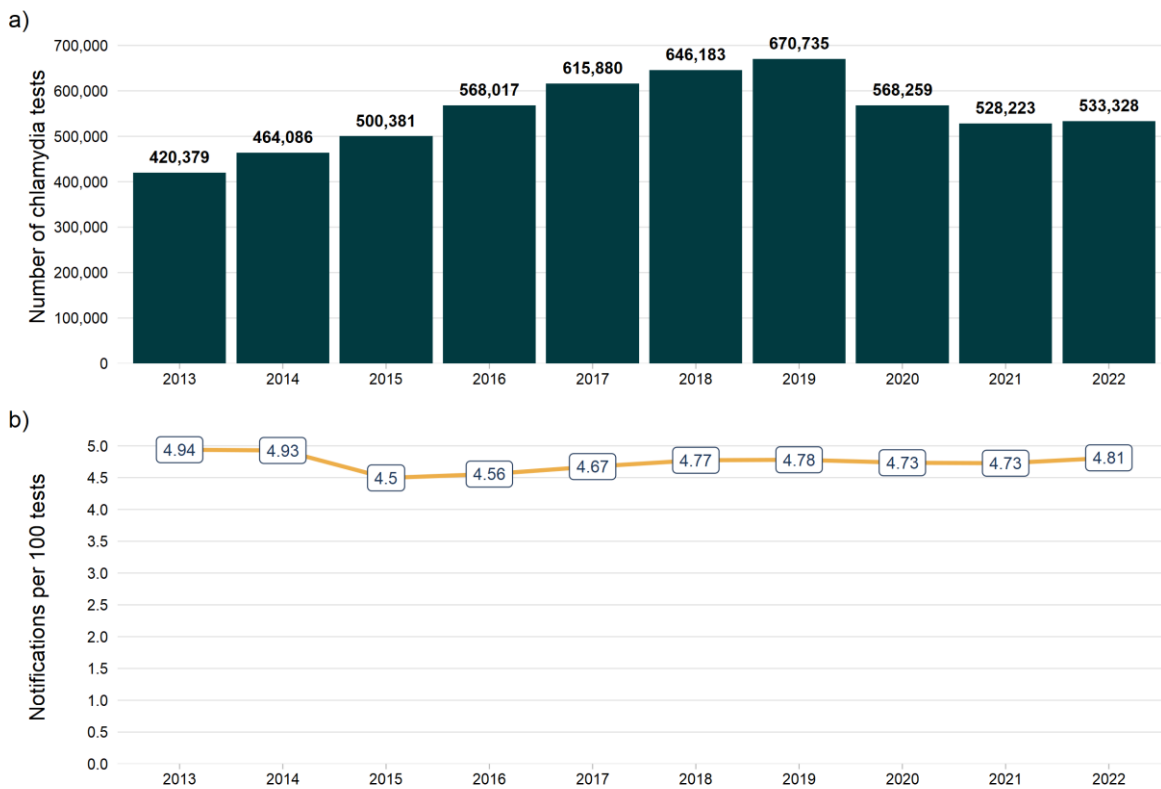
<sup>9</sup> Australia Bureau of Statistics. Australia: Aboriginal and Torres Strait Islander population summary [Internet]. Canberra; 2022. Available from: <https://www.abs.gov.au/articles/australia-aboriginal-and-torres-strait-islander-population-summary#where-aboriginal-and-torres-strait-islander-people-live>

### 3.3 Chlamydia testing

In 2022, there were 533,328 chlamydia tests (NAAT) performed in NSW, indicating a slight increase in testing numbers since 2021 (Figure 24a). Compared to 2021 the chlamydia testing level increased by 1% but remained 20.5% lower than the previous peak testing level in 2019 (Figure 24b).

The notification to test ratio of chlamydia increased slightly to 4.81 notifications per 100 chlamydia tests. This suggests that screening programs were likely well targeted at people at higher risk for infection in 2022. Whilst testing remains lower than the pre-pandemic period, this metric has returned to its usual pre-pandemic range.

**Figure 24: Number of chlamydia tests and notifications per 100 test ratio, NSW, 2013 – 2022**



Data source: NCIMS (via SAPHaRI) and NSW Denominator Data Project, NSW Health. Data extracted 07 July 2023.

# 4. Lymphogranuloma venereum (LGV)

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*Lymphogranuloma venereum* (LGV) is a sexually transmissible infection that is caused by serovars L1, L2 and L3 of *Chlamydia trachomatis*. LGV is a comparatively rare STI in developed countries, including in Australia. However, increases primarily in men who have sex with men have been observed across Europe, the UK, and North America since a first cluster of rectal infections was reported in the Netherlands in 2003.<sup>10</sup> In NSW, an increase in cases prompted the release of clinician alerts in 2010 and 2017, advising LGV-specific testing for MSM presenting with symptoms of proctitis.

LGV is not included in the NSW Sexually Transmissible Infections Strategy 2022–2026. Therefore, disease control indicators have not yet been established and reporting is still under development. In NSW, LGV is a notifiable disease under the NSW *Public Health Act 2010*. A confirmed case requires demonstration of *Chlamydia trachomatis* serovars L1 to L3 by immunofluorescence assays, enzyme immunoassays, molecular assays, culture, or serology. Only confirmed cases of LGV are counted when reporting LGV notification data. Patient care and contact tracing are the responsibility of the treating doctor. Information on demographics (e.g., Aboriginal and Torres Strait Islander status) and risk exposures (e.g., sexual exposure, place of acquisition) are not routinely collected.

Although LGV is generally assumed to be symptomatic, asymptomatic rectal infections have been reported in more than a quarter of cases studied in the Netherlands and the UK.<sup>11,12</sup> In Australia, routine screening of asymptomatic patients is not recommended. Samples that are positive for any *Chlamydia trachomatis* serovars are not automatically tested for LGV if LGV-specific tests are not ordered. As a result, changes in notification data over time may partially reflect changes in testing practices. In addition, the small number of notifications per year leads to considerable fluctuations in rates and percentages. Most characteristics of LGV notifications are therefore aggregated over the entire five-year reporting period.

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<sup>10</sup> Nieuwenhuis RF, Ossewaarde JM, Götz HM, Dees J, Thio HB, Thomeer MG, den Hollander JC, Neumann MH, van der Meijden WI. Resurgence of lymphogranuloma venereum in Western Europe: an outbreak of *Chlamydia trachomatis* serovar I2 proctitis in The Netherlands among men who have sex with men. *Clinical infectious diseases*. 2004;39(7):996-1003.

<sup>11</sup> Saxon C, Hughes G, Ison C; UK LGV Case-Finding Group. Asymptomatic Lymphogranuloma Venereum in Men who Have Sex with Men, United Kingdom. *Emerging Infectious Diseases*. 2016;22(1):112–116.

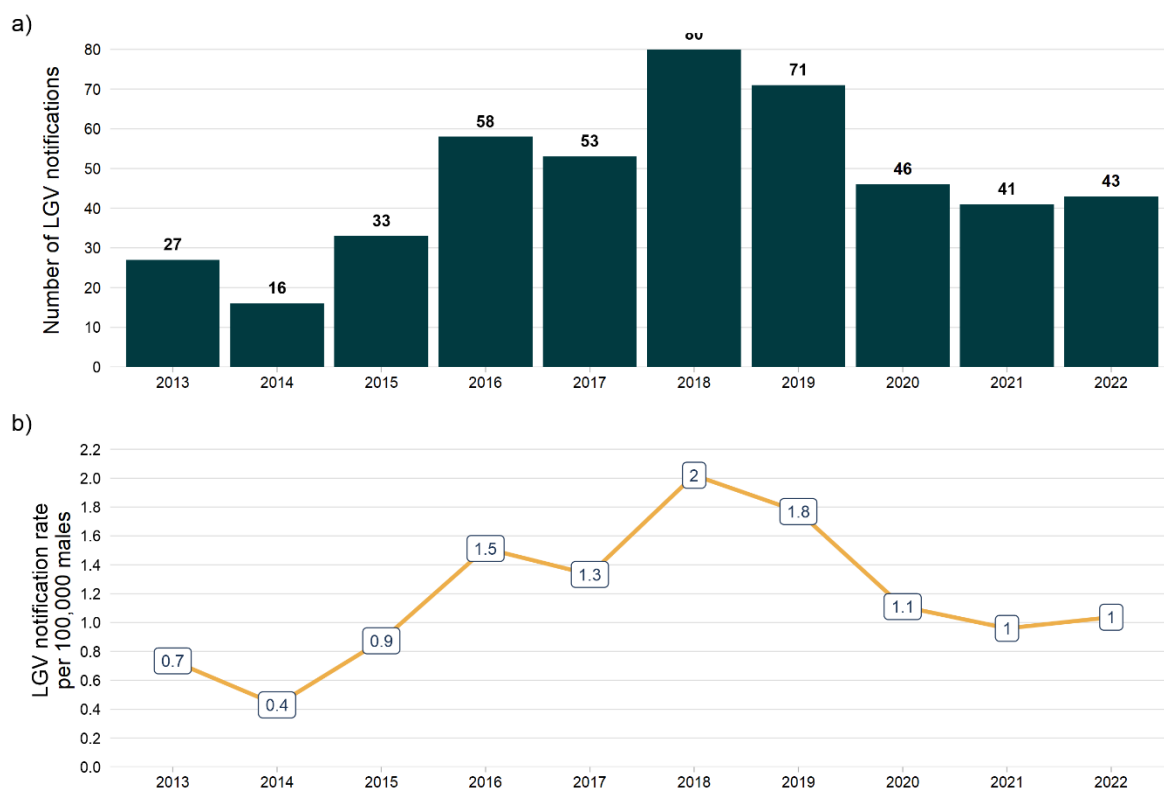
<sup>12</sup> de Vrieze NHN, van Rooijen M, Schim van der Loeff MF, et al Anorectal and inguinal lymphogranuloma venereum among men who have sex with men in Amsterdam, the Netherlands: trends over time, symptomatology and concurrent infections *Sexually Transmitted Infections* 2013;89:548-552.

In 2022 there were 43 cases of LGV notified to NSW Health (Figure 25a). This represents a 5% increase since 2021 but remains 46% lower than the peak in 2018 (N=80). Among the cases notified in 2022, 98% were diagnosed in males (N=42). The male notification rate remains at 1 per 100,000 males in 2022 (Figure 25b). There were six LGV notifications in females in NSW in the past 10 years. Female LGV notifications are infrequently reported globally. Female notifications have been excluded from all rate calculations.

In 2022 the median age of male cases was 35 years. In the past ten years the median age has ranged between 33–51 years.

Note: As supplementary testing is required for LGV, testing for this condition was disproportionately affected by the necessary redistribution of laboratory resources during the COVID pandemic. In 2023, an issue with electronic laboratory notifications for LGV was identified and resolved. Therefore, numbers in this report should not be compared with those in the 2021 and 2022 publications.

**Figure 25: Number and male notification rate of LGV notifications, NSW, 2013 – 2022.**



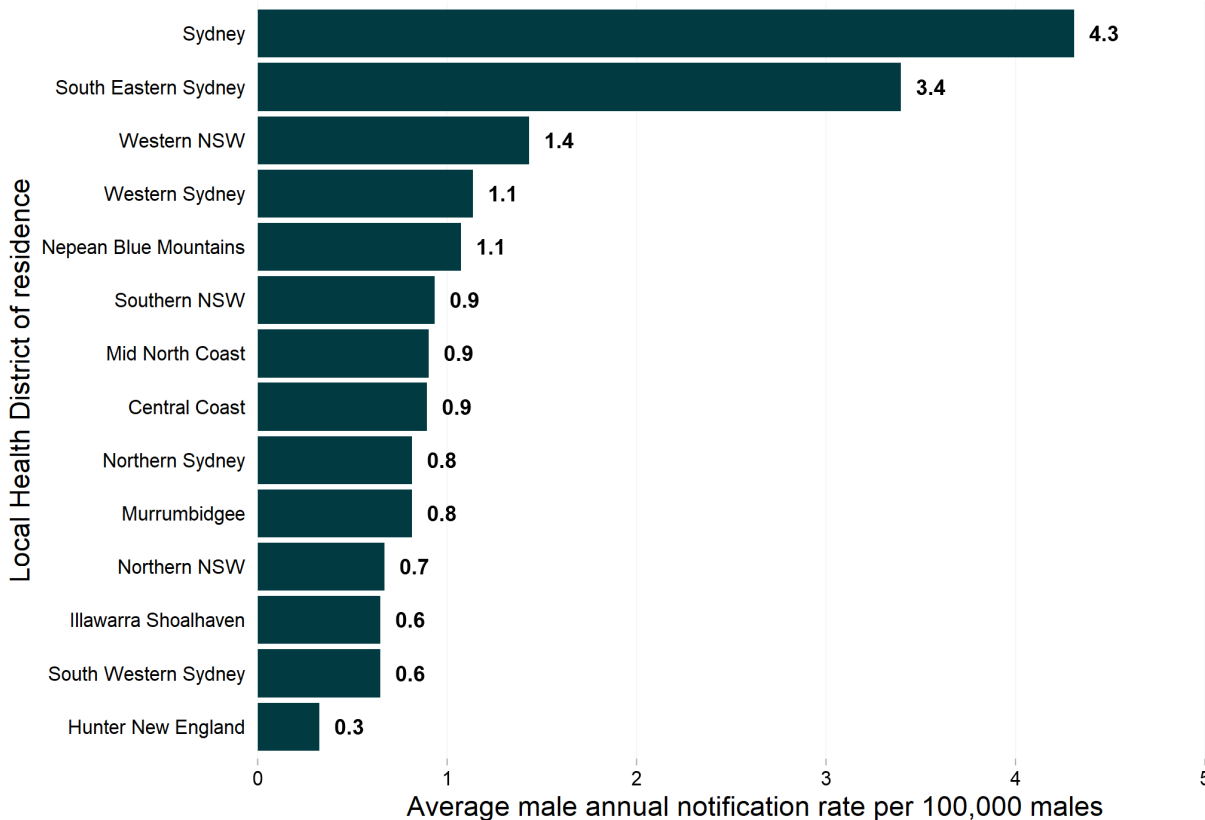
Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 28 August 2023.

Note: Excludes non-NSW residents. Year of onset is based on calculated onset date.

Over the past ten years, the majority of notifications occurred in the Sydney and South Eastern Sydney LHDs, which also have the highest average annual rates at 4.3 and 3.4 per 100,000 males, respectively (Figure 26). It should be noted that MSM populations are unequally distributed among local health districts and continuing high LGV notification rates among males in the Sydney and South Eastern Sydney Local LHDs reflect the large concentrations of MSM in these areas.

A number of regional LHDs reported either nil or very low numbers of LGV notifications over the ten-year period. Rates in these areas should be interpreted with caution as small fluctuations in notification numbers cause considerable changes in rates.

**Figure 26: Average annual LGV notification rates in males by Local Health District, NSW, January – December 2022**



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 07 July 2023.  
 Note: Excludes non-NSW residents.

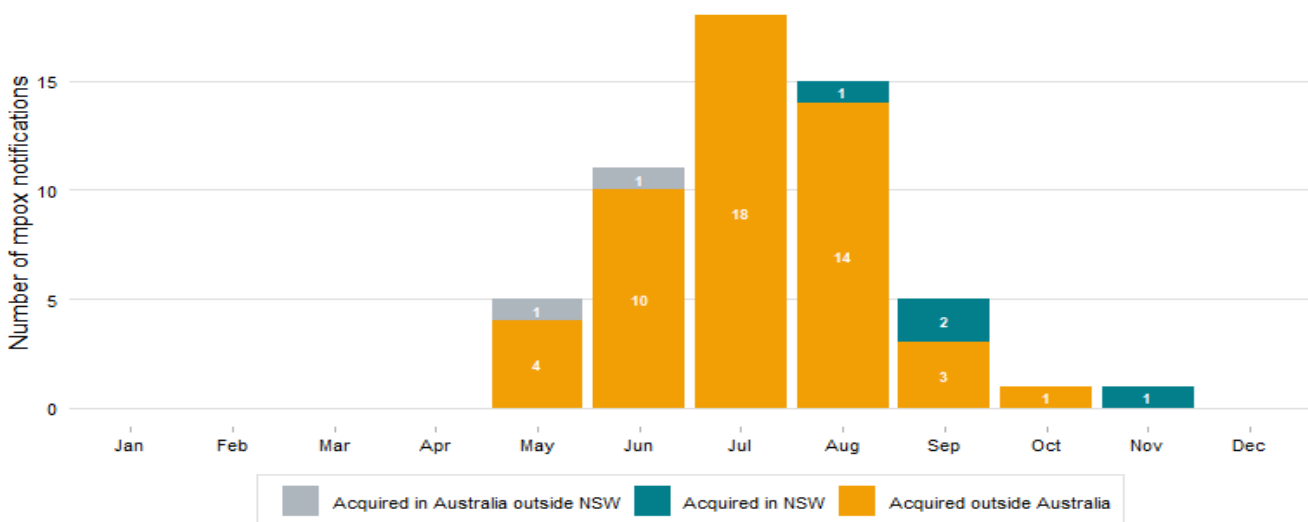
# 5. Mpox (formerly monkeypox)

Mpox is an infectious disease caused by the mpox virus which is part of the *Poxviridae* family of viruses which includes variola (smallpox), cowpox and other viruses. It can cause a rash, pimple-like lesions and sores. The rash may be preceded by early signs such as fever, headache, muscle ache, back ache, chills, exhaustion, and swollen lymph nodes.<sup>13</sup> There are two natural groups of mpox virus, Clade I and Clade II, Clade I has a mortality rate of 10% compared to 1-3% for Clade II.<sup>14</sup> The first human case of mpox was reported in the Democratic Republic of Congo in 1970 and it is endemic in parts of central, east and west Africa. The virus is transmitted through direct contact with the skin or lesions of an infected person.

In 2022, a global outbreak of mpox (Clade IIb) was reported with transmission occurring in countries with no previous reported transmission. The majority of cases in the global outbreak were reported in men who have sex with men. Mpox is not a traditional sexually transmitted infection but sexual contact provides an opportunity for the virus to be transmitted and enter the body through broken skin or mucosal surfaces including genital surfaces or via the respiratory tract. Mpox became a notifiable disease under the NSW *Public Health Act 2010* on 20 May 2022.

In NSW, the first case of mpox was reported in May 2022. Fifty-six cases of mpox were reported in 2022 (Figure 27). All cases were male and all reported MSM exposure. The median age was 36 years (range 26 – 55 years). The majority of cases (N=50, 89%) were acquired overseas. Of the six cases acquired in Australia, four (66%) were acquired in NSW. No deaths were reported from mpox infection in NSW. NSW began vaccinating people at highest risk from mpox on 8 August 2022, utilising the JYNNEOS vaccine. Two doses of the vaccination are recommended for best protection. A total of 27,645 doses of JYNNEOS vaccine were given by NSW Health registered vaccination providers in 2022. This consisted of 19,515 first doses and 8130 second doses of JYNNEOS vaccine.

**Figure 27: Number of mpox notifications by place of acquisition, NSW, 2022**



<sup>13</sup> WHO. Mpox (monkeypox) fact sheets. 18 April 2023. Available from: [https://www.who.int/news-room/fact-sheets/detail/monkeypox#:~:text=The%20disease%20mpox%20\(formerly%20monkeypox,cowpox%2C%20vaccinia%20and%20other%20viruses](https://www.who.int/news-room/fact-sheets/detail/monkeypox#:~:text=The%20disease%20mpox%20(formerly%20monkeypox,cowpox%2C%20vaccinia%20and%20other%20viruses).

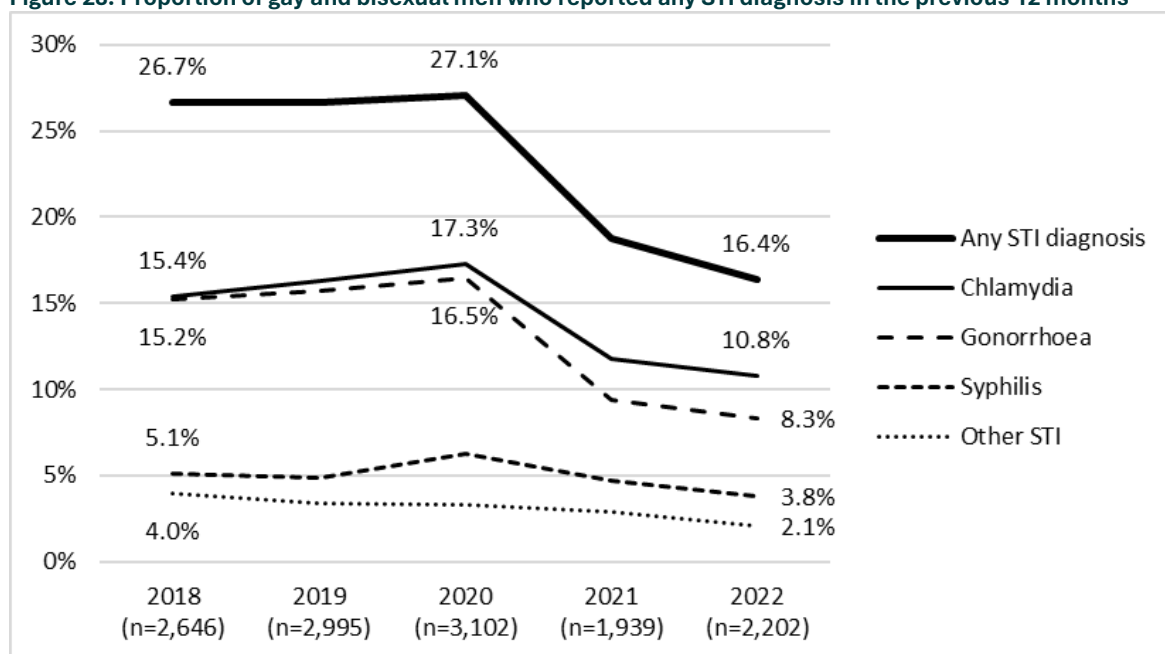
<sup>14</sup> Adetifa I, Muyembe JJ, Bausch DG, Heymann DL. Mpox neglect and the smallpox niche: a problem for Africa, a problem for the world. *Lancet*. 2023 May 27;401(10390):1822-1824.

# 6. Comprehensive STI testing in priority populations

## 6.1 STI diagnoses among gay and bisexual men

Participants in the Sydney Gay Community Periodic Survey (SGCPS) were asked if they had received any STI diagnoses within the 12 months prior to completing the survey.

Figure 28: Proportion of gay and bisexual men who reported any STI diagnosis in the previous 12 months



Data source: [Sydney Gay Community Periodic Survey](#), Centre for Social Research in Health, UNSW Sydney

The proportion of participants who reported an STI in the 12 months prior to the survey had been stable from 2018 to 2020 but decreased from 27.1% in 2020 to 18.8% in 2021 and 16.4% in 2022 (Figure 28). This is likely due to decreased rates of STI testing and reduced sexual activity as a result of COVID-19, with testing rates remaining suppressed throughout 2022.

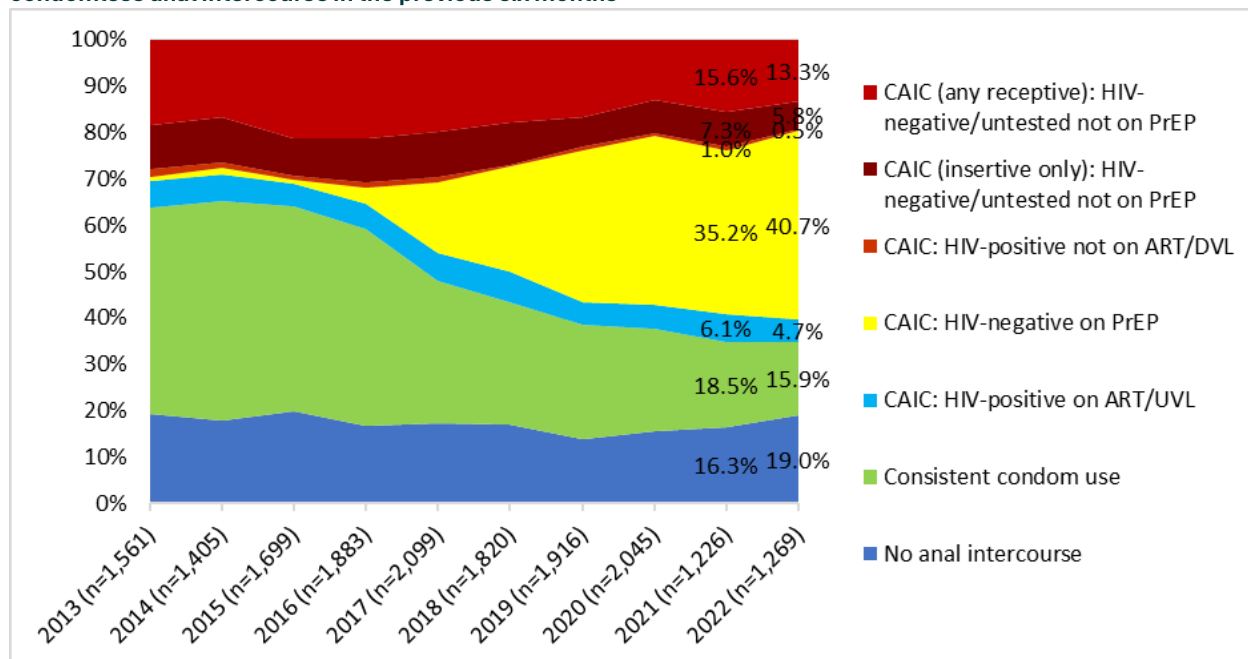
Chlamydia remained the most frequently diagnosed STI in 2022 (reported by 10.8% of participants). The proportions of gay and bisexual men reporting a diagnosis of chlamydia, gonorrhoea, or syphilis all significantly decreased between 2020 and 2022.



## 6.2 Condom use among gay and bisexual men

Condoms and other HIV risk reduction strategies used by gay and bisexual men with their casual male partners are measured through the SGCPS.

**Figure 29: Proportion of gay and bisexual men with casual male partners reporting consistent condom use and any condomless anal intercourse in the previous six months**



Data source: [Sydney Gay Community Periodic Survey](#), Centre for Social Research in Health, UNSW Sydney

Note: Consistent condom use includes men who report condom use for anal sex with casual male partners in the 6 months prior to survey and no condomless anal intercourse with those partners. CAIC = condomless anal intercourse with casual male partners. ART = antiretroviral treatment. UVL = undetectable viral load.

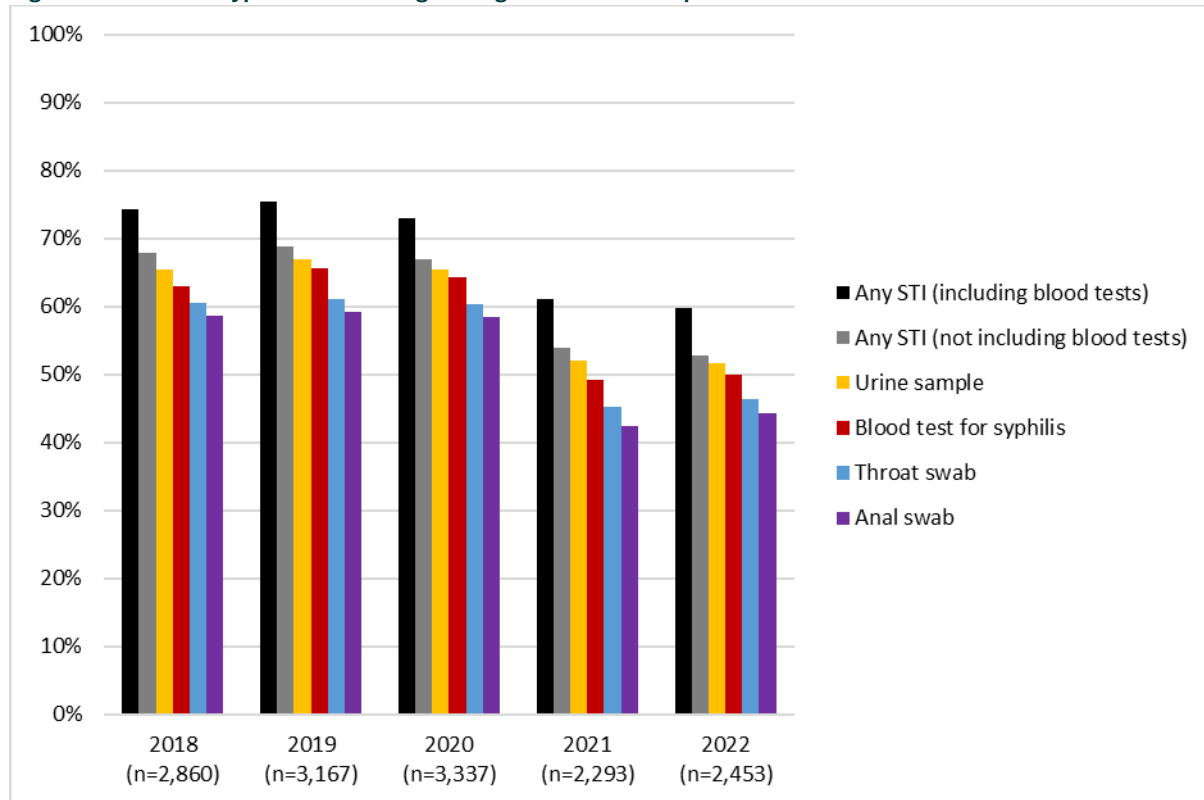
Consistent condom use with casual partners has been steadily declining, particularly since 2016, which coincided with the introduction of PrEP. Consistent condom use with casual partners reducing from 42.4% of participants with casual partners in 2016 to 15.9% in 2022 (Figure 29). The proportion who reported no anal intercourse with their casual partners has remained relatively stable over time and was 19.0% in 2022.

HIV-negative men on PrEP who reported condomless anal intercourse with casual partners (CAIC) increased from 15.2% of participants with casual partners in 2017 to 40.7% in 2022. PrEP is now the most used HIV prevention strategy by GBM with casual partners. The proportion of HIV-negative men not on PrEP who reported any CAIC (insertive or receptive) has decreased over time to 19.1% in 2022.

## 6.3 Comprehensive STI testing among high risk MSM

The SGCPs measures the frequency of STI testing among gay and bisexual men and the anatomical site of collection of samples for testing.

**Figure 30: Different types of STI testing among MSM within the previous 12 months**



Data source: [Sydney Gay Community Periodic Survey](#), Centre for Social Research in Health, UNSW Sydney

The proportion of participants reporting any STI test within the 12 months prior to the survey had been stable at nearly 75% during 2018-20 but decreased to 61% in 2021 and decreased further to 60% in 2022 (Figure 30). This is likely due to COVID-19, with reduced testing rates continuing through to 2022.

The proportions reporting each type of STI test (anal swab, throat swab, blood tests, urine samples) all decreased between 2020 and 2022. Urine samples and blood tests for syphilis are consistently more likely to be reported than throat or anal swabs.

Like previous years, in 2022 a higher proportion of HIV-positive participants reported having had any sexual health test (including blood tests) in the 12 months prior to the survey (81.6%), compared with HIV-negative participants (63.6%; data not shown).

# Appendices

## Appendix A: Data sources

**Table 4: Details on data sources included in this report**

Name	Custodian	Description
NSW Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	<p>The NSW Notifiable Conditions Information Management System (NCIMS) contains records of all people notified to NSW Health with a notifiable condition under the NSW <i>Public Health Act</i>. Notification data may not reflect the true incidence of notifiable sexually transmitted diseases as they only represent a proportion of notifiable diseases in the population, however they are useful for monitoring trends over time.</p> <p>Re-infection periods: A person is only re-notified with chlamydia, gonorrhoea or infectious syphilis if the infection is acquired outside of the re-infection period as follows:</p> <p>Chlamydia - 29 days Gonorrhoea - 29 days Infectious syphilis - 89 days</p> <p>Multiple sites: A person who is notified with more than one site of infection simultaneously is counted as one notification.</p>
NSW Health denominator data project	Health Protection NSW, NSW Health	<p>Monthly aggregated testing data for selected notifiable conditions from 15 NSW public and private laboratories.</p> <p>These laboratories account for more than 90% of the total notifications for the selected conditions in NSW. Information from laboratories does not provide any indication on whether there are repeat tests or multiple site tests for the same individual.</p> <p>The notification to test ratio has been calculated by dividing the overall positive results notified to NSW Health by all laboratories by the total number of tests performed as reported from the participating laboratories and multiplying by 100. Notifications are for individual people with gonorrhoea/chlamydia reported from all laboratories.</p> <p>However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the notification to test ratio may be an underestimate of the per cent of people tested that were positive in NSW for the condition</p>
Communicable Diseases Register (CDR)	Health Protection NSW, NSW Health	<p>The Communicable Diseases Register (CDR) contains deidentified records from the NSW Notifiable Conditions Information Management System (NCIMS), linked to emergency department, hospitalisation and deaths data, and includes the Enhanced Reporting of Aboriginality (ERA) variable. Record linkage was carried out by the Centre for Health Record Linkage (<a href="http://www.cherel.org.au">www.cherel.org.au</a>), NSW Ministry of Health.</p>
Mpox vaccination data	Financial Services & Asset Management, NSW Ministry of Health	<p>Weekly mpox vaccination episodes reported directly to the NSW Ministry of Health from approved mpox vaccination clinics.</p>
Sydney Gay Periodic Survey	Centre for Social Research in Health	<p>Data on sexual, drug use and testing practices related to the transmission of HIV and other STIs among GBM in Sydney (self-reported).</p>

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## Appendix B: Case definitions

The STI notifications in this report meet the case definitions in the relevant Control Guideline for Public Health Units as listed below:

Gonorrhoea

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/gonorrhoea.aspx>

Infectious syphilis – less than two years duration

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/syphilis.aspx>

Syphilis - more than 2 years or unknown duration

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/syphilis.aspx>

Chlamydia

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/chlamydia.aspx>

LGV

<https://www.health.nsw.gov.au/Infectious/controlguideline/Pages/lymphogranuloma.aspx>

Mpox

<https://www.health.nsw.gov.au/Infectious/controlguideline/Pages/monkeypox.aspx>

## Appendix C: Notification data tables

**Table 5: Number of infectious syphilis, gonorrhoea, and chlamydia, by sex, age group and Local Health District of residence, NSW, 2018 – 2022**

	Infectious syphilis					Gonorrhoea					Chlamydia				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Female	85	137	139	129	188	1,817	2,285	1,934	1,443	2,045	14,354	14,867	13,072	11,673	11,481
Male	1,410	1,763	1,576	1,675	1,748	8,279	8,862	7,672	5,994	8,022	16,425	17,132	13,756	13,254	14,142
Transgender	7	8	4	4	6	21	13	9	6	7	17	9	13	9	5
Not stated/Unknown	3	4	3	1	3	18	33	24	14	12	49	60	61	33	31
00-04	0	0	0	0	0	4	6	2	3	2	14	21	22	24	15
05-09	0	0	0	0	0	2	0	2	0	1	1	0	2	1	0
10-14	0	0	0	0	0	3	9	8	4	1	64	57	53	33	39
15-19	30	30	25	23	18	358	527	412	235	396	4,152	4,169	3,672	3,458	3,310
20-24	150	188	153	111	152	1,670	1,824	1,530	1,058	1,532	9,365	9,605	8,296	7,361	7,533
25-29	275	344	299	330	316	2,290	2,516	2,146	1,612	2,046	7,027	7,214	6,103	5,368	5,407
30-34	240	329	310	378	415	1,884	2,136	1,825	1,485	1,932	4,040	4,345	3,495	3,438	3,579
35-39	210	284	286	313	328	1,313	1,495	1,380	1,108	1,492	2,263	2,525	2,060	2,102	2,313
40-44	161	201	195	197	232	887	919	830	740	955	1,399	1,531	1,173	1,215	1,332
45-49	146	197	168	150	152	697	696	613	478	602	1,007	1,054	833	777	795
50-54	116	136	138	141	153	444	483	399	300	481	678	675	549	543	594
55-59	77	101	78	81	91	284	304	257	230	342	426	416	344	359	364
60-64	58	62	39	42	48	156	153	143	120	155	215	260	173	151	198
65-69	23	15	17	20	28	80	68	54	41	81	119	115	65	84	118
70-74	12	15	8	6	5	42	31	23	24	39	53	48	36	35	45
75-79	5	6	3	11	4	12	11	9	11	19	9	15	13	9	12
80-84	1	0	1	4	1	7	5	3	0	2	7	7	8	6	2
85+	1	4	1	1	2	2	3	1	3	2	0	1	0	1	2
Unknown	0	0	1	1	0	0	7	2	5	6	6	10	5	4	1
Central Coast	17	51	35	27	27	206	227	202	142	214	1,046	1,152	955	895	931
Far West	1	5	4	4	5	6	10	11	8	14	115	94	50	74	75
Hunter New England	64	95	121	92	96	551	608	499	391	618	3,198	3,109	2,520	2,839	2,625
Illawarra Shoalhaven	43	44	49	37	37	268	310	371	304	287	1,381	1,394	1,334	1,280	1,198
Justice Health	4	5	22	27	25	36	60	53	50	67	269	334	149	136	192
Mid North Coast	11	10	13	29	59	74	74	65	27	98	636	730	661	603	578
Murrumbidgee	11	21	27	26	13	72	120	130	108	87	919	979	737	792	799
Nepean Blue Mountains	34	33	44	30	43	321	324	297	262	300	1,081	1,142	979	834	906
Northern NSW	19	21	18	21	40	147	175	166	92	129	936	922	886	886	837
Northern Sydney	136	113	106	100	118	804	909	717	529	761	2,760	2,735	2,280	1,895	1,979
South Eastern Sydney	554	668	598	619	696	3,001	3,215	2,773	2,166	3,021	6,583	6,889	5,561	5,004	5,124
South Western Sydney	68	98	84	134	132	956	1,066	1,028	713	1,093	2,999	2,865	2,980	2,571	2,573
Southern NSW	13	13	16	7	8	73	73	43	42	74	497	501	359	433	420
Sydney	391	545	410	472	451	2,329	2,652	2,059	1,744	2,167	4,549	4,973	4,061	3,606	3,770
Unknown	10	3	5	16	4	39	35	13	13	40	51	59	27	25	71
Western NSW	8	8	18	12	19	66	90	60	76	70	818	939	642	757	867
Western Sydney	121	179	152	156	172	1,186	1,245	1,152	790	1,046	3,007	3,251	2,721	2,339	2,714
<b>Total</b>	<b>1,505</b>	<b>1,912</b>	<b>1,722</b>	<b>1,809</b>	<b>1,945</b>	<b>10,135</b>	<b>11,193</b>	<b>9,639</b>	<b>7,457</b>	<b>10,086</b>	<b>30,845</b>	<b>32,068</b>	<b>26,902</b>	<b>24,969</b>	<b>25,659</b>

Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 20 July 2023. Excludes non-NSW residents. Data are provisional and subject to change. Transgender is recorded according to information provided on the notification, and overall numbers reported as transgender may be an underestimation.

**Table 6: Infectious syphilis notification rates by Local Health District of residence, January 2018 – December 2022**

Local Health District	Year					% change 21/22
	2018	2019	2020	2021	2022	
Central Coast	5.0	14.8	10.1	7.8	7.7	-1.3%
Far West	3.4	17.0	13.8	13.9	17.6	26.6%
Hunter New England	6.9	10.2	12.8	9.7	10.0	3.1%
Illawarra Shoalhaven	10.4	10.5	11.5	8.6	8.6	0.0%
Mid North Coast	5.0	4.5	5.7	12.8	25.8	101.6%
Murrumbidgee	3.7	7.0	9.0	8.6	4.3	-50.0%
Nepean Blue Mountains	9.0	8.7	11.4	7.8	11.2	43.6%
Northern NSW	6.3	6.9	5.9	6.8	12.9	89.7%
Northern Sydney	14.5	11.9	11.1	10.5	12.3	17.1%
South Eastern Sydney	58.8	70.1	62.2	65.3	74.6	14.2%
South Western Sydney	6.7	9.5	8.0	12.8	12.5	-2.3%
Southern NSW	6.2	6.2	7.5	3.3	3.7	12.1%
Sydney	57.0	78.1	58.3	67.7	65.0	-4.0%
Western NSW	2.9	2.8	6.4	4.3	6.7	55.8%
Western Sydney	12.1	17.5	14.6	14.9	16.5	10.7%

Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 20 July 2023.

**Table 7: Gonorrhoea notification rate by LHD of residence and sex, January 2018 – December 2022**

Local Health District	Sex	Year					% change 21/22
		2018	2019	2020	2021	2022	
Central Coast	Female	32.6	48.4	44.7	25.4	41.5	63.4%
	Male	89.2	83.8	72.7	57.0	81.8	43.5%
	Total	60.3	66.0	58.4	40.9	61.3	49.9%
Far West	Female	20.3	27.3	34.5	14.0	28.2	101.4%
	Male	20.2	40.8	41.1	41.7	70.5	69.1%
	Total	20.3	34.1	37.8	27.9	49.4	77.1%
Hunter New England	Female	32.0	48.7	44.9	29.8	45.7	53.4%
	Male	87.2	81.9	60.8	53.0	84.2	58.9%
	Total	59.5	65.1	53.0	41.2	64.7	57.0%
Illawarra Shoalhaven	Female	39.1	52.4	64.4	56.5	52.3	-7.4%
	Male	90.4	95.5	110.4	85.6	80.7	-5.7%
	Total	64.5	73.8	87.2	70.9	66.4	-6.3%
Mid North Coast	Female	29.9	20.0	28.4	8.6	31.6	267.4%
	Male	37.0	46.6	29.0	15.3	54.8	258.2%
	Total	33.4	33.0	28.7	11.9	42.9	260.5%
Murrumbidgee	Female	15.3	27.2	27.7	30.2	16.4	-45.7%
	Male	33.1	53.2	59.1	41.6	41.4	-0.5%
	Total	24.2	40.1	43.2	35.8	28.8	-19.6%
Nepean Blue Mountains	Female	50.6	57.8	53.1	41.9	47.0	12.2%
	Male	120.4	112.3	101.7	94.9	109.6	15.5%
	Total	85.2	85.1	77.2	68.2	78.1	14.5%
Northern NSW	Female	27.1	47.6	39.5	26.0	27.7	6.5%
	Male	70.2	67.7	68.5	33.8	56.3	66.6%
	Total	48.5	57.4	54.0	29.8	41.7	39.9%
Northern Sydney	Female	31.9	37.4	31.7	23.1	35.8	55.0%
	Male	141.6	156.2	120.1	88.3	124.9	41.4%
	Total	85.6	95.5	75.0	55.3	79.6	43.9%
South Eastern Sydney	Female	77.0	88.4	67.5	50.0	85.9	71.8%
	Male	556.7	584.1	508.0	407.5	562.7	38.1%
	Total	318.4	337.2	288.6	228.6	323.7	41.6%
South Western Sydney	Female	41.5	49.9	43.8	32.4	51.4	58.6%
	Male	147.7	155.6	152.4	103.4	155.9	50.8%
	Total	94.6	103.4	98.2	67.9	103.7	52.7%
Southern NSW	Female	12.5	16.2	12.2	15.8	12.9	-18.4%
	Male	57.4	52.9	28.0	23.2	55.2	137.9%
	Total	35.0	34.6	20.1	19.5	34.1	74.9%
Sydney	Female	81.1	99.9	66.9	50.3	78.2	55.5%
	Male	597.8	658.8	518.3	449.4	546.8	21.7%
	Total	339.7	380.2	292.9	250.1	312.3	24.9%
Western NSW	Female	12.1	24.8	15.6	30.4	18.3	-39.8%
	Male	35.0	38.5	26.4	23.4	31.2	33.3%
	Total	23.6	32.0	21.3	26.9	24.7	-8.2%
Western Sydney	Female	53.6	60.5	49.1	32.5	44.7	37.5%
	Male	181.2	180.0	169.6	117.9	154.7	31.2%
	Total	118.5	121.5	110.5	75.7	100.1	32.2%

Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 20 July 2023. Note: Excludes non-NSW residents and notifications from Justice Health. Year of onset is based on calculated onset.

**Table 8: Chlamydia notification rates by LHD of residence and sex, NSW, January 2018 – December 2022**

Local Health District	Sex	Year					% change 21/22
		2018	2019	2020	2021	2022	
Central Coast	Female	314.2	370.5	308.1	301.1	301.9	0.3%
	Male	297.0	296.6	242.2	211.6	229.2	8.3%
	Total	306.1	334.9	276.1	257.6	266.6	3.5%
Far West	Female	454.2	354.9	234.8	377.1	317.7	-15.8%
	Male	322.9	285.9	109.7	138.9	211.4	52.2%
	Total	388.3	320.4	172.0	257.7	264.5	2.6%
Hunter New England	Female	403.3	385.3	318.0	353.5	318.6	-9.9%
	Male	284.1	277.9	214.5	242.4	229.7	-5.2%
	Total	345.3	332.9	267.4	299.3	274.7	-8.2%
Illawarra Shoalhaven	Female	382.7	380.8	375.4	338.5	304.4	-10.1%
	Male	280.5	280.7	248.7	257.7	249.6	-3.1%
	Total	332.6	331.6	313.7	298.7	277.2	-7.2%
Mid North Coast	Female	331.7	377.8	339.6	326.1	292.1	-10.4%
	Male	239.6	270.7	240.0	200.3	211.1	5.4%
	Total	286.8	325.6	291.9	265.2	253.0	-4.6%
Murrumbidgee	Female	379.9	398.5	293.1	300.5	300.7	0.1%
	Male	235.3	253.0	191.9	223.2	225.9	1.2%
	Total	308.4	327.0	245.0	262.9	264.3	0.5%
Nepean Blue Mountains	Female	312.8	329.5	290.4	259.9	254.4	-2.1%
	Male	260.7	267.1	214.9	171.5	217.2	26.6%
	Total	286.9	299.9	254.5	217.1	235.9	8.7%
Northern NSW	Female	336.1	340.6	338.0	344.8	333.0	-3.4%
	Male	280.7	261.4	234.6	226.3	203.9	-9.9%
	Total	309.0	302.5	288.1	287.2	270.3	-5.9%
Northern Sydney	Female	259.6	264.8	228.0	172.8	166.3	-3.8%
	Male	327.8	310.6	248.4	224.8	248.6	10.6%
	Total	293.8	287.4	238.4	198.2	206.9	4.4%
South Eastern Sydney	Female	480.5	494.1	424.1	331.6	334.0	0.7%
	Male	912.2	947.9	731.0	724.4	765.2	5.6%
	Total	698.4	722.6	578.7	528.0	549.0	4.0%
South Western Sydney	Female	293.7	278.0	293.2	254.7	236.9	-7.0%
	Male	299.0	275.2	273.4	233.9	249.2	6.5%
	Total	296.8	277.9	284.6	244.9	244.1	-0.3%
Southern NSW	Female	267.9	265.4	200.7	225.3	213.1	-5.4%
	Male	208.4	208.9	134.2	176.0	172.8	-1.8%
	Total	238.1	237.5	167.8	201.0	193.4	-3.8%
Sydney	Female	465.6	470.8	400.2	301.2	300.8	-0.1%
	Male	859.1	954.8	753.0	732.3	786.6	7.4%
	Total	663.5	713.0	577.8	517.1	543.3	5.1%
Western NSW	Female	376.9	432.9	302.7	340.8	370.0	8.6%
	Male	206.7	233.1	152.4	195.4	242.3	24.0%
	Total	292.0	333.9	228.1	268.3	306.3	14.2%
Western Sydney	Female	301.1	313.2	277.7	228.2	256.1	12.2%
	Male	299.1	319.6	244.1	219.5	262.6	19.6%
	Total	300.4	317.2	260.9	224.1	259.7	15.9%

Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 20 July 2023. Note: Excludes non-NSW residents and notifications from Justice Health. Year of onset is based on calculated onset.



**Table 9: Total notifications (males and females) and average annual LGV notification rates in males by LHD of residence, NSW, January 2018–December 2022**

Local Health District	2018-2022	
	Total number of notifications (males and females)	Average annual notification rate per 100,000 males
Central Coast	6	0.89
Hunter New England	5	0.36
Illawarra Shoalhaven	6	0.72
Mid North Coast	3	0.90
Murrumbidgee	4	0.90
Nepean Blue Mountains	11	1.19
Northern NSW	2	0.67
Northern Sydney	23	0.99
South Eastern Sydney	87	3.68
South Western Sydney	19	0.70
Southern NSW	3	0.93
Sydney	75	4.34
Western NSW	3	2.14
Western Sydney	34	1.30

Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health. Data extracted 28 August 2023. Note: Excludes non-NSW residents and notifications from Justice Health. Year of onset is based on calculated onset.

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