

Notifications of Syphilis in Queensland

2021 Report

Communicable Diseases Branch



Notifications of Syphilis in Queensland 2021 Report

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Summary

Between 2001 and 2021, there was an increase in annual infectious syphilis notifications in Queensland, from 112 cases to 1,049 cases. The corresponding annual notification rates for this period increased from 3.1 cases per 100,000 population per year to 20.3 cases per 100,000 population per year.

Late latent syphilis notifications increased from 154 cases (4.2 per 100,000 population per year) in 2001 to 312 cases (6.0 per 100,000 population per year) in 2021.

The gap in infectious syphilis notification rates between First Nations Queenslanders and other Queenslanders had been widening, with the rate in First Nations Queenslanders 5.4 times higher than the rate for other Queenslanders in 2021.

In 2021, the highest notification rates of infectious syphilis were reported in First Nations females (91.2 per 100,000 population per year) and First Nations males (89.1 per 100,000 population per year), followed by other Queensland males (29.0 per 100,000 population per year), and other Queensland females (4.8 per 100,000 population per year).

In 2021 there were 1,049 infectious syphilis notifications in Queensland:

- 172 cases (16%) were from North Queensland, of which 61% were among First Nations Queenslanders reporting only heterosexual sex as their exposure, and 18% among other Queensland men who have sex with men (MSM).
- 88 cases (8%) were from Central Queensland, of which 36% were among other Queenslanders reporting only heterosexual sex as their exposure, and 18% among other Queensland MSM.
- 788 cases (75%) were from South East Queensland, of which 57% were among other Queensland MSM, and 20% among other Queenslanders reporting only heterosexual sex as their exposure.

Between 2010 and 2021, 2,084 syphilis cases (infectious/late latent) were notified in women of reproductive age (15–44 years), of which 48% (994) were in First Nations women from North Queensland, and 29% (610) were in other Queensland women from South East Queensland.

In the same period, there were 434 syphilis notifications (infectious/late latent) in pregnant women in Queensland:

- 218 (50%) were in pregnant women from North Queensland (180 First Nations and 38 other Queenslanders).
- 49 (11%) were in pregnant women from Central Queensland (24 First Nations and 25 other Queenslanders).
- 167 (38%) were in pregnant women from South East Queensland (23 First Nations and 143 other Queenslanders and 1 unknown First Nations status).

Between 2001 and 2021, 41 congenital syphilis cases were notified in Queensland:

- 24 cases were from North Queensland (22 First Nations and 2 other Queenslanders).
- 4 cases were from Central Queensland (2 First Nations and 2 other Queenslanders).
- 13 cases were from South East Queensland (5 First Nations and 8 other Queenslanders).
- Statewide there were 13 deaths associated with congenital syphilis infections (11 in North Queensland, 1 in Central Queensland and 1 in South East Queensland), all in First Nations infants.

Introduction

Syphilis is a multistage disease caused by bacteria *Treponema pallidum*, subspecies *pallidum*. It is frequently sexually transmitted but may also be acquired by vertical transmission from mother to child. The organism was first identified in 1905.¹

Syphilis is infectious during the first two years of infection if untreated.² However, sexual transmission is uncommon after two years of infection. The risk of vertical transmission from mother to child is high for untreated infectious syphilis, with the risk diminishing over years with latent infection but never disappearing.

Globally, 6.3 million people are infected with syphilis each year, with an estimated incidence rate of 170 cases per 100,000 population per year in women and 160 cases per 100,000 population per year in men.^{3,4} Most syphilis infections occur in low-income countries where transmission is largely heterosexual. In high-income countries, syphilis is less common and disproportionately affects some populations, such as disadvantaged groups, ethnic minorities, and men who have sex with men.⁵

Each year, 1 million pregnant women worldwide are estimated to be infected with syphilis, which results in 661,000 congenital syphilis cases, 355,000 of which are associated with foetal and neonatal deaths.⁶

Syphilis may increase the risk of HIV infection, as syphilitic genital ulcers provide a portal of entry for HIV acquisition, and a focus for HIV transmission.⁴

Syphilis is a notifiable disease in Queensland under the *Public Health Act 2005* and *Public Health Regulation 2018*. All laboratory-diagnosed positive syphilis test results are notified and recorded in the Notifiable Conditions System (NoCS). The Queensland Syphilis Surveillance Service (north and south teams) reviews all notified syphilis cases, and provides the treating clinician with information about a patient's history of syphilis testing and treatment to support accurate staging of infection and clinical management. The service also plays a key role in enhanced surveillance data collection, education on syphilis, and may assist with contact tracing.

This report describes temporal trends in syphilis notifications in Queensland residents during the period 2001–2021, and demographic and geographic distributions of notified syphilis cases in the last decade (2010–2021). Data were extracted from NoCS on 23 September 2022, covering notifications (confirmed or probable) with onset dates between 1 January 2001 and 31 December 2021.

¹ Bennett J, Dolin R, Blaser M. Blaser. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases. Eighth edition. Philadelphia, PA: Elsevier/Saunders, 2015

² Syphilis CDNA National Guidelines for Public Health Units.

<https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-syphilis.htm>

³ Rowley J, et al. Chlamydia, gonorrhoea, trichomoniasis and syphilis: global prevalence and incidence estimates, 2016. Bulletin of the World Health Organization vol. 97,8 (2019): 548-562P.

doi:10.2471/BLT.18.228486

⁴ World Health Organization. (2018). Report on global sexually transmitted infection surveillance 2018. World Health Organization. <https://apps.who.int/iris/handle/10665/277258>

⁵ Hook EW. Syphilis. Lancet. 2017 Apr 15;389(10078):1550-1557. doi: 10.1016/S0140-6736(16)32411-4

⁶ Korenromp EL, et al. Global burden of maternal and congenital syphilis and associated adverse birth outcomes-Estimates for 2016 and progress since 2012. PLoS One. 2019 Feb 27;14(2): e0211720. doi: 10.1371/journal.pone.0211720

Syphilis notifications

Temporal trends of infectious syphilis (infection duration < 2 years)

Figure 1: Number and rate (per 100,000 population per year) of infectious syphilis* notifications in Queensland, 2001–2021



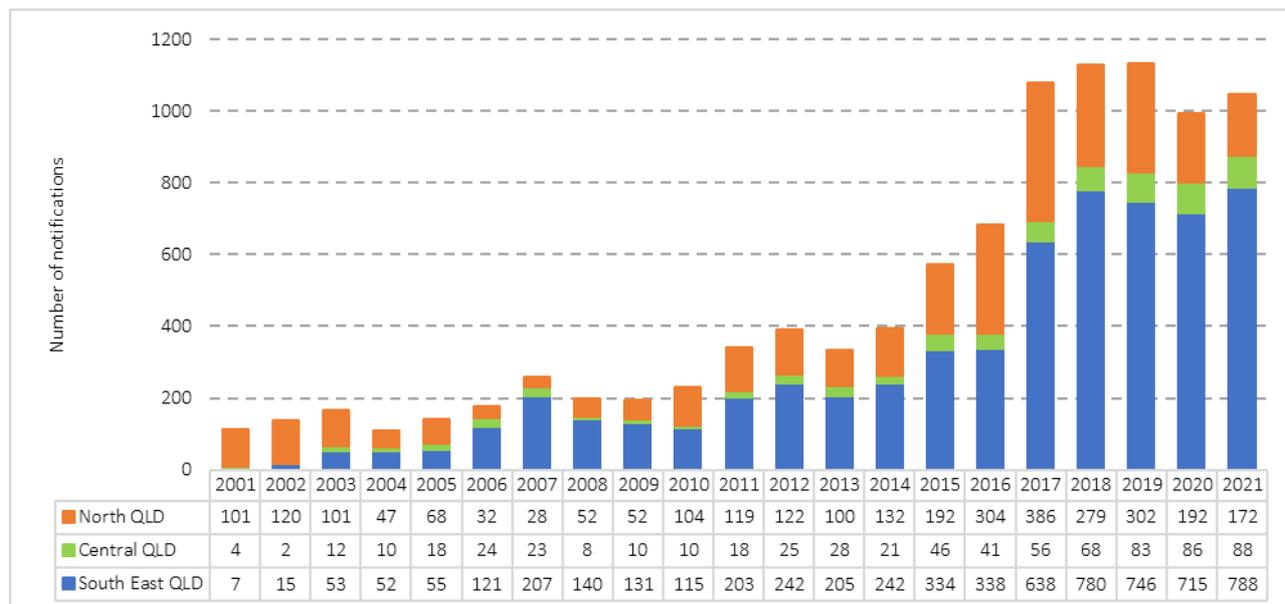
* See Appendix 1 for the infectious syphilis definition.

- There was a gradual increase in infectious syphilis notifications in Queensland, from 112 cases in 2001 to 395 cases in 2014, followed by a more rapid increase in notifications to a total of 1,131 cases in 2019 and slight decrease to 1,049 cases in 2021.⁷
- State-wide, infectious syphilis notification rates increased from 3.1 per 100,000 population per year in 2001 to 8.4 per 100,000 population per year in 2014, then further increased to 22.2 per 100,000 population per year in 2019 and decreased slightly to 20.3 per 100,000 population per year in 2021.
- A similar upward trend in infectious syphilis notification rates was observed Australia-wide, from 6.3 per 100,000 population per year in 2008 to 24.0 per 100,000 population per year in 2019 and decreasing to 21.2 per 100,000 population per year in 2020.⁸

⁷ National surveillance case definitions for infectious syphilis changed on 1 July 2015 to also include probable cases in addition to confirmed cases, where in Queensland this change was implemented in January 2015. Of 4,594 infectious syphilis cases notified during 2015–2021, 864 (9%) were classified as probable cases, indicating the impact of change in case definitions on the increase of infectious syphilis cases is marginal.

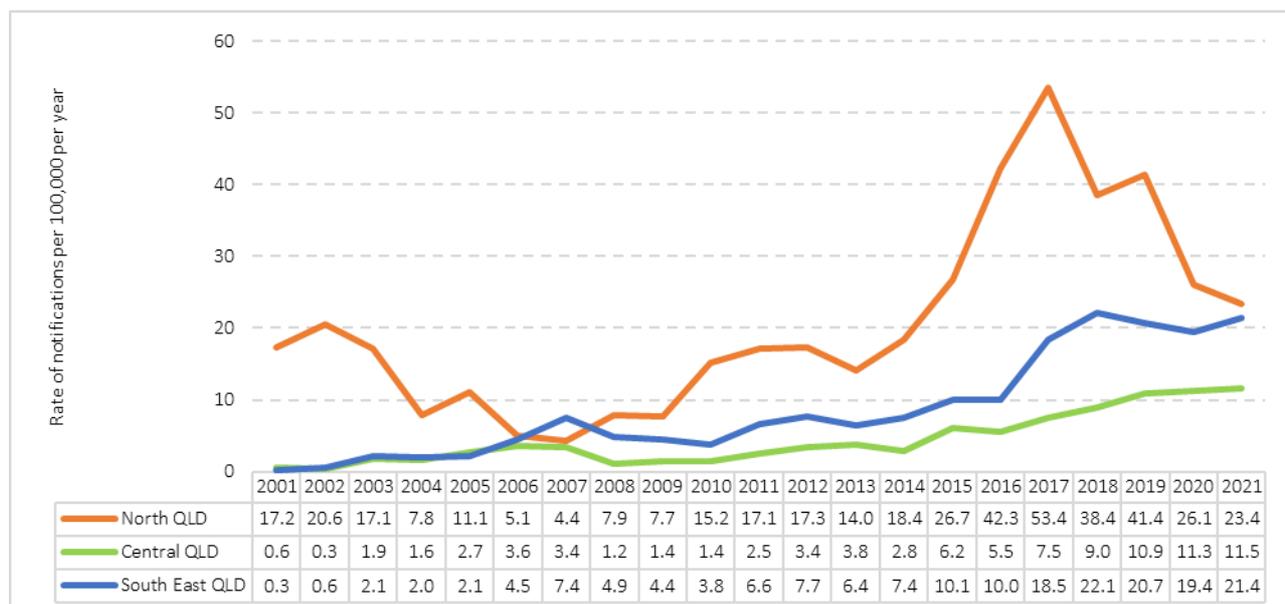
⁸ Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report 2021. Sydney: Kirby Institute, University of NSW, 2021.
https://kirby.unsw.edu.au/sites/default/files/kirby/report/Annual-Surveillance-Report-2021_STI.pdf

Figure 2: Number of infectious syphilis notifications in Queensland, by region*, 2001–2021



* North QLD area: Torres and Cape, North West, Cairns and Hinterland, Townsville, Mackay. Central QLD area: Central West, Central Queensland, Wide Bay, South West, Darling Downs. South East QLD area: Sunshine Coast, Metro North, Metro South, West Moreton, Gold Coast.

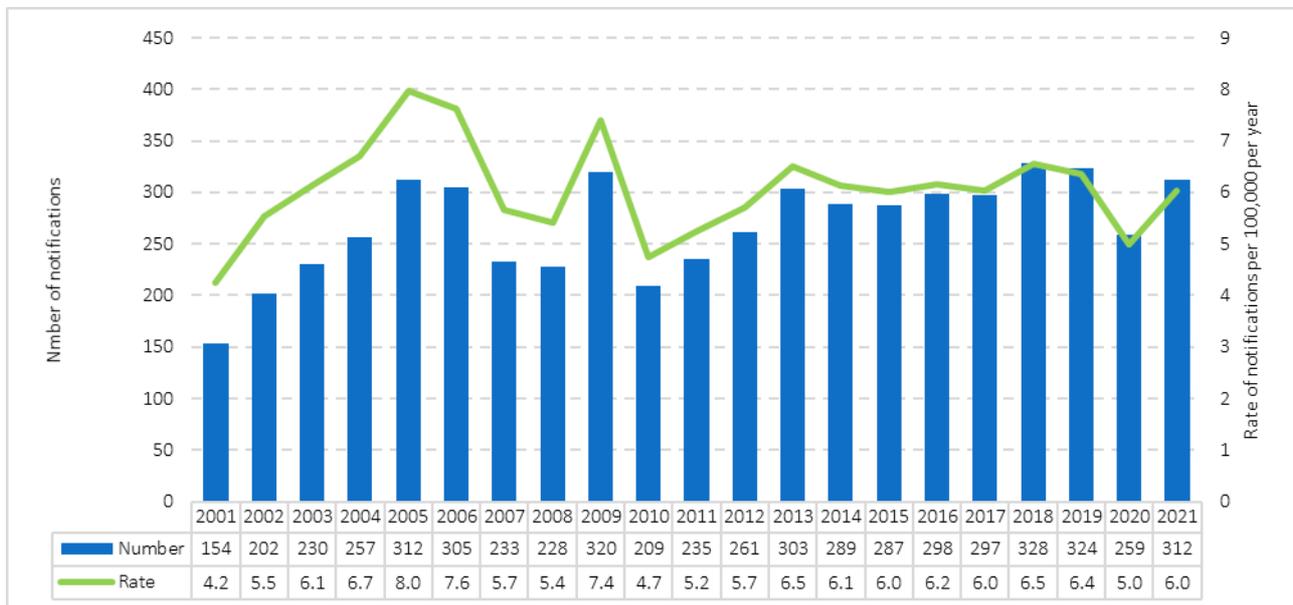
Figure 3: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by region, 2001–2021



- There has been a gradual increase in infectious syphilis notification rates in both Central Queensland and South East Queensland areas since 2001, with a more rapid increase in South East Queensland since 2016.
- In North Queensland, following an initial decrease in notification rates from 17.2 per 100,000 population per year in 2001 to 4.4 per 100,000 population per year in 2007, there was a subsequent increase in rates to 18.4 per 100,000 population per year in 2014. After that, there was a more rapid increase in notification rates, with a peak of 53.4 per 100,000 population per year in 2017, followed by a decrease to 23.4 per 100,000 population per year in 2021.

Temporal trends of late latent syphilis (infection duration ≥ 2 years or unknown)

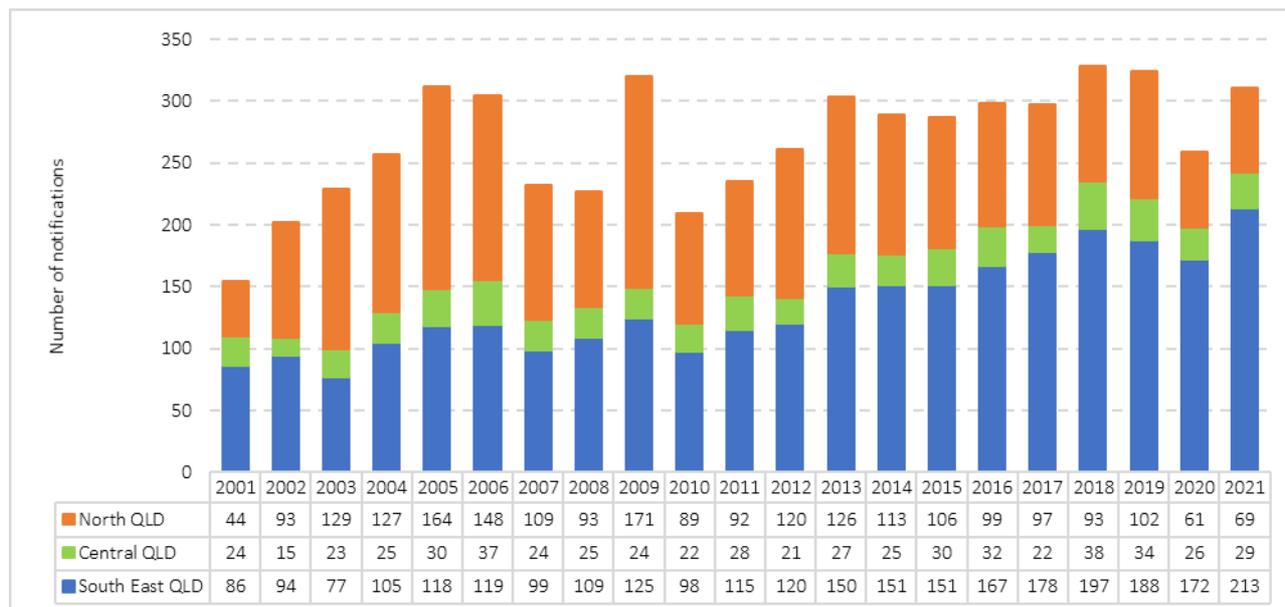
Figure 4: Number and rate (per 100,000 population per year) of late latent syphilis* notifications in Queensland, 2001–2021



* See Appendix 1 for late latent syphilis definition.

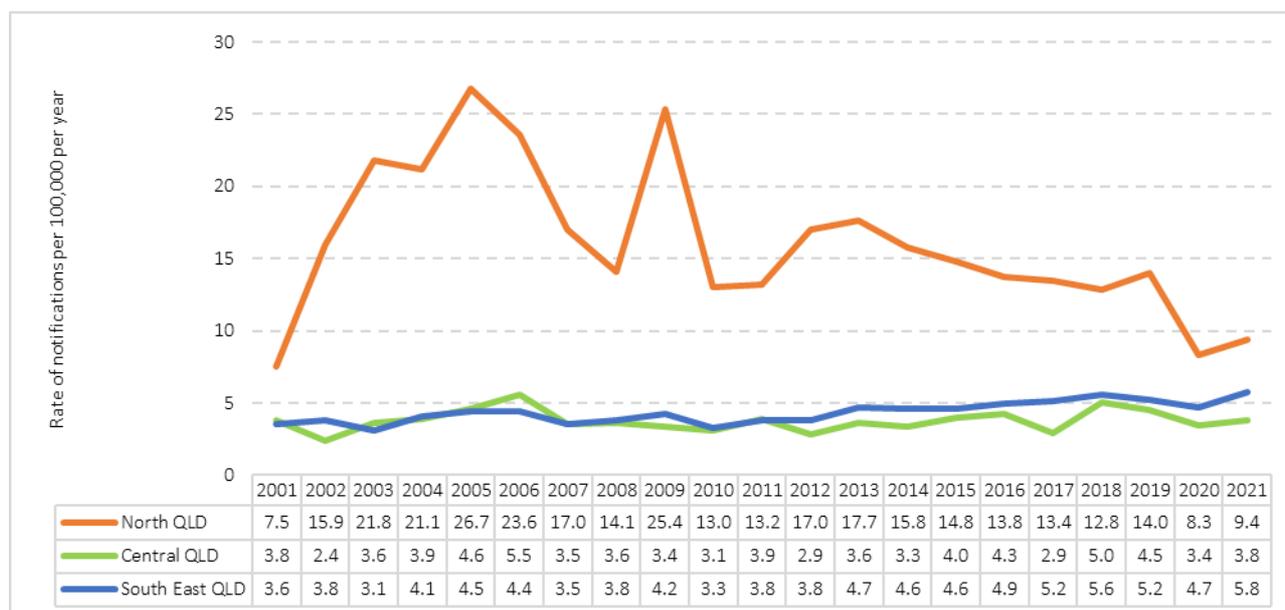
- There was a gradual increase in late latent syphilis notifications in Queensland between 2001 (154 cases) and 2005 (312 cases), followed by a fluctuation in notifications from 2006 to 2013. From 2014 to 2021, notifications remained relatively stable, at an average of 299 cases per year.
- Late latent syphilis notification rates increased from 4.2 per 100,000 population per year in 2001 to 8.0 per 100,000 population per year in 2005, fluctuated during 2006–2013, then remained relatively stable between 2014 and 2021.

Figure 5: Number of late latent syphilis notifications in Queensland, by region*, 2001–2021



* North QLD area: Torres and Cape, North West, Cairns and Hinterland, Townsville, Mackay. Central QLD area: Central West, Central Queensland, Wide Bay, South West, Darling Downs. South East QLD area: Sunshine Coast, Metro North, Metro South, West Moreton, Gold Coast.

Figure 6: Rate (per 100,000 population per year) of late latent syphilis notifications in Queensland, by region, 2001–2021



- Late latent syphilis notification rates remained relatively stable between 2001 and 2021 in both Central Queensland and South East Queensland areas.
- In North Queensland, following an initial increase in notification rates from 7.5 per 100,000 population per year in 2001 to 26.7 per 100,000 population per year in 2005, there was a downward trend in rates since 2006 (with an exception of a single high rate of 25.4 per 100,000 population per year in 2009).

Distribution of infectious syphilis by sex

Figure 7: Number of infectious syphilis notifications in Queensland, by sex, 2010–2021

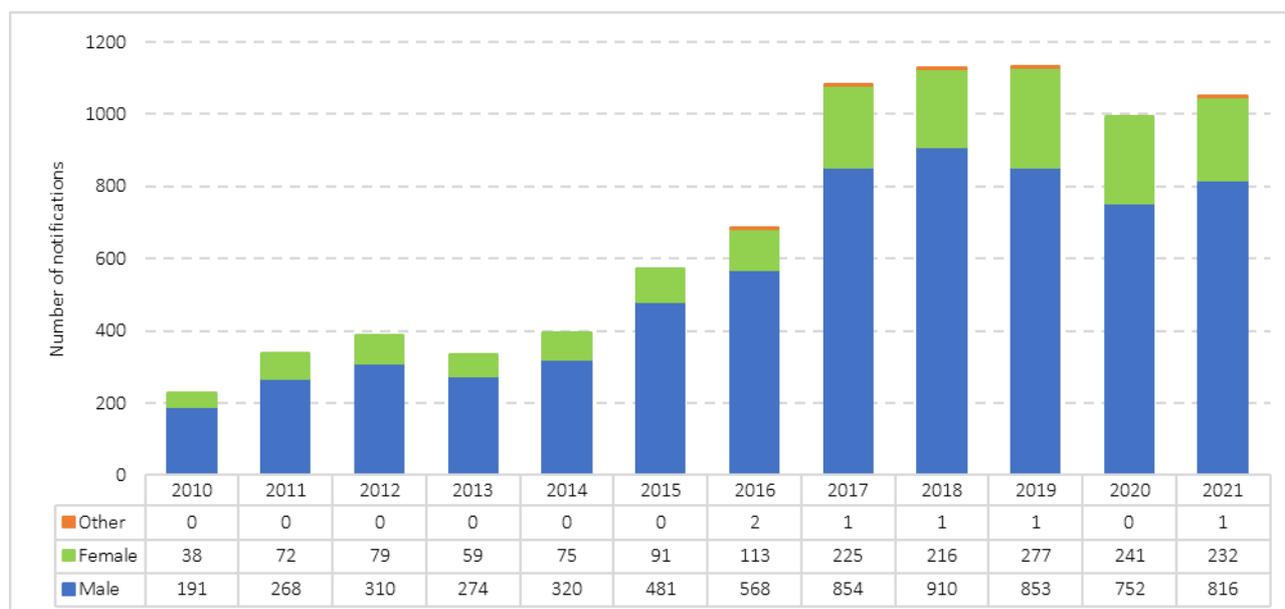
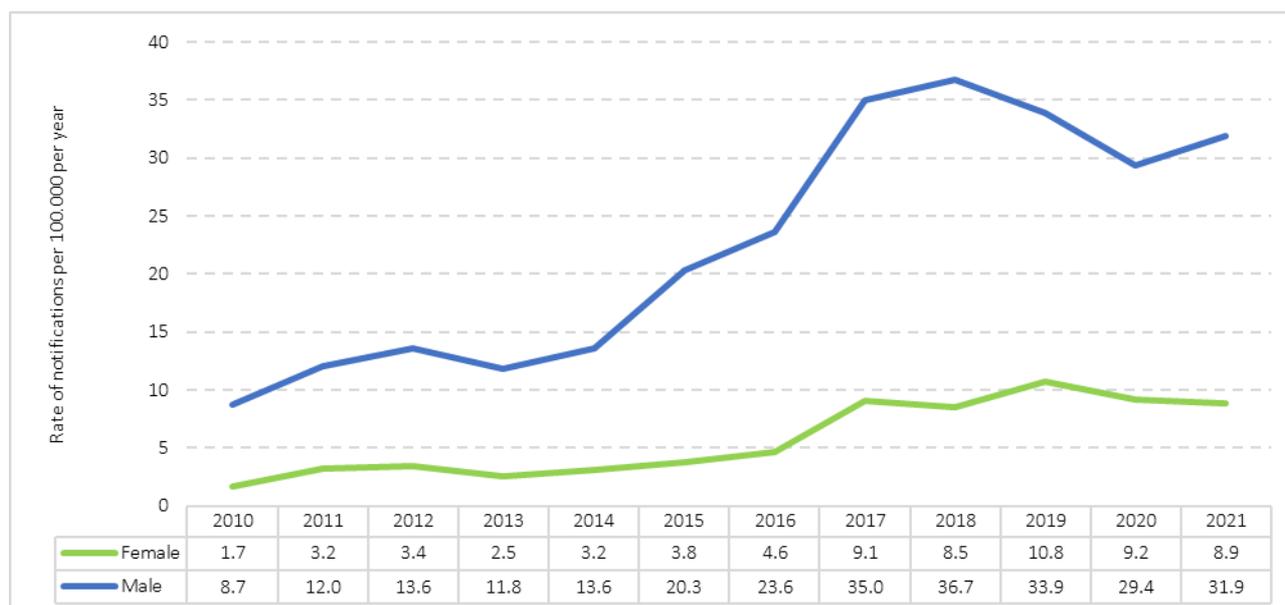


Figure 8: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by sex, 2010–2021



- Overall, males accounted for the majority (79%) of infectious syphilis notifications in the reporting period 2010–2021 (ranging from 75% to 84%).
- There was a 3.7 times increase in notification rates in males, from 8.7 per 100,000 population per year in 2010 to 31.9 per 100,000 population per year in 2021, with a more rapid increase since 2014.
- There was a 5.2 times increase in notification rates in females, from 1.7 per 100,000 population per year in 2010 to 8.9 per 100,000 population per year in 2021.

Distribution of infectious syphilis by First Nations status

Figure 9: Number of infectious syphilis notifications in Queensland, by First Nations status, 2010–2021

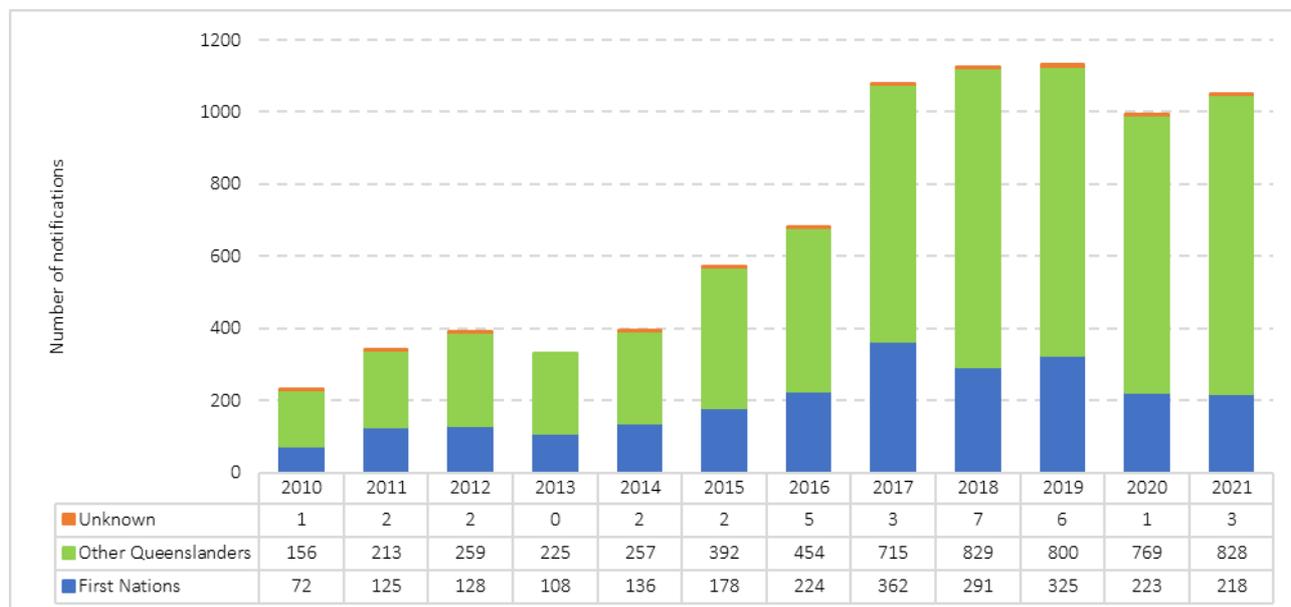
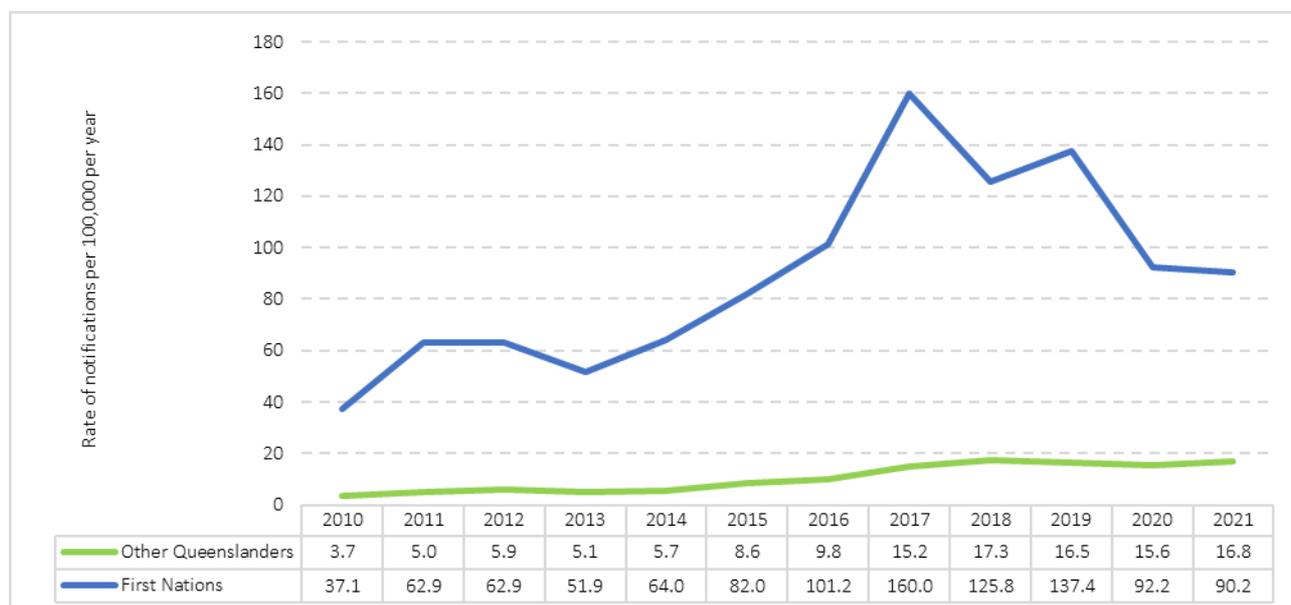


Figure 10: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by First Nations status, 2010–2021



- First Nations Queenslanders accounted for 31% of infectious syphilis notifications during the period 2010–2021 (ranging from 21% to 37%).
- The gap in notification rates between First Nations Queenslanders and other Queenslanders had been widening during the period 2010–2017, followed by a certain level of narrowing between 2018 and 2021. In 2021, First Nations Queenslanders had an infectious syphilis notification rate 5.4 times higher than the rate for other Queenslanders.

Figure 11: Number of infectious syphilis notifications in Queensland, by First Nations status and sex, 2010–2021

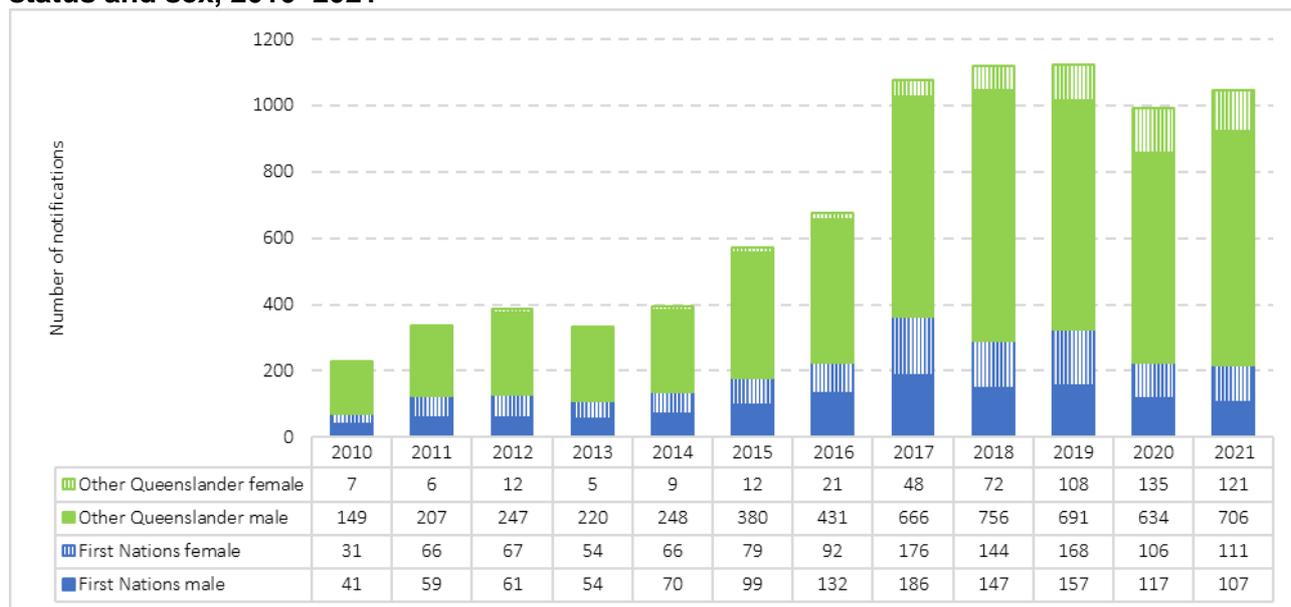
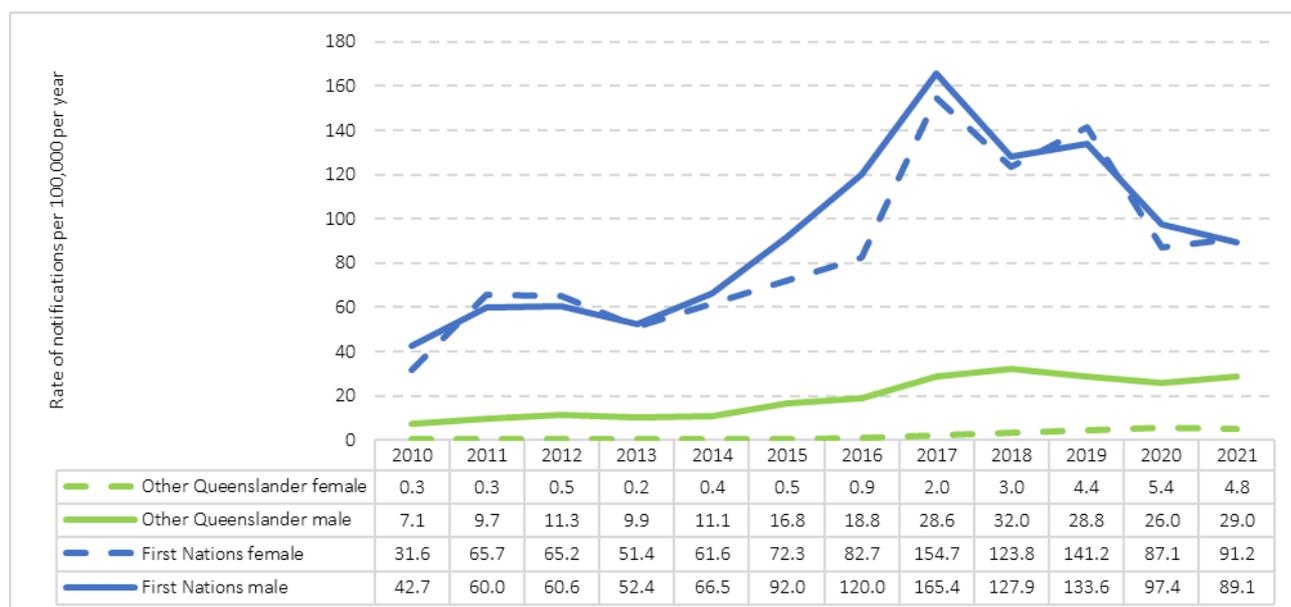


Figure 12: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by First Nations status and sex, 2010–2021



- Between 2010 and 2021, infectious syphilis cases were largely equally distributed among First Nations men and women (51% vs 49%).
- For other Queenslanders cases, the majority were male (91% of the total other Queenslanders cases).
- A similar pattern of infectious syphilis notification rates was observed for First Nations males and females, with an upward trend during 2010-2017 and a downward trend during 2018-2021.
- In 2021, the highest notification rates were reported in First Nations females (91.2 per 100,000 population per year) and males (89.1 per 100,000 population per year), followed by other Queenslanders males (29.0 per 100,000 population per year), and other Queenslanders females (4.8 per 100,000 population per year).

Figure 13: Number of infectious syphilis notifications in North Queensland, by First Nations status and sex, 2010–2021

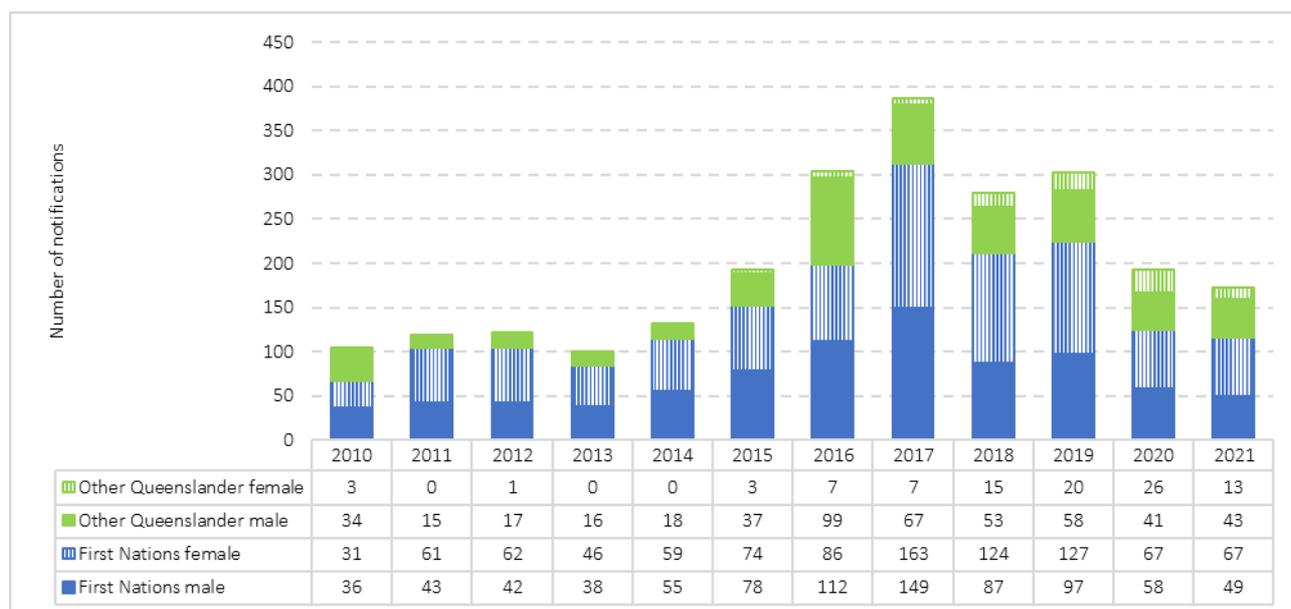
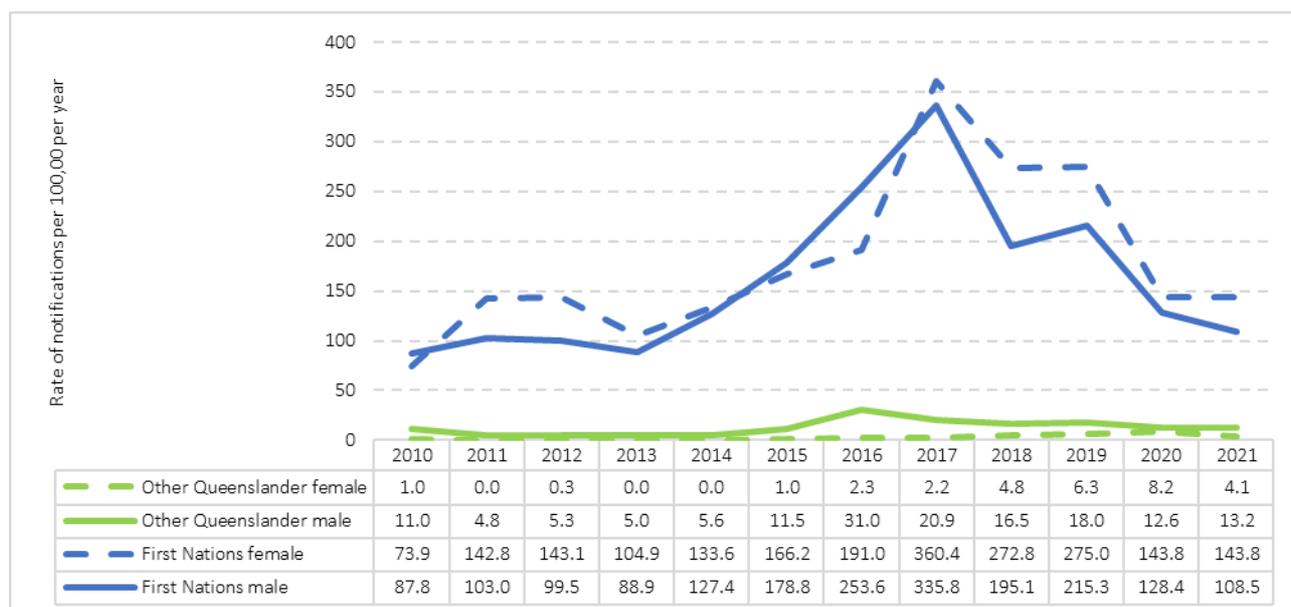


Figure 14: Rate (per 100,000 population per year) of infectious syphilis notifications in North Queensland, by First Nations status and sex, 2010–2021



- In North Queensland, both First Nations males and females had the highest rates of infectious syphilis notifications in 2017, more than double that of the state-wide First Nations rates in the same year (shown in Figure 12).
- There was a 68% reduction in notification rate for First Nations males in 2021, compared to the rate in 2017; the corresponding reduction in rate for First Nations females was 60%.
- For other Queenslander males and females, notification rates in 2021 were lower than the state-wide rates for other Queenslanders (shown in Figure 12).

Figure 15: Number of infectious syphilis notifications in Central Queensland, by First Nations status and sex, 2010–2021

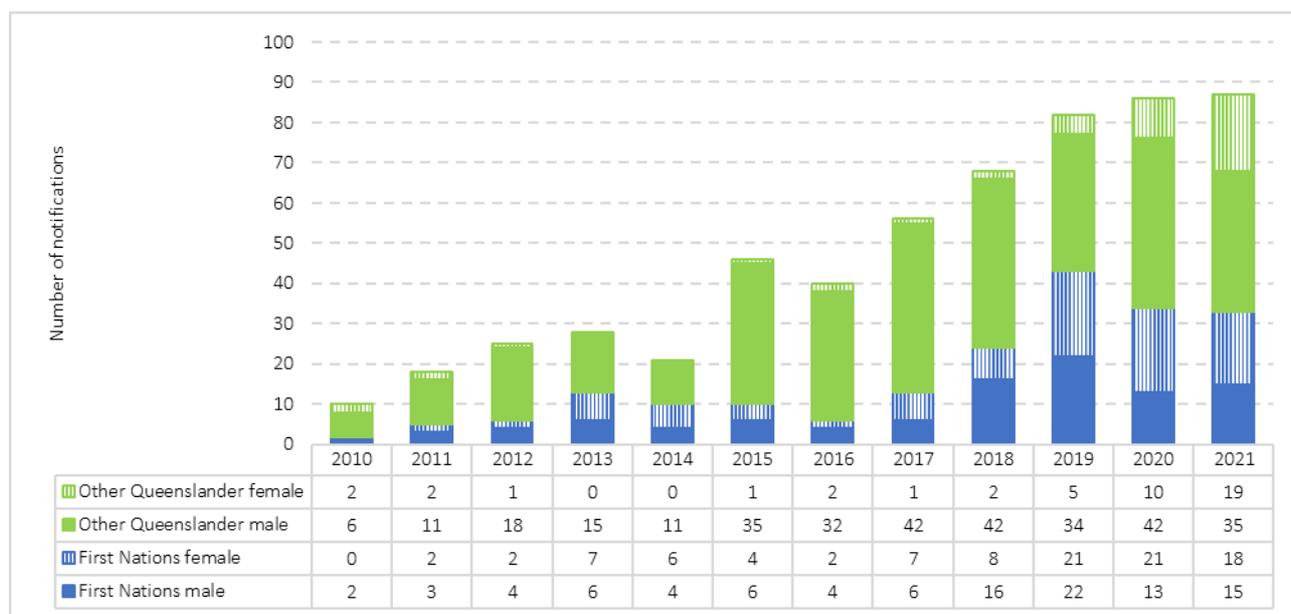
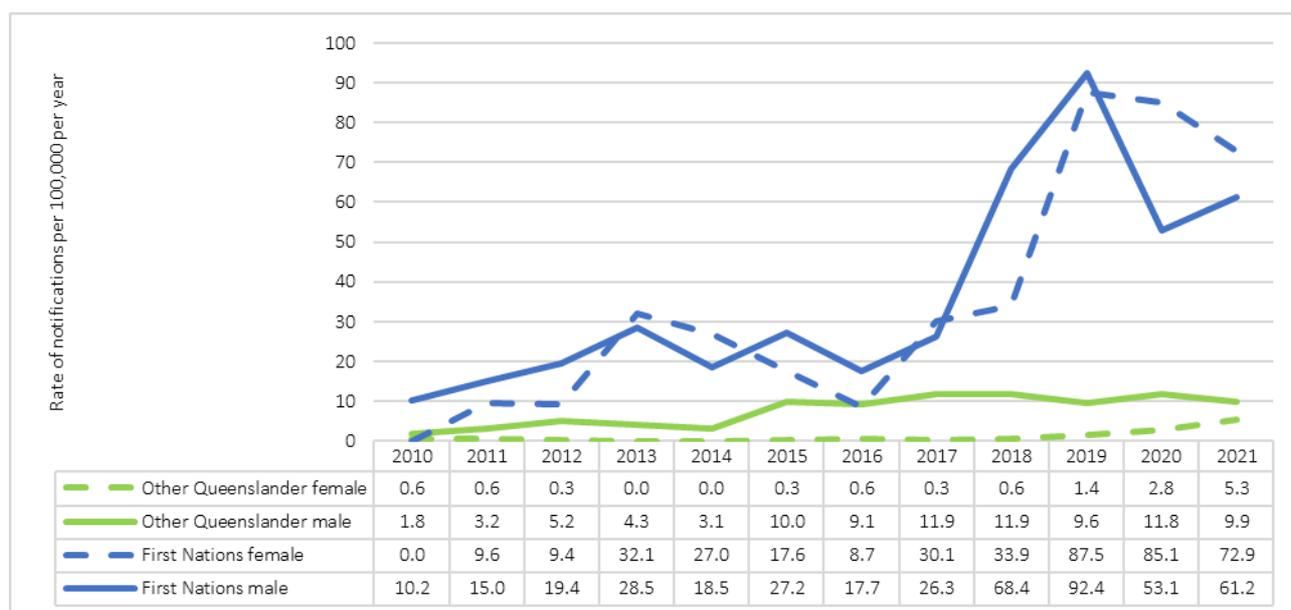


Figure 16: Rate (per 100,000 population per year) of infectious syphilis notifications in Central Queensland, by First Nations status and sex, 2010–2021



- In Central Queensland, between 2017 and 2021, the number of notifications for both First Nations males and females has more than doubled.
- Within the region there was a decrease in notification rates in 2021 for First Nations males and females, compared to the peak of rates in 2019.
- For other Queenslanders notification rates in 2021 were lower than the state-wide rates for other Queenslanders; notification rates for other Queenslanders were higher than the state-wide rates for other Queenslanders (shown in Figure 12).

Figure 17: Number of infectious syphilis notifications in South East Queensland, by First Nations status and sex, 2010–2021



Figure 18: Rate (per 100,000 population per year) of infectious syphilis notifications in South East Queensland, by First Nations status and sex, 2010–2021



- In South East Queensland, males accounted for 75% of the total in First Nations cases, and 92% of the total in other Queenslander cases.
- Between 2017 and 2021, the number of infectious syphilis cases doubled in other Queenslander females and increased four-fold in First Nations females.
- There was a more rapid increase in notification rates across these four population groups from 2016 to 2021 compared to previous years.

Distribution of infectious syphilis by age group

Figure 19: Number of infectious syphilis notifications in Queensland, by age group, 2010–2021

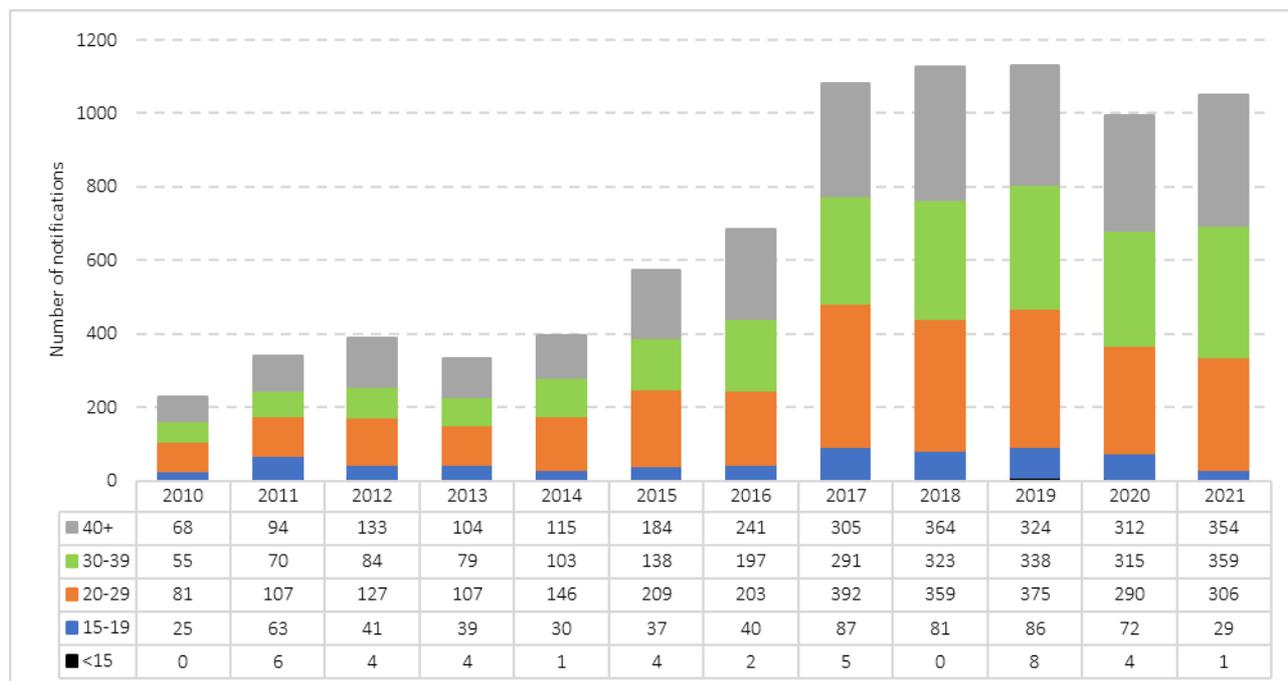
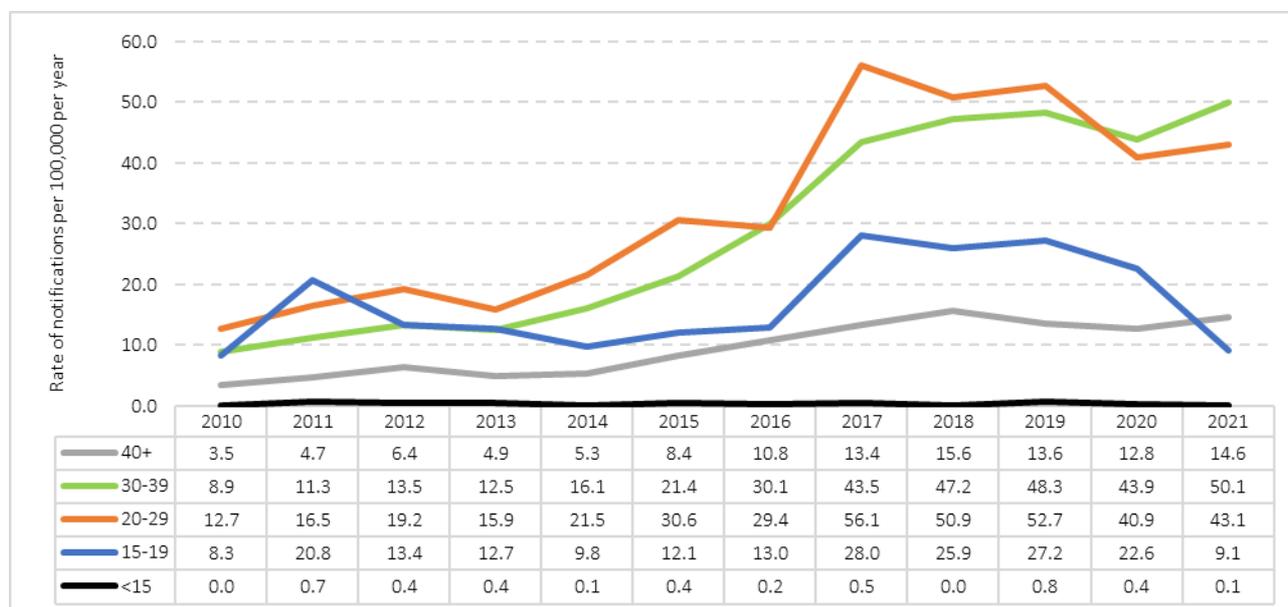


Figure 20: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by age group, 2010–2021



- Of notified infectious syphilis cases in Queensland, 8% were aged 15–19 years, 32% aged 20–29 years, 28% aged 30–39 years, and 31% aged 40 years or older.
- In 2021, the highest notification rate was among those aged 30-39 years (50.1 per 100,000 population per year), followed by those aged 20–29 years (43.1 per 100,000 population per year) and those aged 40+ years (14.6 per 100,000 population per year).

Table 1: Number and rate of infectious syphilis notifications in Queensland in 2021, by age group, First Nations status, and sex

Demographic	Age group (years)				
	<15	15–19	20–29	30–39	40+
Number of notifications					
First Nations male	0	4	39	28	36
First Nations female	1	18	57	22	13
Other Queensland male	0	5	155	266	280
Other Queensland female	0	2	51	43	25
Rate of notifications (per 100,000 population per year)					
First Nations male	0.0	31.1	181.3	200.8	120.8
First Nations female	2.5	146.4	275.6	152.4	38.6
Other Queensland male	0.0	3.3	46.5	79.1	24.4
Other Queensland female	0.0	1.4	15.3	12.2	2.0

- In 2021, for First Nations males in Queensland, the highest notification rate was among those aged 30–39 years (200.8 per 100,000 population per year).
- For First Nations females in Queensland in the same year, the highest notification rates were among those aged 20–29 years (275.6 per 100,000 population per year).
- For other Queensland males in 2021, the highest notification rates were among those aged 30–39 years (79.1 per 100,000 population per year).
- For other Queensland females in the same year, the highest notification rate was among those aged 20–29 years (15.3 per 100,000 population per year).

Distribution of infectious syphilis by Hospital and Health Service

Table 2: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS, 2010–2021

Region	Hospital and Health Service	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
North	Torres and Cape	66.0	8.1	20.0	63.2	47.1	65.5	113.5	145.1	123.9	114.1	52.8	84.4
	North West	50.9	282.5	258.8	174.9	195.3	97.1	76.9	152.8	179.9	229.0	156.6	91.0
	Cairns and Hinterland	19.1	6.7	5.4	7.3	13.7	40.9	72.3	78.1	49.4	45.9	17.2	26.4
	Townsville	11.5	3.1	8.2	3.0	9.3	16.4	28.1	39.6	22.4	31.9	26.7	14.4
	Mackay	0.6	2.3	1.7	2.3	2.3	2.9	1.7	5.8	8.1	6.4	13.7	10.9
Central	Central West	8.2	16.2	8.2	0.0	8.5	0.0	0.0	28.6	19.3	38.7	0.0	0.0
	Central Queensland	1.9	1.9	3.3	6.4	6.3	7.3	7.3	8.7	12.4	14.6	15.8	24.9
	Wide Bay	1.5	0.5	1.0	0.5	0.9	1.4	5.6	3.7	6.0	5.5	5.9	3.6
	South West	0.0	0.0	3.8	11.5	0.0	0.0	4.1	4.1	12.4	0.0	8.4	0.0
	Darling Downs	0.8	4.1	5.2	3.6	1.4	9.7	4.3	8.9	8.1	12.3	12.6	8.7
South East	Sunshine Coast	0.3	3.0	2.7	1.6	4.4	6.0	7.4	9.4	9.6	9.2	7.0	3.8
	Metro North	8.4	12.1	14.2	9.9	9.5	14.9	17.7	28.6	35.9	30.0	30.5	29.4
	Metro South	2.1	5.1	6.5	5.7	5.8	7.6	6.9	12.9	18.0	19.2	17.8	21.8
	West Moreton	1.3	2.1	3.2	3.1	2.3	3.7	3.6	13.6	12.9	15.8	15.4	15.4
	Gold Coast	3.3	4.9	4.8	6.9	11.7	12.7	8.0	20.8	19.9	18.4	14.9	22.6
Queensland		5.2	7.6	8.5	7.2	8.4	12.0	14.1	21.9	22.5	22.2	19.2	20.3

- Table 2 shows trends in infectious syphilis notification rates for 15 HHS areas during the period 2010–2021, and variation in rates across HHS areas.
- Upward trends in rates were observed in most HHS areas in the last decade, which are also illustrated by heat maps presented in Figures 21–25.
- For Torres and Cape, relatively high notification rates (around 60 per 100,000 population per year) were reported between 2010 and 2015 (with some fluctuation), followed by a two-fold increase in rates to 2019 (114.1 per 100,000 population per year) and decrease in 2021 (84.4 per 100,000 population per year).
- For North West, following a peak of notification rates in 2011 (282.5 per 100,000 population per year), there was a decrease in rates to 2016 (76.9 per 100,000 population per year). The rate tripled in 2019 (229.0 per 100,000 population per year) and decreased in 2021 (91.0 per 100,000 population per year).
- In 2021, the highest infectious syphilis notification rate was reported in North West (91.0 per 100,000 population per year), followed by Torres and Cape (84.4 per 100,000 population per year), and Metro North (29.4 per 100,000 population per year).

Figure 21: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2010

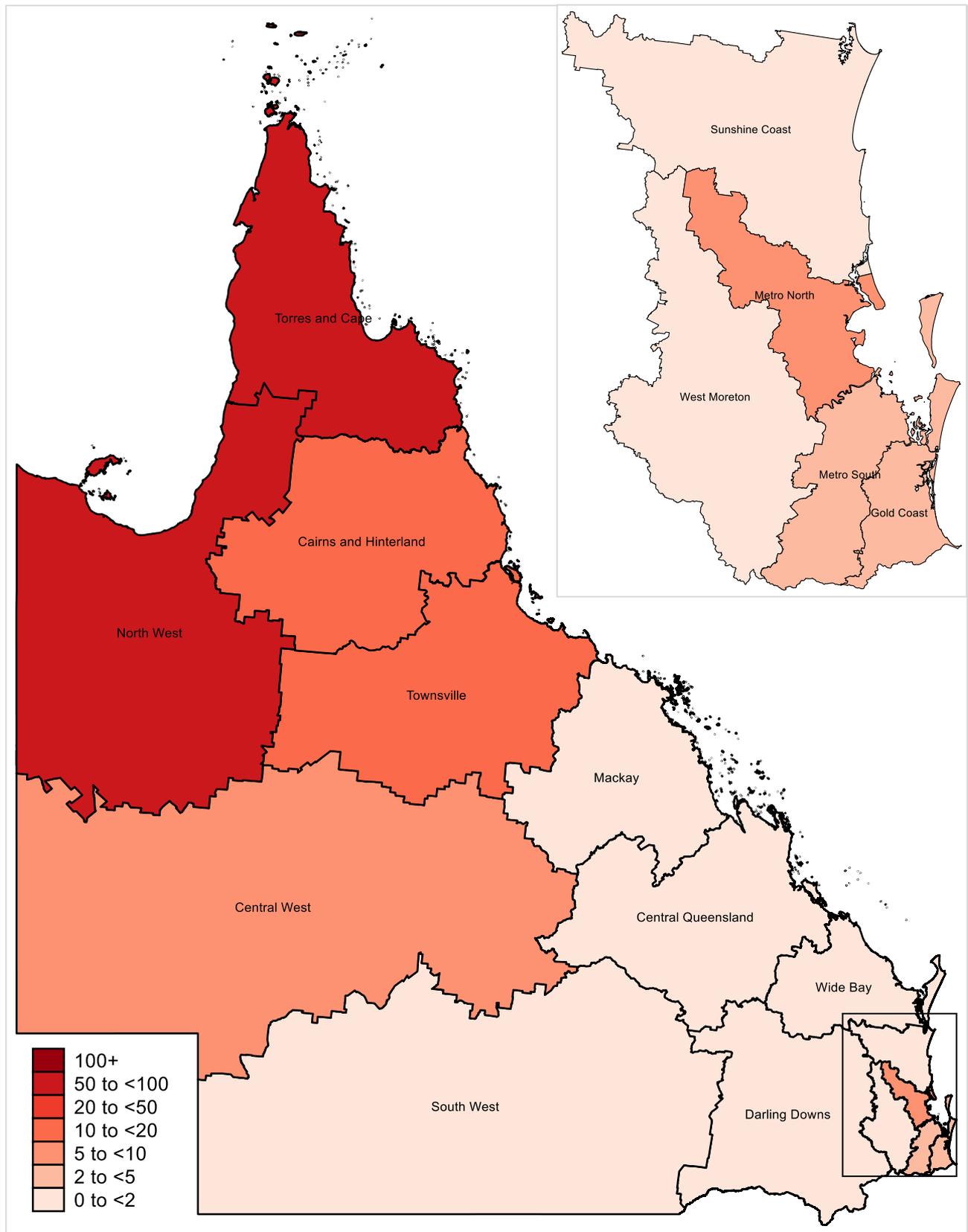


Figure 22: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2013

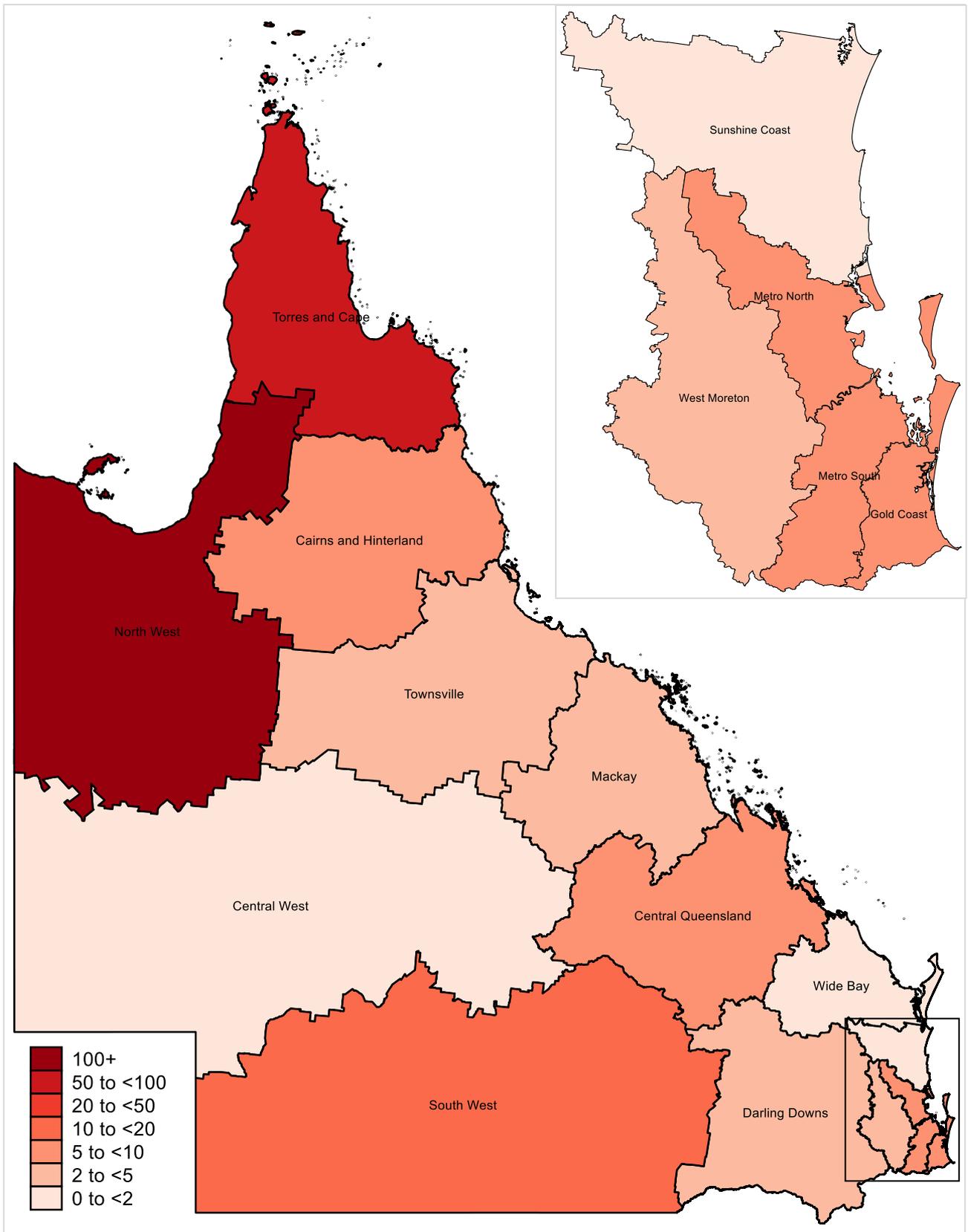


Figure 23: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2016

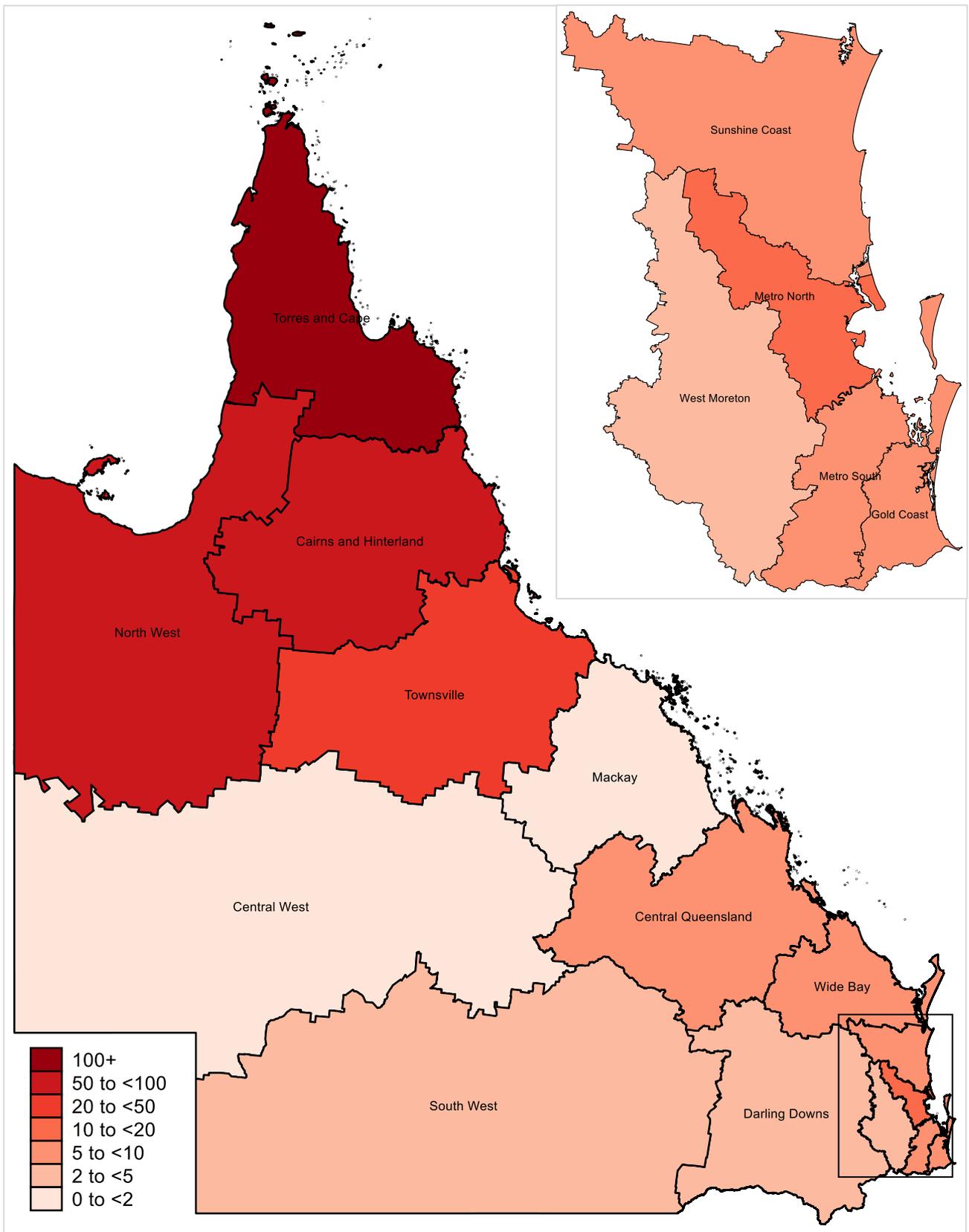


Figure 24: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2019

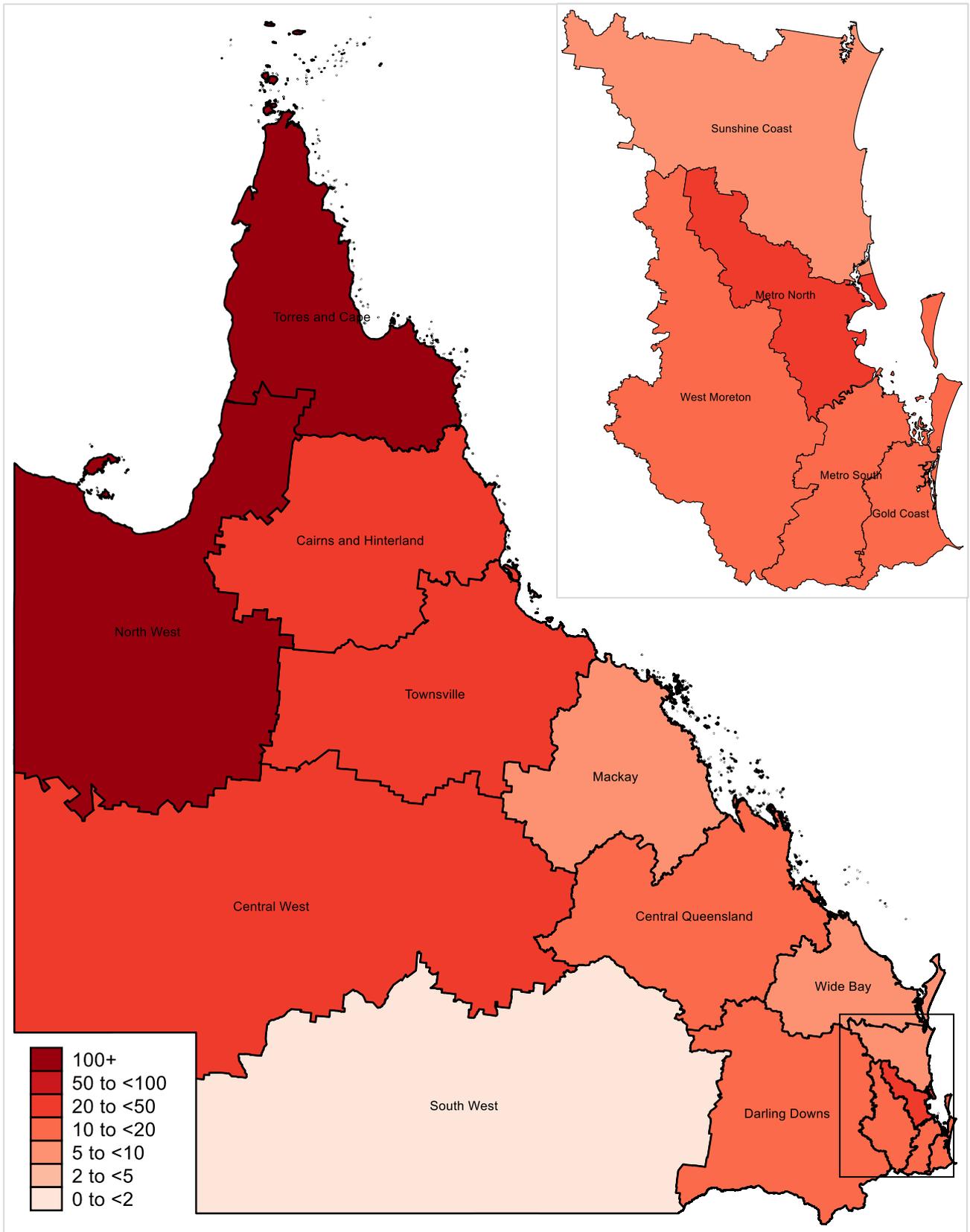
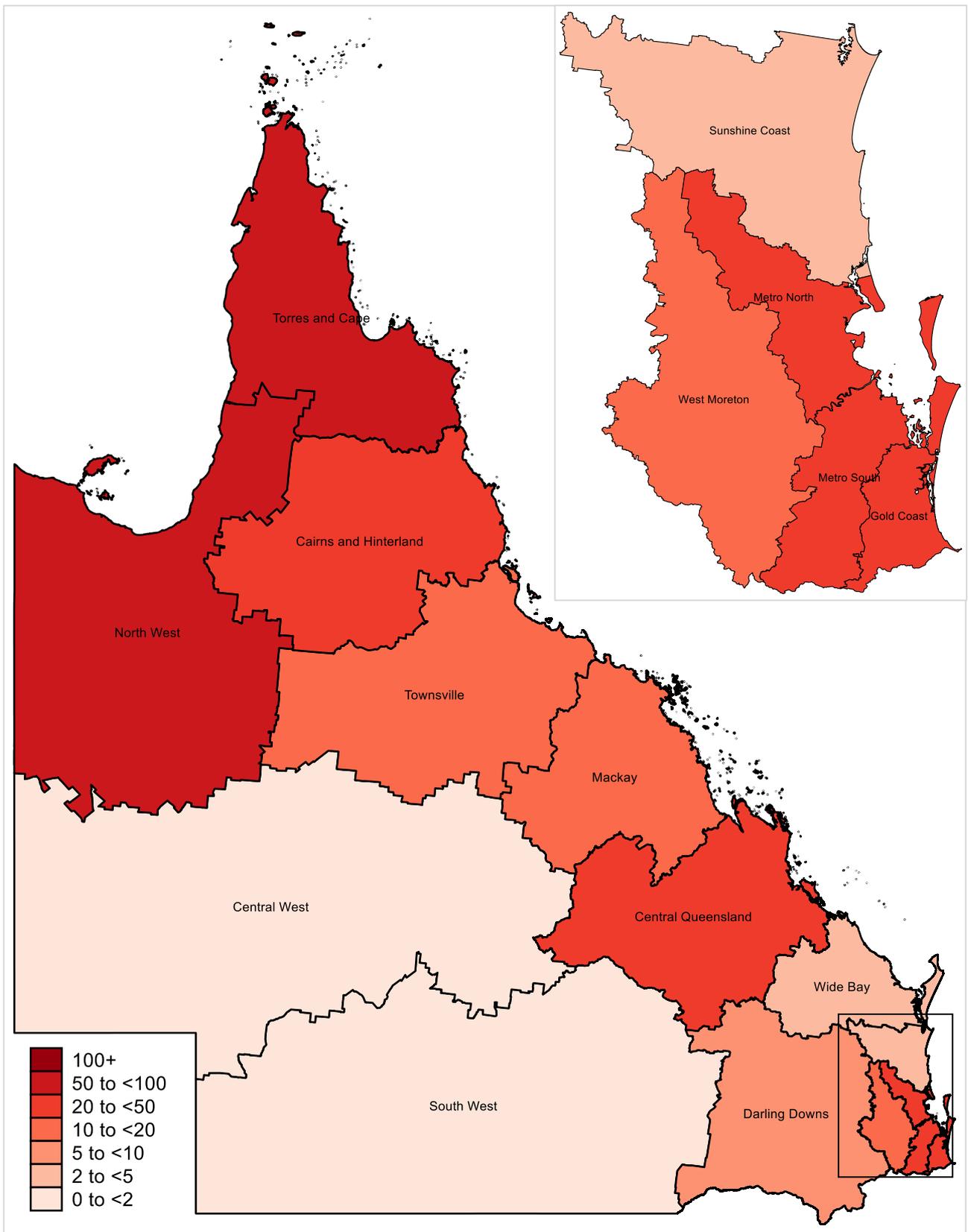


Figure 25: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2021



Syphilis in women of reproductive age (15–44 years)

Figure 26: Number of infectious syphilis notifications in women aged 15–44 years, by region and First Nations status, 2010–2021

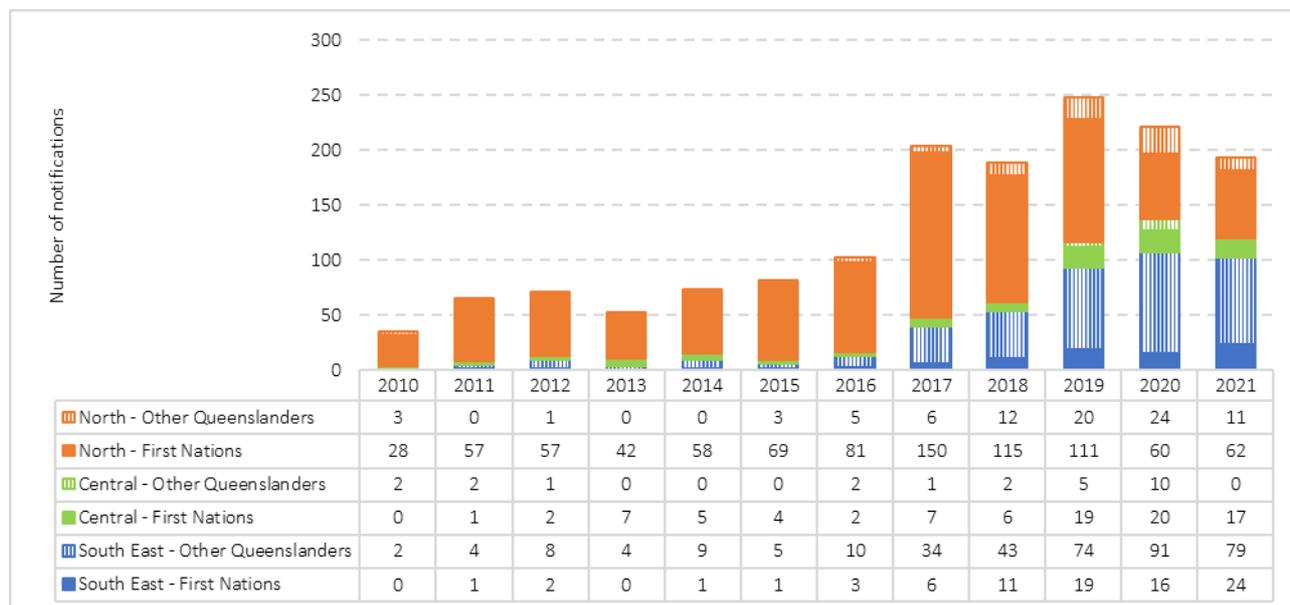
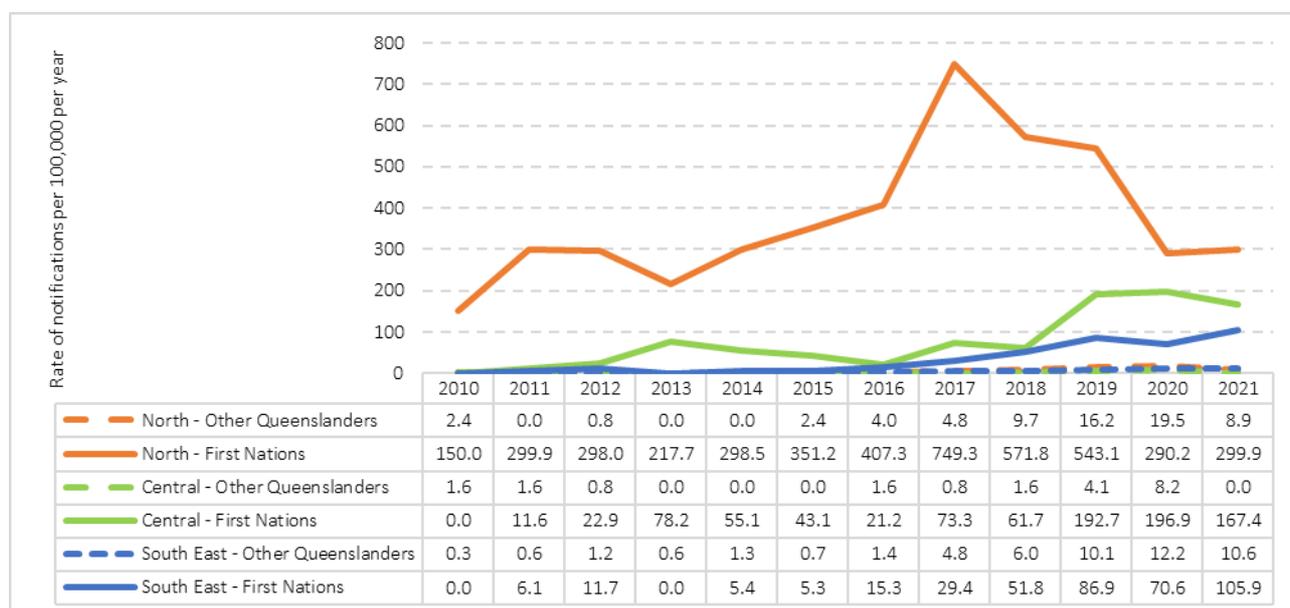


Figure 27: Rate of infectious syphilis notifications in women aged 15–44 years, by region and First Nations status, 2010–2021



- Between 2010 and 2021, 1,558 infectious syphilis cases were notified in women of reproductive age (15–44 years); 57% (n=890) of these cases were in First Nations women from North Queensland, and 23% (n=363) were in other Queensland women from South East Queensland.
- In 2021, North Queensland First Nations women of reproductive age had the highest rate of infectious syphilis notifications (299.9 per 100,000 population per year) compared with First Nations women from other regions or other Queensland women.

Figure 28: Number of late latent syphilis notifications in women aged 15–44 years, by region and First Nations status, 2010–2021

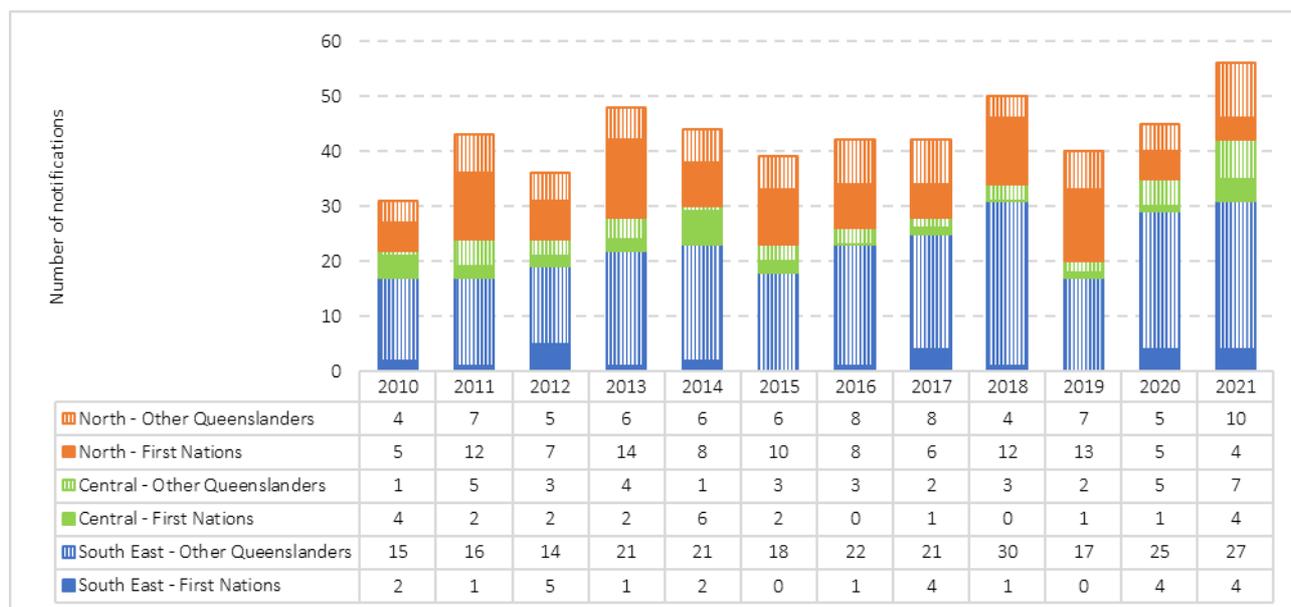
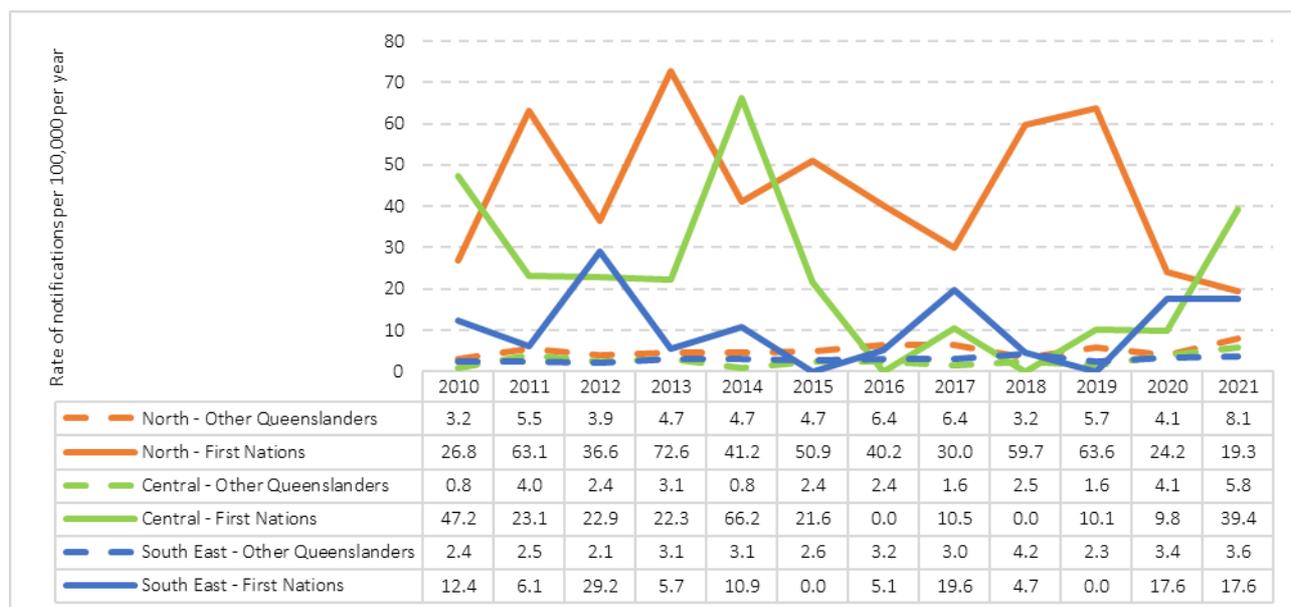


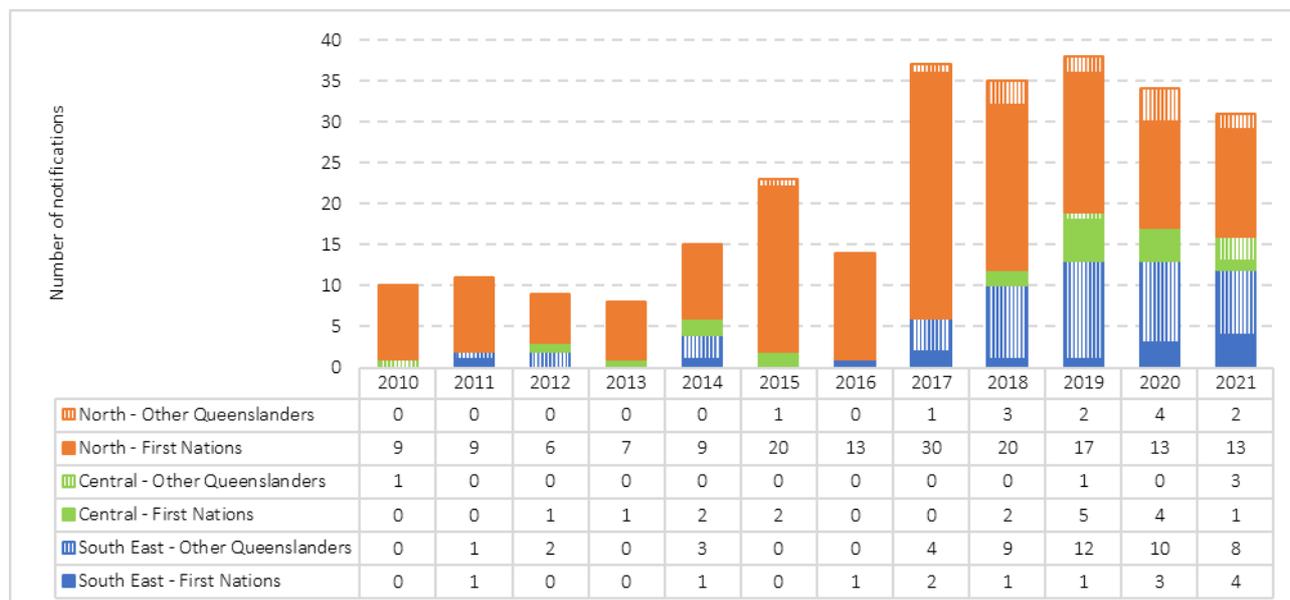
Figure 29: Rate of late latent syphilis notifications in women aged 15–44 years, by region and First Nations status, 2010–2021



- Between 2010 and 2021, 526 late latent syphilis cases were notified in women of reproductive age (15–44 years); 47% (n=247) of these cases were in other Queensland women from South East Queensland, 20% (n=104) were in First Nations women from North Queensland, and 14% (n=76) were in other Queensland women from North Queensland.
- In 2021, Central Queensland First Nations women of reproductive age had the highest rate of late latent syphilis notifications (39.4 per 100,000 population per year) compared with First Nations women from other regions or other Queensland women.

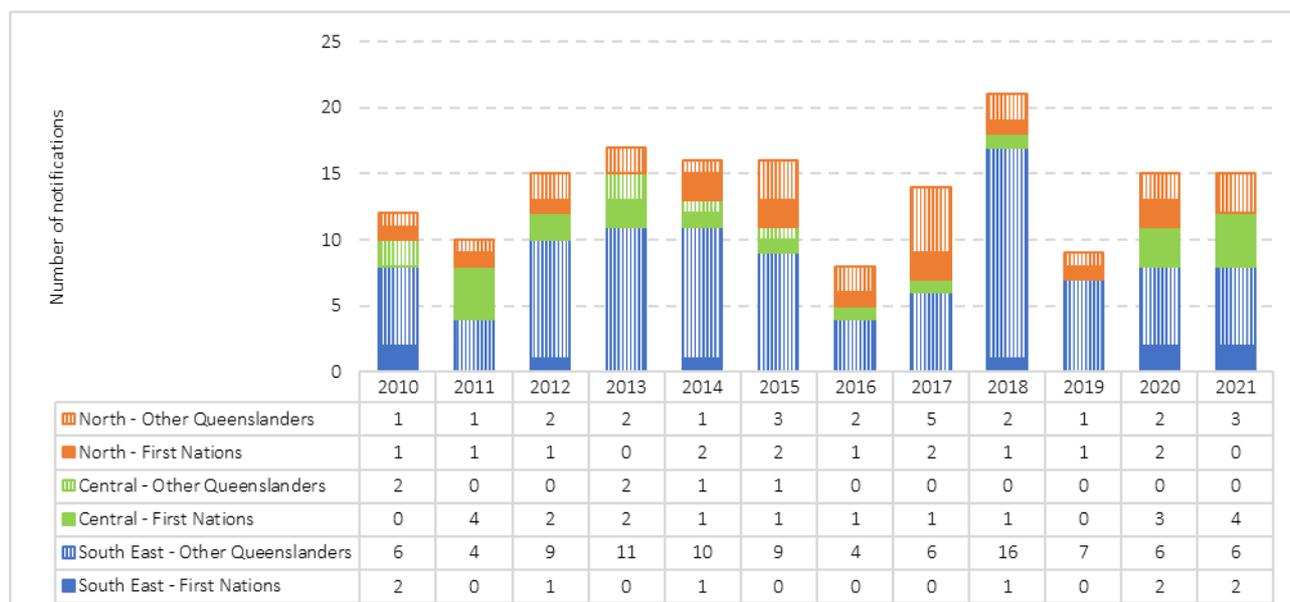
Syphilis in pregnant women

Figure 30: Number of infectious syphilis notifications in pregnant women, by region and First Nations status, 2010–2021



- Between 2010 and 2021, 265 infectious syphilis cases were notified in pregnant women in Queensland (264 cases aged 15 to 44 years). Of these cases, 179 (68%) were in North Queensland (166 First Nations and 13 other Queenslanders), 23 (9%) were in Central Queensland (18 First Nations and 5 other Queenslanders), and 63 (24%) were in South East Queensland (14 First Nations and 49 other Queenslanders).

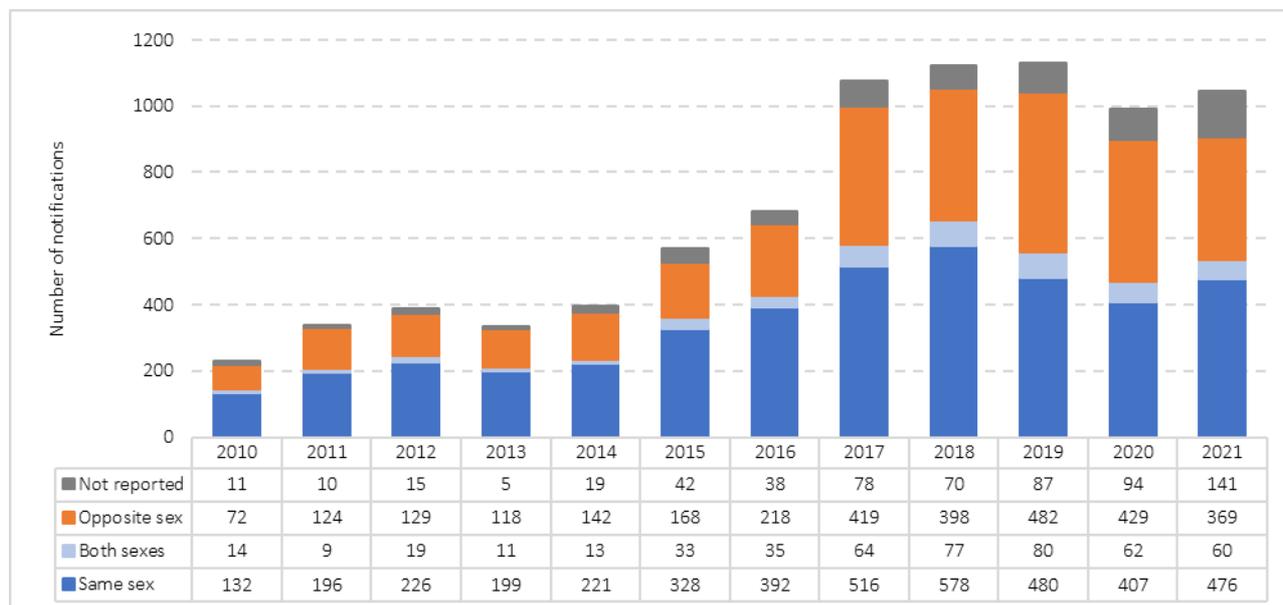
Figure 31: Number of late latent syphilis notifications in pregnant women, by region and First Nations status, 2010–2021



- Between 2010 and 2021, 169 late latent syphilis cases were notified in pregnant women in Queensland (165 cases aged 15 to 44 years). Of these cases, 39 (23%) were in North Queensland (14 First Nations and 25 other Queenslanders), 26 (15%) were in Central Queensland (6 First Nations and 20 other Queenslanders), and 104 (62%) were in South East Queensland (9 First Nations, 94 other Queenslanders and 1 with unknown First Nations status).

Distribution of infectious syphilis by type of sexual partners

Figure 32: Number of infectious syphilis notifications in Queensland, by type of sexual partners, 2010–2021



- Of 8,321 infectious syphilis cases notified in Queensland between 2010 and 2021, 50% reported having sex with the same sex, 6% reported having sex with both men and women, and 37% reported having sex with the opposite sex. In total, 55% of cases were among men who have sex with men (MSM).

Table 3: Number of infectious syphilis notifications in Queensland in 2021, by type of sexual partners, First Nations status, and sex

Type of sexual partners	First Nations male	First Nations female	Other Queensland male	Other Queensland female	Total
Same sex	28	0	441	4	473
Both sexes	2	0	53	5	60
Opposite sex	61	104	110	93	368
Not reported	15	7	100	19	141
Total	106	111	704	121	1042

* Of a total of 1,049 infectious syphilis cases notified in Queensland in 2021, 1,042 had complete data for First Nations status and sex.

- Of 106 First Nations male cases in 2021, 61(58%) reported heterosexual sex as their exposure, and 30 (28%) were among MSM.
- Of other Queensland male cases in 2021, 494 (70%) were among MSM, and 110 (16%) reported heterosexual sex as their exposure.
- For both First Nations Queenslanders and other Queensland female cases in 2021, heterosexual sex was reported as the predominant transmission route (94% and 77%, respectively).

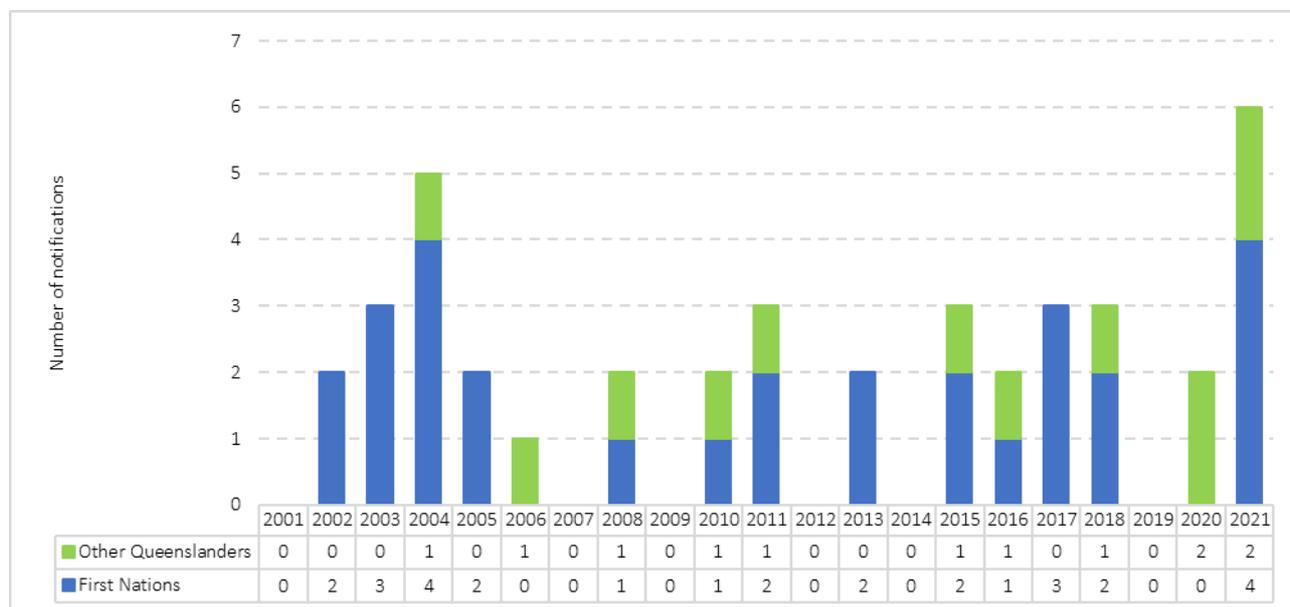
Table 4: Number of infectious syphilis notifications in Queensland in 2021, by demographic group, type of sexual partners and region

Demographic group/type of sexual partners	North QLD		Central QLD		South East QLD	
	Number	%	Number	%	Number	%
First Nations MSM	8	4.7	1	1.1	21	2.7
First Nations heterosexual male	37	21.8	12	13.8	12	1.5
First Nations heterosexual female	66	38.8	17	19.5	21	2.7
Other Queenslanders MSM	31	18.2	16	18.4	446	56.9
Other Queenslanders heterosexual	7	4.1	14	16.1	89	11.4
Other Queenslanders heterosexual	10	5.9	17	19.5	66	8.4
Other	11	6.5	10	11.5	129	16.5
Total	170	100.0	87	100.0	784	100.0

- Of 170 infectious syphilis cases notified in North Queensland in 2021, 103 (61%) were among First Nations Queenslanders reporting heterosexual sex as their exposure, and 31 (18%) among other Queenslanders MSM.
- Of 87 infectious syphilis cases notified in Central Queensland in 2021, 31 (36%) among other Queenslanders reporting heterosexual sex as their exposure, 29 (33%) among First Nations Queenslanders reporting heterosexual sex as their exposure, and 16 (18%) were among other Queenslanders MSM.
- Of 784 infectious syphilis cases notified in South East Queensland in 2021, 446 (57%) were among other Queenslanders MSM, and 155 (20%) among other Queenslanders reporting heterosexual sex as their exposure.

Congenital syphilis notifications

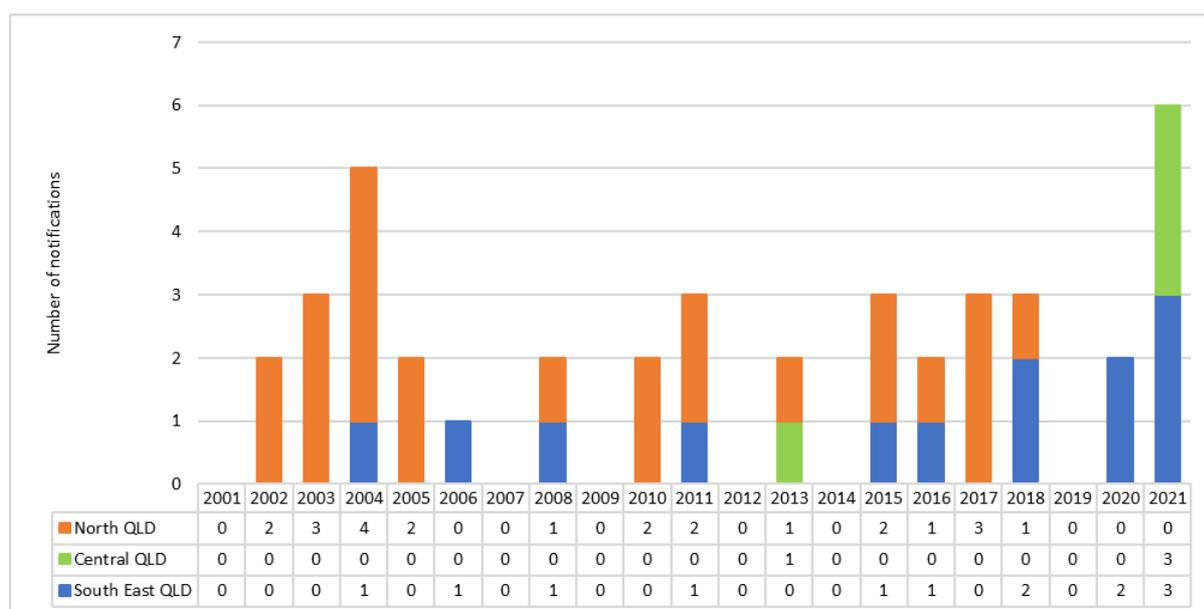
Figure 33: Notifications of congenital syphilis* in Queensland, by First Nations status, 2001–2021



* See Appendix 1 for congenital syphilis definitions.

- Between 2001 and 2021, 41 congenital syphilis cases were notified in Queensland (29 First Nations and 12 other Queenslanders).
- 13 congenital syphilis cases were associated with intrauterine foetal deaths/stillbirths or died after birth (11 in North Queensland, 1 in Central Queensland and 1 in South East Queensland, all in First Nations infants).

Figure 34: Notifications of congenital syphilis in Queensland, by region, 2001–2021



- Of these 41 cases, 24 were from North Queensland (22 First Nations and 2 other Queenslanders), 4 were from Central Queensland (2 First Nations and 2 other Queenslanders), and 13 were from South East Queensland (5 First Nations and 8 other Queenslanders).

Table 5: Summary of notifications of syphilis* in women of reproductive age (aged 15–44 years), pregnant women, and congenital syphilis infections, by region and First Nations status, 2010–2021

Region/First Nations status	Syphilis notifications in women of reproductive age	Syphilis notifications in pregnant women	Congenital syphilis notifications
North - Other Queenslanders	161	38	1
North - First Nations	994	180	11
Central - Other Queenslanders	83	25	2
Central - First Nations	115	24	2
South East - Other Queenslanders	610	143	6
South East - First Nations	109	23	4
Queensland	2,072	433	26

* Syphilis notifications include infectious syphilis and late latent syphilis.

- Between 2010 and 2021, 2,072 syphilis notifications (1,556 infectious and 516 late latent) were recorded in women of reproductive age in Queensland. Of these, 433 (21%) were in pregnant women, including 265 infectious and 168 late latent cases. A total of 26 cases of congenital syphilis were notified during the same period.
- The highest number of syphilis notifications in pregnancy was reported in First Nations women from North Queensland (180 cases, 42% of Queensland total), followed by other Queensland women from South East Queensland (143 cases, 33%).
- Of 180 syphilis cases (166 infectious and 14 late latent) in First Nations pregnant women from North Queensland, 11 (6%) congenital syphilis cases occurred.
- Of 143 syphilis cases (49 infectious and 94 late latent) in other Queensland pregnant women from South East Queensland, 6 (4%) congenital syphilis cases occurred.

Infectious syphilis outbreak in North Queensland

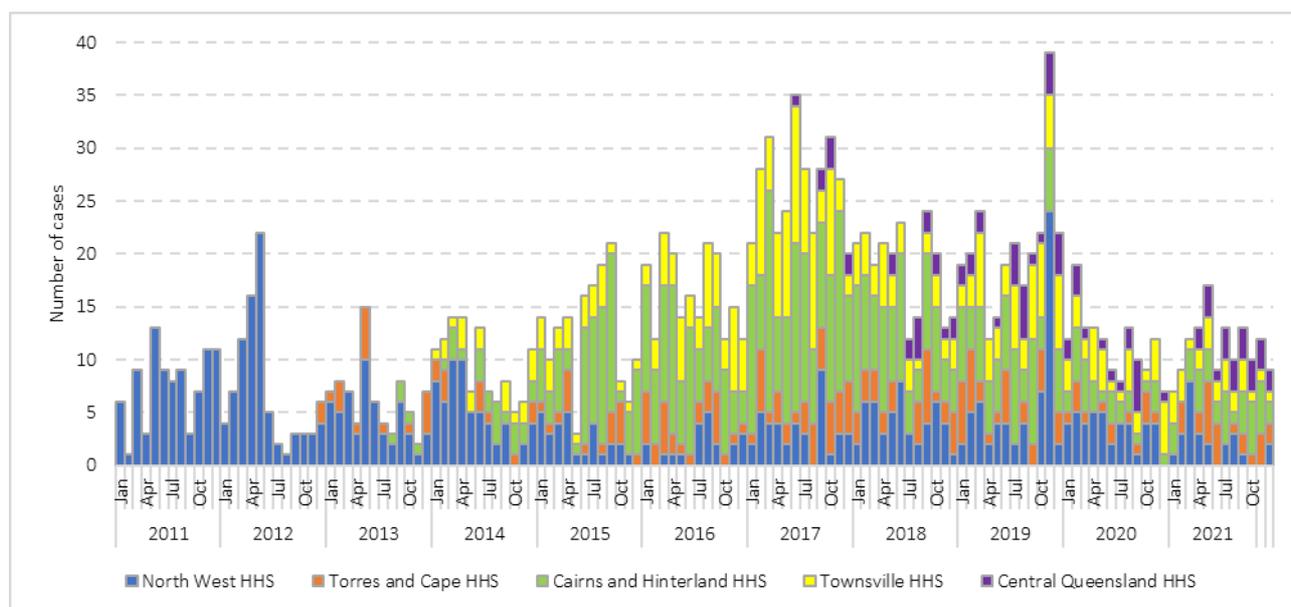
There has been an ongoing infectious syphilis outbreak in Northern Australia, occurring predominantly in First Nations populations. The outbreak was first declared in January 2011 in North West Queensland, followed by the Northern Territory in July 2013, the Kimberley region in Western Australia in June 2014, and South Australia in March 2017. Detailed information on declared regions for the outbreak can be found in the national syphilis monitoring reports.⁹

The five outbreak declared regions in Queensland are defined as follows:

- North West HHS area: from 1 January 2011
- Torres and Cape HHS area: from 1 December 2012
- Cairns and Hinterland HHS area: from 1 August 2013
- Townsville HHS area: from 1 January 2014
- Central Queensland HHS area: from 1 June 2017

Outbreak cases are classified as either category 1 or category 2. Category 1 cases refer to infectious syphilis cases in First Nations Queenslanders residing in outbreak declared regions at the time of diagnosis. Category 2 cases are those infectious syphilis cases who are a sexual contact of a category 1 outbreak case, including First Nations Queenslanders who reside outside outbreak declared regions at the time of diagnosis, and other Queenslanders regardless of where they reside.

Figure 35: Infectious syphilis outbreak cases (category 1) in First Nations Queenslanders in five affected HHS areas in Queensland, 1 January 2011–31 December 2021



⁹[National syphilis monitoring reports | Australian Government Department of Health and Aged Care](#)

For the North West HHS area, the largest annual numbers of infectious syphilis cases were observed in the first two years of the outbreak (90 cases in 2011 and 82 cases in 2012), followed by a gradual decrease to 21 cases in 2016. The number increased to 62 cases in 2019 and decreased to 23 cases in 2021.

For the Torres and Cape HHS area, there was a gradual increase in outbreak cases, from 16 cases in 2013 to 39 cases in 2017, followed by a decrease in cases to 24 in 2021.

For the Cairns and Hinterland HHS area, there was a rapid increase in outbreak cases, from 22 cases in 2014 to a peak of 143 cases in 2017, followed by a 74% decrease in the annual total to 37 cases in 2021.

Similarly, there was an increase in outbreak cases in the Townsville HHS area, from 23 cases in 2014 to a peak of 86 cases in 2017, followed by a 71% decrease in the annual total to 25 cases in 2021.

For the Central Queensland HHS area, there was an increase in outbreak cases, from 15 cases in 2018 to 26 cases in 2019, followed by a decrease in cases to 23 in 2021.

Of the total 1,772 category 1 infectious syphilis outbreak cases notified between 2011 and 2021, there were more females than males (54% vs 46%). Two-thirds of these cases were aged 15–29 years, with a further one-fifth aged 30–39 years.

A total of 62 category 2 infectious syphilis outbreak cases were notified between 2011 and 2021, including 15 First Nations cases who resided outside the declared regions at the time of diagnosis, and 47 other Queensland cases (25 from Cairns and Hinterland, 18 from Townsville, 1 from Torres and Cape, 1 from North West, 1 from Central Queensland and 1 from Mackay).

A total of 10 congenital syphilis cases associated with the outbreak were notified between 2011 and 2021 (3 cases from Townsville, 2 cases from each of North West, Torres and Cape, and Cairns and Hinterland, and 1 case from Central Queensland). These congenital syphilis infections resulted in 7 deaths (6 intrauterine foetal deaths and 1 death after birth).

Appendix 1: Definitions and classifications of syphilis

Infectious syphilis	Less than two years duration (includes primary, secondary and early latent stages of syphilis)		
	Stage of disease	Time post exposure	Major clinical features
	Primary syphilis	10–90 days	Chancre and ulcer at the site of infection (external/internal genitalia or a non-genital site)
	Secondary syphilis	4 weeks–6 months	Headache, fatigue, adenopathy, low grade fever, sore throat, rash, mucocutaneous lesions, and condylomata lata (large, raised, whitish or grey, flat-topped lesions found in warm moist areas).
	Early latent syphilis	Less than 2 years	No symptoms or signs of infection at the time of diagnosis.
Late latent syphilis	More than 2 years or unknown duration, with absence of clinical signs, and considered as non-infectious.		
Congenital syphilis	Infectious agent <i>Treponema pallidum</i> crosses the placenta and infects the foetus at any time in the pregnancy. If untreated, this can result in intrauterine foetal death, stillbirth or a premature baby. The infected baby can present with symptoms involving almost any organ including coryza, poor growth, eye lesions, long bone lesions, hepatitis, cerebral or pulmonary symptoms.		

For national surveillance case definitions, please refer to the weblink below:

<https://www.health.gov.au/resources/collections/cdna-surveillance-case-definitions>