

Notifications of Syphilis in Queensland

2019 Report

Communicable Diseases Branch



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Summary

Between 2001 and 2019, there was an increase in annual infectious syphilis notifications in Queensland, from 112 cases to 1,129 cases. The corresponding annual notification rates for this period increased from 3.1 cases per 100,000 population per year to 22.9 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 301 cases (6.1 per 100,000 population per year) in 2019.

The gap in infectious syphilis notification rates between Aboriginal and Torres Strait Islander and non-Indigenous people had been widening, with the rate in Aboriginal and Torres Strait Islander people 8.6 times higher than the rate for non-Indigenous Queenslanders in 2019.

In 2019, the highest notification rates of infectious syphilis were reported in Aboriginal and Torres Strait Islander females (150.5 per 100,000 population per year) and males (140.6 per 100,000 population per year), followed by non-Indigenous males (29.4 per 100,000 population per year), and non-Indigenous females (4.5 per 100,000 population per year).

In 2019 there were 1,129 infectious syphilis notifications in Queensland:

- 300 cases (27%) were from North Queensland, of which 66% were among Aboriginal and Torres Strait Islander people reporting only heterosexual sex as their exposure, and 9% among non-Indigenous men who have sex with men (MSM).
- 83 cases (7%) were from Central Queensland, of which 29% were among non-Indigenous MSM, 40% among Aboriginal and Torres Strait Islander people reporting only heterosexual sex as their exposure, and 12% among non-Indigenous people reporting only heterosexual sex as their exposure.
- 746 cases (66%) were from South East Queensland, of which 59% were among non-Indigenous MSM, and 20% among non-Indigenous people reporting only heterosexual sex as their exposure.

Between 2010 and 2019, 1,513 syphilis cases (infectious/late latent) were notified in women of reproductive age (15–44 years), of which 56% (853) were in Aboriginal and Torres Strait Islander women from North Queensland, and 26% (392) were in non-Indigenous women from South East Queensland.

In the same period, there were 336 syphilis notifications (infectious/late latent) in pregnant women in Queensland:

- 177 (53%) were in pregnant women from North Queensland (149 Indigenous and 28 non-Indigenous).
- 34 (10%) were in pregnant women from Central Queensland (19 Indigenous and 15 non-Indigenous).
- 125 (37%) were in pregnant women from South East Queensland (11 Indigenous and 114 non-Indigenous).

Between 2001 and 2019, 33 congenital syphilis cases were notified in Queensland:

- 24 cases were from North Queensland (22 Indigenous and 2 non-Indigenous).
- 1 Indigenous case was from Central Queensland.
- 8 cases were from South East Queensland (2 Indigenous and 6 non-Indigenous).
- Statewide there were 12 deaths associated with congenital syphilis infections (11 in North Queensland and 1 in Central Queensland), all in Aboriginal and Torres Strait Islander 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 fetal 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 2001–2019, and demographic and geographic distributions of notified syphilis cases in the last decade (2010–2019). Data were extracted from NoCS on 13 March 2020, covering notifications (confirmed or probable) with onset dates between 1 January 2001 and 31 December 2019.

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>

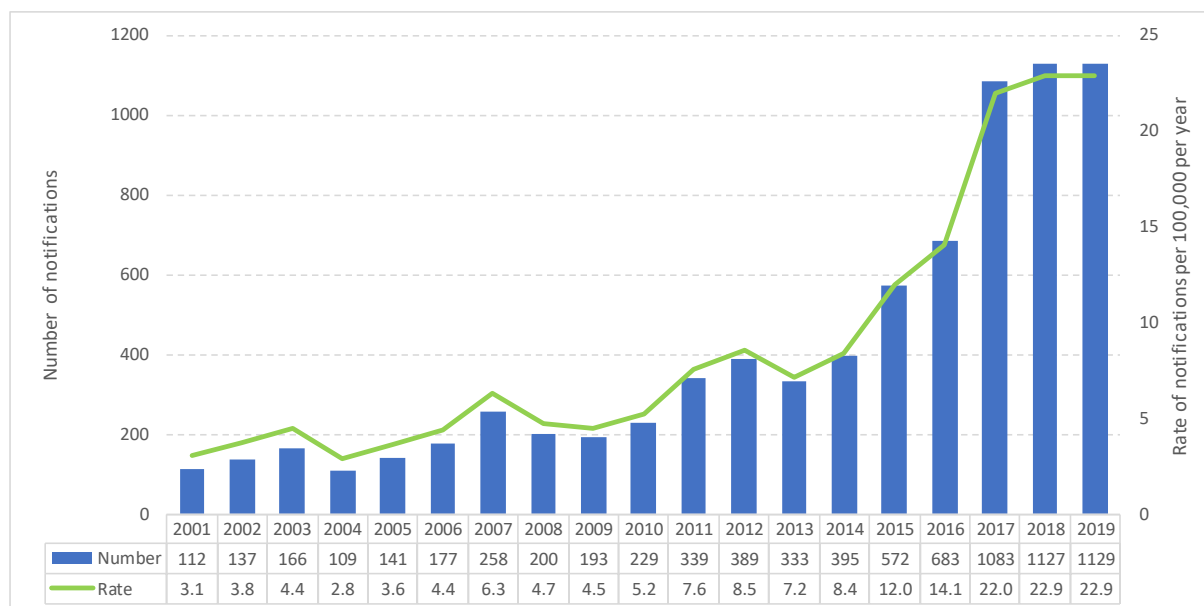
⁵ Hook EW. Syphilis. Lancet. 2017 Apr 15;389(10078):1550-1557. doi: 10.1016/S0140-6736(16)32411-4

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, 2001–2019



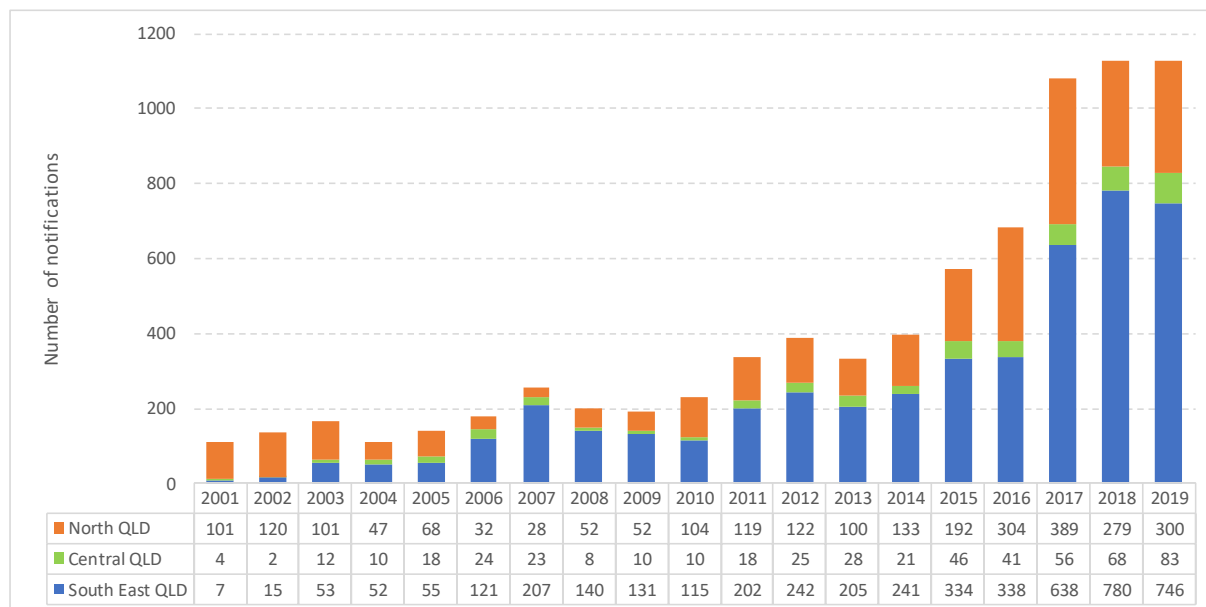
See Appendix 1 for the infectious syphilis definition.

- 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 since 2014 to a total of 1,129 cases in 2019.⁷
- 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 22.9 per 100,000 population per year in 2019.
- 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 18.3 per 100,000 population per year in 2017.⁸

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 2015–2019, 615 (13%) were classified as probable cases, indicating the impact of change in case definitions on the increase of infectious syphilis cases is marginal.

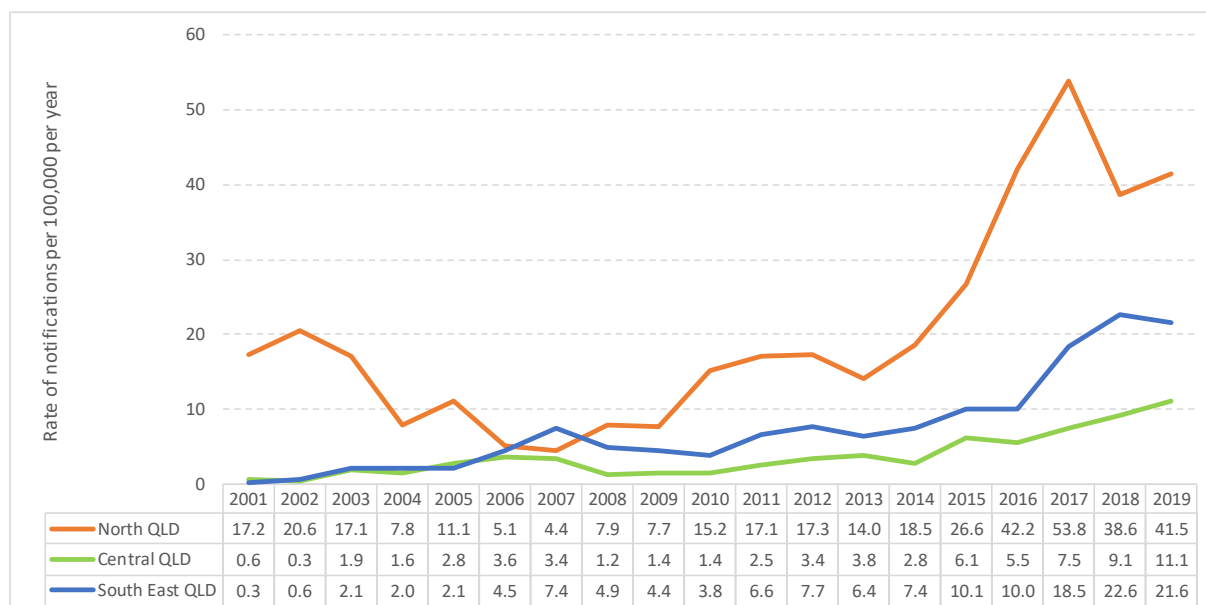
⁸ Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report 2018. Sydney: Kirby Institute, University of NSW, 2018. https://kirby.unsw.edu.au/sites/default/files/kirby/report/KI_Annual-Surveillance-Report-2018.pdf

Figure 2: Number of infectious syphilis notifications in Queensland, by region*, 2001–2019



* 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.

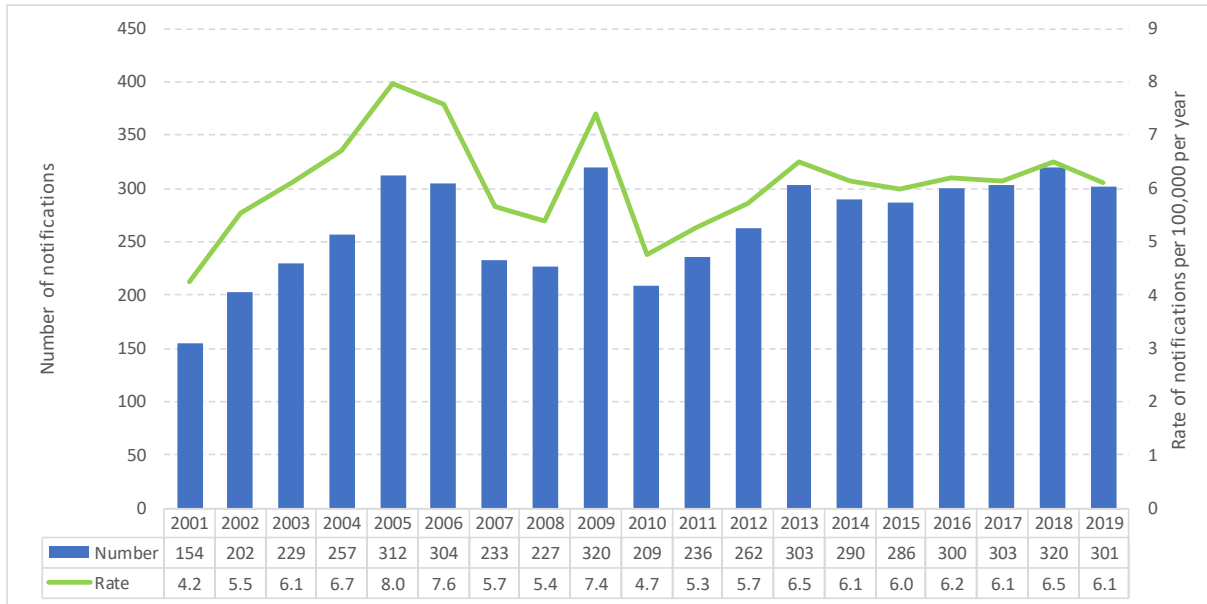
Figure 3: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by region, 2001–2019



- There was 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 18.5 per 100,000 population per year in 2014. After that, there was a more rapid increase in notification rates, with a peak of 53.8 per 100,000 population per year in 2017, followed by a decrease to 41.5 per 100,000 population per year in 2019.

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

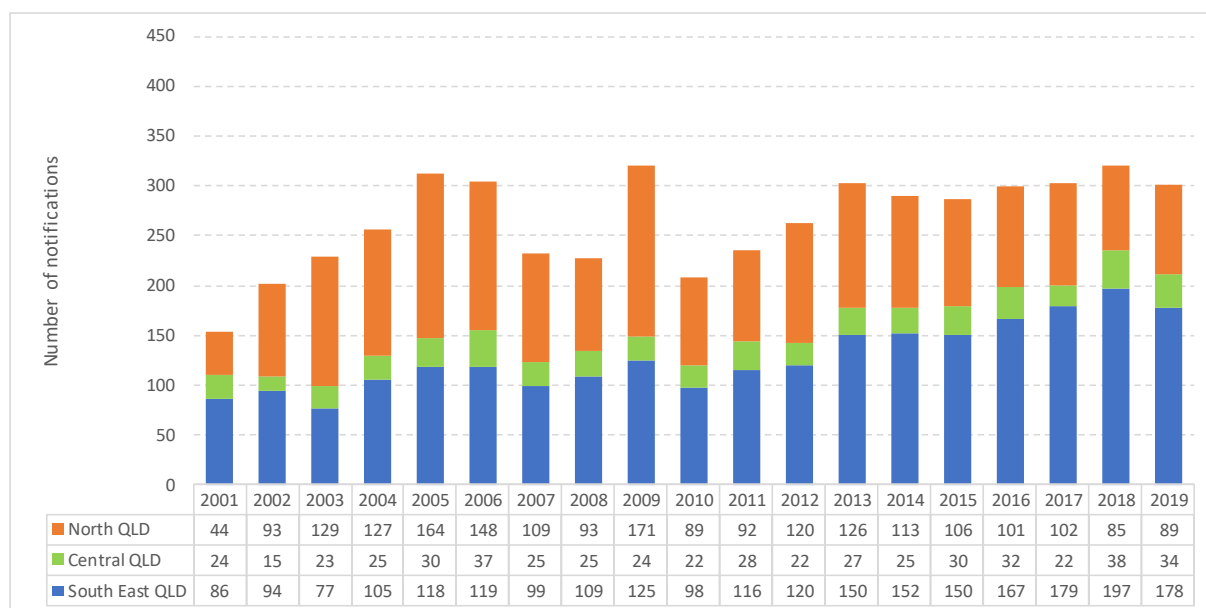
Figure 4: Number and rate (per 100,000 population per year) of late latent syphilis* notifications in Queensland, 2001–2019



* See Appendix 1 for late latent syphilis definition.

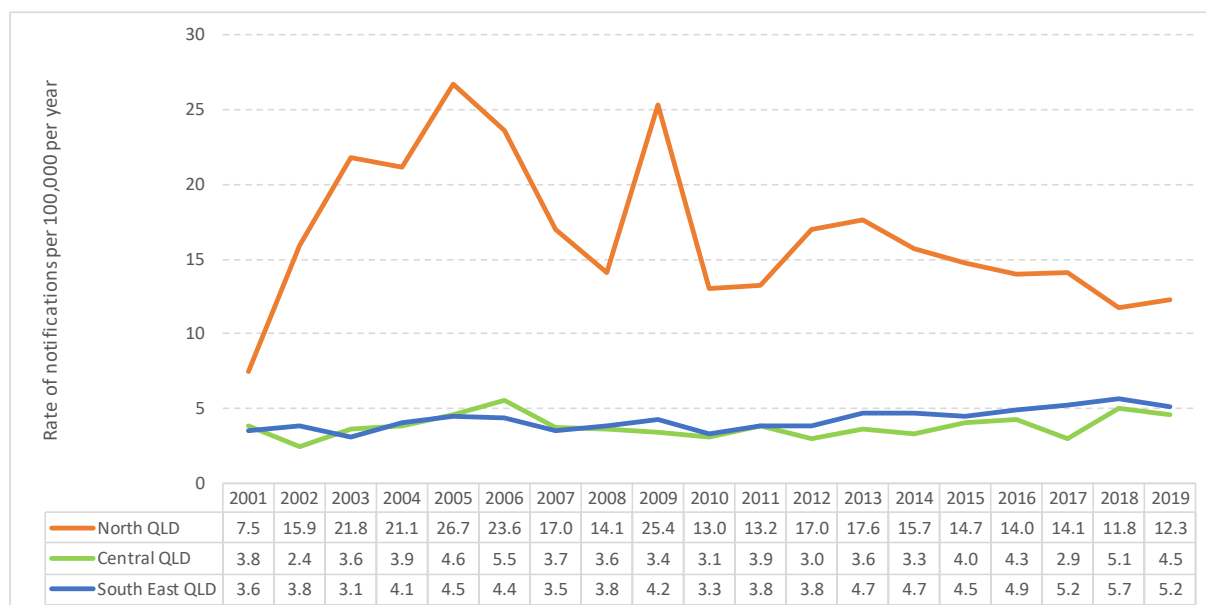
- There was a gradual increase in late latent syphilis notifications in Queensland between 2001 (154 cases) and 2005 (312 cases), followed by a fluctuation in notifications from 2006 to 2013. From 2014 to 2019, notifications remained relatively stable, at an average of 300 cases per year.
- Late latent 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 stable between 2014 and 2019.

Figure 5: Number of late latent syphilis notifications in Queensland, by region*, 2001–2019



* 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, 2001–2019



- Late latent syphilis notification rates remained relatively stable between 2001 and 2019 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, 2010–2019

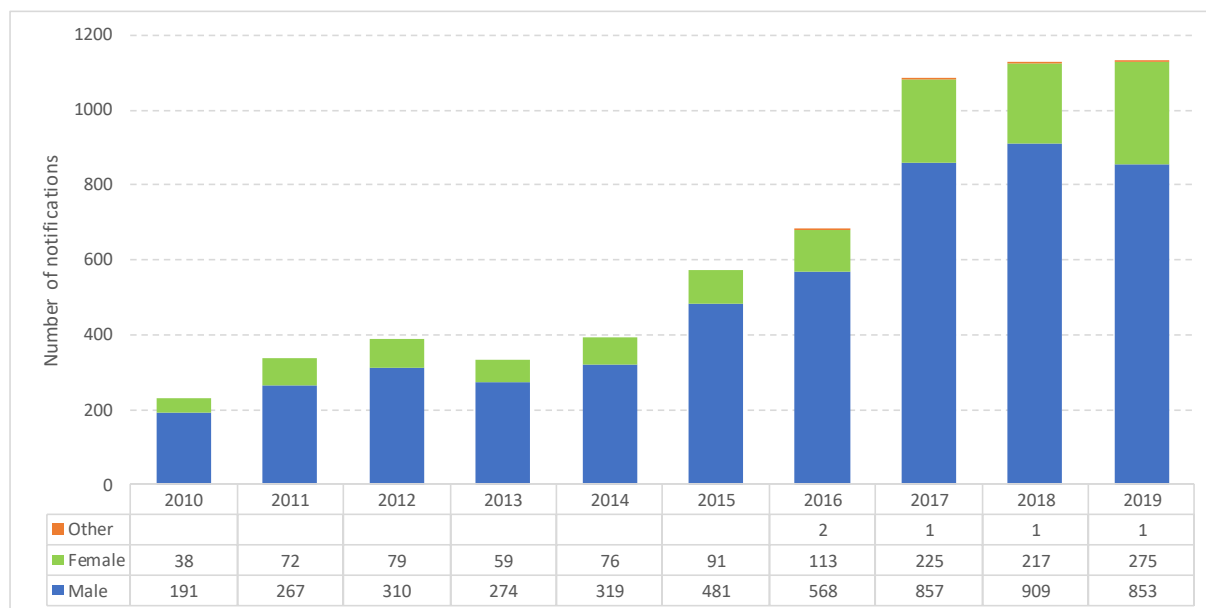
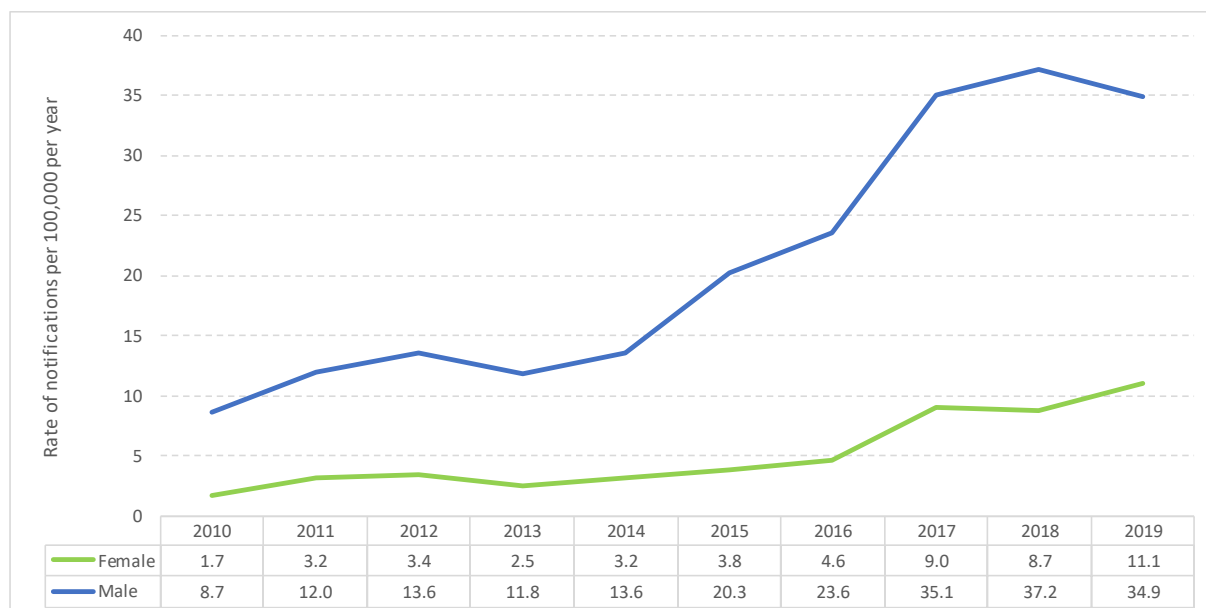


Figure 8: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by sex, 2010–2019



- Overall, males accounted for the majority (80%) of infectious syphilis notifications in the reporting period 2010–2019 (ranging from 76% to 84%).
- There was a four times increase in notification rates in males, from 8.7 per 100,000 population per year in 2010 to 34.9 per 100,000 population per year in 2019, with a more rapid increase since 2014.
- There was a 6.5 times increase in notification rates in females, from 1.7 per 100,000 population per year in 2010 to 11.1 per 100,000 population per year in 2019.

Distribution of infectious syphilis by Indigenous status

Figure 9: Number of infectious syphilis notifications in Queensland, by Indigenous status, 2010–2019

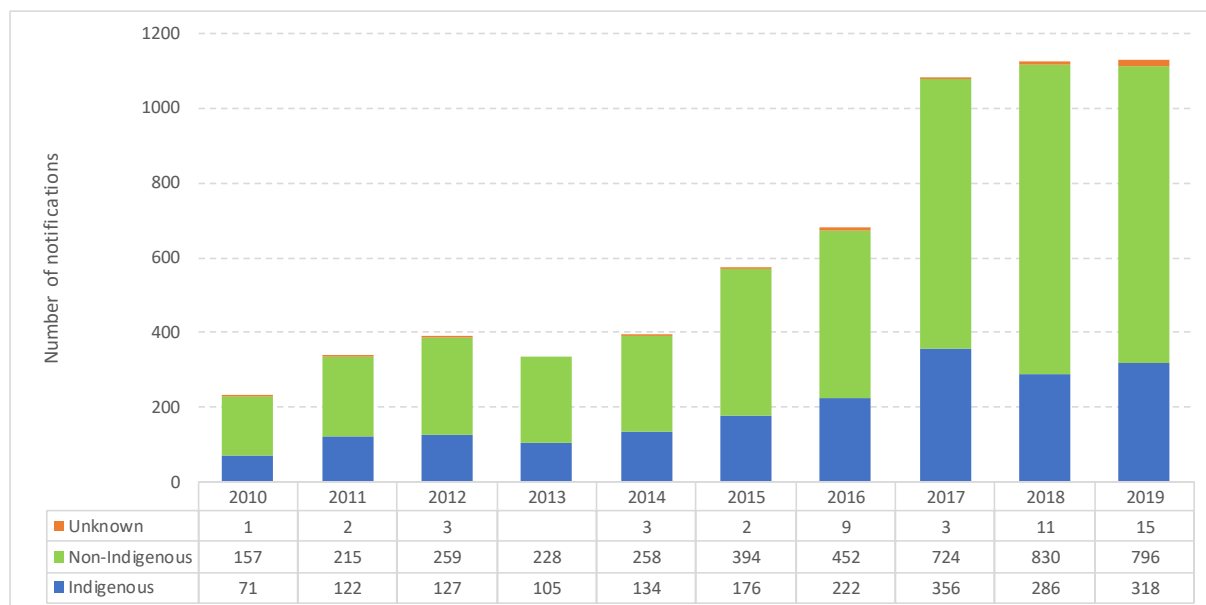
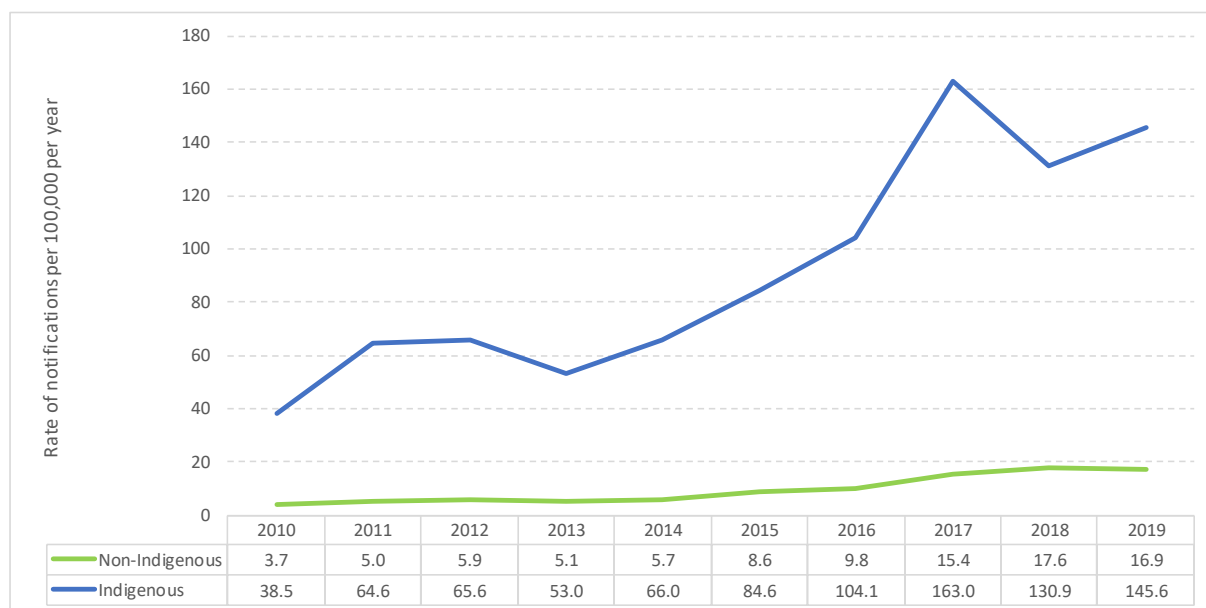


Figure 10: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by Indigenous status, 2010–2019



- Aboriginal and Torres Strait Islander people accounted for 31% of infectious syphilis notifications during the period 2010–2019 (ranging from 25% to 36%).
- The gap in notification rates between Aboriginal and Torres Strait Islander and non-Indigenous people had been widening during the period 2010–2019. In 2019, Aboriginal and Torres Strait Islander people had an infectious syphilis notification rate 8.6 times higher than the rate for non-Indigenous Queenslanders.

Figure 11: Number of infectious syphilis notifications in Queensland, by Indigenous status and sex, 2010–2019

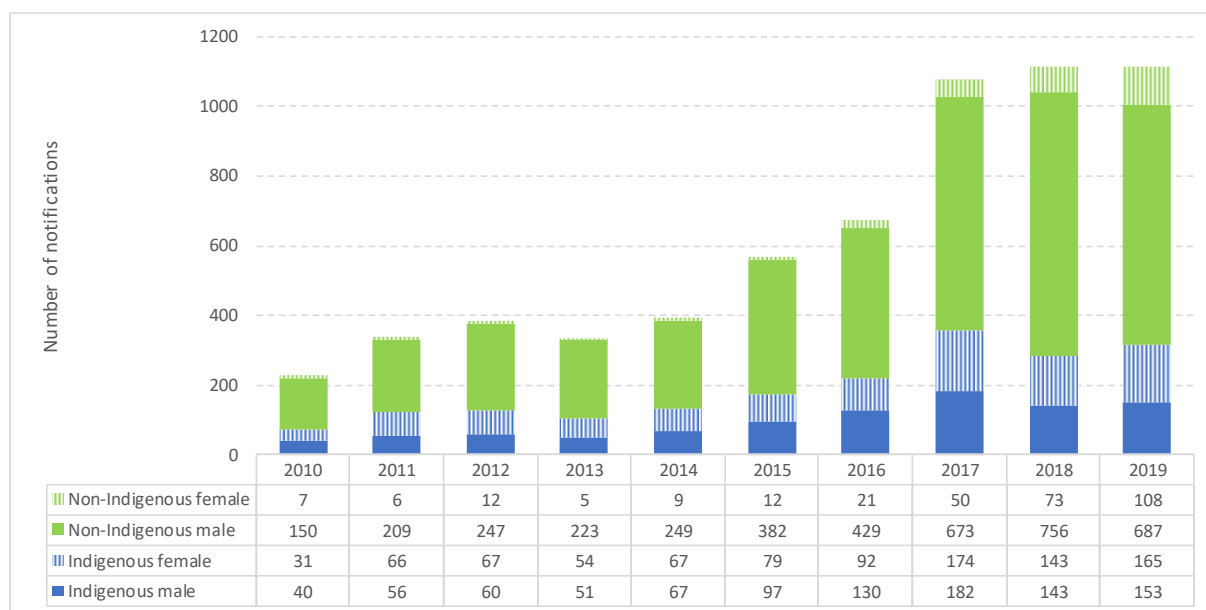
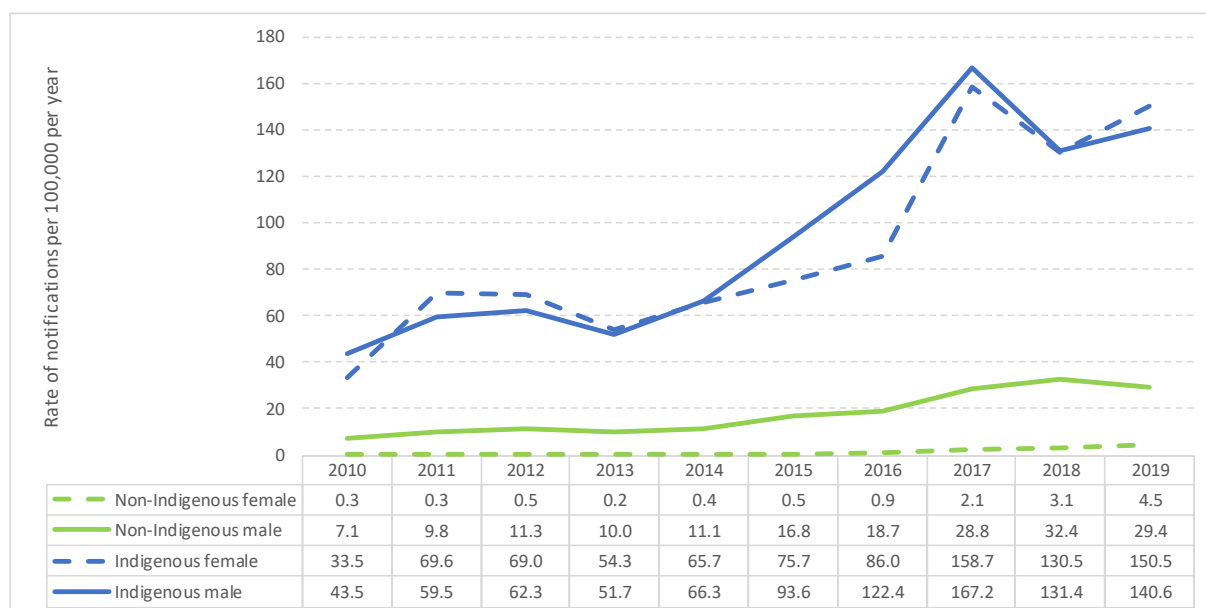


Figure 12: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by Indigenous status and sex, 2010–2019



- Between 2010 and 2019, infectious syphilis cases were largely equally distributed among Aboriginal and Torres Strait Islander men and women (51% vs 49%).
- For non-Indigenous cases, the majority were male (93% of the total non-Indigenous cases).
- The upward trends in infectious syphilis notification rates were consistent for Aboriginal and Torres Strait Islander males and females, with rates peaking in 2017.
- In 2019, the highest notification rates were reported in Aboriginal and Torres Strait Islander females (150.5 per 100,000 population per year) and males (140.6 per 100,000 population per year), followed by non-Indigenous males (29.4 per 100,000 population per year), and non-Indigenous females (4.5 per 100,000 population per year).

Figure 13: Number of infectious syphilis notifications in North Queensland, by Indigenous status and sex, 2010–2019

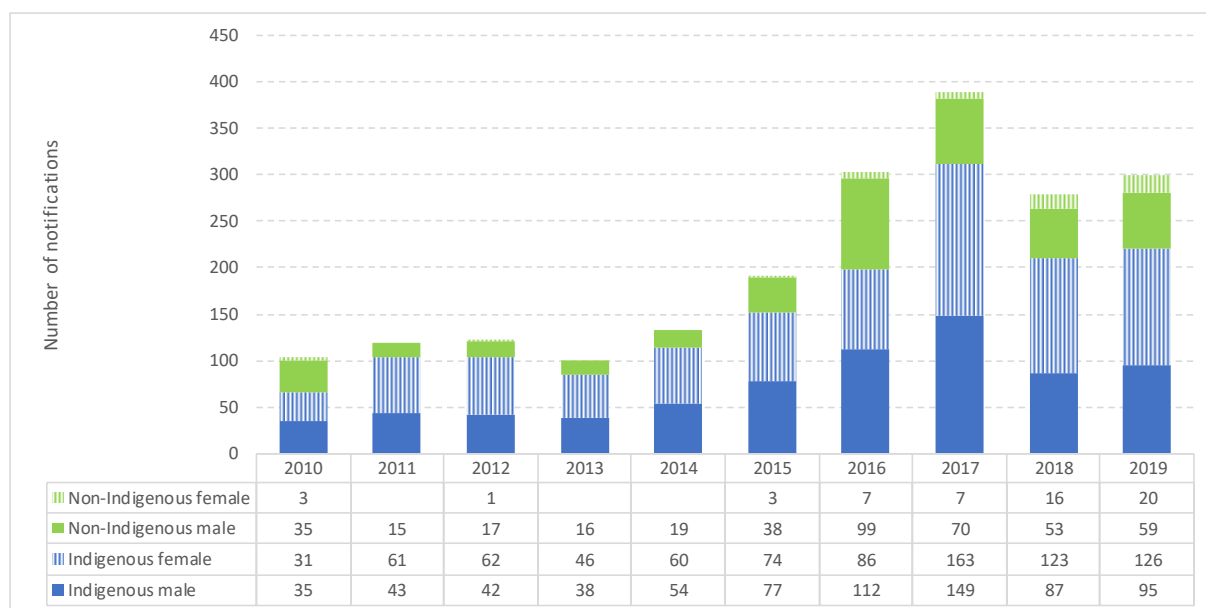
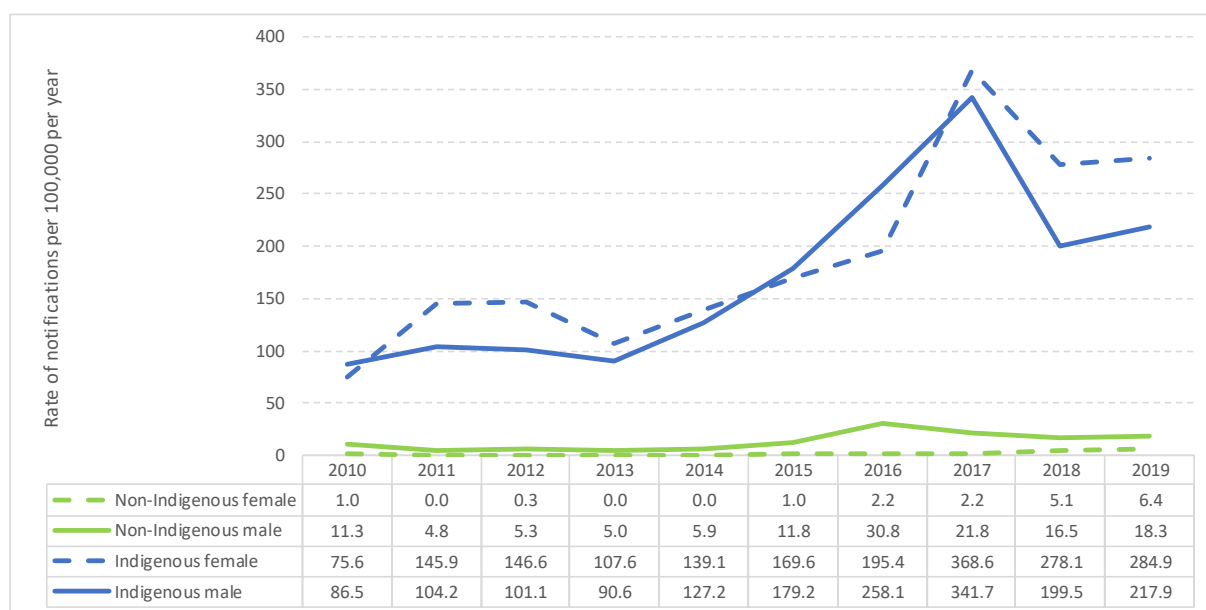


Figure 14: Rate (per 100,000 population per year) of infectious syphilis notifications in North Queensland, by Indigenous status and sex, 2010–2019



- In North Queensland, both Aboriginal and Torres Strait Islander males and females had high rates of infectious syphilis notifications in 2017, more than double that of the state-wide Indigenous rates (shown in Figure 12).
- There was a 36% reduction in notification rate for Aboriginal and Torres Strait Islander males in 2019, compared to the rate in 2017; the corresponding reduction in rate for Aboriginal and Torres Strait Islander females was 23%.
- For non-Indigenous people in North Queensland, notification rates were consistent with the state-wide non-Indigenous rates (shown in Figure 12).

Figure 15: Number of infectious syphilis notifications in Central Queensland, by Indigenous status and sex, 2010–2019

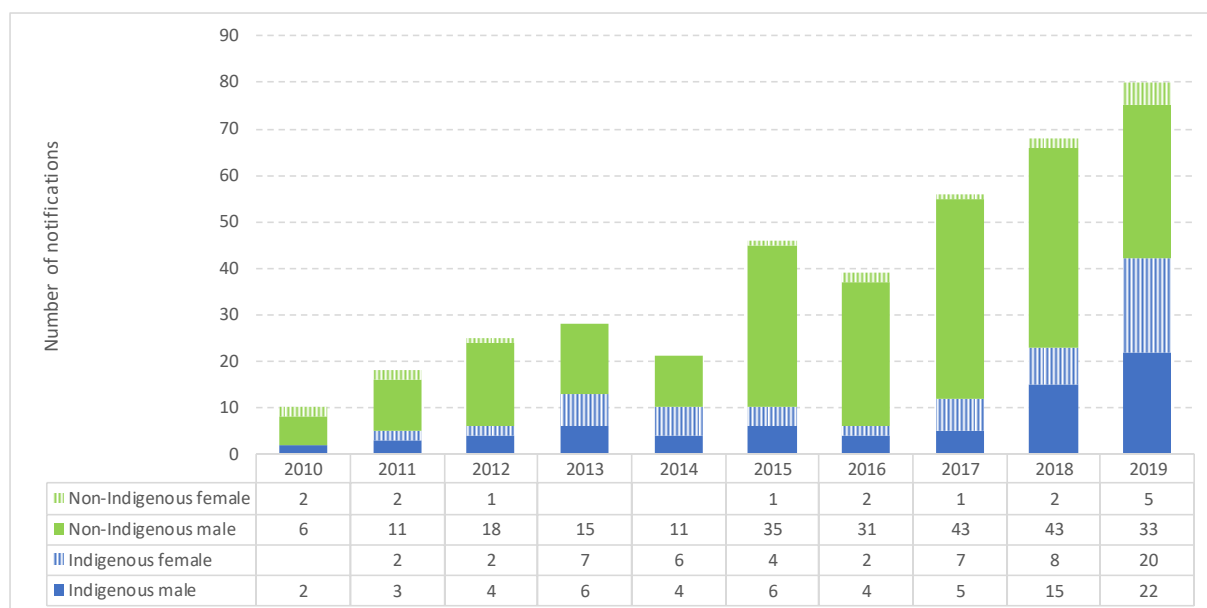


Figure 16: Rate (per 100,000 population per year) of infectious syphilis notifications in Central Queensland, by Indigenous status and sex, 2010–2019

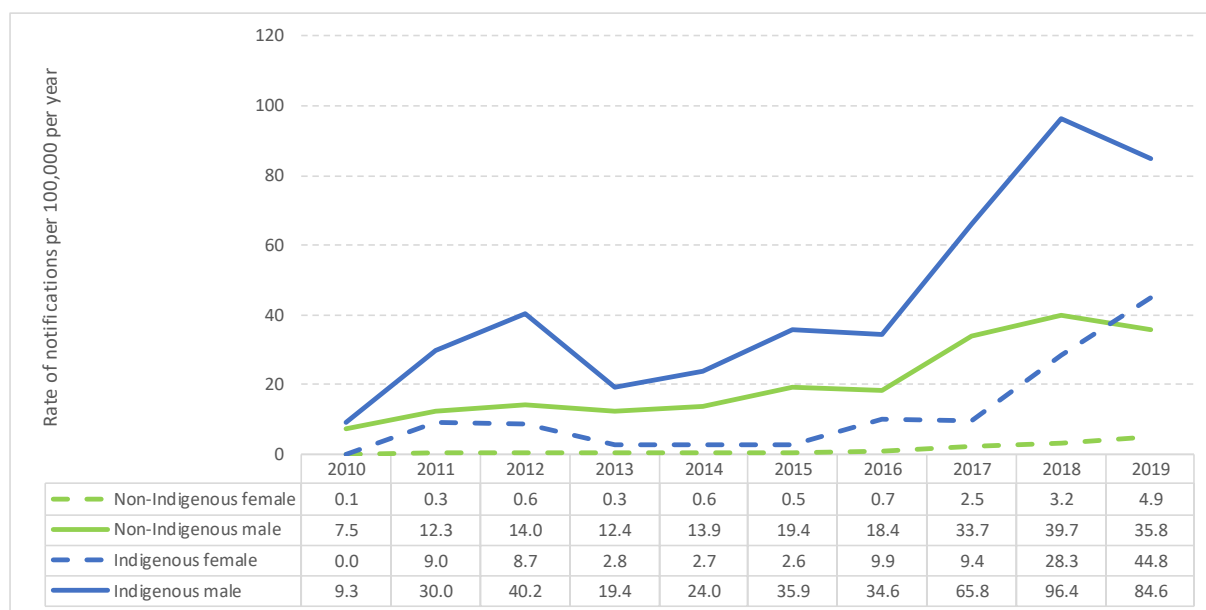


- In Central Queensland, between 2010 and 2017, the number of notifications for both Aboriginal and Torres Strait Islander males and females was relatively low and notification rates fluctuated.
- Within the region there was a marked increase in notification rates in 2019 for Aboriginal and Torres Strait Islander males and females, compared to rates in 2017.
- For non-Indigenous males and females, notification rates in 2019 were lower than the state-wide rates for non-Indigenous people (shown in Figure 12).

Figure 17: Number of infectious syphilis notifications in South East Queensland, by Indigenous status and sex, 2010–2019



Figure 18: Rate (per 100,000 population per year) of infectious syphilis notifications in South East Queensland, by Indigenous status and sex, 2010–2019



- In South East Queensland, Aboriginal and Torres Strait Islander males accounted for 79% of the total Aboriginal and Torres Strait Islander cases, and non-Indigenous males accounted for 94% of the total non-Indigenous cases.
- Between 2016 and 2019, the number of infectious syphilis cases doubled in non-Indigenous males and increased seven-fold in non-Indigenous females.
- There was a more rapid increase in notification rates across these four population groups from 2016 to 2019 compared to previous years.

Distribution of infectious syphilis by age group

Figure 19: Number of infectious syphilis notifications in Queensland, by age group, 2010–2019

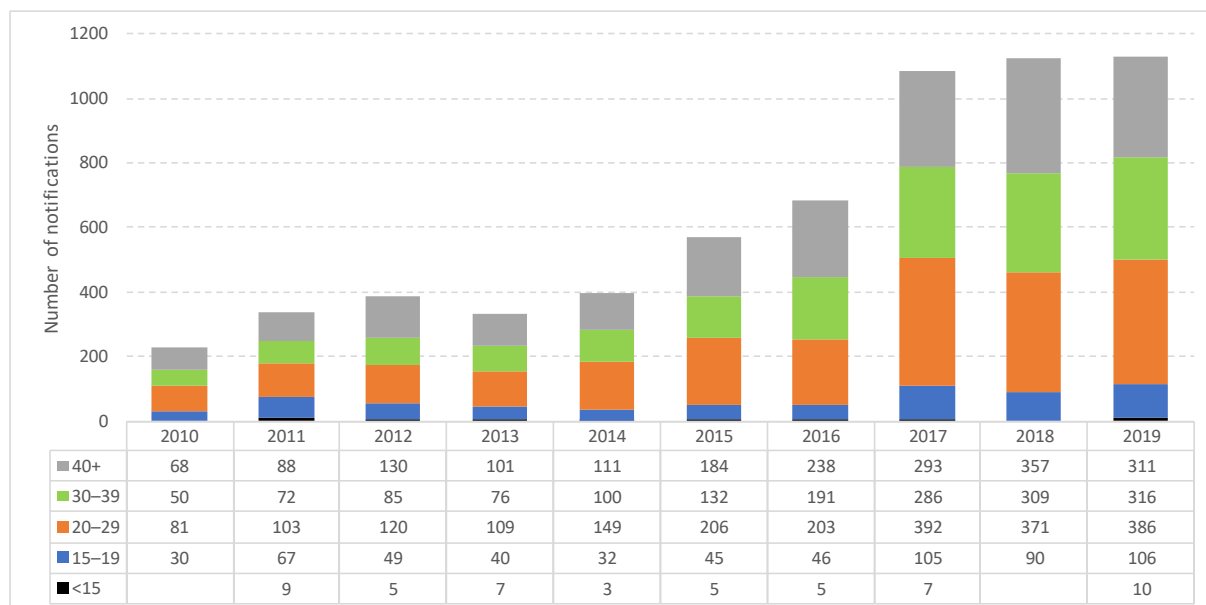
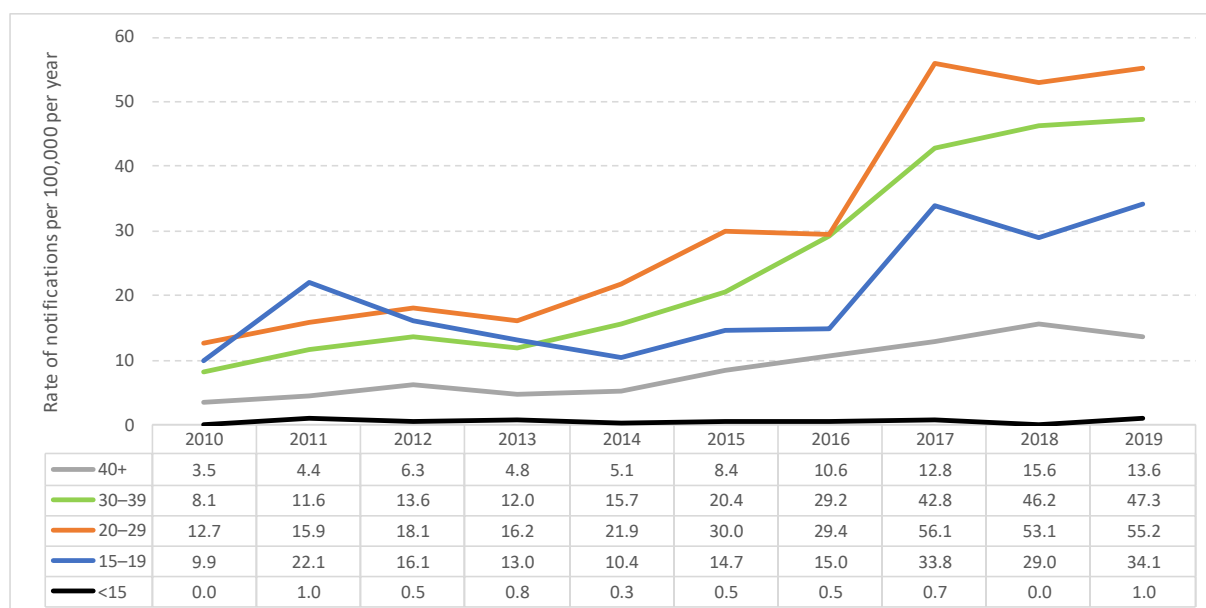


Figure 20: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by age group, 2010–2019



- Of notified infectious syphilis cases in Queensland, 10% were aged 15–19 years, 34% aged 20–29 years, 26% aged 30–39 years, and 30% aged 40 years or older.
- In 2019, the highest notification rate was among those aged 20–29 years (55.2 per 100,000 population per year), followed by those aged 30–39 years (47.3 per 100,000 population per year) and those aged 15–19 years (34.1 per 100,000 population per year).

Table 1: Number and rate of infectious syphilis notifications in Queensland in 2019, by age group, Indigenous status, and sex

Demographic	Age group (years)				
	<15	15–19	20–29	30–39	40+
Number of notifications					
Indigenous male	1	37	54	35	26
Indigenous female	8	41	70	27	19
Non-Indigenous male	0	15	205	219	248
Non-Indigenous female	1	12	50	30	15
Rate of notifications (per 100,000 population per year)					
Indigenous male	2.6	321.5	271.6	271.3	102.4
Indigenous female	21.2	367.6	366.0	202.8	67.0
Non-Indigenous male	0.0	10.2	62.0	69.2	22.9
Non-Indigenous female	0.2	8.6	15.2	9.2	1.3

- In 2019, for Aboriginal and Torres Strait Islander males in Queensland, the highest notification rate was among those aged 15–19 years (321.5 per 100,000 population per year).
- For Aboriginal and Torres Strait Islander females in Queensland in the same year, the highest notification rates were among those aged 15–19 years (367.6 per 100,000 population per year) and those aged 20–29 years (366.0 per 100,000 population per year).
- For non-Indigenous males in Queensland in 2019, the highest notification rates were among those aged 30–39 years (69.2 per 100,000 population per year) and those aged 20–29 years (62.0 per 100,000 population per year).
- For non-Indigenous females in Queensland in the same year, the highest notification rate was among those aged 20–29 years (15.2 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, 2010–2019

Region	Hospital and Health Service	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
North	Torres and Cape	66.0	8.1	20.0	63.1	46.9	65.3	113.1	145.0	126.4	115.3
	North West	50.9	282.5	259.2	175.6	186.5	97.8	77.7	152.8	177.6	227.4
	Cairns and Hinterland	19.1	6.7	5.4	7.3	14.1	40.7	72.0	79.6	49.8	45.9
	Townsville	11.5	3.1	8.2	3.0	10.5	16.3	28.0	39.1	22.5	32.1
	Mackay	0.6	2.3	1.7	2.3	2.3	2.8	1.7	5.8	8.1	6.4
Central	Central West	8.2	16.2	8.2	0.0	8.5	0.0	0.0	28.6	19.1	38.2
	Central Queensland	1.9	1.9	3.3	6.4	6.3	7.2	7.3	8.7	12.4	15.1
	Wide Bay	1.5	0.5	1.0	0.5	0.9	1.4	5.6	3.7	6.0	5.1
	South West	0.0	0.0	3.8	11.5	0.0	0.0	4.1	4.1	12.3	0.0
	Darling Downs	0.8	4.1	5.2	3.6	1.4	9.7	4.3	8.9	8.2	12.4
South East	Sunshine Coast	0.3	3.0	2.7	1.6	4.3	6.0	7.4	9.4	9.8	9.6
	Metro North	8.4	12.0	14.2	9.9	9.5	15.0	17.7	28.7	36.8	31.3
	Metro South	2.1	5.1	6.5	5.7	5.7	7.6	6.9	12.9	18.3	19.9
	West Moreton	1.3	2.1	3.2	3.1	2.3	3.3	3.6	13.3	12.9	16.4
	Gold Coast	3.3	4.9	4.8	6.8	11.7	12.6	7.9	20.8	20.5	19.5
Queensland		5.2	7.6	8.5	7.2	8.4	12.0	14.1	22.0	22.9	22.9

- Table 2 shows trends in infectious syphilis notification rates for 15 HHS areas during the period 2010–2019, 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 21–24.
- 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.
- For North West, following a peak of notification rate in 2011 (282.5 per 100,000 population per year), there was a decrease in rates to 2016 (77.7 per 100,000 population per year). After that, the rate tripled in 2019.
- In 2019, the highest infectious syphilis notification rate was reported in North West (227.4 per 100,000 population per year), followed by Torres and Cape (115.3 per 100,000 population per year), and Cairns and Hinterland (45.9 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

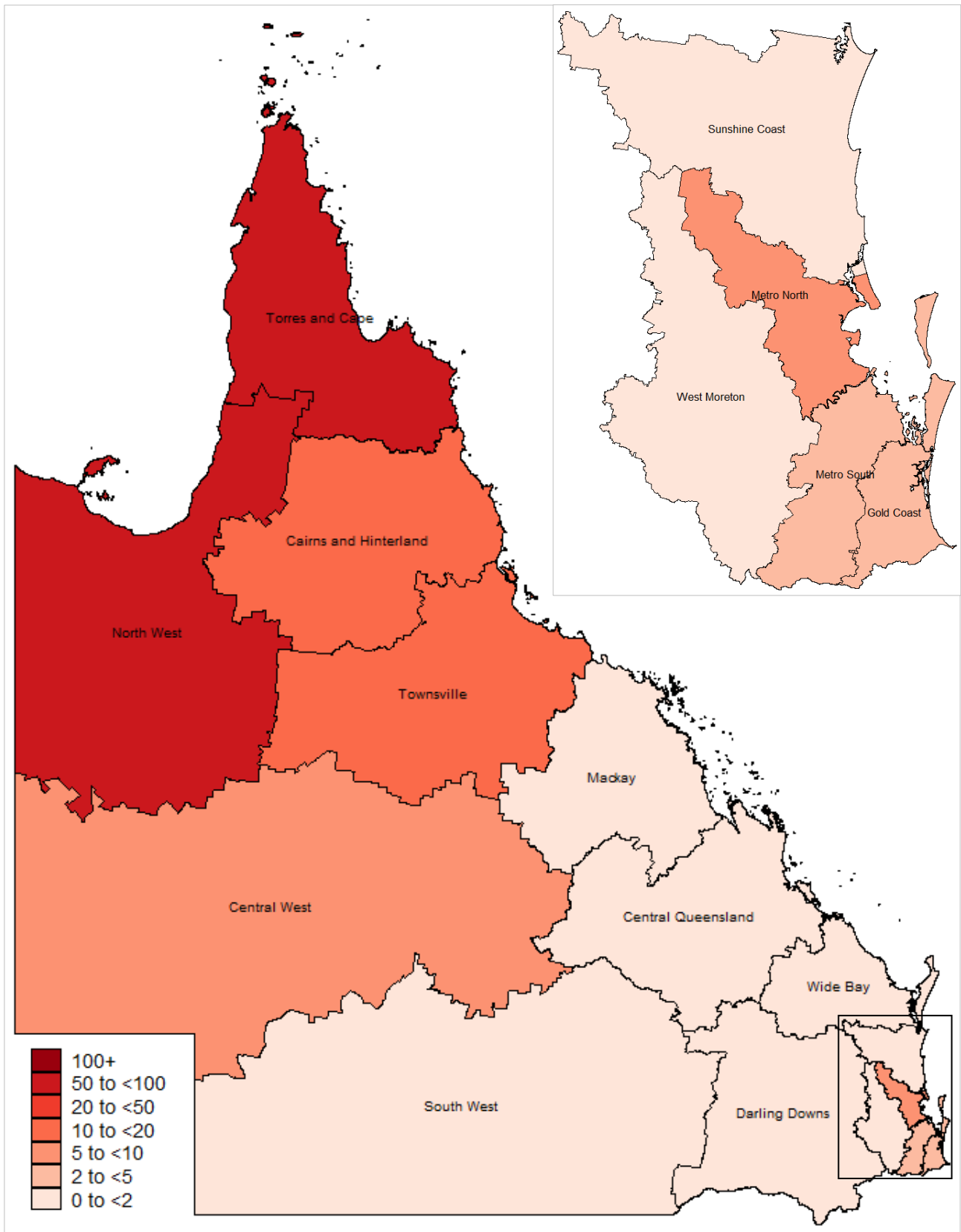


Figure 22: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2013

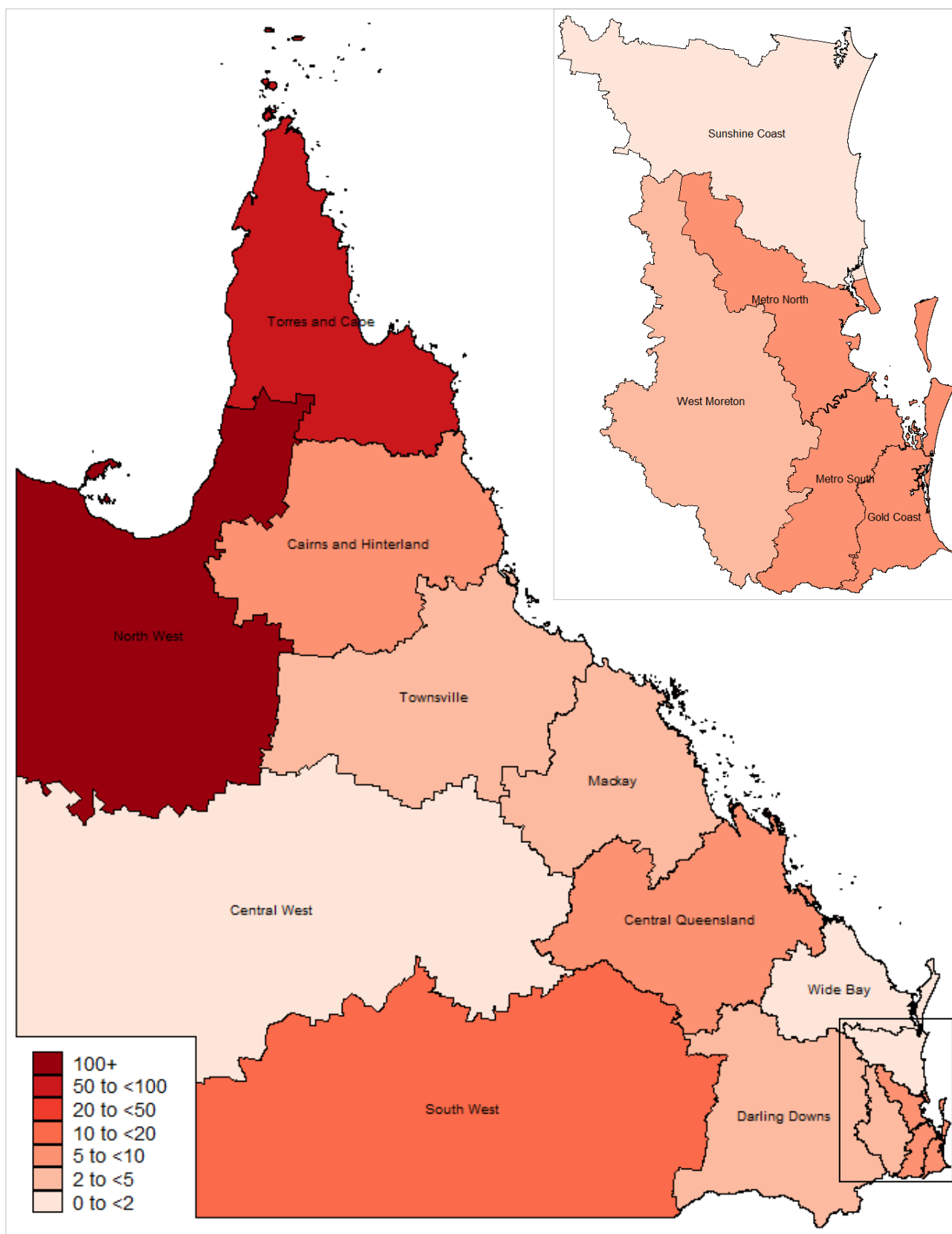


Figure 23: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2016

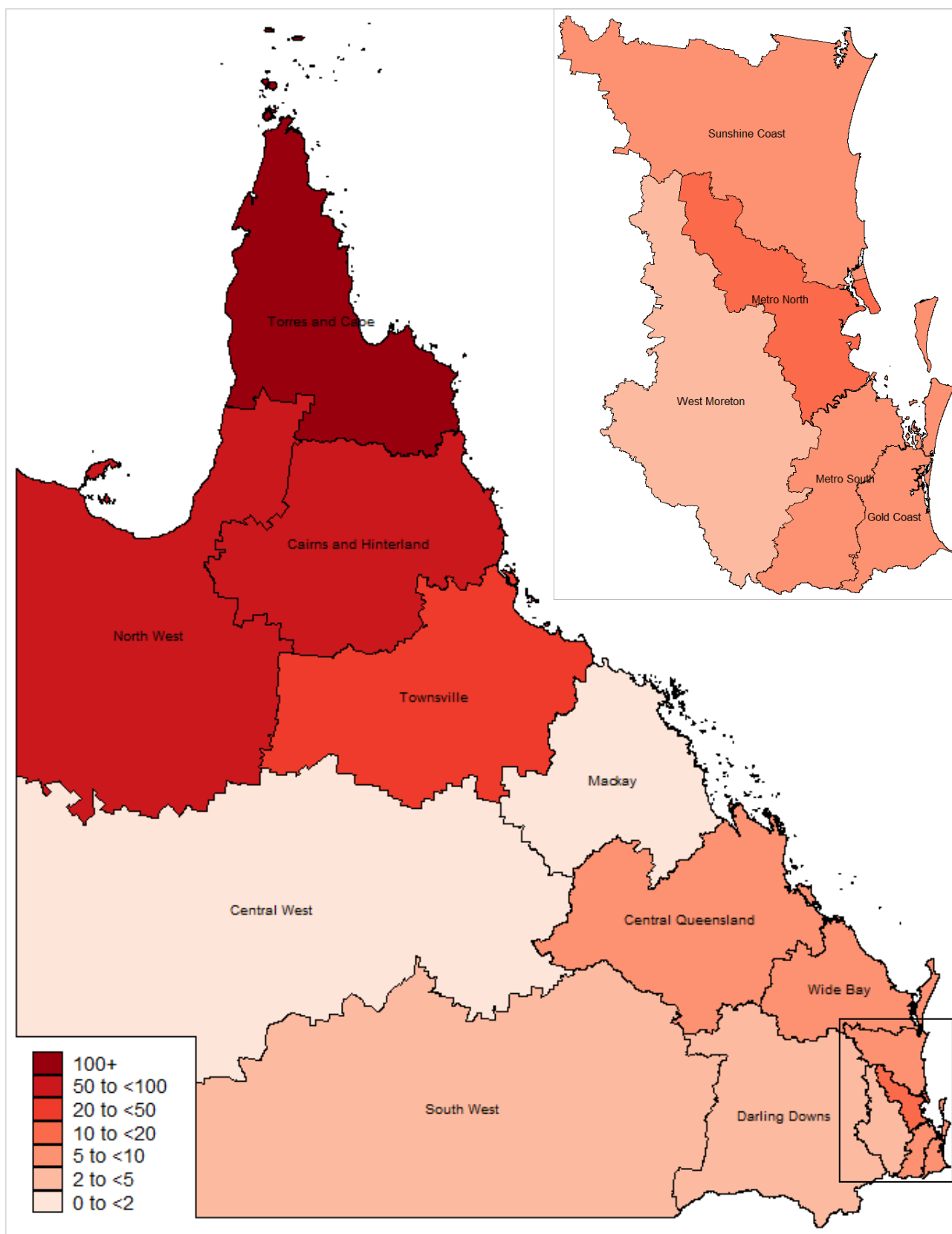
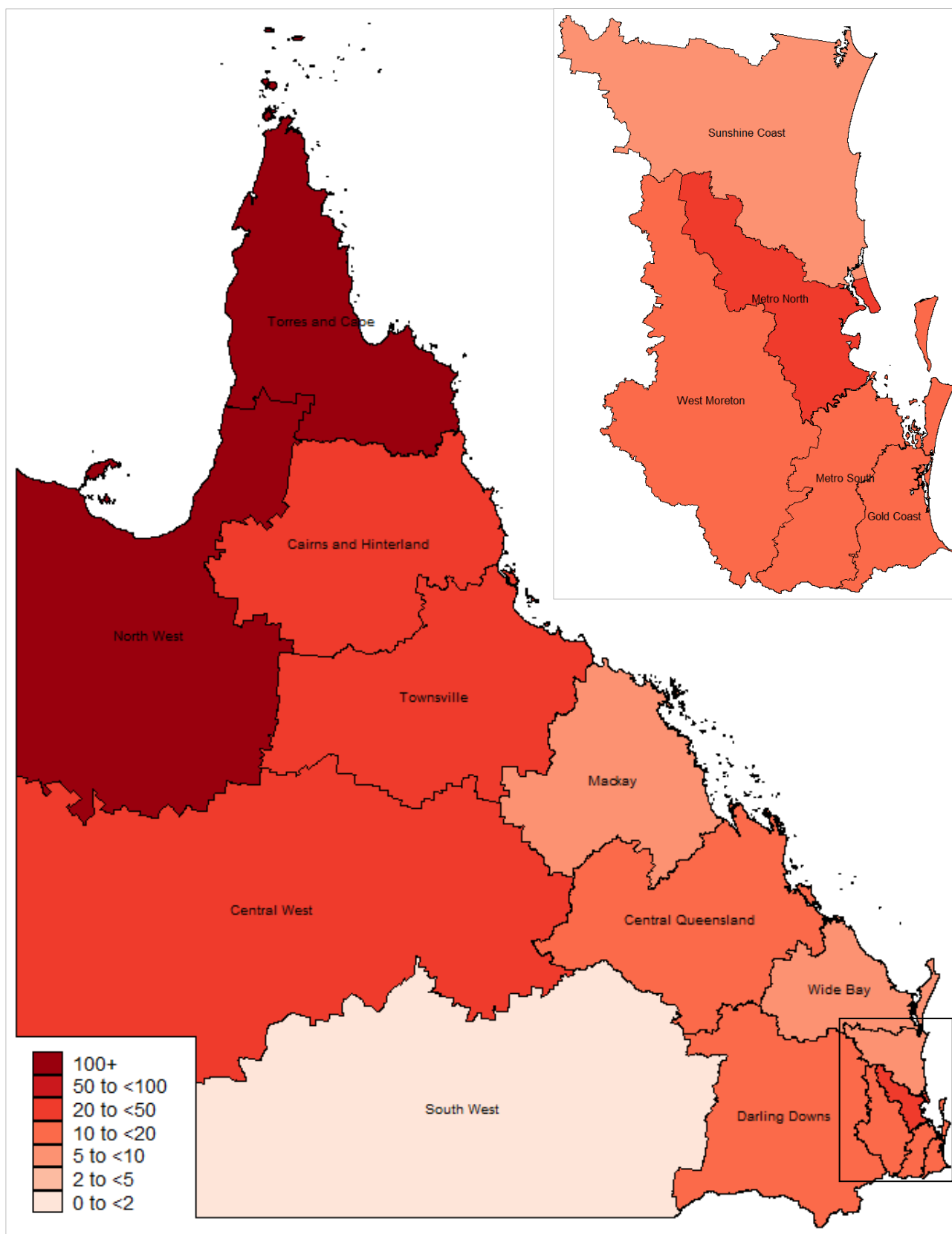


Figure 24: Rate (per 100,000 population per year) of infectious syphilis notifications in Queensland, by HHS area, 2019



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

Figure 25: Number of infectious syphilis notifications in women aged 15–44 years, by region and Indigenous status, 2010–2019

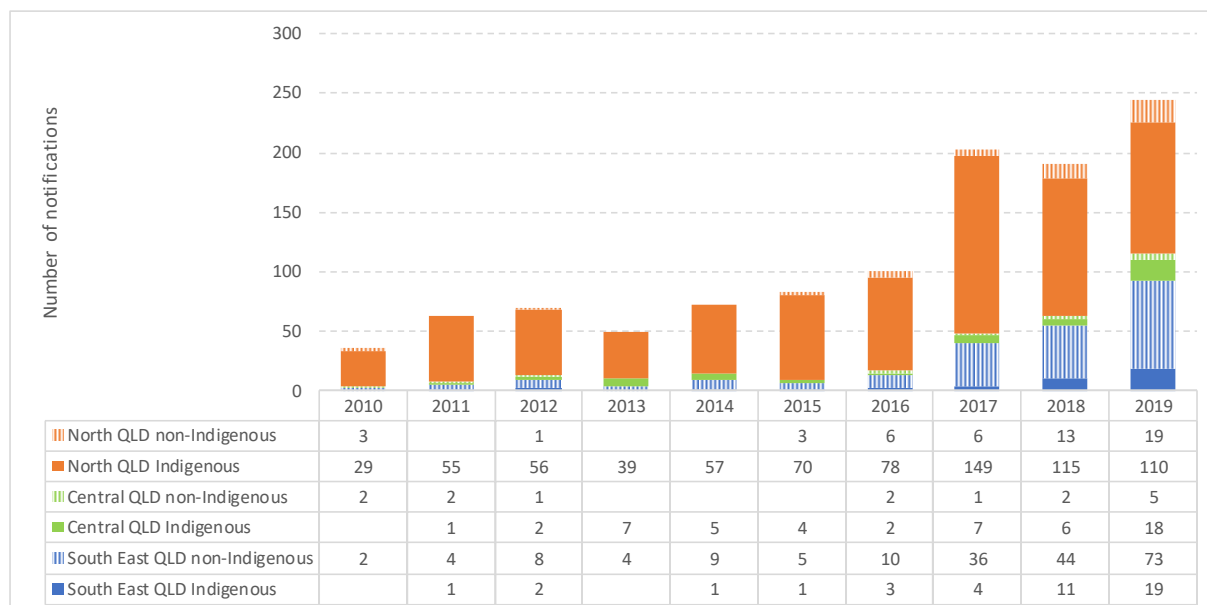
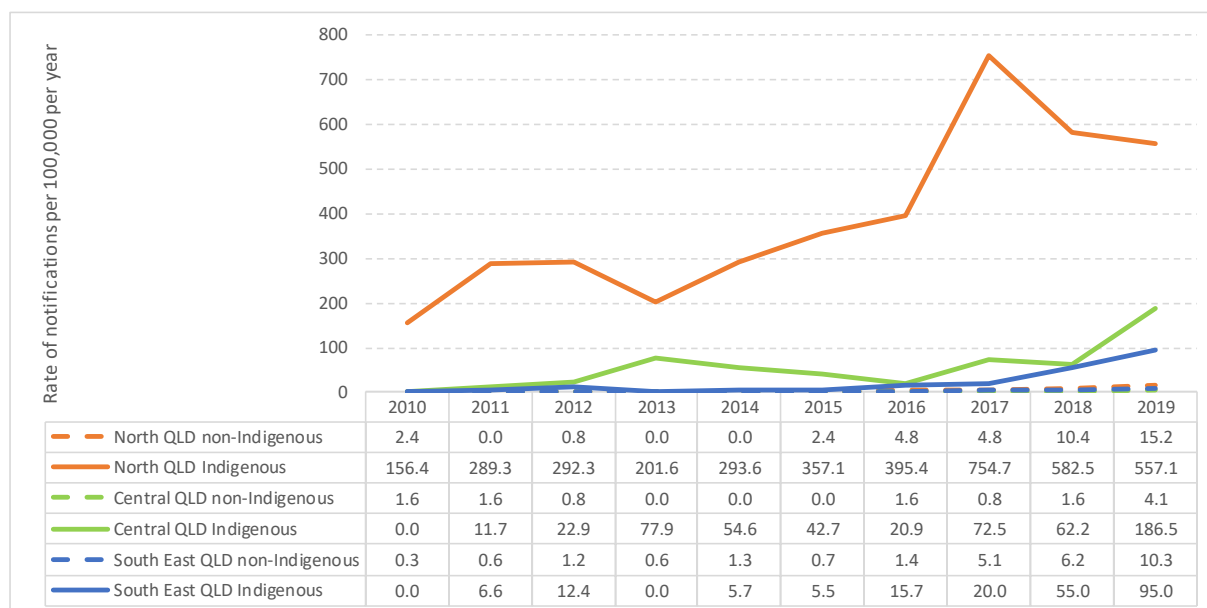


Figure 26: Rate of infectious syphilis notifications in women aged 15–44 years, by region and Indigenous status, 2010–2019



- Between 2010 and 2019, 1,113 infectious syphilis cases were notified in women of reproductive age (15-44 years); 68% (n=758) of these cases were in Aboriginal and Torres Strait Islander women from North Queensland, and 18% (n=195) were in non-Indigenous women from South East Queensland.
- In 2017, North Queensland Aboriginal and Torres Strait Islander women of reproductive age had the highest rate of infectious syphilis notifications (754.7 per 100,000 population per year) compared with Aboriginal and Torres Strait Islander women from other regions or non-Indigenous women.

Figure 27: Number of late latent syphilis notifications in women aged 15–44 years, by region and Indigenous status, 2010–2019

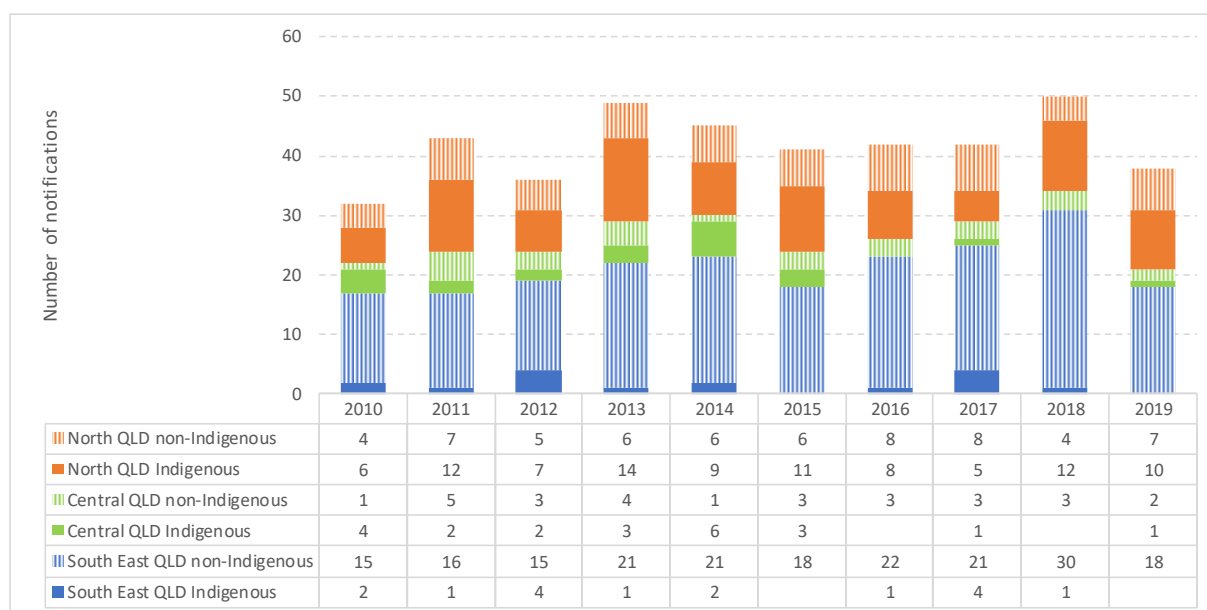
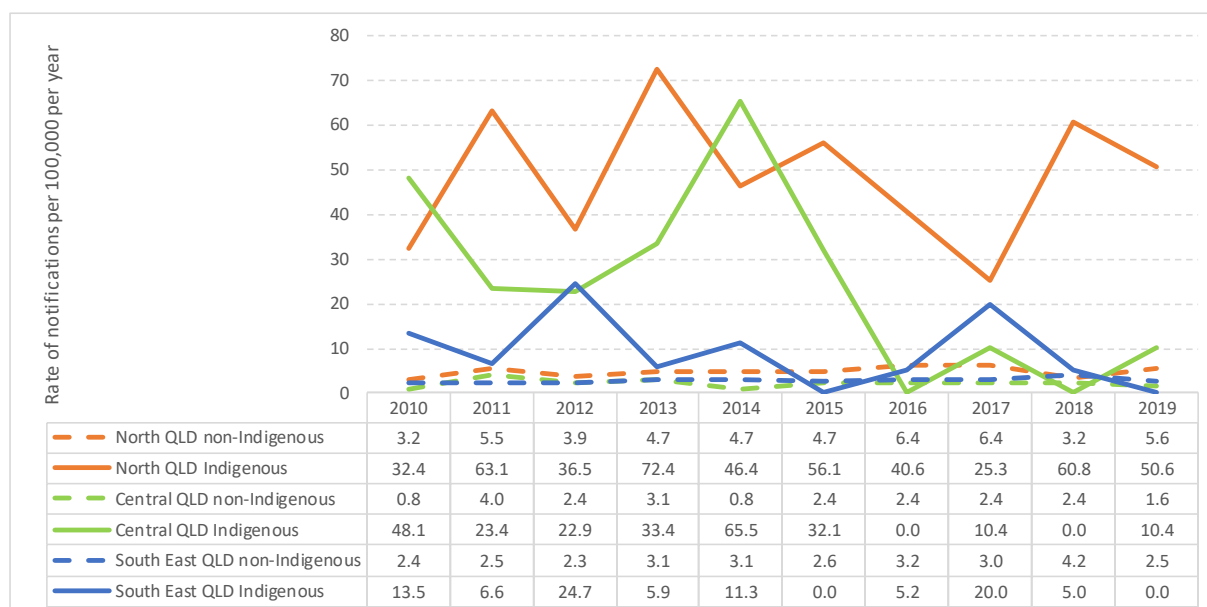


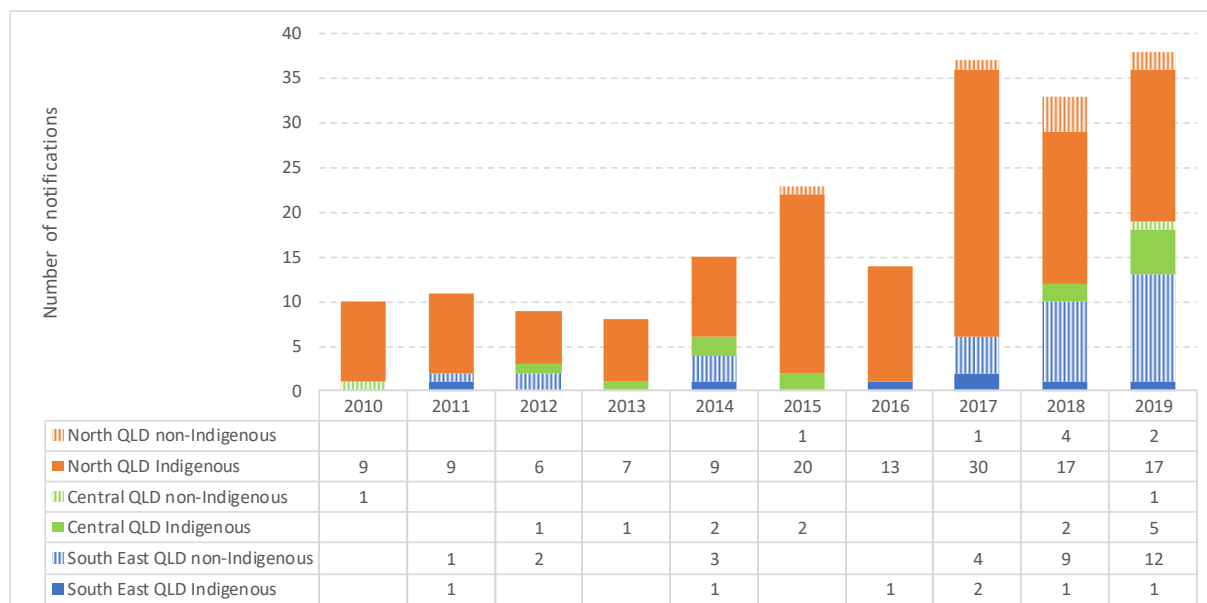
Figure 28: Rate of late latent syphilis notifications in women aged 15–44 years, by region and Indigenous status, 2010–2019



- Between 2010 and 2019, 418 late latent syphilis cases were notified in women of reproductive age (15–44 years); 47% (n=197) of these cases were in non-Indigenous women from South East Queensland, 22% (n=94) were in Aboriginal and Torres Strait Islander women from North Queensland, and 15% (n=61) were in non-Indigenous women from North Queensland.
- In 2019, North Queensland Aboriginal and Torres Strait Islander women of reproductive age had the highest rate of late latent syphilis notifications (50.6 per 100,000 population per year) compared with Aboriginal and Torres Strait Islander women from other regions or non-Indigenous women.

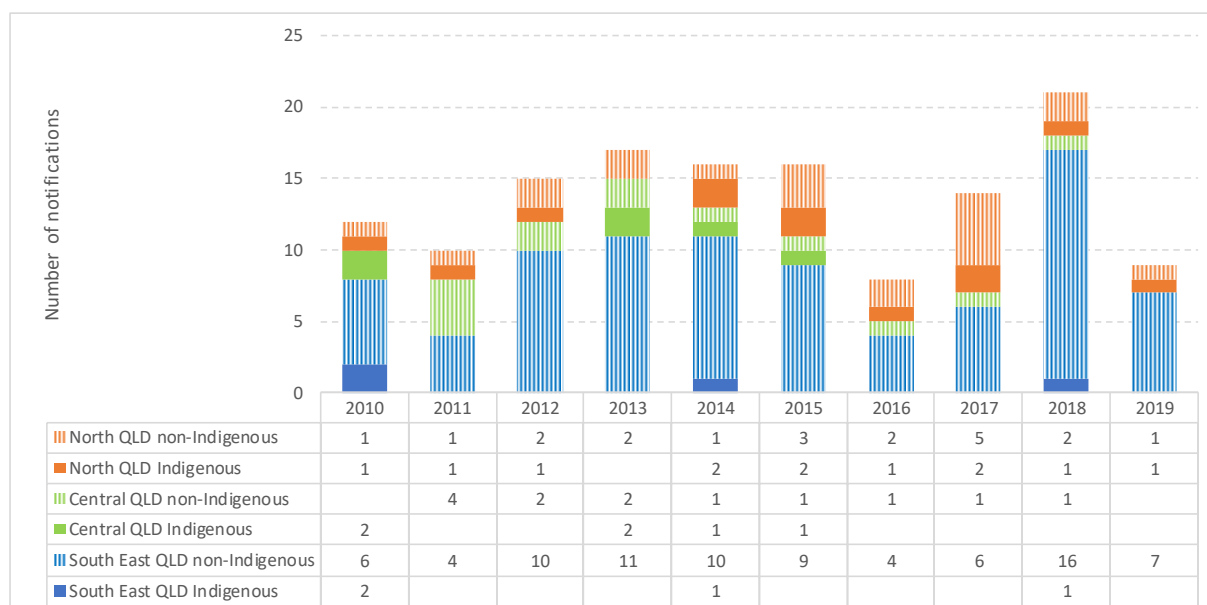
Syphilis in pregnant women

Figure 29: Number of infectious syphilis notifications in pregnant women, by region and Indigenous status, 2010–2019



- Between 2010 and 2019, 198 infectious syphilis cases were notified in pregnant women in Queensland (197 cases aged 15 to 44 years). Of these cases, 145 (73%) were in North Queensland (137 Indigenous and 8 non-Indigenous), 15 (8%) were in Central Queensland (13 Indigenous and 2 non-Indigenous), and 38 (19%) were in South East Queensland (7 Indigenous and 31 non-Indigenous).

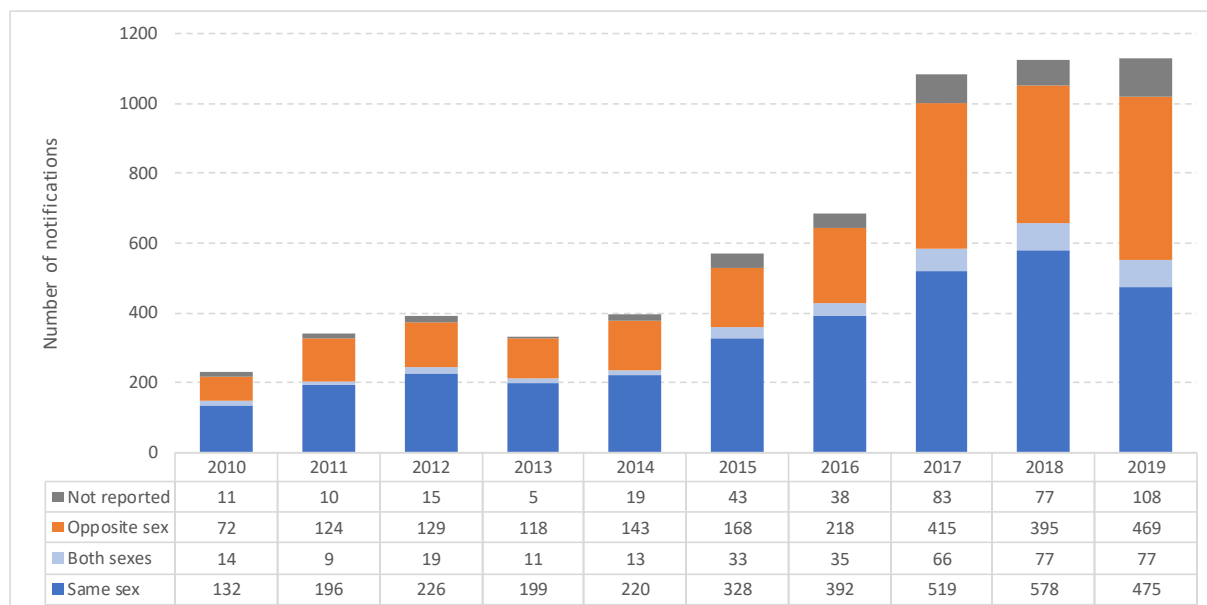
Figure 30: Number of late latent syphilis notifications in pregnant women, by region and Indigenous status, 2010–2019



- Between 2010 and 2019, 138 late latent syphilis cases were notified in pregnant women in Queensland (135 cases aged 15 to 44 years). Of these cases, 32 (23%) were in North Queensland (12 Indigenous and 20 non-Indigenous), 19 (14%) were in Central Queensland (6 Indigenous and 13 non-Indigenous), and 87 (63%) were in South East Queensland (4 Indigenous and 83 non-Indigenous).

Distribution of infectious syphilis by type of sexual partners

Figure 31: Number of infectious syphilis notifications in Queensland, by type of sexual partners, 2010–2019



- Of 6,279 infectious syphilis cases notified in Queensland between 2010 and 2019, 52% reported having sex with the same sex, 6% reported having sex with both men and women, and 36% reported having sex with the opposite sex. In total, 57% of cases were among men who have sex with men (MSM).

Table 3: Number of infectious syphilis notifications in Queensland in 2019, by type of sexual partners, Indigenous status, and sex

Type of sexual partners	Indigenous male	Indigenous female	Non-Indigenous male	Non-Indigenous female	Total
Same sex	34	3	428	2	467
Both sexes	6	2	61	8	77
Opposite sex	101	155	125	83	464
Not reported	12	5	73	15	105
Total	153	165	687	108	1,113*

* Of a total of 1,129 infectious syphilis cases notified in Queensland in 2019, 1,113 had complete data for Indigenous status and sex.

- Of 153 Indigenous male cases in 2019, 101 (66%) reported heterosexual sex as their exposure, and 40 (26%) were among MSM.
- Of 687 non-Indigenous male cases in 2019, 489 (71%) were among MSM, and 125 (18%) reported heterosexual sex as their exposure.
- For both Indigenous and non-Indigenous female cases in 2019, heterosexual sex was reported as the predominant transmission route (94% and 77%, respectively).

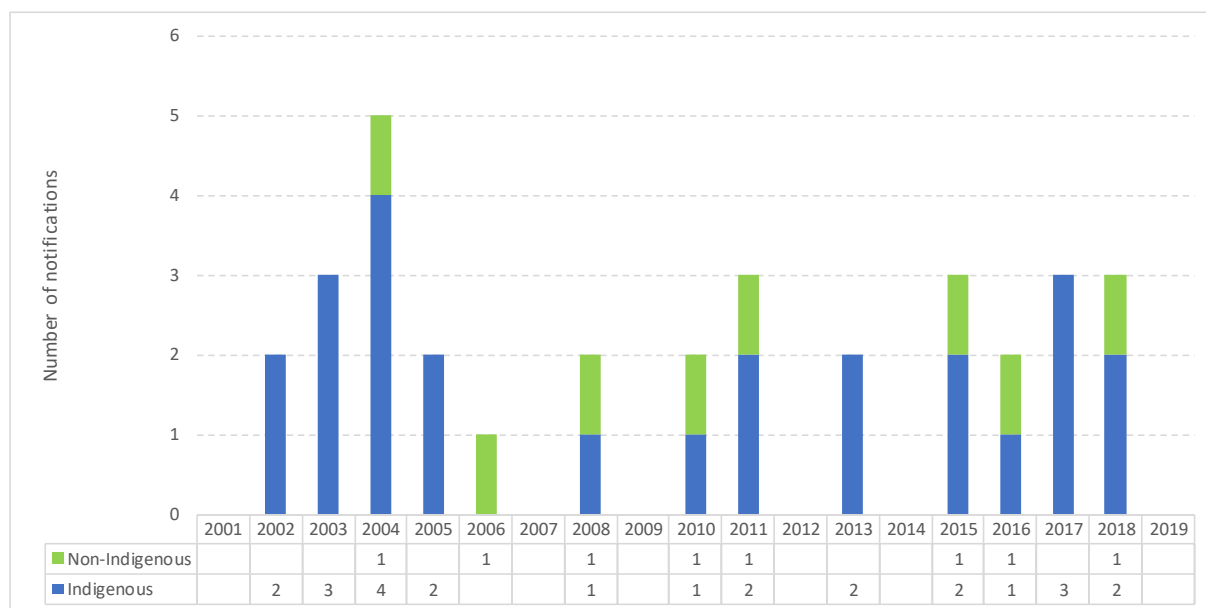
Table 4: Number of infectious syphilis notifications in Queensland in 2019, by demographic group, type of sexual partners and region

Demographic group/type of sexual partners	North QLD		Central QLD		South East QLD	
	Number	%	Number	%	Number	%
Indigenous MSM	11	3.7	5	6.0	24	3.2
Indigenous heterosexual male	77	25.7	15	18.1	9	1.2
Indigenous heterosexual female	120	40.0	18	21.7	17	2.3
Non-Indigenous MSM	28	9.3	24	28.9	437	58.6
Non-Indigenous heterosexual male	28	9.3	5	6.0	92	12.3
Non-Indigenous heterosexual female	20	6.7	5	6.0	58	7.8
Other	16	5.3	11	13.3	109	14.6
Total	300	100.0	83	100.0	746	100.0

- Of 300 infectious syphilis cases notified in North Queensland in 2019, 197 (66%) were among Aboriginal and Torres Strait Islander people reporting heterosexual sex as their exposure, and 28 (9%) among non-Indigenous MSM.
- Of 83 infectious syphilis cases notified in Central Queensland in 2019, 24 (29%) were among non-Indigenous MSM, 33 (40%) among Aboriginal and Torres Strait Islander people reporting heterosexual sex as their exposure, and 10 (12%) among non-Indigenous people reporting heterosexual sex as their exposure.
- Of 746 infectious syphilis cases notified in South East Queensland in 2019, 437 (59%) were among non-Indigenous MSM, and 150 (20%) among non-Indigenous people reporting heterosexual sex as their exposure.

Congenital syphilis notifications

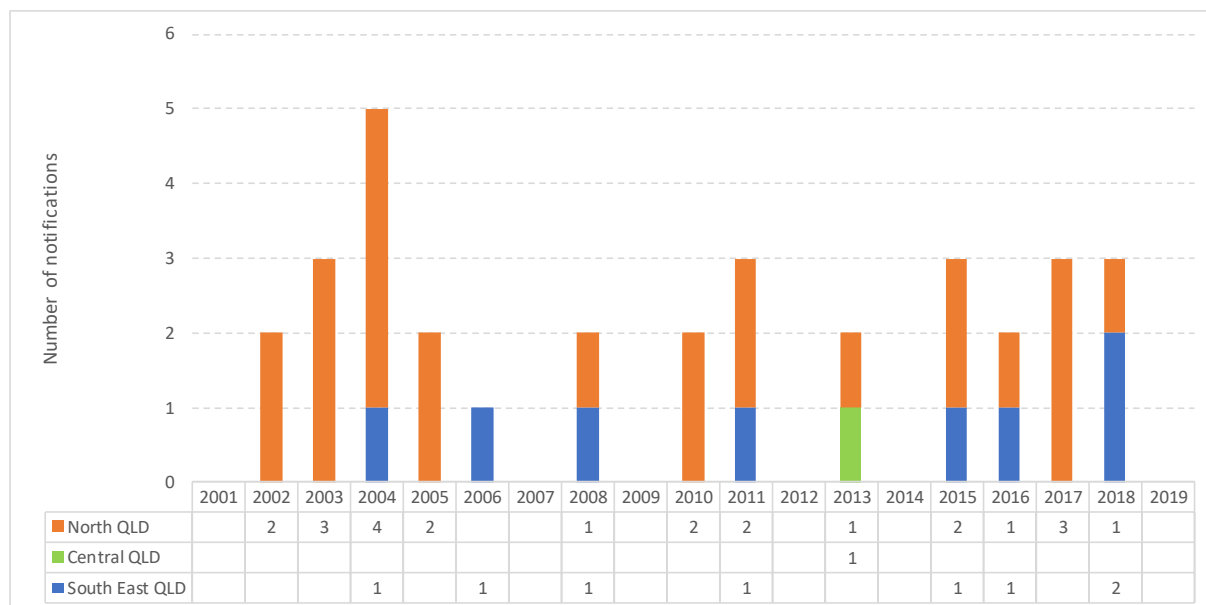
Figure 32: Notifications of congenital syphilis* in Queensland, by Indigenous status, 2001–2019



* See Appendix 1 for congenital syphilis definitions.

- Between 2001 and 2019, 33 congenital syphilis cases were notified in Queensland (25 Indigenous and 8 non-Indigenous).
- 12 congenital syphilis cases were associated with intrauterine fetal deaths/stillbirths or died after birth (11 in North Queensland and 1 in Central Queensland, all in Aboriginal and Torres Strait Island infants).

Figure 33: notifications of congenital syphilis in Queensland, by region, 2001–2019



- Of these 33 cases, 24 were from North Queensland (22 Indigenous and 2 non-Indigenous), 1 Indigenous case was from Central Queensland, and 8 were from South East Queensland (2 Indigenous and 6 non-Indigenous).

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 Indigenous status, 2010–2019

Region/Indigenous status	Syphilis notifications in women of reproductive age	Syphilis notifications in pregnant women	Congenital syphilis notifications
North QLD non-Indigenous	112	28	1
North QLD Indigenous	852	149	11
Central QLD non-Indigenous	43	15	0
Central QLD Indigenous	74	19	1
South East QLD non-Indigenous	392	114	4
South East QLD Indigenous	58	11	1
Queensland	1,531	336	18

* Syphilis notifications include infectious syphilis and late latent syphilis.

- Between 2010 and 2019, 1,531 syphilis notifications (1,113 infectious and 418 late latent) were recorded in women of reproductive age in Queensland. Of these, 336 (22%) were in pregnant women, including 198 infectious and 138 late latent cases. A total of 18 cases of congenital syphilis were notified during the same period.
- The highest number of syphilis notifications in pregnancy was reported in Aboriginal and Torres Strait Islander women from North Queensland (149 cases, 44% of Queensland total), followed by non-Indigenous women from South East Queensland (114 cases, 34%).
- Of 149 syphilis cases (137 infectious and 12 late latent) in Aboriginal and Torres Strait Islander pregnant women from North Queensland, 11 (7%) congenital syphilis cases occurred.
- Of 114 syphilis cases (31 infectious and 83 late latent) in non-Indigenous pregnant women from South East Queensland, 4 (4%) congenital syphilis cases occurred.

Infectious syphilis outbreak in North Queensland

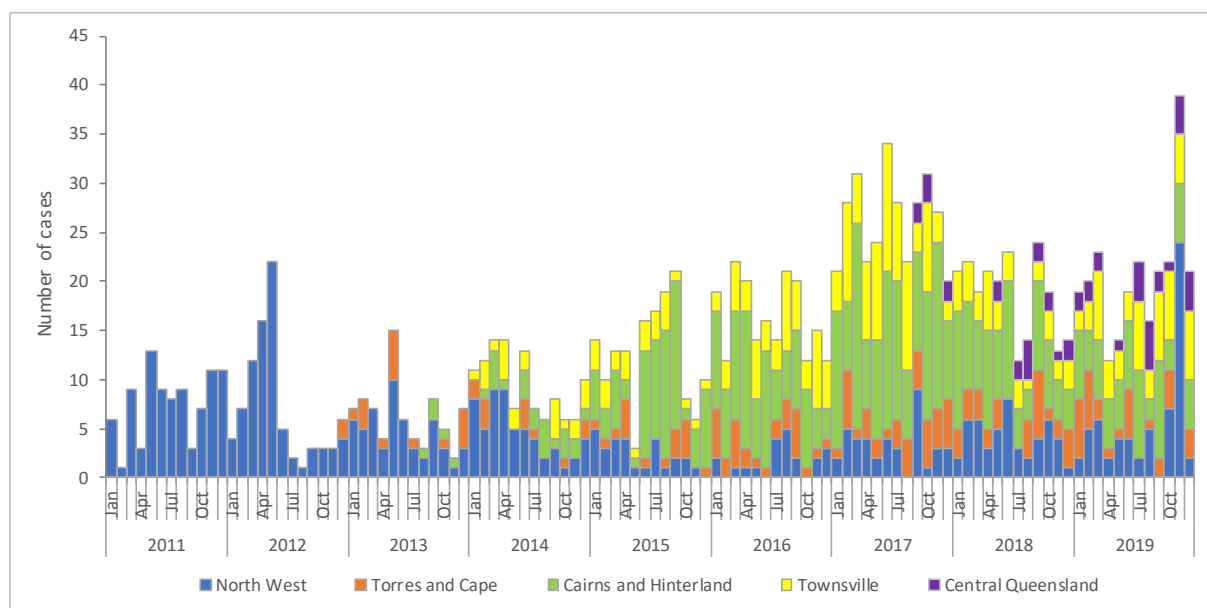
There has been an ongoing infectious syphilis outbreak in Northern Australia, occurring predominantly in Aboriginal and Torres Strait Islander populations. The outbreak was first declared in January 2011 in northwest Queensland, followed by the Northern Territory in July 2013, the Kimberley region in Western Australia in June 2014, and South Australia in March 2017. Detailed information on declared regions for the outbreak can be found in the multijurisdictional syphilis outbreak monthly surveillance report.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 Aboriginal and Torres Strait Islander people 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 Aboriginal and Torres Strait Islander people who reside outside outbreak declared regions at the time of diagnosis, and non-Indigenous people regardless of where they reside.

Figure 34: Infectious syphilis outbreak cases (category 1) in Aboriginal and Torres Strait Islander people in five affected HHS areas in Queensland, 1 January 2011–31 December 2019



⁹ <https://www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-infectious-syphilis-outbreak.htm>

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. After that the number increased to 63 cases in 2019.

For the Torres and Cape HHS area, there was a gradual increase in outbreak cases, from 16 cases in 2013 to 31 cases in 2019.

For the Cairns and Hinterland HHS area, there was a rapid increase in outbreak cases, from 22 cases in 2014 to a peak of 144 cases in 2017, followed by a 52% decrease in the annual total to 69 cases in 2019.

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 33% decrease in the annual total to 58 cases in 2019.

For the Central Queensland HHS area, there was an increase in outbreak cases, from 15 cases in 2018 to 27 cases in 2019.

Of the total 1,497 category 1 infectious syphilis outbreak cases notified between 2011 and 2019, 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 41 category 2 infectious syphilis outbreak cases were notified between 2011 and 2019, including 13 Aboriginal and Torres Strait Island cases who resided outside the declared regions at the time of diagnosis, and 28 non-Indigenous cases (22 from Cairns and Hinterland, 5 from Townsville, and 1 from North West).

A total of 9 congenital syphilis cases associated with the outbreak were notified between 2011 and 2019 (2 cases from each of North West, Torres and Cape, and Cairns and Hinterland and 3 cases from Townsville). These congenital syphilis infections resulted in 7 deaths (6 intrauterine fetal 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 fetus at any time in the pregnancy. If untreated, this can result in intrauterine fetal 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://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-casedefinitions.htm#s>