## Introduction

On 23 March 2021, the Australian Health Protection Principal Committee (AHPPC) endorsed the *National strategic approach for responding to rising rates of syphilis in Australia 2021* (Strategic Approach) developed to guide the national response to the continued rise in syphilis notifications in Australia. The Strategic Approach outlines three national targets which provide a specific focus for efforts towards addressing the rising rates of syphilis and adverse outcomes in Australia:

1. Reduce incidence of syphilis overall, with a focus on women of reproductive age.
2. Eliminate[i] congenital syphilis.
3. Control outbreaks[ii] among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia.

Supporting the Strategic Approach is the *National syphilis surveillance and monitoring plan* (Surveillance Plan) which outlines indicators that will be used to monitor progress towards achieving the three specific targets.

This report provides a quarterly account of progress against the targets and indicators in the Strategic Approach and Surveillance Plan.

## Analysis

***The Department of Health acknowledges the providers of the many sources of data used in this report and greatly appreciates their contribution.***

***Summary***

- Aboriginal and Torres Strait Islander peoples continue to be disproportionately represented in the syphilis notification data.
- While the greatest proportion of syphilis cases were reported in non-Indigenous men, who were largely residents of major cities, notification rates declined over the previous 12 months.
- Notification rates increased over the previous 12 months in Aboriginal and Torres Strait Islander men and women and non-Indigenous women across most age groups in major cities of Australia.
- Notification rates in Aboriginal and Torres Strait peoples also increased in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia.
- Notification rates among Aboriginal and Torres Strait Islander and non-Indigenous women of reproductive age (15-44 years) residing in major cities of Australia reported the greatest increase over the previous 12 months.
- Increases among women of reproductive age in recent years have coincided with the highest number of congenital syphilis cases diagnosed in 2020 (n=17) since 2001.

Data presented are to 31 March 2021, unless otherwise specified.

***Considerations***

This report aims to increase awareness of syphilis in Australia by providing an analysis of available notification and testing data. Delays in the reporting of data may cause data to change retrospectively. When considering the below analysis, it is important to note that the impact of the COVID-19 pandemic on health seeking behaviours, testing and sexual behaviour in relation to syphilis is not yet known. However, it is expected that syphilis testing will have declined overall due to the diversion of resources to COVID-19 testing.

[i] The 2018-22 National STI Strategy and Aboriginal and Torres Strait Islander BBV and STI Strategy, define elimination of congenital syphilis as '*no new cases of congenital syphilis nationally notified for two consecutive years*'.

[ii] At the time of writing Queensland, the Northern Territory, Western Australia and South Australia were the only jurisdictions with officially declared outbreak regions. New outbreak regions in other jurisdictions may be declared with endorsement from the CDNA, after which this target will be amended.

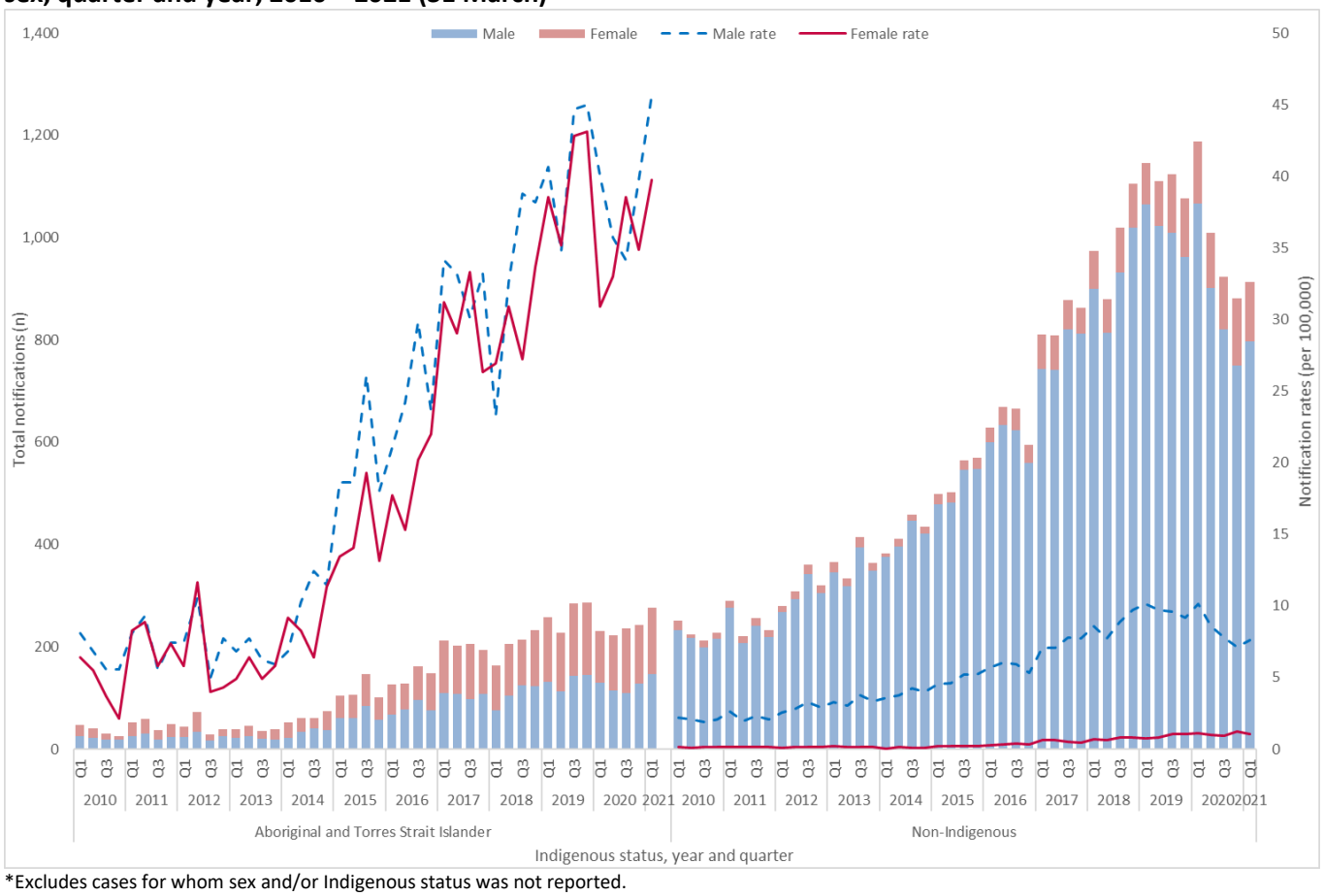
## Target 1: Reduce incidence of syphilis overall, with a focus on women of reproductive age

***Indicator 1.1 - Rate of infectious syphilis***

In the previous 12 months (1 April 2020 – 31 March 2021), there were 5,029 cases of infectious syphilis reported to the National Notifiable Diseases Surveillance System (NNDSS), with 4,706 cases (94%) reporting Indigenous status and sex:

- The greatest proportion of cases were among non-Indigenous males (69%, n=3,269), followed by Aboriginal and Torres Strait Islander males (11%, n=500), Aboriginal and Torres Strait Islander women (10%, n=478) and non-Indigenous females (10%, n=459).
- Aboriginal and Torres Strait Islander males and females are disproportionately represented in the notification data, with notification rates reported for the previous 12 months as 155.2 and 146.2 per 100,000 respectively. Non-Indigenous males, despite representing the greatest proportion of total notifications, reported a notification rate substantially lower (31.1 per 100,000) followed by non-Indigenous females (4.2 per 100,000) (Figure 1).
- While reporting the lowest rate, non-Indigenous females observed the greatest proportional rate increase compared to the preceding 12 months (5%) and compared to the 5 year mean (39%), noting that the increase was from a lower base. Compared to the preceding 12 months, non-Indigenous males, Aboriginal and Torres Strait Islander males and females all reported declines in notification rates (20%, 6% and 4% respectively). Compared to the 5 year mean Aboriginal and Torres Strait Islander females reported a 16% rate increase, Aboriginal and Torres Strait Islander males reported an 11% increase and non-Indigenous males reported a 4% decrease.

**Figure 1: Notifications (n) and notification rate (per 100,000) of infectious syphilis* reported, by Indigenous status, sex, quarter and year, 2010 – 2021 (31 March)**




*Excludes cases for whom sex and/or Indigenous status was not reported.

*Remoteness area*

Across all remoteness areas of Australia, Aboriginal and Torres Strait Islander men and women have substantially higher notification rates compared to non-Indigenous men and women (Figures 2 a-c and 3 a-c).

In the previous 12 months (1 April 2020 – 31 March 2021) the highest notification rates were reported among Aboriginal and Torres Strait Islander men and women aged 15-34 years old residing in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia (see Target 3 below for further information on the outbreak).

- *Major cities*

Despite representing the greatest proportion (81%) of syphilis notifications in major cities across Australia, notification rates in non-Indigenous men observed declines across all age groups in the past 12 months (1 April 2020 – 31 March 2021) as compared to the preceding 12 months (1 April 2019 – 31 March 2020). In contrast notification rates in Aboriginal and Torres Strait men and non-Indigenous women increased across most age groups in the previous 12 months compared to the preceding 12 months, and rates in Aboriginal and Torres Strait Islander women increased across all age groups (Figures 2a and 3a). The greatest increases between the previous 12 months and 12 months prior, were among Aboriginal and Torres Strait Islander men aged 35-44 years (83% increase), followed by Aboriginal and Torres Strait Islander women aged 35-44 years (67%) and 25-34 years (48%), and non-Indigenous women aged 35-44 years (34%).

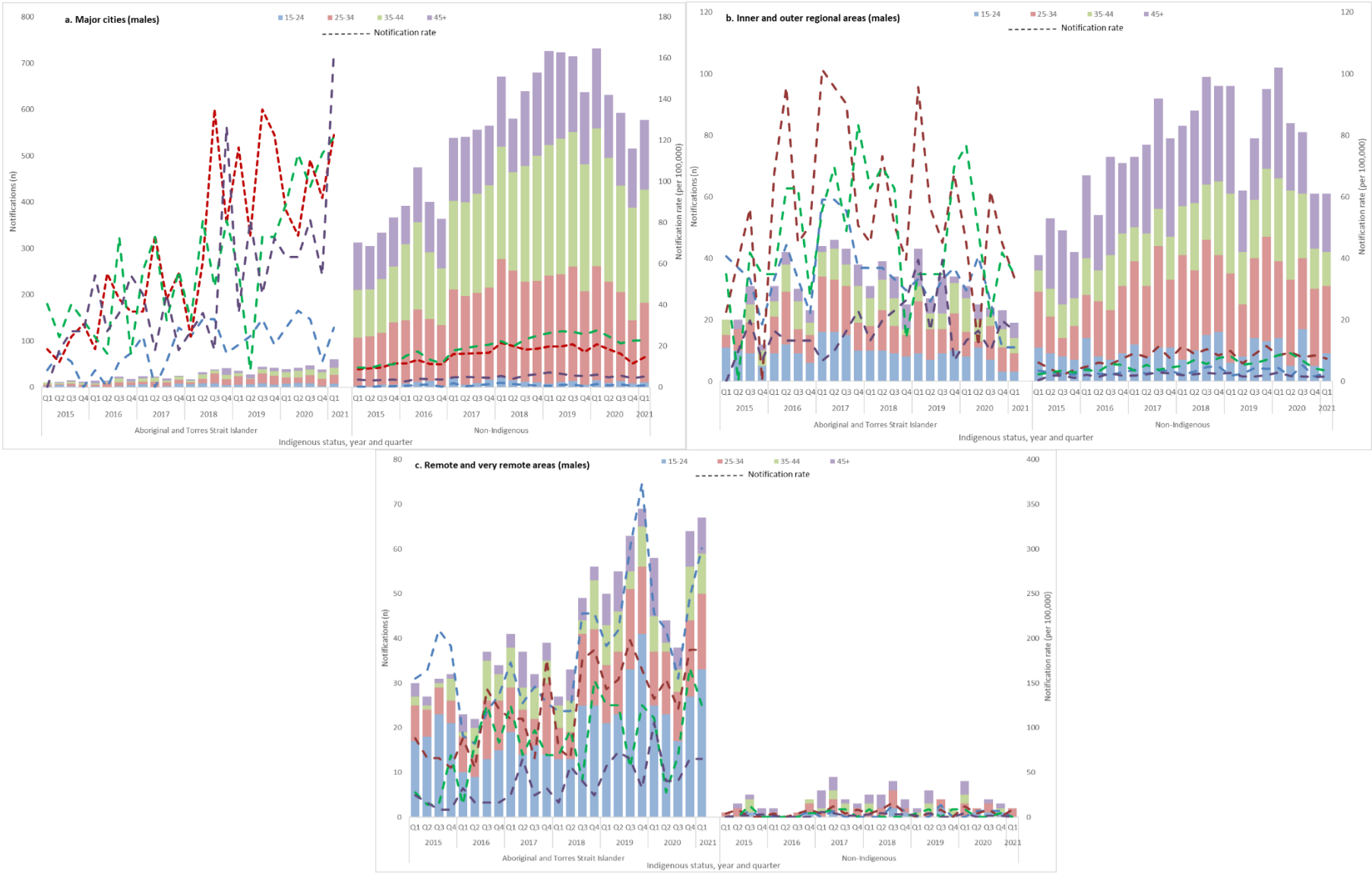
- *Inner and outer regional areas*

Non-Indigenous men represented the greatest proportion of cases reported in the past 12 months in inner and outer regional areas (50%) followed by Aboriginal and Torres Strait Islander women (20%), Aboriginal and Torres Strait Islander men (16%) and non-Indigenous women (14%). Notifications among Aboriginal and Torres Strait Islander men and women and non-Indigenous men and women residing in inner and outer regional areas of Australia declined across all age groups (with the exception of non-Indigenous women aged 45+ years noting the increase was small and from a low base) in the past 12 months (1 April 2020 – 31 March 2021) as compared to the preceding 12 months (1 April 2019 – 31 March 2020) (Figures 3a and 3b).

- *Remote and very remote areas*

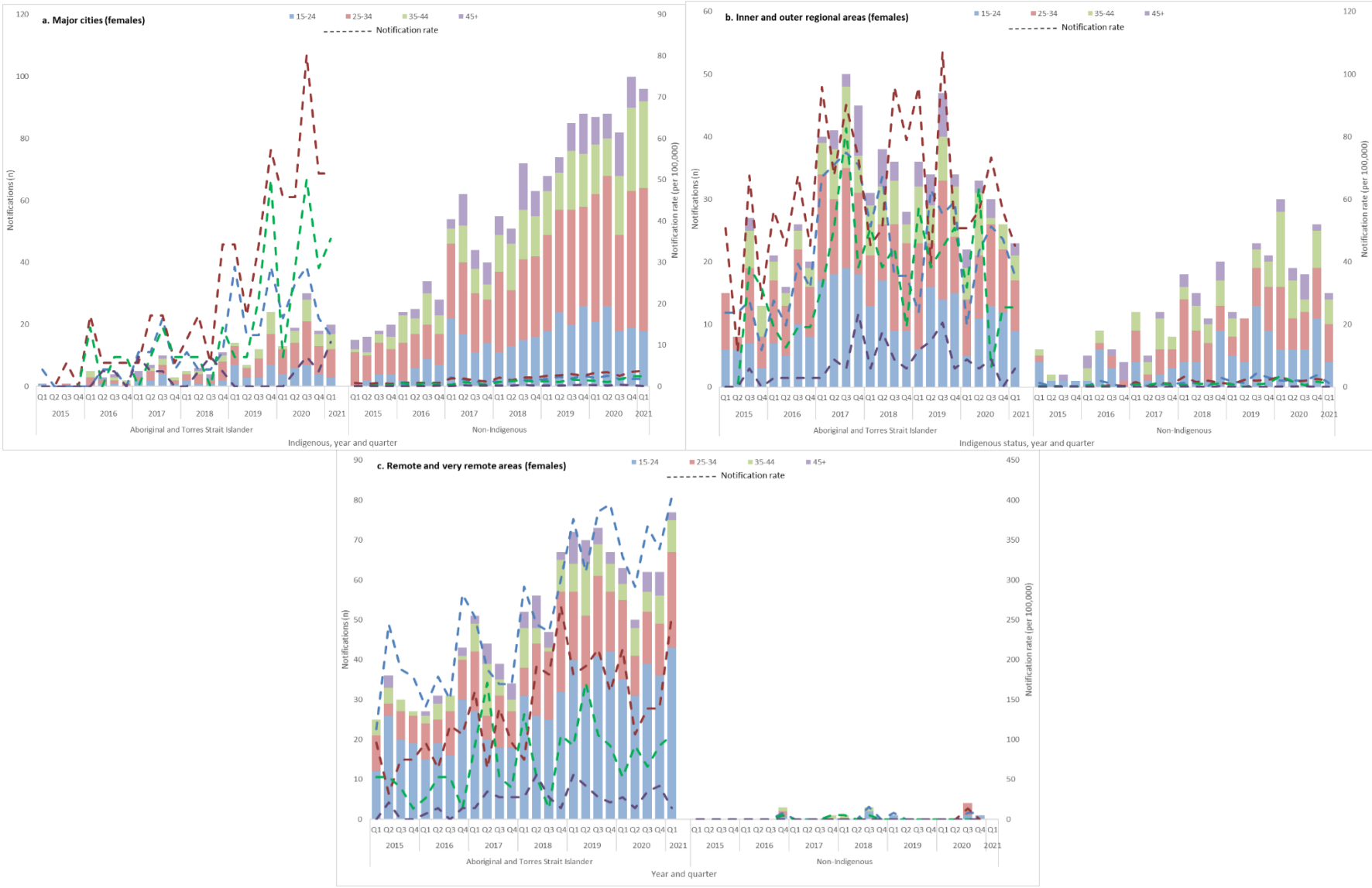
Aboriginal and Torres Strait Islander women and men represented 97% of cases reported over the previous 12 months in remote and very remote areas of Australia. Across all remoteness areas, notification rates were highest in Aboriginal and Torres Strait Islander men and women, particularly in younger age groups (Figures 2c and 3c).

**Figure 2 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in males, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (31 March) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote areas)***




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

**Figure 3 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (31 March) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote areas)***




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

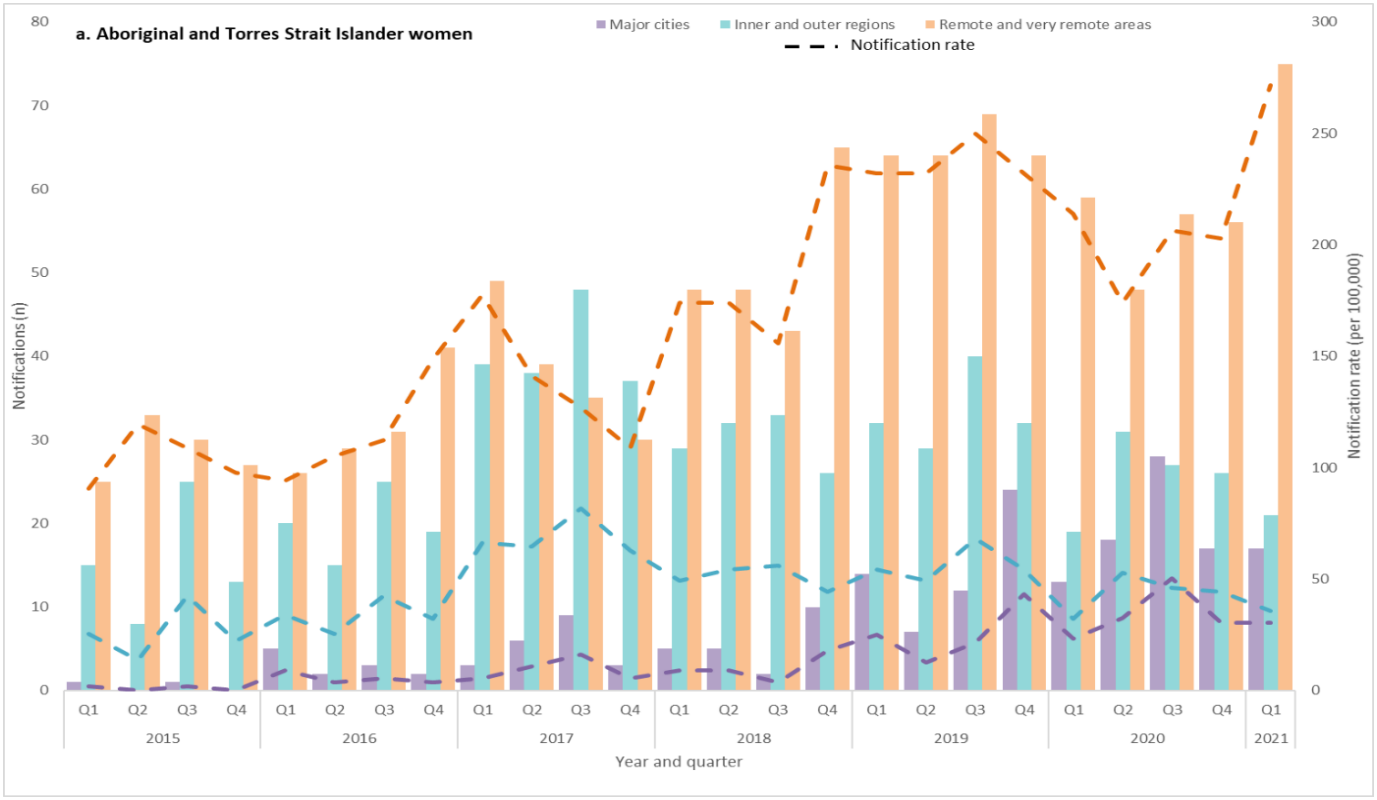
***Indicator 1.2 - Rate of infectious syphilis among women of reproductive age (15-44 years)***

Over the previous 12 months (1 April 2020 – 31 March 2021) notifications of syphilis among Aboriginal and Torres Strait Islander women aged 15-44 years were predominately in residents of remote and very areas of Australia, consistent with historical trends (Figure 4a). The highest notification rates, as expected, were in remote and very remote areas, noting the small decline (8%) in the previous 12 months compared to the preceding 12 months (1 April 2019 – 31 March 2020), however rates did increase when compared to the 5 year average (16%). Inner and outer regional areas recorded the second highest rates in the previous 12 months, however compared to the preceding 12 months rates declined by 13% and 12% compared to the 5 year average. In contrast, notification rates in Aboriginal and Torres Strait Islander women residing in major cities of Australia, although lower, have increased by 43% between the previous 12 months and the 12 months prior, and 100% compared to the 5 year average.

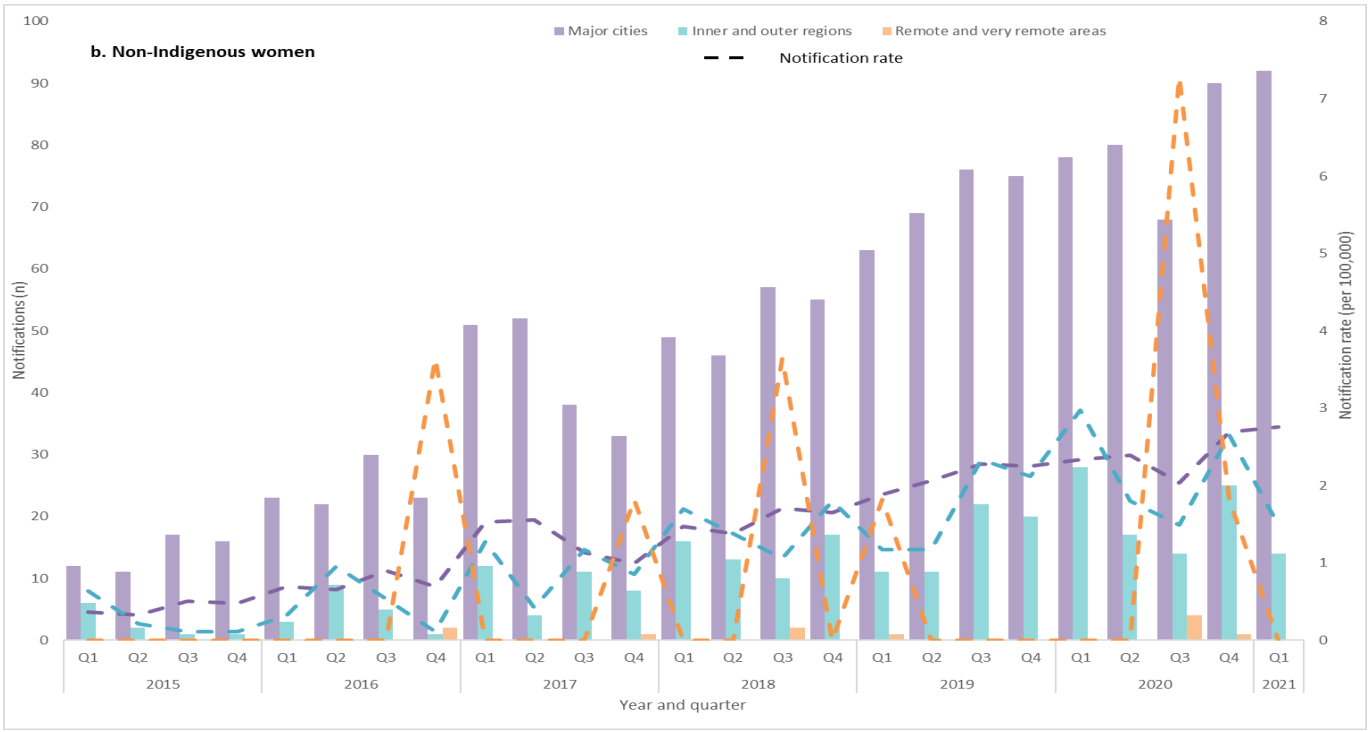
Non-Indigenous women of reproductive age diagnosed with syphilis over the previous 12 months were predominately residents of major cities of Australia, consistent with historical trends (Figure 4b). Notifications rates increased for this group by 11% between the previous 12 months and the 12 months prior, and a more than 40% increase compared to the 5 year average. Notification rates in inner and outer regional areas declined between the previous 12 months and the 12 months prior (14%), however rates compared to the 5 year average increased considerably (31%). Notification rates in remote and very remote Australia have fluctuated, noting that overall notifications in these areas are low for non-Indigenous women.

**Figure 4a-b: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females aged 15-44 years, by Indigenous status, remoteness area, quarter and year, 2015 – 2021 (31 March)**
**(a. Aboriginal and Torres Strait Islander and b. non-Indigenous)***

**a.**



**b.**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

***Indicator 1.3 and 1.4 - Sexual exposure***

Syphilis data by sexual exposure (same sex, opposite sex and both sexes) were not available at the time of writing due to poor completeness. It is anticipated these data will be presented in future iterations of the report.

## Target 2: Eliminate congenital syphilis

***Indicator 2.1 - Number of congenital syphilis notifications***

***Indicator 2.2 - Notification rate of congenital syphilis per 100,000 live births***

***Indicator 2.3 - Number of congenital syphilis cases that were reported to have died from the condition***

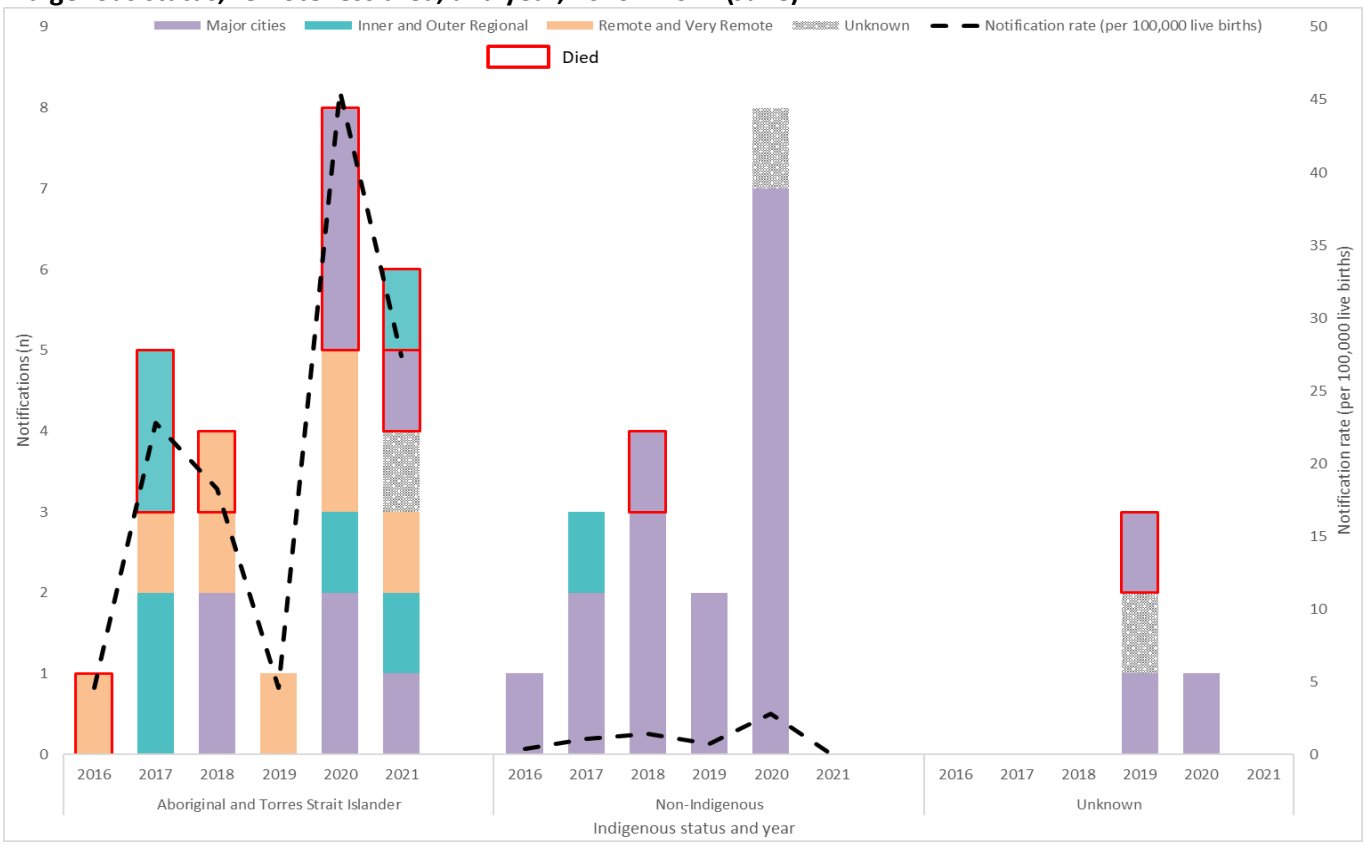
Forty-seven (47) cases of congenital syphilis were reported between 2016 and June[iii] 2021, 25 were reported in Aboriginal and Torres Strait Islander infants, 18 were non-Indigenous and 4 had an unknown Indigenous status (Figure 5). Among the 25 Aboriginal and Torres Strait Islander cases, 36% (9/25) were residents of major cities, 32% (8/25) from inner/outer regional areas, 32% (8/25) from remote/very remote areas and 4% (1/25) had an unknown residence. Eighty-nine per cent (89%, 16/18) of non-Indigenous cases were residents of major cities, 6% (1/18) from inner/outer regional areas and 6% (1/18) had an unknown residence. Cases with an unknown Indigenous status were largely reported from major cities (75%, 3/4) with the remaining case (25%, 1/4) reporting an unknown residence. [iv]

Aboriginal and Torres Strait Islander infants are disproportionately represented in the notification data, with rates per 100,000 live births on average almost 20 times that of non-Indigenous infants, noting that rates have fluctuated in both groups over time.

Eleven (11) congenital syphilis associated deaths were reported between 2016 and June 2021[iii], 9 (82%, 9/11) were Aboriginal and Torres Strait Islander infants, 1 (9%, 1/11) was non-Indigenous and 1 (9%, 1/11) had an unknown Indigenous status. Of the Aboriginal and Torres Strait Islander infants that died, 4 (44%, 4/9) were reported in major cities, 3 (33%, 3/9) from inner/outer regional areas and 2 (22%, 2/9) from remote/very remote areas. The remaining 2 cases reported to have died were both from major cities (1 non-Indigenous, 1 Indigenous status unknown).

[iii] At the time of writing the last congenital syphilis case was diagnosed in June 2021.
[iv] Totals may not equal 100% due to rounding.

**Figure 5: Notifications (n) and notification rate (per 100,000 live births) of congenital syphilis reported in, by Indigenous status, remoteness area, and year, 2016 – 2021 (June)[v]**




***Indicator 2.4 - Proportion of syphilis notifications among women who were pregnant[vi] at time of diagnosis***

Pregnancy status was available for 6 jurisdictions in 2021, 5 in 2020 and 3 between 2017 and 2019[vi]. Given the high proportion of cases with an unknown pregnancy status, trends overtime should be interpreted with caution.

In 2021 (to 31 March), of the infectious syphilis notifications among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years), 10% were pregnant at the time of diagnosis, 37% were not pregnant and 53% had an unknown pregnancy status (Figure 6). The proportion of Aboriginal and Torres Strait Islander women pregnant at time of syphilis diagnosis in 2021 is lower than the proportions reported between 2018 and 2020 (range 13%-17%) noting that number of jurisdictions reporting data each year varied.

Among non-Indigenous women of reproductive age in 2021, 7% were pregnant at the time of diagnosis, 69% were not pregnant and 24% had an unknown pregnancy status (Figure 6). The proportion of non-Indigenous women pregnant at time of syphilis diagnosis in 2021, was lower than the proportions reported between 2017 and 2020 (range 10%-17%), noting that number of jurisdictions reporting data each year varied.

[v] At the time of writing the last congenital syphilis case was diagnosed in June 2021.
[vi] Pregnancy status: 2017 -2019 includes data from Queensland, New South Wales and Western Australia; 2020 includes data from Queensland, New South Wales, Western Australia, South Australia and the Australian Capital Territory, and; 2021 includes from Queensland, New South Wales, Western Australia, South Australia, the Australian Capital Territory and Victoria.

**Figure 6: Number of infectious syphilis notifications among women of reproductive age (15-44 years) and proportion (%) of cases pregnant at time of syphilis diagnosis, by Indigenous status and year, 2017-2021 (31 March)**


***Indicator 2.5 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis in pregnancy by gestation period***
***Indicator 2.6 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis late[vii] in pregnancy***

Enhanced data are used to report against indicators 2.5 and 2.6.

*Completeness of enhanced congenital syphilis data*

- Between 2016 and June 2021[viii], 60% (28/47) of congenital syphilis cases had enhanced data available, including information about the mother of the infant diagnosed with congenital syphilis. Data were available for 100% (2/2) of cases in 2016, 2017 (8/8) and 2018 (8/8). In 2019 33% (2/6) of cases had enhanced data available at the time of writing and in 2020 47% (8/17). No cases in 2021 had enhanced data available at the time of writing.

Of the 28 congenital syphilis cases with enhanced data available between 2016 and June 2021, 13 (46%, 13/28) mothers giving birth to an infant with congenital syphilis were diagnosed in the 3rd trimester, 6 (21%, 6/28) on the day of delivery, 8 post-birth (29%, 8/28) and 1 (4%, 1/28) had an unknown date of syphilis diagnosis (Table 1).

[vii] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.
[viii] At the time of writing the last congenital syphilis case was diagnosed in June 2021.

**Table 1: Number of women* giving birth to an infant with congenital syphilis, by gestation period mother was diagnosed with syphilis and year, 2016 – 2021 (June)**

| Gestation period of mothers syphilis diagnosis | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 (to June ) |
|---|---|---|---|---|---|---|
| 1st Trimester | - | - | - | - | - | - |
| 2nd Trimester | - | - | - | - | - | - |
| 3rd Trimester | 2 | 2 | 4 | 2 | 3 | - |
| At birth (Day of delivery) | - | 2 | 1 | - | 3 | - |
| Post-birth | - | 3 | 3 | - | 2 | - |
| Unknown | - | 1 | - | - | - | - |
| **Total** | **2** | **8** | **8** | **2** | **8** | **-** |
| **Late diagnosis[ix]** | **1** | **6** | **4** | **1** | **5** | **-** |

*Represents cases with enhanced data only (28/47 cases).

## Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia

An outbreak of infectious syphilis began in northern Queensland in January 2011, extending to the Northern Territory in July 2013, the Kimberley in Western Australia in June 2014 and South Australia in November 2016.

The AHPPC, in consultation with affected jurisdictions, Aboriginal Community Controlled Health Services (ACCHS) and key stakeholders, developed a National Strategic Approach and Action Plan to address the disproportionately high rates of syphilis and other BBV and STI in regional and remote Aboriginal and Torres Strait Islander communities. The Strategic Approach and Action Plan were endorsed by the Australian Health Ministers Advisory Council in December 2017.

Further information on the outbreak and response activities are available on the Department of Health website.

***Indicator 3.1 - Number of outbreak associated infectious syphilis notifications***

Since the commencement of the outbreak on 1 January 2011 to 31 March 2021, a total of 4,151 infectious syphilis outbreak cases (category 1 and 2[x]) were reported from 4 jurisdictions (Figure 7, Table 2):

- 1,722 from Queensland;
- 1,570 from the Northern Territory;
- 726 from Western Australia;
- 133 from South Australia.

Across the 4 outbreak jurisdictions, 54% (2,200/4,068) of all category 1 cases were female and 46% (1,868/4,068) were male, with a male to female ratio of 0.8:1 suggesting predominately heterosexual transmission overall, noting the variability across specific outbreak regions and jurisdictions (Figure 8 a-d, Table 2).

On 19 November 2020, the Multi-Jurisdictional Syphilis Working Group endorsed the expansion of the 'target age group' from 15-29 years to 15-34 years[xi]. This change came into effect from the February 2021. Overall 75% (3,039/4,068) of all outbreak cases were reported in 15-34 year olds, with the proportion of cases in this age group across the outbreak period (1 January 2011-31 March 2021) ranging between 71% and 93% (Figure 8a-d).

[ix] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

[x] Outbreak cases are reported as either category 1 or category 2: category 1 cases include Aboriginal and Torres Strait Islander people residing in an outbreak declared region at the time of diagnosis, and; category 2 cases include people who are a sexual contact of a confirmed outbreak case which includes Aboriginal and Torres Strait Islander people who do not reside in an outbreak area at the time of diagnosis and non-Indigenous people regardless of where they reside. **All data are provisional and subject to change due to ongoing case investigation**.

[xi] Multijurisdictional Syphilis Outbreak Surveillance Report: February 2021

**Figure 7: Notifications of category 1 infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions of Queensland, the Northern Territory, Western Australia and South Australia from commencement of the outbreak in each jurisdiction to 31 March 2021**

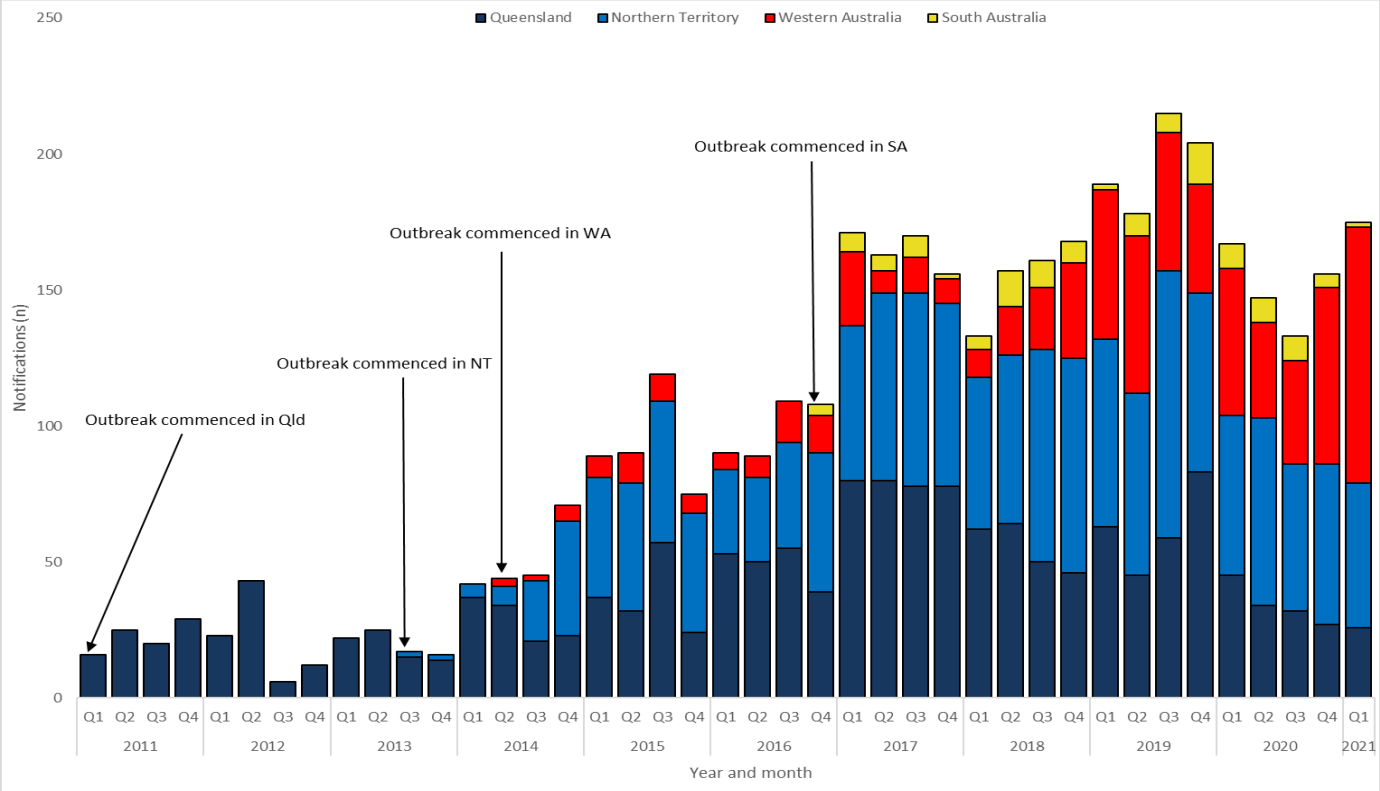



**Table 2: Characteristics of infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions[xii] of Queensland, the Northern Territory, Western Australia and South Australia to 31 March 2021**

| | **Queensland** (five HHSs) | **Northern Territory** (seven regions) | **Western Australia** (three regions) | **South Australia** (three regions) |
|---|---|---|---|---|
| **Category 1** | | | | |
| Outbreak commencement month/year | January 2011 | July 2013 | June 2014 | November 2016 |
| Total number of cases | 1,664 | 1,552 | 723 | 129 |
| % Male / % Female | 46% / 54% | 46% / 54% | 43% / 57% | 50% / 50% |
| % 15-34 year age group | 77% | 72% | 76% | 67% |
| **Category 2** | | | | |
| Aboriginal and Torres Strait Islander people[xiii] | 14 | 2 | 3 | - |
| Non-Indigenous people[xiv] | 44 | 16 | - | 4 |

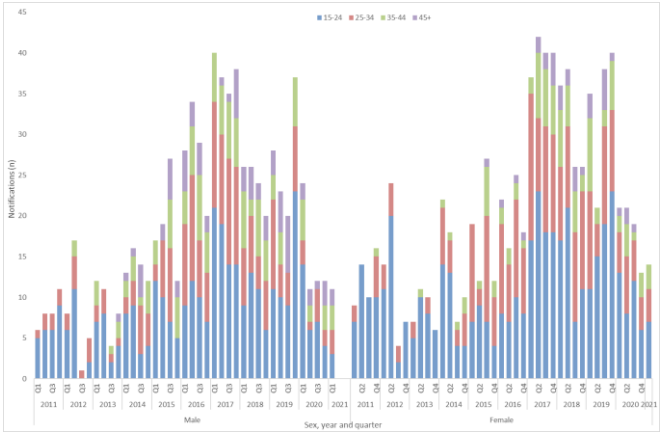
[xii] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

[xiii] Aboriginal and Torres Strait Islander people who are sexual contacts of a confirmed outbreak case and reside outside an outbreak declared region at the time of diagnosis.

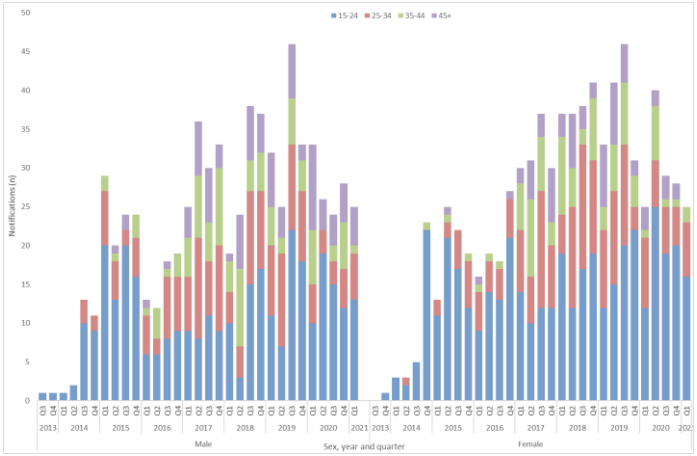
[xiv] Non-Indigenous people who are sexual contacts of a confirmed outbreak case and reside in or out of an outbreak declared region at the time of diagnosis.

**Figure 8 a-d: Notifications (n) of category 1 outbreak associated syphilis cases, by age*, sex, jurisdiction, year and quarter from commencement in each jurisdiction to 31 March 2021 (a. Queensland, b. the Northern Territory, c. Western Australia and d. South Australia)[xv]**

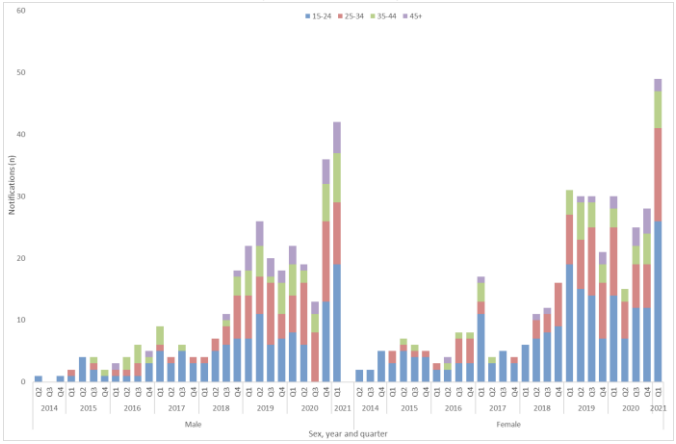
**a. Queensland (2011-2021)**



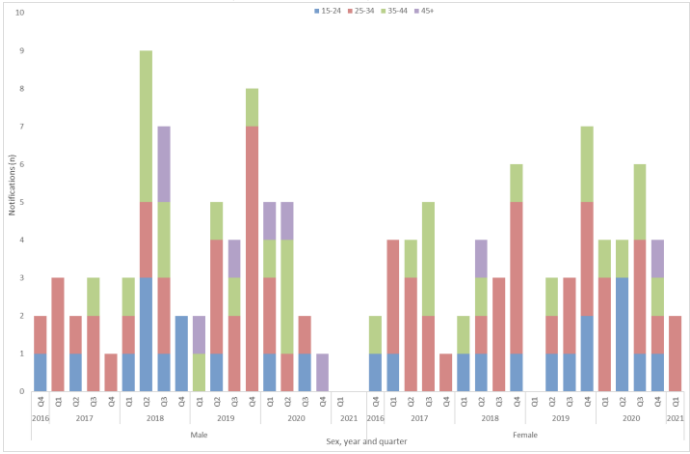

**b. Northern Territory (2013-2021)**




**c. Western Australia (2014-2021)**




**d. South Australia (2016-2021)**




*Excludes cases aged <15 years of age.

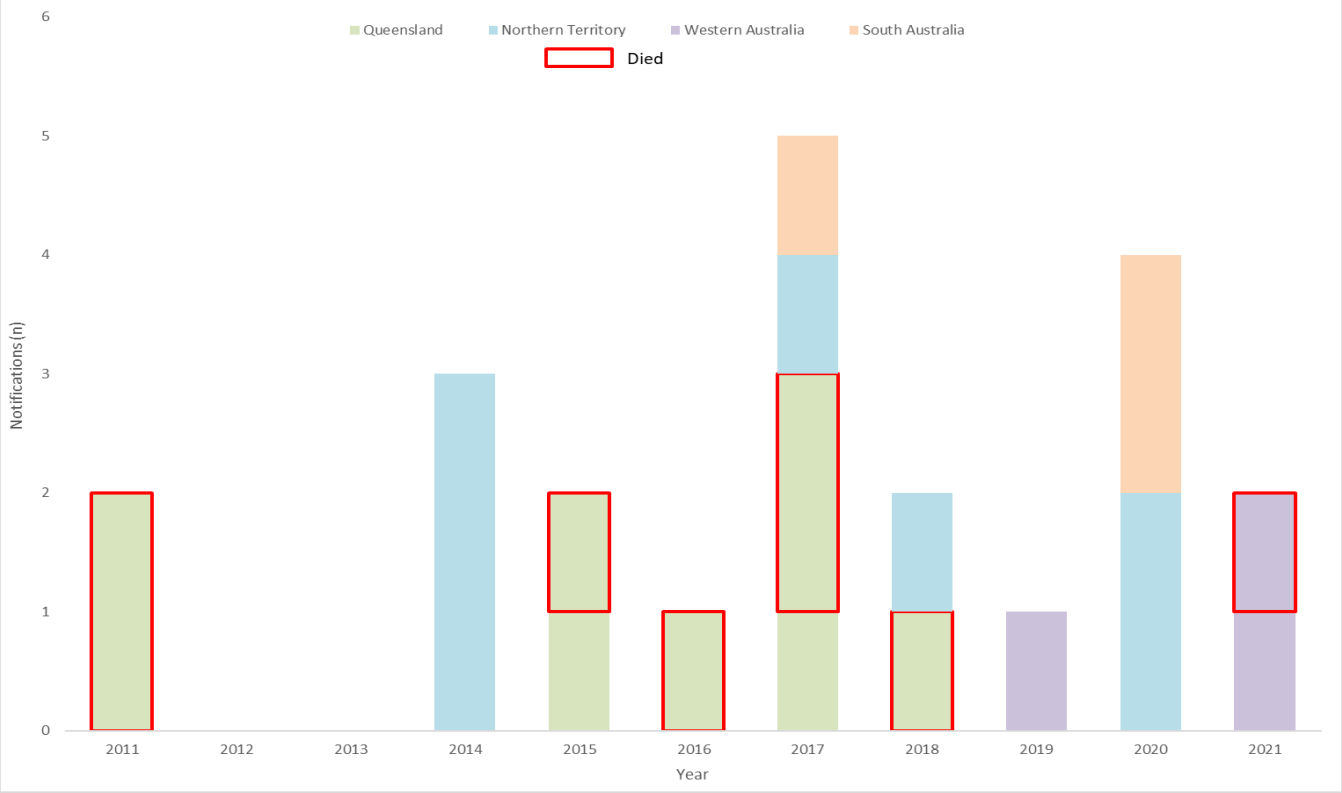
[xv] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

***Indicator 3.2 - Number of outbreak associated congenital syphilis notifications***

***Indicator 3.3 - Number of outbreak associated congenital syphilis cases that were reported to have died from the condition***

Since the commencement of the outbreak in January 2011 to April[xvi] 2021, there were 22 outbreak associated cases of congenital syphilis reported, 9 from Queensland, 7 from the Northern Territory, 3 from Western Australia and 3 from South Australia. Eight (8) of these cases were reported to have died from the condition, 7 from Queensland and 1 from Western Australia (Figure 9).

**Figure 9: Notifications (n) of outbreak associated congenital syphilis cases and reported deaths, by jurisdiction, and year, 2016 – 2021 (April)[xvi]**




***Indicator 3.4 - Proportion of outbreak associated infectious syphilis notifications among women who were pregnant[xvii] at time of diagnosis***

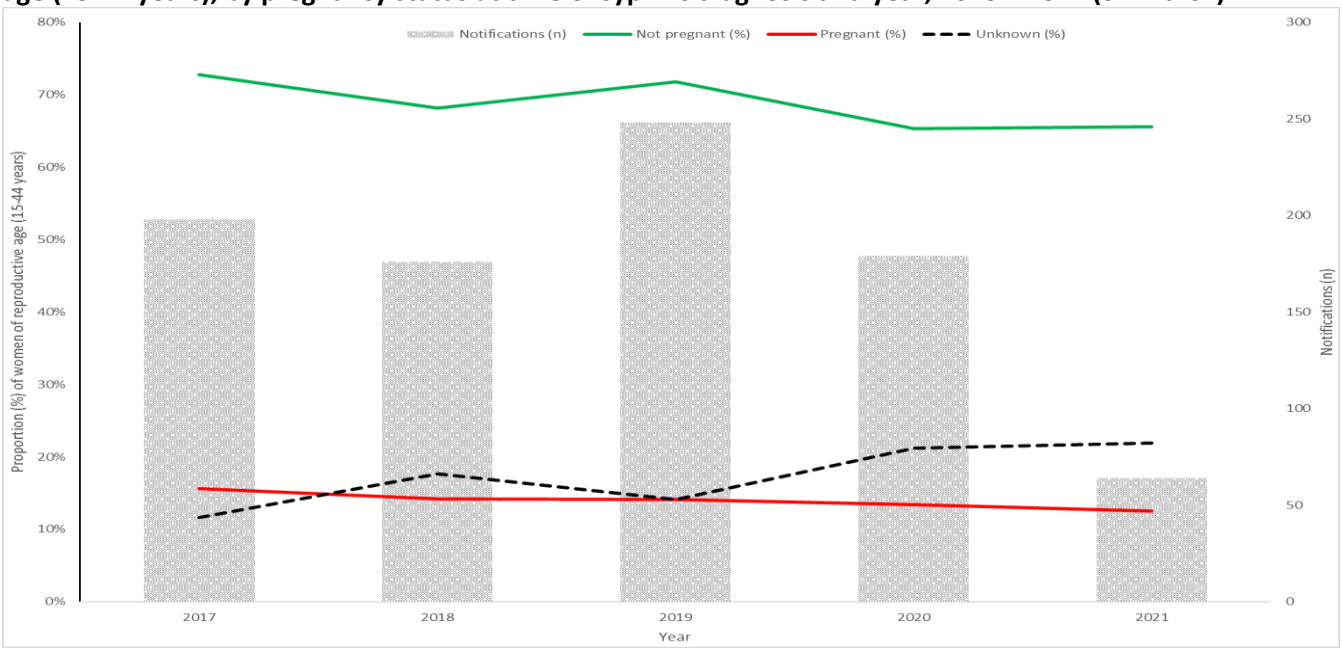
Pregnancy status was available for 3 out of 4 outbreak jurisdictions in 2020 and 2021 (Queensland, Western Australia and South Australia). Between 2017 and 2019, pregnancy status was available for 2 out of 4 jurisdictions (Queensland and Western Australia). Given the high proportion of cases with an unknown pregnancy status, trends overtime should be interpreted with caution.

Of the outbreak associated notifications of infectious syphilis among women of reproductive age (15-44 years), as of 31 March 2021 in Queensland, Western Australia and South Australia, 13% were pregnant at the time of diagnosis, 66% were not pregnant and 22% had an unknown pregnancy status (Figure 10). The trends in 2021 are consistent with those reported in 2020. Between 2017 and 2019, the proportion of women pregnant at time of diagnosis was 16% in 2017 and 14% in 2018 and 2019, noting that this is representative of only 2 out of 4 outbreak affected jurisdictions (Queensland and Western Australia).

[xvi] At the time of writing the last congenital syphilis case associated with the outbreak was diagnosed in April 2021.

[xvii] Pregnancy status (outbreak jurisdictions): 2017 -2019 includes data from Queensland and Western Australia; 2020-2021 includes data from Queensland, Western Australia and South Australia. No data from the Northern Territory were available at the time of writing.

**Figure 10: Proportion (%) of outbreak associated infectious syphilis notifications among women of reproductive age (15-44 years), by pregnancy status at time of syphilis diagnosis and year, 2016 – 2021 (31 March)**




***Indicator 3.5 - Cumulative number of syphilis tests delivered through participating ACCHS in outbreak affected jurisdictions***
***Indicator 3.6 - Proportion of people attending participating ACCHS who received a syphilis test***

On 1 August 2018, the test and treat model to curb the syphilis outbreak commenced at ACCHS in Townsville (Queensland), Cairns (Queensland) and Darwin (Northern Territory). These sites were chosen in consultation with the jurisdictions and National Aboriginal Community Controlled Health Organisation (NACCHO). On 1 September 2018, the second phase commenced in ACCHS in Katherine (Northern Territory), East Arnhem (Northern Territory) and the Kimberley east (Western Australia). On 1 May 2019, the third phase commenced with additional services in the West Arnhem (Northern Territory), Pilbara (Western Australia) and Kimberley west (Western Australia). The first ACCHS in South Australia were funded as part of the third phase (Western and Eyre, Far North and Adelaide). The fourth phase commenced from May 2020 at ACCHS in Mt Isa (Queensland), and Tennant Creek (Northern Territory).

The below data summarises syphilis testing data and coverage for participating ACCHS, noting that data are missing for some services.

As at 31 March 2021, through participating ACCHS (Figures 11 and 12 a-b):

- 56,802 syphilis tests, point-of-care tests (PoCT) and serological tests, were delivered from the commencement of phase 1 of the test and treat model rollout on 1 August 2018. On average 1,775 new tests are performed each month (Figure 11).
- the monthly testing coverage for all individuals was 9.3%, higher than the monthly average for the preceding 12 months (8.6%, 1 April 2020 – 31 March 2021) (Figure 12a).
- the monthly testing coverage for the target age group (15-34 years) was 16.7%, higher than the monthly average for the preceding 12 months (15.7%, 1 April 2020-31 March 2021) (Figure 12b).
- the rolling 12 month testing coverage (1 April 2020 – 31 March 2021) for all age groups was 23% and 35% for the target age group (15-34 years).

**Figure 11: Cumulative number of syphilis tests (PoCT and serology) delivered through participating ACCHS to Aboriginal and Torres Strait Islander peoples, by month and year, August 2018 – 31 March 2021**

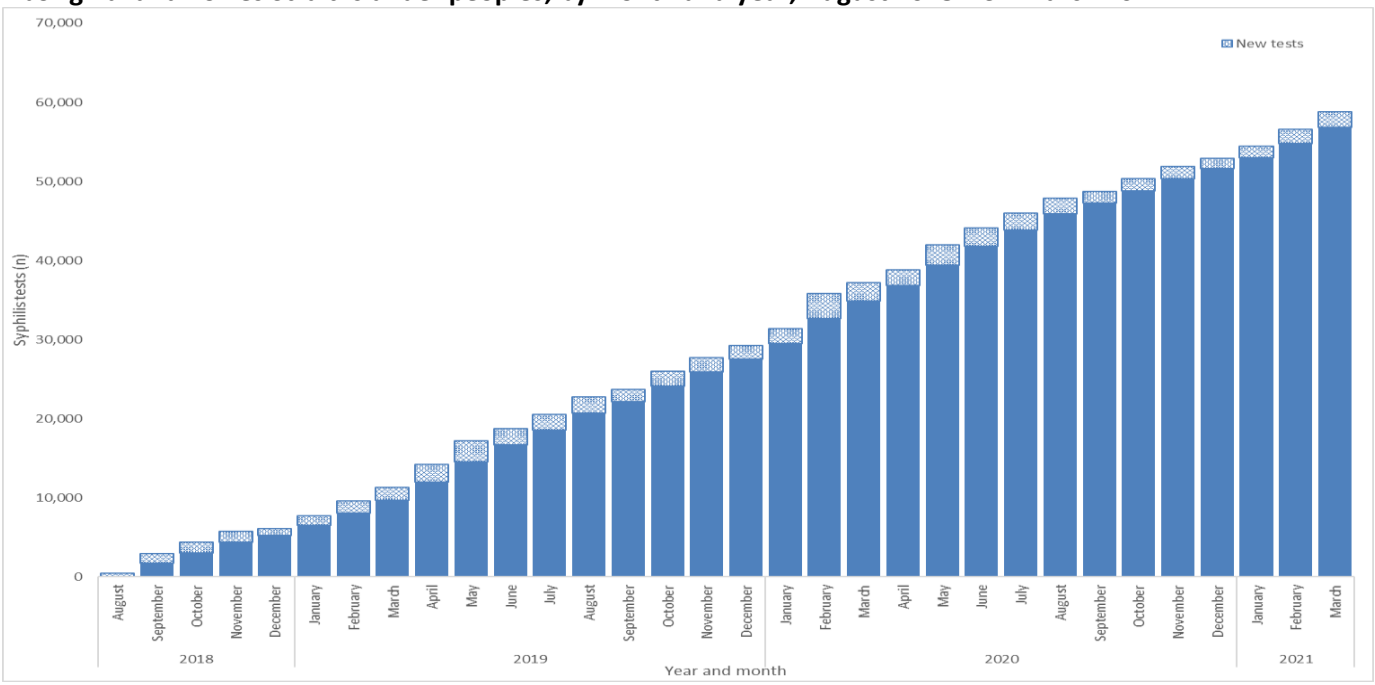
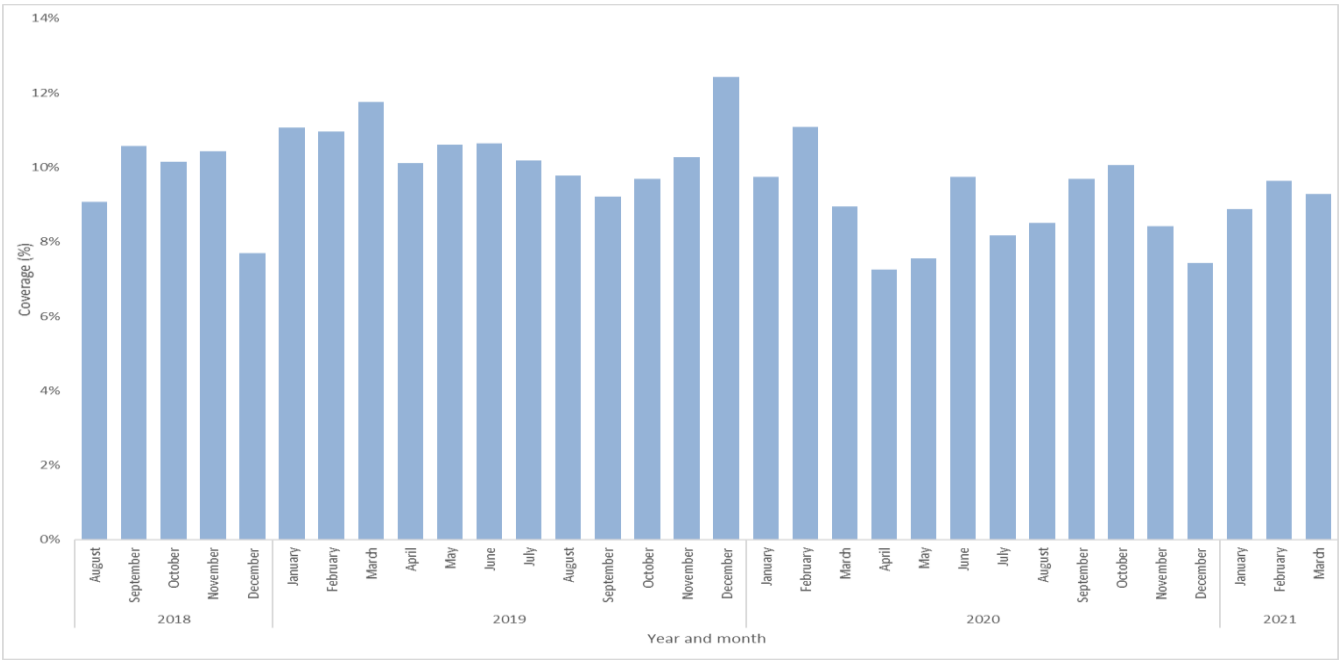


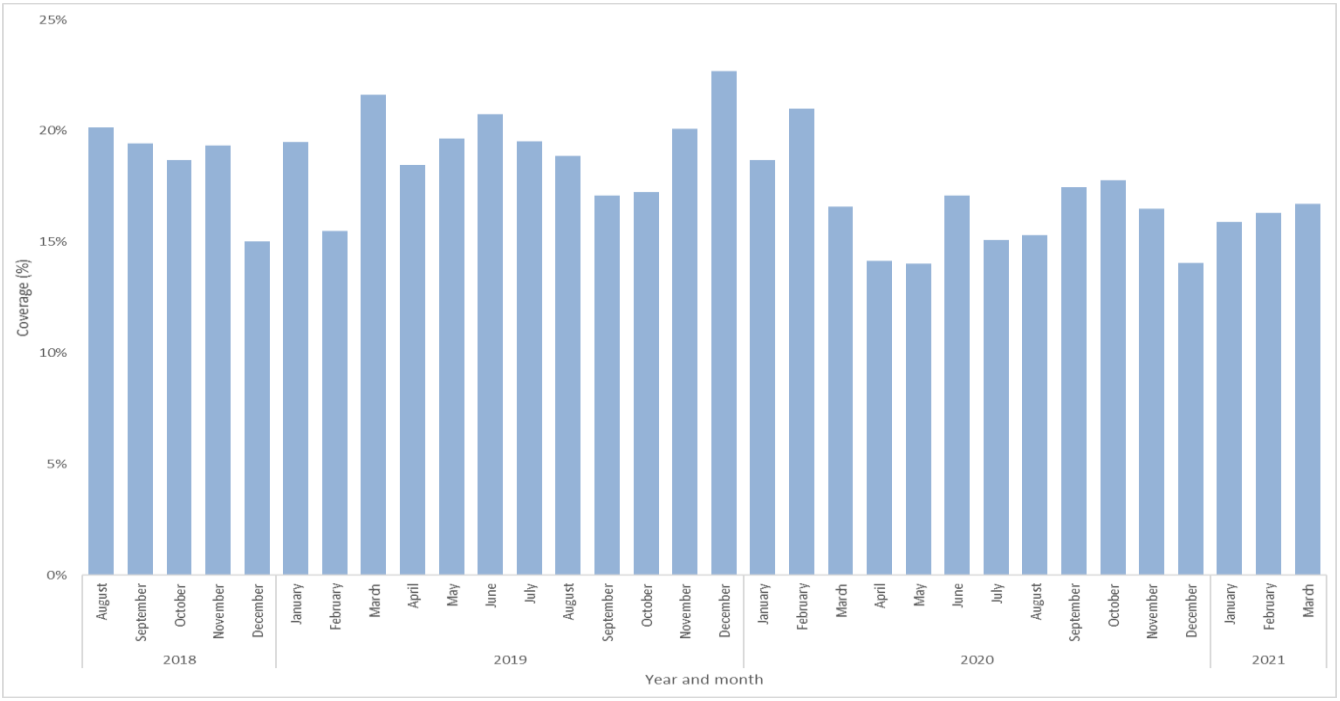

**Figure 12 a-b: Proportion of Aboriginal and Torres Strait Islander peoples attending participating ACCHS who received a syphilis test (PoCT and/or serology), month and year, August 2018 – March 2021[xviii]**
**(a. target age group 15-34 years b. all age groups)**

**a.**




[xviii] Excludes testing data for individuals for whom age was not reported.

**b.**




## Methodological notes

Data were extracted from the NNDSS on 16 May 2021, by diagnosis date. Due to the dynamic nature of the NNDSS, data in this extract are subject to retrospective revision and may vary from data reported in published NNDSS reports and reports of notification data by states and territories. Data are to 31 March 2021 unless otherwise specified.

In general, notification data represent only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown and is most likely variable by disease and jurisdiction.

In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs including the preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur annually.

*Data elements*

- 'Diagnosis year' was used to define the period of analysis. This date represents either the onset date or where the date of onset was not known, the earliest of the specimen collection date, the notification date, or the notification receive date.
- 'Residential postcode' reported to the NNDSS was used to allocate notifications of infectious and congenital syphilis to *remoteness areas* (as defined by the Australian Bureau of Statistics). Where a postcode was not reported the notification was excluded from remoteness area analysis.
    - Tasmania and Northern Territory do not have major cities as defined by the Australian Bureau of Statistics. Tasmanian "major cities" refers to inner regional areas and in the Northern Territory refers to outer regional areas.
- 'Residential postcode' usually reflects the residential location of a case at the time of testing and does not necessarily represent the place where the disease was acquired.
- The 'population denominator' used to calculate remoteness area rates and rates by sex and age (per 100,000 population) was extracted from the Australian Bureau of Statistics Census Table Builder (based on 2016 Census data) on 16 May 2021.

- The determination of the *Indigenous status* is by descent, self-identification, and community acceptance. While completeness of the Indigenous status field is generally high, it should be interpreted with caution as completeness of this field varies from year to year and jurisdiction to jurisdiction.
- 'Syphilis testing data' have been provided by participating ACCHS. A participating service refers to clinics currently funded by the Australian Government Department of Health to deliver point of care testing in syphilis outbreak regions. Services extract data from local clinical information management systems reporting to the Australian Government Department of Health. Data are provided for the reporting month, and cumulatively for the previous 12 months. 'Testing coverage' is calculated using as the denominator 'clients attending the service' (a participating ACCHS) during the reporting period.

*Case definitions*

The CDNA national surveillance case definitions for infectious and congenital syphilis, including any historical edits, are available at: https://www.health.gov.au/casedefinitions.

The outbreak case definition classifying cases reported under 'Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia' is defined:

> Nationally, an infectious syphilis outbreak case is defined as: any person who is newly diagnosed with confirmed or probable infectious syphilis according to the CDNA national surveillance case definition for infectious syphilis, **AND**, is an Aboriginal or Torres Strait Islander person who resides in any of the following outbreak declared regions as defined and documented by that jurisdiction, at or after the dates indicated: Qld - North West Hospital and Health Service area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018) (category 1 outbreak cases) OR, is a sexual contact of a confirmed outbreak case (category 2 outbreak cases).

## Acknowledgements

The Department of Health acknowledges the Communicable Diseases Network Australia, the work of public health officers involved in the collection of surveillance data; state and territory public health communicable disease surveillance managers and data managers; participating Aboriginal Community Controlled Health Services and all public and private laboratories that support laboratory surveillance in Australia.

## Contact

For any further details about information contained in this report please contact the Communicable Diseases Epidemiology and Surveillance Section (CDESS@health.gov.au).

## Introduction

On 23 March 2021, the Australian Health Protection Principal Committee (AHPPC) endorsed the *National strategic approach for responding to rising rates of syphilis in Australia 2021* (Strategic Approach) developed to guide the national response to the continued rise in syphilis notifications in Australia. The Strategic Approach outlines three national targets which provide a specific focus for efforts towards addressing the rising rates of syphilis and adverse outcomes in Australia:

1. Reduce incidence of syphilis overall, with a focus on women of reproductive age.
2. Eliminate[i] congenital syphilis.
3. Control outbreaks[ii] among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia.

Supporting the Strategic Approach is the *National syphilis surveillance and monitoring plan* (Surveillance Plan) which outlines indicators that will be used to monitor progress towards achieving the three specific targets.

This report provides a quarterly account of progress against the targets and indicators in the Strategic Approach and Surveillance Plan.

## Analysis

***The Department of Health acknowledges the providers of the many sources of data used in this report and greatly appreciates their contribution.***

### *Summary*

- Aboriginal and Torres Strait Islander peoples continue to be disproportionately represented in the syphilis notification data.
- While the greatest proportion of syphilis cases were reported in non-Indigenous men, who were largely residents of major cities, notification rates declined over the previous 12 months.
- Notification rates in Aboriginal and Torres Strait men and women declined across most age groups in major cities as compared to the preceding 12 months. Rates increased in non-Indigenous women in major cities in 25-44 years.
- Notification rates in Aboriginal and Torres Strait peoples also increased in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia.
- Notification rates among Aboriginal and Torres Strait Islander and non-Indigenous women of reproductive age (15-44 years) residing in major cities and remote/very remote areas of Australia reported increases over the previous 12 months.
- Increases among women of reproductive age in recent years have coincided with the highest number of congenital syphilis cases diagnosed in 2020 (n=18) since 2001.

Data presented are to 30 June 2021, unless otherwise specified.

### *Considerations*

This report aims to increase awareness of syphilis in Australia by providing an analysis of available notification and testing data. Delays in the reporting of data may cause data to change retrospectively. When considering the below analysis, it is important to note that the impact of the COVID-19 pandemic on health seeking behaviours, testing and sexual behaviour in relation to syphilis is not yet known. However, it is expected that syphilis testing will have declined overall due to the diversion of resources to COVID-19 testing.

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[i] The 2018-22 National STI Strategy and Aboriginal and Torres Strait Islander BBV and STI Strategy, define elimination of congenital syphilis as '*no new cases of congenital syphilis nationally notified for two consecutive years*'.

[ii] At the time of writing Queensland, the Northern Territory, Western Australia and South Australia were the only jurisdictions with officially declared outbreak regions. New outbreak regions in other jurisdictions may be declared with endorsement from the CDNA, after which this target will be amended.

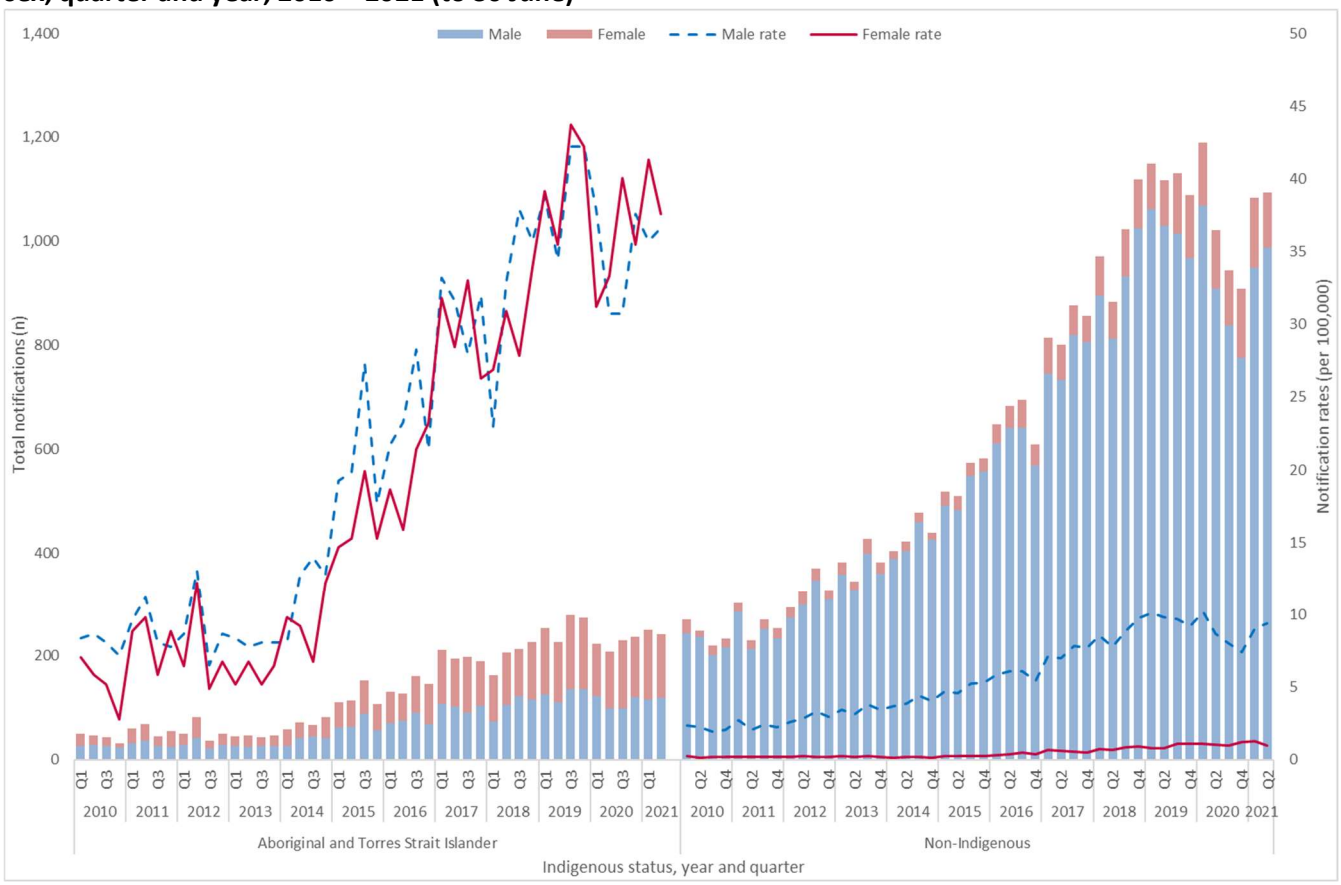
## Target 1: Reduce incidence of syphilis overall, with a focus on women of reproductive age

***Indicator 1.1 - Rate of infectious syphilis***

In the previous 12 months (1 July 2020 – 30 June 2021), there were 5,379 cases of infectious syphilis reported to the National Interoperable Diseases Surveillance System (NINDSS), with 4,987 cases (93%) reporting Indigenous status and sex:

- The greatest proportion of cases were among non-Indigenous males (71%, n=3,550), followed by Aboriginal and Torres Strait Islander females (10%, n=505), non-Indigenous females (10%, n=479) and Aboriginal and Torres Strait Islander males (9%, n=453).
- Aboriginal and Torres Strait Islander females and males are disproportionately represented in the notification data, with notification rates reported for the previous 12 months as 154.4 and 140.6 per 100,000 respectively. Non-Indigenous males, despite representing the greatest proportion of total notifications, reported a notification rate substantially lower (33.8 per 100,000) followed by non-Indigenous females (4.4 per 100,000) (Figure 1).
- While reporting the lowest rate, non-Indigenous females observed the greatest proportional rate increase compared to the 5 year mean (25%) and second highest compared to the preceding 12 months (2%), noting that the increase was from a lower base. Aboriginal and Torres Strait Islander females reported the greatest proportional increase compared to the preceding 12 months (3%) and compared to the 5 year mean a 14% increase.
- Compared to the preceding 12 months, non-Indigenous males and Aboriginal and Torres Strait Islander males reported declines in notification rates (12% and 9% respectively). Compared to the 5 year mean Aboriginal and Torres Strait Islander males reported a 5% rate increase and non-Indigenous males 1% increase.

**Figure 1: Notifications (n) and notification rate (per 100,000) of infectious syphilis* reported, by Indigenous status, sex, quarter and year, 2010 – 2021 (to 30 June)**




*Excludes cases for whom sex and/or Indigenous status was not reported.

*Remoteness area*

Across all remoteness areas of Australia, Aboriginal and Torres Strait Islander men and women have substantially higher notification rates compared to non-Indigenous men and women (Figures 2 a-c and 3 a-c).

In the previous 12 months (1 July 2020 – 30 June 2021) the highest notification rates were reported among Aboriginal and Torres Strait Islander men and women aged 15-34 years old residing in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia (see Target 3 below for further information on the outbreak).

- *Major cities*

Despite representing the greatest proportion (84%) of syphilis notifications in major cities across Australia, notification rates in non-Indigenous men observed declines across all age groups in the past 12 months (1 July 2020 – 30 June 2021) as compared to the preceding 12 months (1 June 2019 – 30 2020). Notification rates in Aboriginal and Torres Strait men and women declined across all age groups as compared to the preceding 12 months, with the exception of men and women aged 45+ years. Notification rates in non-Indigenous women increased in women aged between 25-44 years and declined in the remaining age groups (Figures 2a and 3a). The greatest increases between the previous 12 months and 12 months prior, were among Aboriginal and Torres Strait Islander women aged 45+ years (125% increase, noting the low base), followed by non-Indigenous women aged 35-44 years (38%) and Aboriginal and Torres Strait Islander men aged 45+ years (27%).

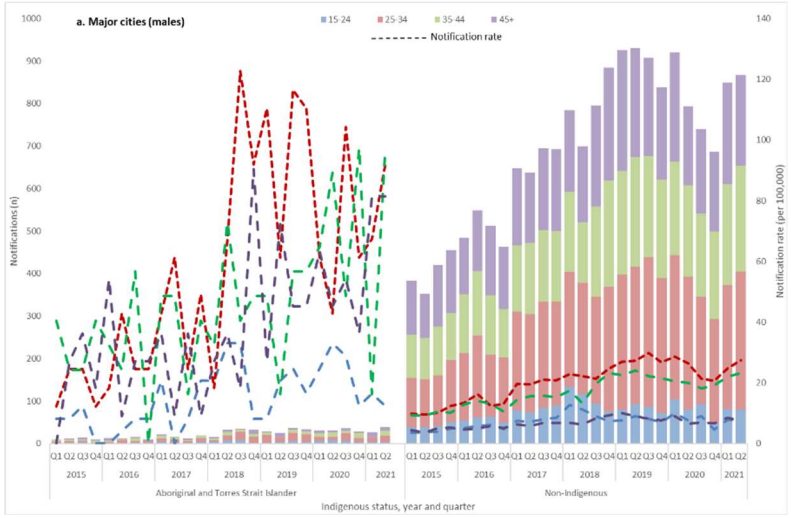
- *Inner and outer regional areas*

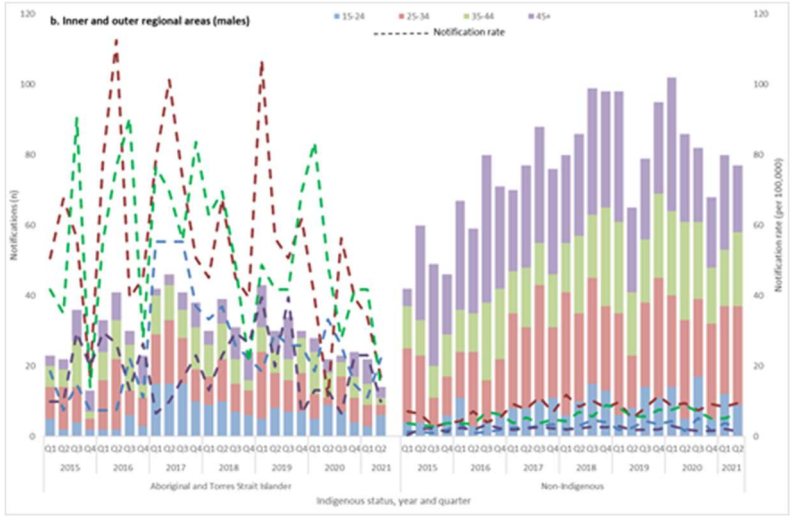
Non-Indigenous men represented the greatest proportion of cases reported in the past 12 months in inner and outer regional areas (53%) followed by Aboriginal and Torres Strait Islander women (18%), non-Indigenous women (15%) and Aboriginal and Torres Strait Islander men (14%). Notifications among Aboriginal and Torres Strait Islander men and women and non-Indigenous men and women residing in inner and outer regional areas of Australia declined across all age groups (with the exception of non-Indigenous women aged 25-34 years and Aboriginal and Torres Strait Islander women aged 15-24 years) in the past 12 months (1 July 2020 – 30 June 2021) as compared to the preceding 12 months (1 July 2019 – 30 June 2020) (Figures 2b and 3b).

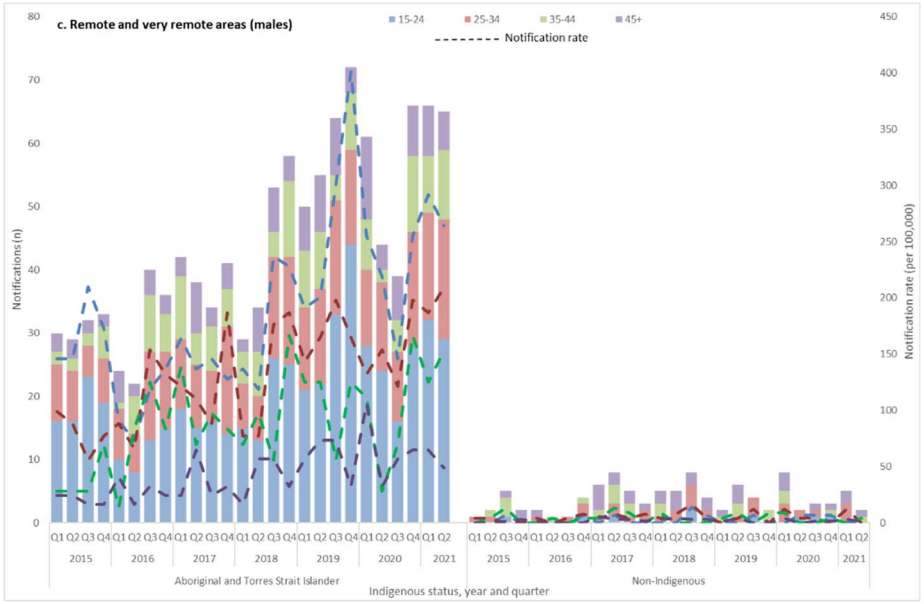
- *Remote and very remote areas*

Aboriginal and Torres Strait Islander women and men represented 97% of cases reported over the previous 12 months in remote and very remote areas of Australia. Across all remoteness areas, notification rates were highest in Aboriginal and Torres Strait Islander men and women, particularly in younger age groups (Figures 2c and 3c).

**Figure 2 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in males, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 30 June) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote areas)***

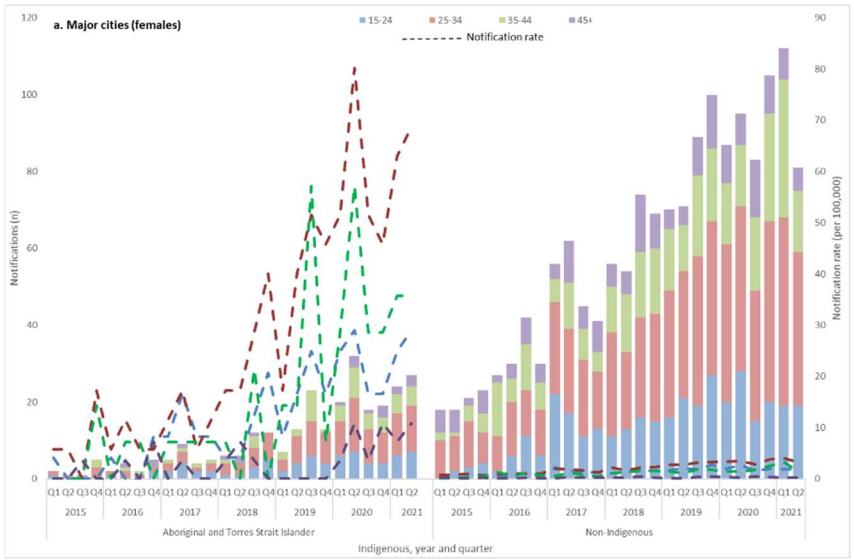


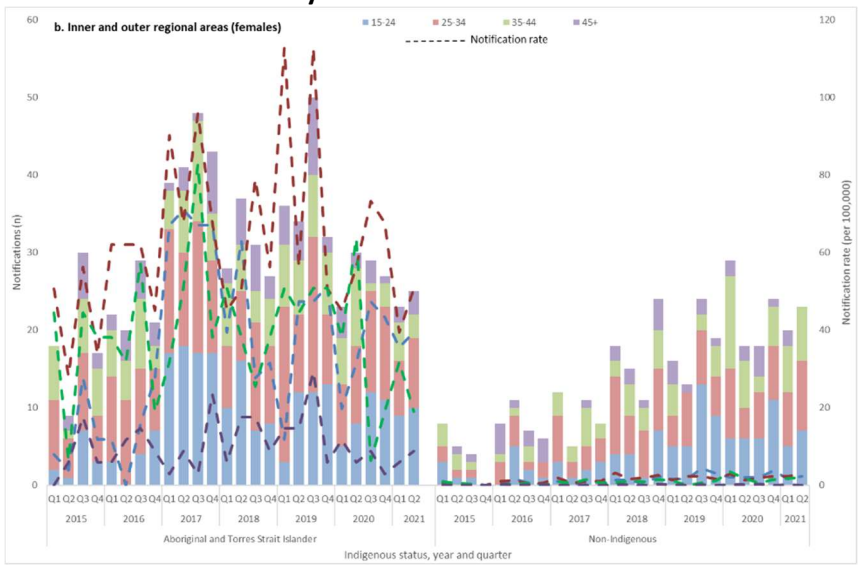



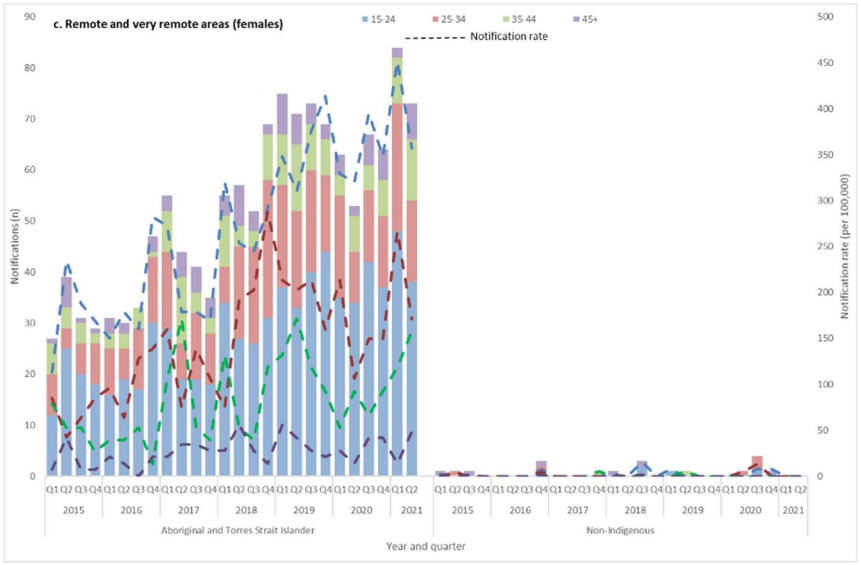




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

**Figure 3 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 30 June) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote area**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

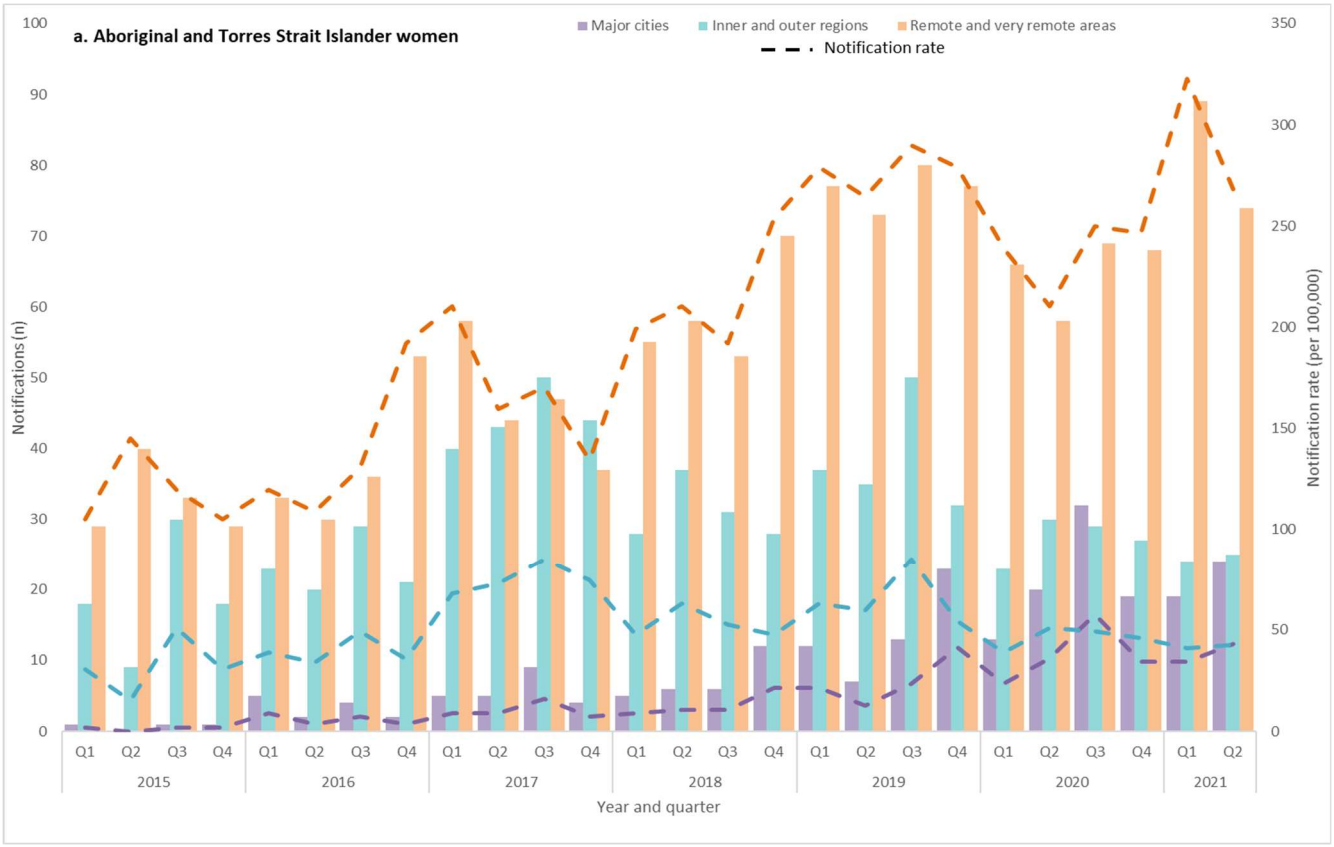
***Indicator 1.2 - Rate of infectious syphilis among women of reproductive age (15-44 years)***

Over the previous 12 months (1 July 2020 – 30 June 2021) notifications of syphilis among Aboriginal and Torres Strait Islander women aged 15-44 years were predominately in residents of remote and very areas of Australia, consistent with historical trends (Figure 4a). The highest notification rates, as expected, were in remote and very remote areas, increasing slightly (7%) in the previous 12 months compared to the preceding 12 months (1 July 2019 – 30 June 2020). Inner and outer regional areas recorded the second highest rates in the previous 12 months, however compared to the preceding 12 months rates declined by 22% and 21% compared to the 5 year average. In contrast, notification rates in Aboriginal and Torres Strait Islander women residing in major cities of Australia, although lower, have increased by 36% between the previous 12 months and the 12 months prior, and 96% compared to the 5 year average.

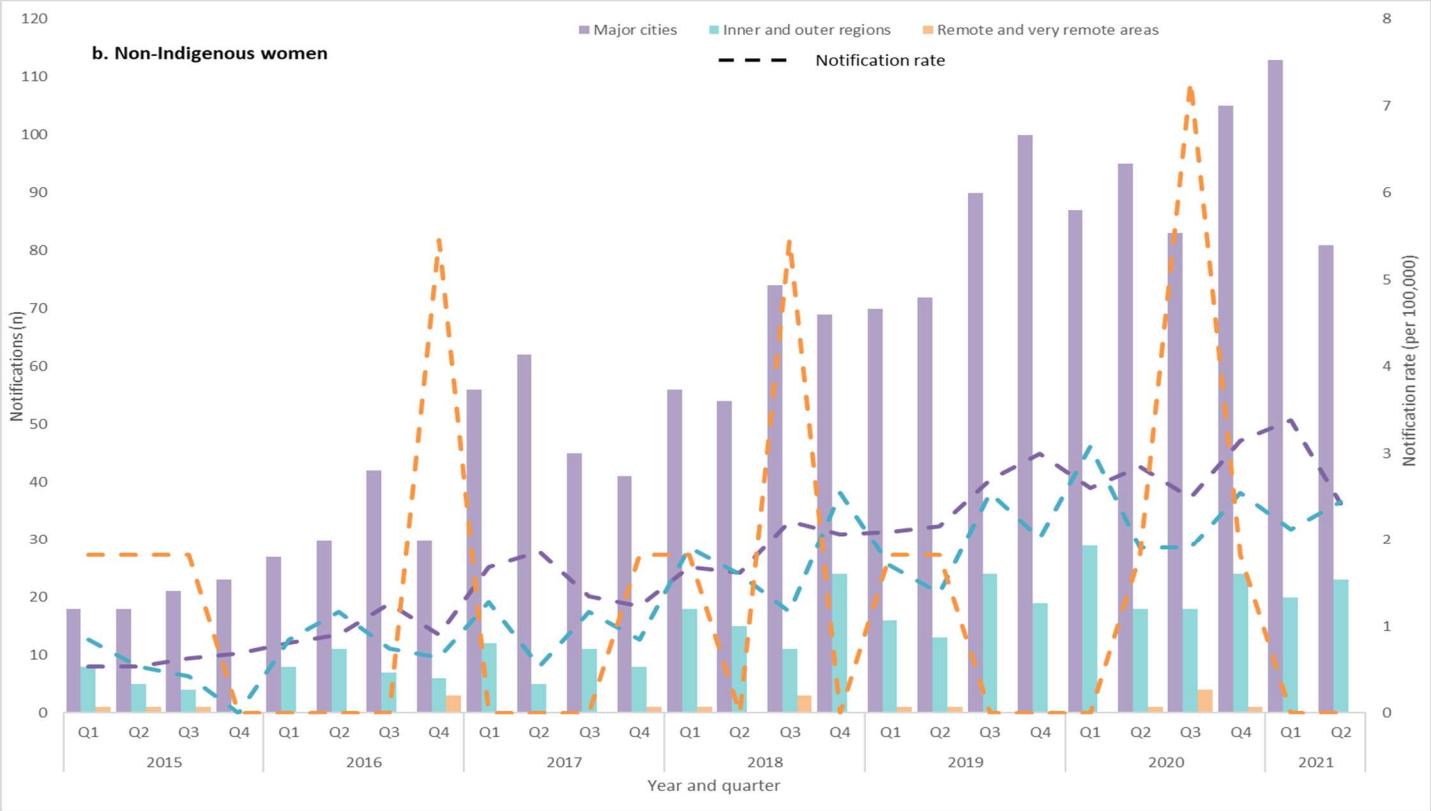
Non-Indigenous women of reproductive age diagnosed with syphilis over the previous 12 months were predominately residents of major cities of Australia, consistent with historical trends (Figure 4b). Notifications rates increased for this group by 3% between the previous 12 months and the 12 months prior, and 34% compared to the 5 year average. Notification rates in inner and outer regional areas declined between the previous 12 months and the 12 months prior (6%), however rates compared to the 5 year average increased considerably (32%). Notification rates in remote and very remote Australia have fluctuated, noting that overall notifications in these areas are low for non-Indigenous women.

**Figure 4a-b: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females aged 15-44 years, by Indigenous status, remoteness area, quarter and year, 2015 – 2021 (to 30 June) (a. Aboriginal and Torres Strait Islander and b. non-Indigenous)***

**a.**



**b.**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

***Indicator 1.3 - Proportion of infectious syphilis notifications in men reporting sexual exposure with men only***
***Indicator 1.4 - Proportion of infectious syphilis notifications in men reporting sexual exposure with both men and women***

Enhanced data are used to report against indicators 1.3 and 1.4. Syphilis data by sexual exposure (same sex, opposite sex and both sexes)

*Completeness of enhanced sexual exposure data*

Completeness of the sexual exposure in males notified with infectious syphilis fluctuated between 2015 and 2021 (to 30 June), ranging from 62% and 87% (average 74%).

Same sex only was the most commonly reported exposure across all years during the reporting period, representing on average 57% of notifications overall, followed by opposite sex only (13%) and both sexes (4%). The proportion of cases reporting same sex only exposure fluctuate across the reporting period with the highest in 2015 (67%) and lowest in 2020 (46%), noting higher proportions of unknown cases in more recent years (Figure 5).

Although men reporting sexual exposure with both men and women represented the lowest proportion of all cases during the reporting period (range 3.4 -5.6%), notifications reporting this category of sexual exposure increased by 137% between 2015 and 2020 (Figure 5).

**Figure 5: Number of infectious syphilis notifications among men and proportion (%) of cases by sexual exposure and year 2015 – 2021 (to 30 June)**


## Target 2: Eliminate congenital syphilis

***Indicator 2.1 - Number of congenital syphilis notifications***

***Indicator 2.2 - Notification rate of congenital syphilis per 100,000 live births***

***Indicator 2.3 - Number of congenital syphilis cases that were reported to have died from the condition***

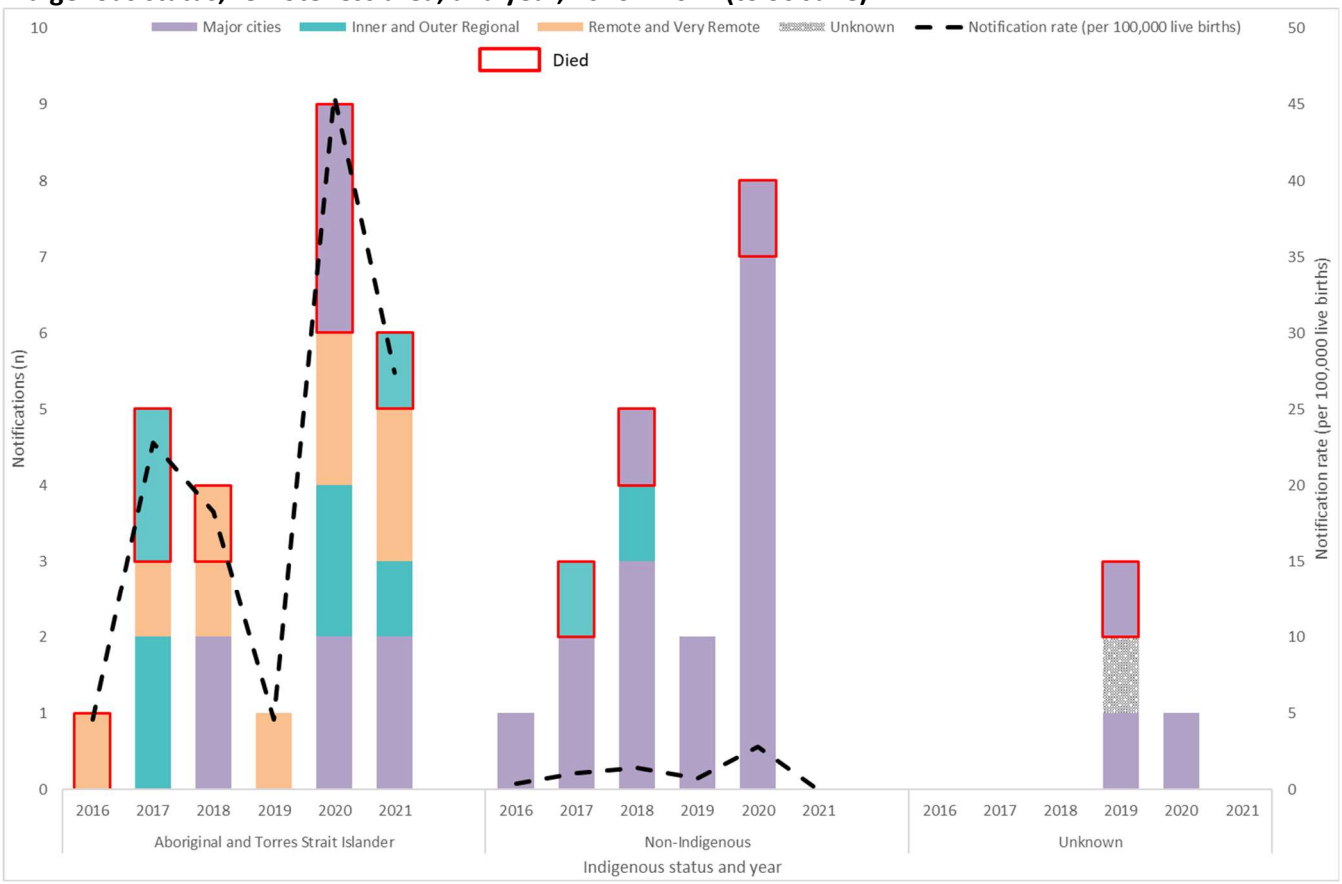
Forty-nine (49) cases of congenital syphilis were reported between 2016 and 30 June 2021, 26 were reported in Aboriginal and Torres Strait Islander infants, 19 were non-Indigenous and 4 had an unknown Indigenous status (Figure 6). Among the 25 Aboriginal and Torres Strait Islander cases, 35% (9/26) were residents of major cities, 35% (9/26) from remote/very remote areas and 32% (8/26) from inner/outer regional areas. Eighty-nine per cent (89%, 17/19) of non-Indigenous cases were residents of major cities and 11% (2/19) from inner/outer regional areas. Cases with an unknown Indigenous status were largely reported from major cities (75%, 3/4) with the remaining case (25%, 1/4) reporting an unknown residence. [iii]

Aboriginal and Torres Strait Islander infants are disproportionately represented in the notification data, with rates per 100,000 live births on average almost 20 times that of non-Indigenous infants, noting that rates have fluctuated in both groups over time.

Twelve (12) congenital syphilis associated deaths were reported between 2016 and 30 June 2021, 8 (67%, 8/12) were Aboriginal and Torres Strait Islander infants, 3 (25%, 3/12) were non-Indigenous and 1 (8%, 1/12) had an unknown Indigenous status. Of the Aboriginal and Torres Strait Islander infants that died, 3 (38%, 3/8) were reported in major cities, 3 (38%, 3/8) from inner/outer regional areas and 2 (25%, 2/8) from remote/very remote areas. Of the non-Indigenous infants 2 (67%, 2/3) were reported in major cities and 1 (33%, 1/3) a resident of an inner/outer regional area. The remaining case (unknown Indigenous status) reported to have died was from a major city.

[iii] Totals may not equal 100% due to rounding.

**Figure 6: Notifications (n) and notification rate (per 100,000 live births) of congenital syphilis reported in, by Indigenous status, remoteness area, and year, 2016 – 2021 (to 30 June)**




***Indicator 2.4 - Proportion of syphilis notifications among women who were pregnant[iv] at time of diagnosis***

Pregnancy status was available for 6 jurisdictions in 2021, 5 in 2020 and 3 between 2017 and 2019[vi]. Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends overtime should be interpreted with caution.

In 2021 (to 30 June), of the syphilis notifications among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years), 10% were pregnant at the time of diagnosis, 37% were not pregnant and 50% had an unknown pregnancy status (Figure 7). The proportion of Aboriginal and Torres Strait Islander women pregnant at time of syphilis diagnosis in 2021 is lower than the proportions reported between 2017 and 2020 (range 14%-17%) noting that number of jurisdictions reporting data each year varied.

Among non-Indigenous women of reproductive age in 2021, 9% were pregnant at the time of diagnosis, 42% were not pregnant and 49% had an unknown pregnancy status (Figure 7). The proportion of non-Indigenous women pregnant at time of syphilis diagnosis in 2021, was lower than the proportions reported between 2017 and 2020 (range 17%-22%), noting that number of jurisdictions reporting data each year varied.

[iv] Pregnancy status: 2017 -2019 includes data from Queensland, New South Wales and Western Australia; 2020 includes data from Queensland, New South Wales, Western Australia, South Australia and the Australian Capital Territory, and; 2021 includes from Queensland, New South Wales, Western Australia, South Australia, the Australian Capital Territory and Victoria.

**Figure 7: Number of syphilis notifications among women of reproductive age (15-44 years) and proportion (%) of cases pregnant at time of syphilis diagnosis, by Indigenous status and year, 2017-2021 (to 30 June)**


***Indicator 2.5 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis in pregnancy by gestation period***
***Indicator 2.6 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis late[v] in pregnancy***

Enhanced data are used to report against indicators 2.5 and 2.6.

*Completeness of enhanced congenital syphilis data*

- Between 2016 and June 2021, 92% (45/49) of congenital syphilis cases had enhanced data available, including information about the mother of the infant diagnosed with congenital syphilis. Data were available for 100% (2/2) of cases in 2016, 2017 (8/8) and 2018 (9/9). In 2019 67% (4/6) of cases had enhanced data available at the time of writing, in 2020 94% (17/18) and in 2021 83% (5/6).

Of the 45 congenital syphilis cases with enhanced data available between 2016 and June 2021, 3 (7%, 3/45) mothers giving birth to an infant with congenital syphilis were diagnosed in the 1st or 2nd trimester, 12 (27%, 12/45) in the 3rd trimester, 13 (29%, 13/45) on the day of delivery, 15 (33%, 15/45) post-birth and 2 (4%, 2/45) had an unknown date of syphilis diagnosis (Table 1).

Eighty per cent (80%, 36/45) of mothers giving birth to an infant with congenital syphilis were diagnosed late in pregnancy, including 8 mothers diagnosed in the 3rd trimester less than 30 days prior to delivery.

[v] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

**Table 1: Number of women* giving birth to an infant with congenital syphilis, by gestation period mother was diagnosed with syphilis and year, 2016 – 2021 (to 30 June)**

| Gestation period of mothers syphilis diagnosis | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 (to June ) |
|---|---|---|---|---|---|---|
| 1st Trimester | - | - | 1 | - | - | - |
| 2nd Trimester | 1 | - | - | - | 1 | - |
| 3rd Trimester | 1 | 2 | 3 | 2 | 2 | 2 |
| At birth (Day of delivery) | - | 2 | 2 | - | 6 | 3 |
| Post-birth | - | 3 | 2 | 2 | 8 | - |
| Unknown | - | 1 | 1 | - | - | - |
| **Total** | **2** | **8** | **9** | **4** | **17** | **5** |
| **Late diagnosis[vi]** | **0** | **6** | **7** | **3** | **15** | **5** |

*Represents cases with enhanced data only (45/49 cases).

## Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia

An outbreak of infectious syphilis began in northern Queensland in January 2011, extending to the Northern Territory in July 2013, the Kimberley in Western Australia in June 2014 and South Australia in November 2016.

The AHPPC, in consultation with affected jurisdictions, Aboriginal Community Controlled Health Services (ACCHS) and key stakeholders, developed a National Strategic Approach and Action Plan to address the disproportionately high rates of syphilis and other BBV and STI in regional and remote Aboriginal and Torres Strait Islander communities. The Strategic Approach and Action Plan were endorsed by the Australian Health Ministers Advisory Council in December 2017.

Further information on the outbreak and response activities are available on the Department of Health website.

***Indicator 3.1 - Number of outbreak associated infectious syphilis notifications***

Since the commencement of the outbreak on 1 January 2011 to 30 June 2021, a total of 4,321 infectious syphilis outbreak cases (category 1 and 2[vii]) were reported from 4 jurisdictions (Figure 8, Table 2):

- 1,755 from Queensland;
- 1,627 from the Northern Territory;
- 794 from Western Australia;
- 145 from South Australia.

Across the 4 outbreak jurisdictions, 54% (2,296/4,232) of all category 1 cases were female and 46% (1,936/4,232) were male, with a male to female ratio of 0.8:1 suggesting predominately heterosexual transmission overall, noting the variability across specific outbreak regions and jurisdictions (Figure 9 a-d, Table 2).

On 19 November 2020, the Multi-Jurisdictional Syphilis Working Group endorsed the expansion of the 'target age group' from 15-29 years to 15-34 years[viii]. This change came into effect from the February 2021. Overall 72% (3,043/4,232) of all outbreak cases were reported in 15-34 year olds, with the proportion of cases in this age group across the outbreak period (1 January 2011-30 June 2021) ranging between 67% and 92% (Figure 9a-d).

[vi] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

[vii] Outbreak cases are reported as either category 1 or category 2: category 1 cases include Aboriginal and Torres Strait Islander people residing in an outbreak declared region at the time of diagnosis, and; category 2 cases include people who are a sexual contact of a confirmed outbreak case which includes Aboriginal and Torres Strait Islander people who do not reside in an outbreak area at the time of diagnosis and non-Indigenous people regardless of where they reside. **All data are provisional and subject to change due to ongoing case investigation**.

[viii] Multijurisdictional Syphilis Outbreak Surveillance Report: February 2021

**Figure 8: Notifications of category 1 infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions of Queensland, the Northern Territory, Western Australia and South Australia from commencement of the outbreak in each jurisdiction to 30 June 2021**

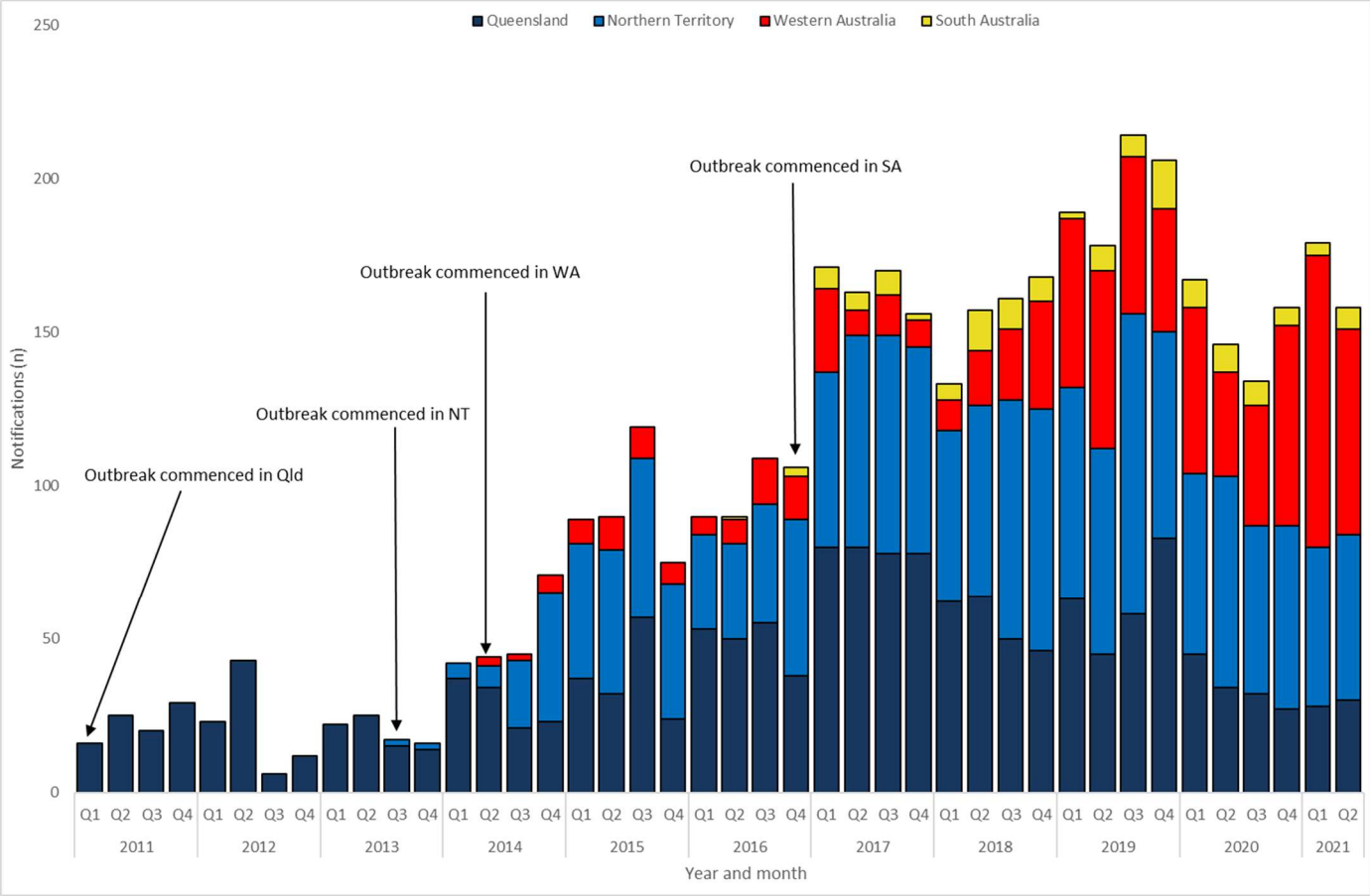



**Table 2: Characteristics of infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions[ix] of Queensland, the Northern Territory, Western Australia and South Australia to 30 June 2021**

| | **Queensland** (five HHSs) | **Northern Territory** (seven regions ) | **Western Australia** (three regions ) | **South Australia** (three regions ) |
|---|---|---|---|---|
| **Category 1** | | | | |
| Outbreak commencement month/year | January 2011 | July 2013 | June 2014 | November 2016 |
| Total number of cases | 1,694 | 1,608 | 791 | 139 |
| % Male / % Female | 46% / 54% | 46% / 54% | 44% / 56% | 50% / 50% |
| % 15-34 year age group | 70% | 73% | 75% | 67% |
| **Category 2** | | | | |
| Aboriginal and Torres Strait Islander people[x] | 15 | 2 | 3 | - |
| Non-Indigenous people[xi] | 46 | 17 | - | 6 |

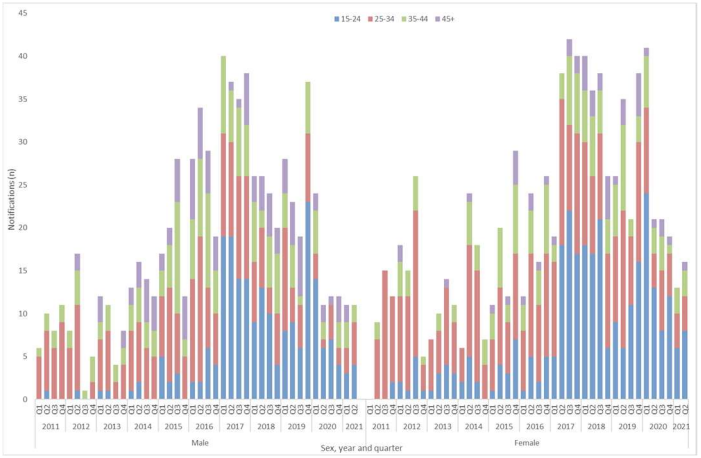
[ix] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

[x] Aboriginal and Torres Strait Islander people who are sexual contacts of a confirmed outbreak case and reside outside an outbreak declared region at the time of diagnosis.

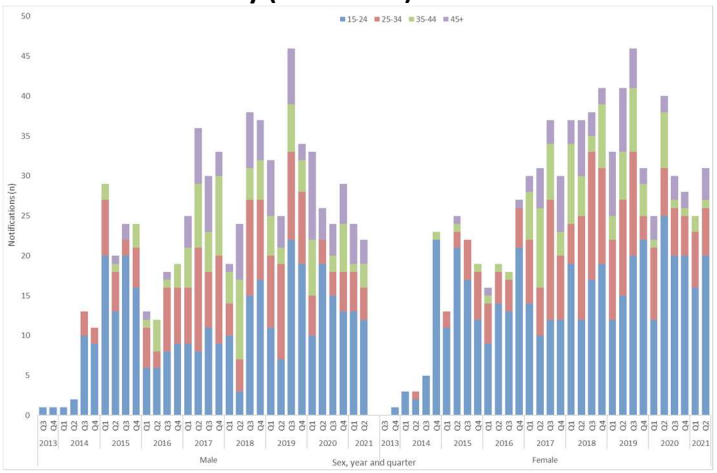
[xi] Non-Indigenous people who are sexual contacts of a confirmed outbreak case and reside in or out of an outbreak declared region at the time of diagnosis.

**Figure 9 a-d: Notifications (n) of category 1 outbreak associated syphilis cases, by age*, sex, jurisdiction, year and quarter from commencement in each jurisdiction to 30 June 2021 (a. Queensland, b. the Northern Territory, c. Western Australia and d. South Australia)[xii]**

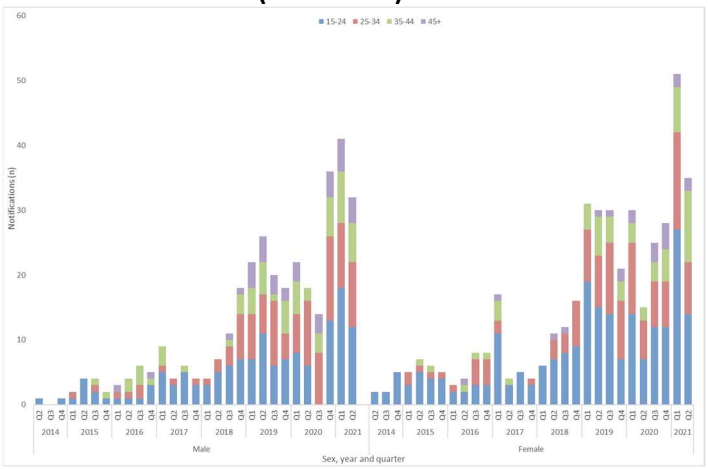
**a. Queensland (2011-2021)**



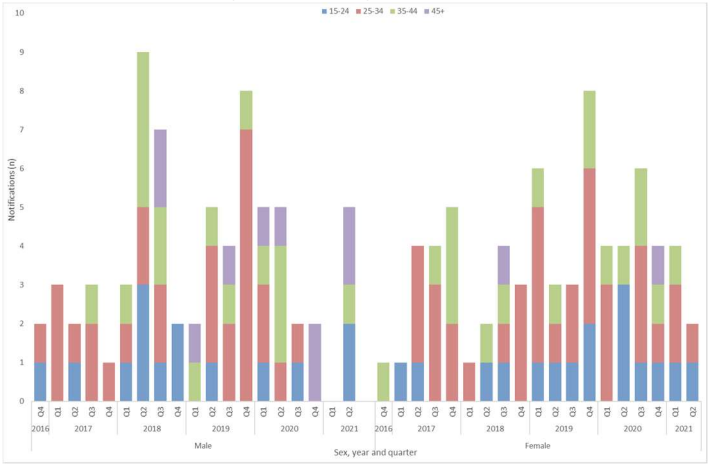

**b. Northern Territory (2013-2021)**




**c. Western Australia (2014-2021)**




**d. South Australia (2016-2021)**




*Excludes cases aged <15 years of age.

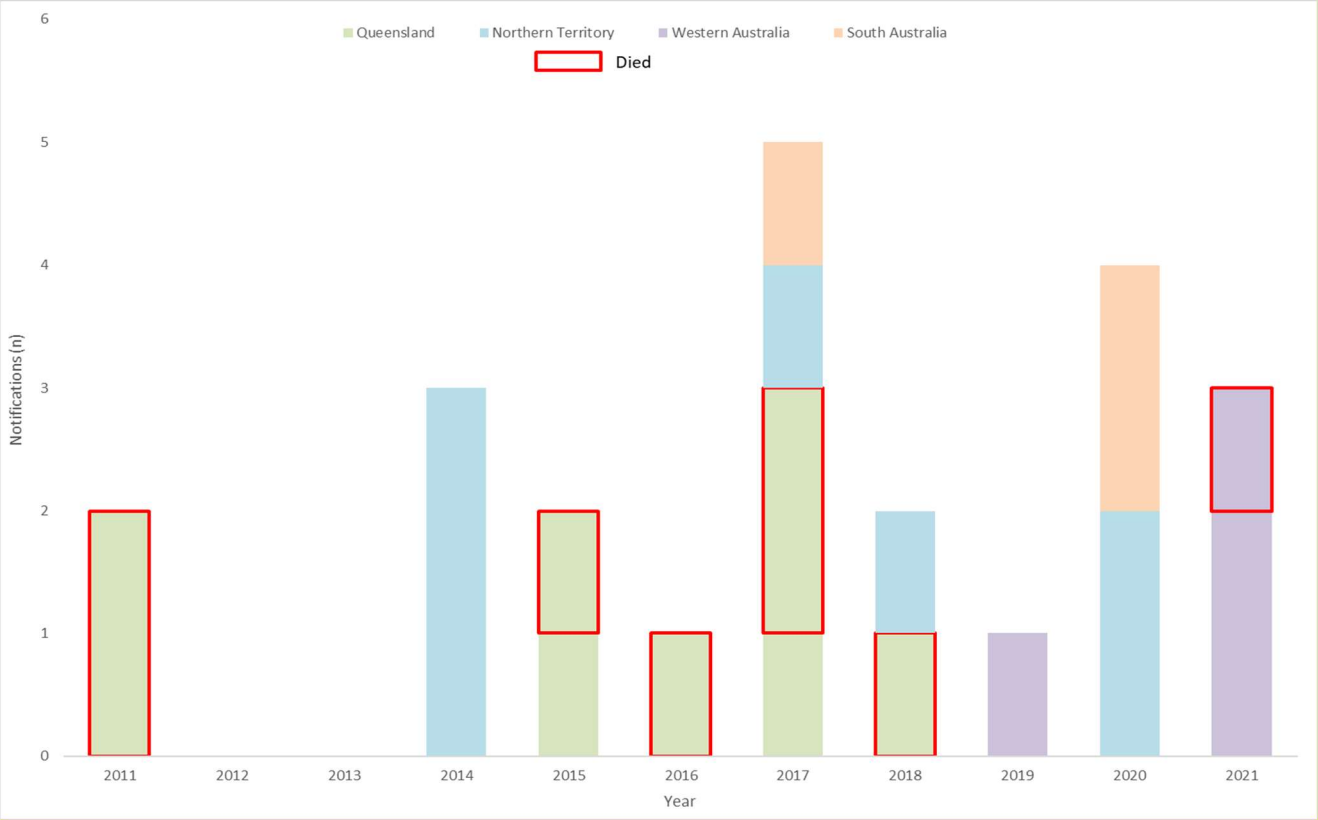
[xii] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

***Indicator 3.2 - Number of outbreak associated congenital syphilis notifications***

***Indicator 3.3 - Number of outbreak associated congenital syphilis cases that were reported to have died from the condition***

Since the commencement of the outbreak in January 2011 to 30 June 2021, there were 23 outbreak associated cases of congenital syphilis reported, 9 from Queensland, 7 from the Northern Territory, 4 from Western Australia and 3 from South Australia. Eight (8) of these cases were reported to have died from the condition, 7 from Queensland and 1 from Western Australia (Figure 10).

**Figure 10: Notifications (n) of outbreak associated congenital syphilis cases and reported deaths, by jurisdiction, and year, 2016 – 2021 (to 30 June)[xvi]**




***Indicator 3.4 - Proportion of outbreak associated infectious syphilis notifications among women who were pregnant[xiii] at time of diagnosis***

Pregnancy status was available for 3 out of 4 outbreak jurisdictions in 2020 and 2021 (Queensland, Western Australia and South Australia). Between 2017 and 2019, pregnancy status was available for 2 out of 4 jurisdictions (Queensland and Western Australia). Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends overtime should be interpreted with caution.

In 2021 (to 30 June), of the outbreak associated notifications of syphilis among women of reproductive age (15-44 years) reported in Queensland, Western Australia and South Australia, 13% were pregnant at the time of diagnosis, 59% were not pregnant and 28% had an unknown pregnancy status (Figure 11). The proportion of women pregnant at syphilis diagnosis in 2021 is slightly lower than 2020 (14%). Between 2017 and 2019, the proportion of women pregnant at time of diagnosis was 17% in 2017 and 16% in 2018 and 15% in 2019, noting that this is representative of only 2 out of 4 outbreak affected jurisdictions (Queensland and Western Australia).

[xiii] Pregnancy status (outbreak jurisdictions): 2017 -2019 includes data from Queensland and Western Australia; 2020-2021 includes data from Queensland, Western Australia and South Australia. No data from the Northern Territory were available at the time of writing.

**Figure 11: Proportion (%) of outbreak associated syphilis notifications among women of reproductive age (15-44 years), by pregnancy status at time of syphilis diagnosis and year, 2016 – 2021 (to 30 June)**


***Indicator 3.5 - Cumulative number of syphilis tests delivered through participating ACCHS in outbreak affected jurisdictions***
***Indicator 3.6 - Proportion of people attending participating ACCHS who received a syphilis test***

On 1 August 2018, the test and treat model to curb the syphilis outbreak commenced at ACCHS in Townsville (Queensland), Cairns (Queensland) and Darwin (Northern Territory). These sites were chosen in consultation with the jurisdictions and National Aboriginal Community Controlled Health Organisation (NACCHO). On 1 September 2018, the second phase commenced in ACCHS in Katherine (Northern Territory), East Arnhem (Northern Territory) and the Kimberley east (Western Australia). On 1 May 2019, the third phase commenced with additional services in the West Arnhem (Northern Territory), Pilbara (Western Australia) and Kimberley west (Western Australia). The first ACCHS in South Australia were funded as part of the third phase (Western and Eyre, Far North and Adelaide). The fourth phase commenced from May 2020 at ACCHS in Mt Isa (Queensland), and Tennant Creek (Northern Territory).

The below data summarises syphilis testing data and coverage for participating ACCHS, noting that data are missing for some services.

As at 30 June 2021, through participating ACCHS (Figures 12 and 13 a-b):

- 61,092 syphilis tests, point-of-care tests (PoCT) and serological tests, were delivered from the commencement of phase 1 of the test and treat model rollout on 1 August 2018. On average 1,745 new tests are performed each month (Figure 11).
- the monthly testing coverage for all individuals was 8.2%, lower than the monthly average for the preceding 12 months (8.6%, 1 July 2020 – 30 June 2021) (Figure 12a).
- the monthly testing coverage for the target age group (15-34 years) was 14.0%, lower than the monthly average for the preceding 12 months (15.6%, 1 July 2020 – 30 June 2021) (Figure 12b).
- the rolling 12 month testing coverage (1 July 2020 – 30 June 2021) for all age groups was 25% and 38% for the target age group (15-34 years).

**Figure 12: Cumulative number of syphilis tests (PoCT and serology) delivered through participating ACCHS to Aboriginal and Torres Strait Islander peoples, by month and year, August 2018 – 30 June 2021**

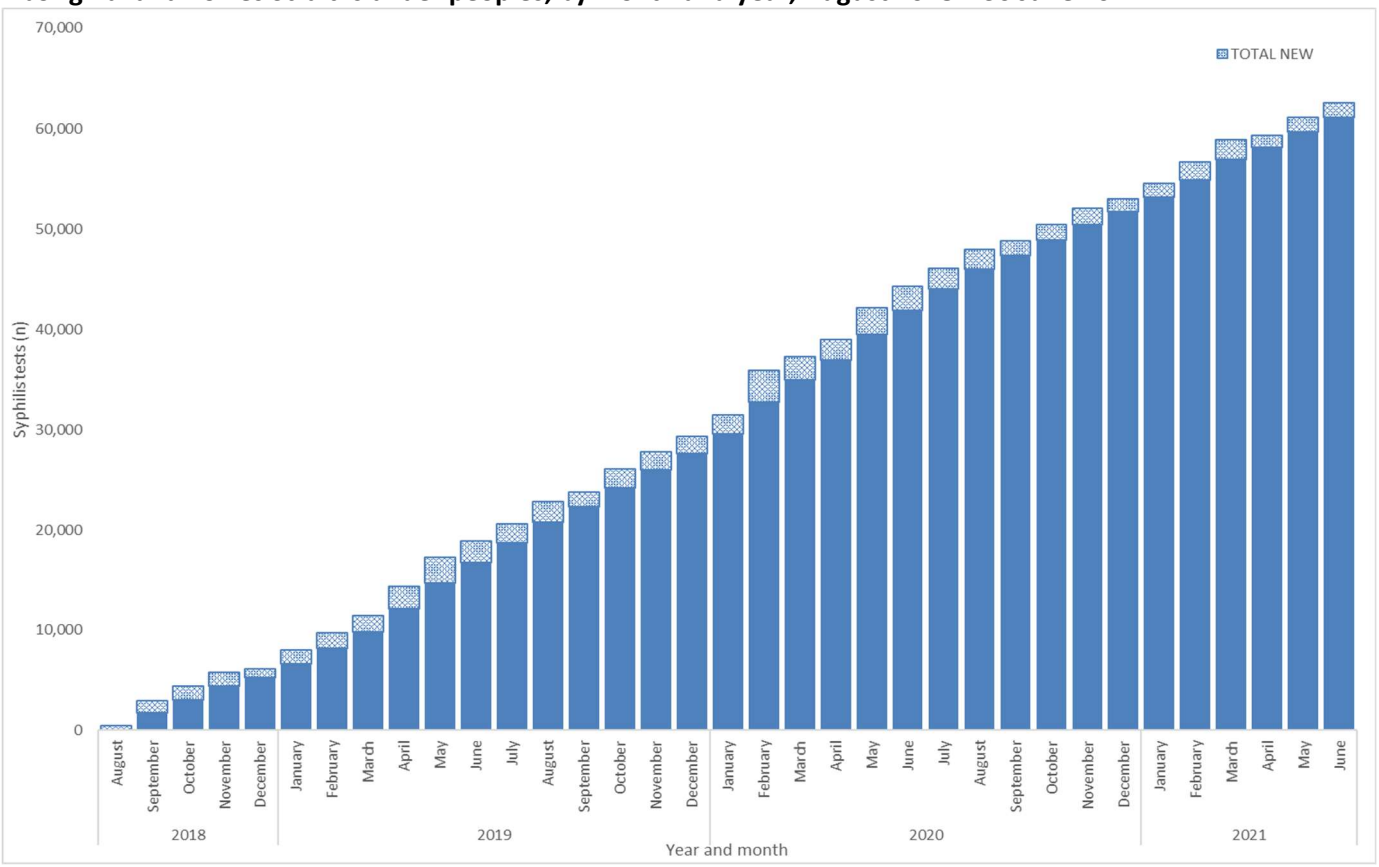
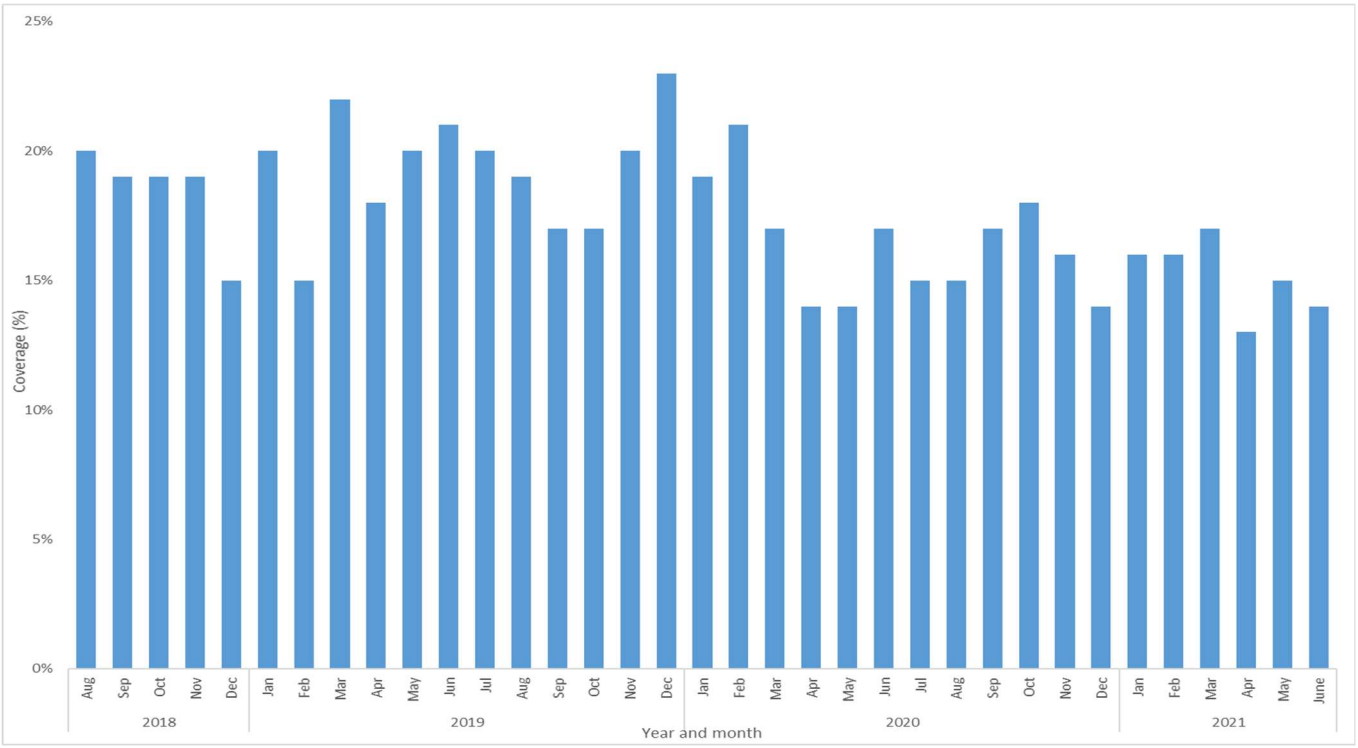


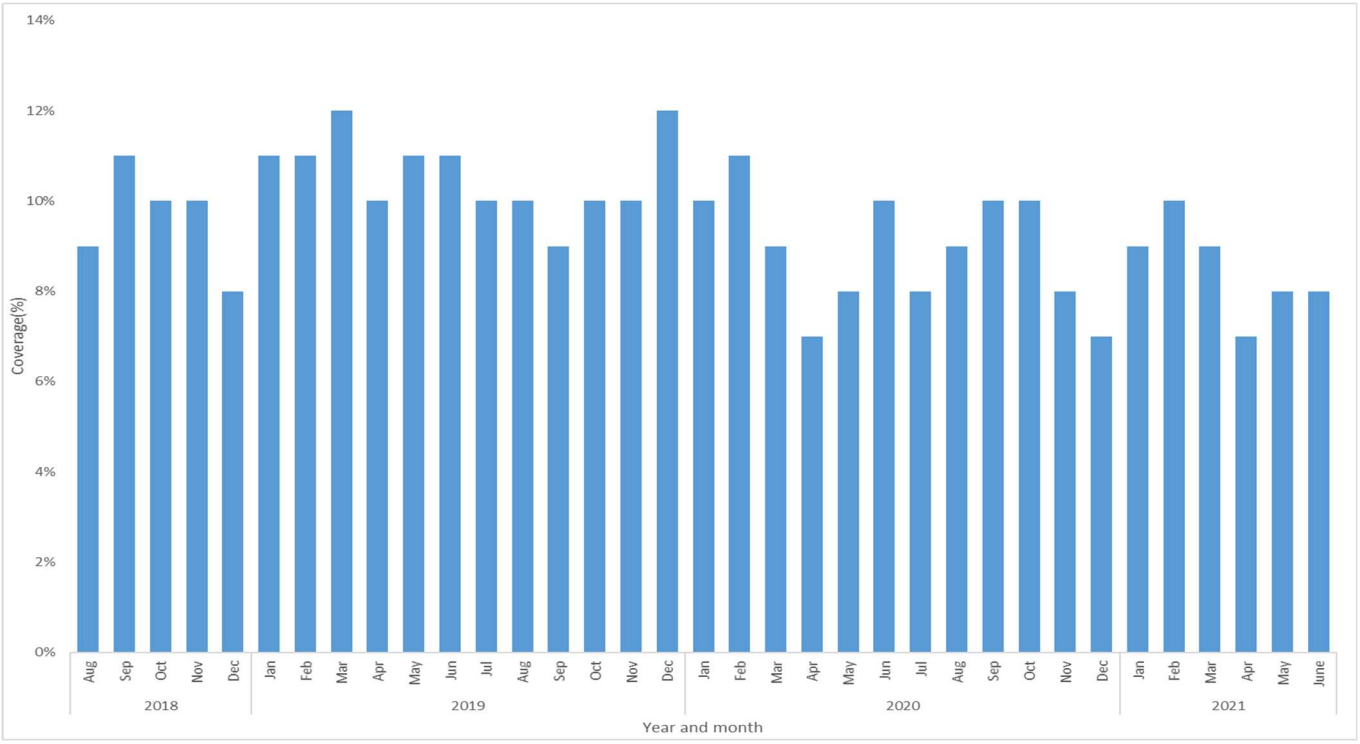

**Figure 13 a-b: Proportion of Aboriginal and Torres Strait Islander peoples attending participating ACCHS who received a syphilis test (PoCT and/or serology), month and year, August 2018 – June 2021[xiv]**
**(a. target age group 15-34 years b. all age groups)**

**a.**




[xiv] Excludes testing data for individuals for whom age was not reported.

**b.**




## Methodological notes

Data were extracted from the NNDSS on 23 August 2021, by diagnosis date. Due to the dynamic nature of the NNDSS, data in this extract are subject to retrospective revision and may vary from data reported in published NNDSS reports and reports of notification data by states and territories. Data are to 30 June 2021 unless otherwise specified.

In general, notification data represent only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown and is most likely variable by disease and jurisdiction.

In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs including the preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur annually.

*Data elements*

- 'Diagnosis year' was used to define the period of analysis. This date represents either the onset date or where the date of onset was not known, the earliest of the specimen collection date, the notification date, or the notification receive date.
- 'Residential postcode' reported to the NNDSS was used to allocate notifications of infectious and congenital syphilis to *remoteness areas* (as defined by the Australian Bureau of Statistics). Where a postcode was not reported the notification was excluded from remoteness area analysis.
    - Tasmania and Northern Territory do not have major cities as defined by the Australian Bureau of Statistics. Tasmanian "major cities" refers to inner regional areas and in the Northern Territory refers to outer regional areas.
- 'Residential postcode' usually reflects the residential location of a case at the time of testing and does not necessarily represent the place where the disease was acquired.

- The 'population denominator' used to calculate remoteness area rates and rates by sex and age (per 100,000 population) was extracted from the Australian Bureau of Statistics Census Table Builder (based on 2016 Census data) on 23 August 2021.
- The determination of the *Indigenous status* is by descent, self-identification, and community acceptance. While completeness of the Indigenous status field is generally high, it should be interpreted with caution as completeness of this field varies from year to year and jurisdiction to jurisdiction.
- 'Syphilis testing data' have been provided by participating ACCHS. A participating service refers to clinics currently funded by the Australian Government Department of Health to deliver point of care testing in syphilis outbreak regions. Services extract data from local clinical information management systems reporting to the Australian Government Department of Health. Data are provided for the reporting month, and cumulatively for the previous 12 months. 'Testing coverage' is calculated using as the denominator 'clients attending the service' (a participating ACCHS) during the reporting period.

*Case definitions*

The CDNA national surveillance case definitions for infectious and congenital syphilis, including any historical edits, are available at: https://www.health.gov.au/casedefinitions.

The outbreak case definition classifying cases reported under 'Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia' is defined:

> Nationally, an infectious syphilis outbreak case is defined as: any person who is newly diagnosed with confirmed or probable infectious syphilis according to the CDNA national surveillance case definition for infectious syphilis, **AND**, is an Aboriginal or Torres Strait Islander person who resides in any of the following outbreak declared regions as defined and documented by that jurisdiction, at or after the dates indicated: Qld - North West Hospital and Health Service area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018) (category 1 outbreak cases) OR, is a sexual contact of a confirmed outbreak case (category 2 outbreak cases)

## Acknowledgements

The Department of Health acknowledges the Communicable Diseases Network Australia, the work of public health officers involved in the collection of surveillance data; state and territory public health communicable disease surveillance managers and data managers; participating Aboriginal Community Controlled Health Services and all public and private laboratories that support laboratory surveillance in Australia.

## Contact

For any further details about information contained in this report please contact the Communicable Diseases Epidemiology and Surveillance Section (CDESS@health.gov.au).

## Introduction

On 23 March 2021, the Australian Health Protection Principal Committee (AHPPC) endorsed the *National strategic approach for responding to rising rates of syphilis in Australia 2021* (Strategic Approach) developed to guide the national response to the continued rise in syphilis notifications in Australia. The Strategic Approach outlines three national targets which provide a specific focus for efforts towards addressing the rising rates of syphilis and adverse outcomes in Australia:

1. Reduce incidence of syphilis overall, with a focus on women of reproductive age.
2. Eliminate[i] congenital syphilis.
3. Control outbreaks[ii] among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia.

Supporting the Strategic Approach is the *National syphilis surveillance and monitoring plan* (Surveillance Plan) which outlines indicators that will be used to monitor progress towards achieving the three specific targets.

This report provides a quarterly account of progress against the targets and indicators in the Strategic Approach and Surveillance Plan.

## Analysis

***The Department of Health acknowledges the providers of the many sources of data used in this report and greatly appreciates their contribution.***

### *Summary*

- Aboriginal and Torres Strait Islander peoples continue to be disproportionately represented in the syphilis notification data.
- While the greatest proportion of syphilis cases were reported in non-Indigenous men, who were largely residents of major cities, notification rates declined in non-Indigenous men over the previous 12 months.
- Notification rates in Aboriginal and Torres Strait Islander and non-Indigenous men declined across most age groups in major cities as compared to the preceding 12 months (1 October 2020 – 30 September 2021), whereas rates increased in non-Indigenous and Aboriginal and Torres Strait Islander women.
- Notification rates in Aboriginal and Torres Strait peoples also increased in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia.
- Notification rates among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years) residing in remote/very remote areas of Australia reported increases over the previous 12 months. Rates in non-Indigenous women of reproductive age reported increases in major cities and inner/outer regional areas.
- Increases among women of reproductive age in recent years have coincided with the highest number of congenital syphilis cases diagnosed in 2020 (n=17) since 2001.

Data presented are to 30 September 2021, unless otherwise specified.

### *Considerations*

This report aims to increase awareness of syphilis in Australia by providing an analysis of available notification and testing data. Delays in the reporting of data may cause data to change retrospectively. When considering the below analysis, it is important to note that the impact of the COVID-19 pandemic on health seeking behaviours, testing and sexual behaviour in relation to syphilis is not yet known. However, it is expected that syphilis testing will have declined overall due to the diversion of resources to COVID-19 testing.

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[i] The 2018-22 National STI Strategy and Aboriginal and Torres Strait Islander BBV and STI Strategy, define elimination of congenital syphilis as '*no new cases of congenital syphilis nationally notified for two consecutive years*'.

[ii] At the time of writing Queensland, the Northern Territory, Western Australia and South Australia were the only jurisdictions with officially declared outbreak regions. New outbreak regions in other jurisdictions may be declared with endorsement from the CDNA, after which this target will be amended.

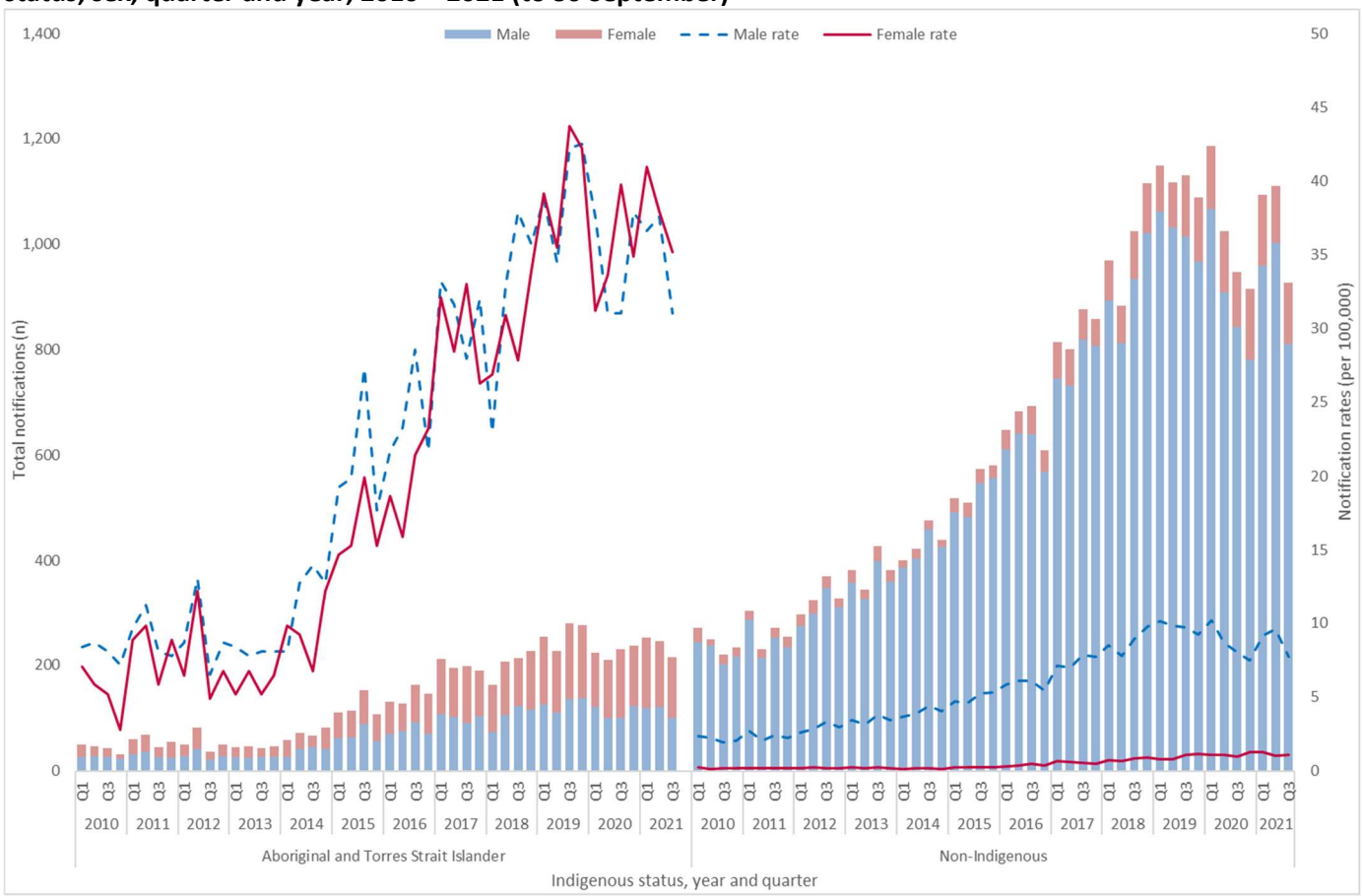
## Target 1: Reduce incidence of syphilis overall, with a focus on women of reproductive age

***Indicator 1.1 - Rate of infectious syphilis***

In the previous 12 months (1 October 2020 – 30 September 2021), there were 5,469 cases of infectious syphilis reported to the National Notifiable Diseases Surveillance System (NNDSS), with 4,994 cases (91%) reporting Indigenous status and sex:

- The greatest proportion of cases were among non-Indigenous males (71%, n=3,553), followed by non-Indigenous females (10%, 493/4,994), Aboriginal and Torres Strait Islander females (10%,487/4,994) and Aboriginal and Torres Strait Islander males (9%, 461/4,994).
- Aboriginal and Torres Strait Islander females and males are disproportionately represented in the notification data, with notification rates reported for the previous 12 months as 150 and 143 per 100,000 respectively. Non-Indigenous males, despite representing the greatest proportion of total notifications, reported a notification rate substantially lower (34 per 100,000) followed by non-Indigenous females (5 per 100,000) (Figure 1).
- While reporting the lowest rate, non-Indigenous females observed the greatest proportional rate increase compared to the 5 year mean (24%) and compared to the preceding 12 months (6%), noting that the increase was from a lower base. Aboriginal and Torres Strait Islander females reported the second greatest proportional increase compared to the 5 year mean (9% increase) and compared to the preceding 12 months (2%).
- Compared to the preceding 12 months, notification rates in non-Indigenous males declined by 7% and compared to the 5 year mean the rates remained unchanged. Among Aboriginal and Torres Strait Islander males rates increased when comparing to the preceding 12 months (1%) and the 5 year mean (5%).

**Figure 1: Notifications (n) and notification rate (per 100,000) of infectious syphilis* reported, by Indigenous status, sex, quarter and year, 2010 – 2021 (to 30 September)**




*Excludes cases for whom sex and/or Indigenous status was not reported.

*Remoteness area*

Across all remoteness areas of Australia, Aboriginal and Torres Strait Islander men and women have substantially higher notification rates compared to non-Indigenous men and women (Figures 2 a-c and 3 a-c).

In the previous 12 months (1 October 2020 – 30 September 2021) the highest notification rates were reported among Aboriginal and Torres Strait Islander men and women aged 15-34 years old residing in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia (see Target 3 below for further information on the outbreak).

- *Major cities*

Despite representing the greatest proportion (84%) of syphilis notifications in major cities across Australia, notification rates in non-Indigenous men observed declines across all age groups, with the exception of 35-44 year olds, in the past 12 months (1 October 2020 – 30 September 2021) as compared to the preceding 12 months (1 October 2019 – 30 September 2020). Notification rates in Aboriginal and Torres Strait men declined across all age groups as compared to the preceding 12 months, with the exception of men aged 35-44 years. Notification rates in Aboriginal and Torres Strait Islander women increased across all age groups as compared to the preceding 12 months. Notification rates in non-Indigenous women increased in women aged between 25-44 years and declined in the remaining age groups (Figures 2a and 3a). The greatest increases between the previous 12 months and 12 months prior, were among Aboriginal and Torres Strait Islander women aged 45+ years (800% increase, noting the low base), followed by non-Indigenous women aged 35-44 years (50%) and Aboriginal and Torres Strait Islander men aged 35-44 years (43%).

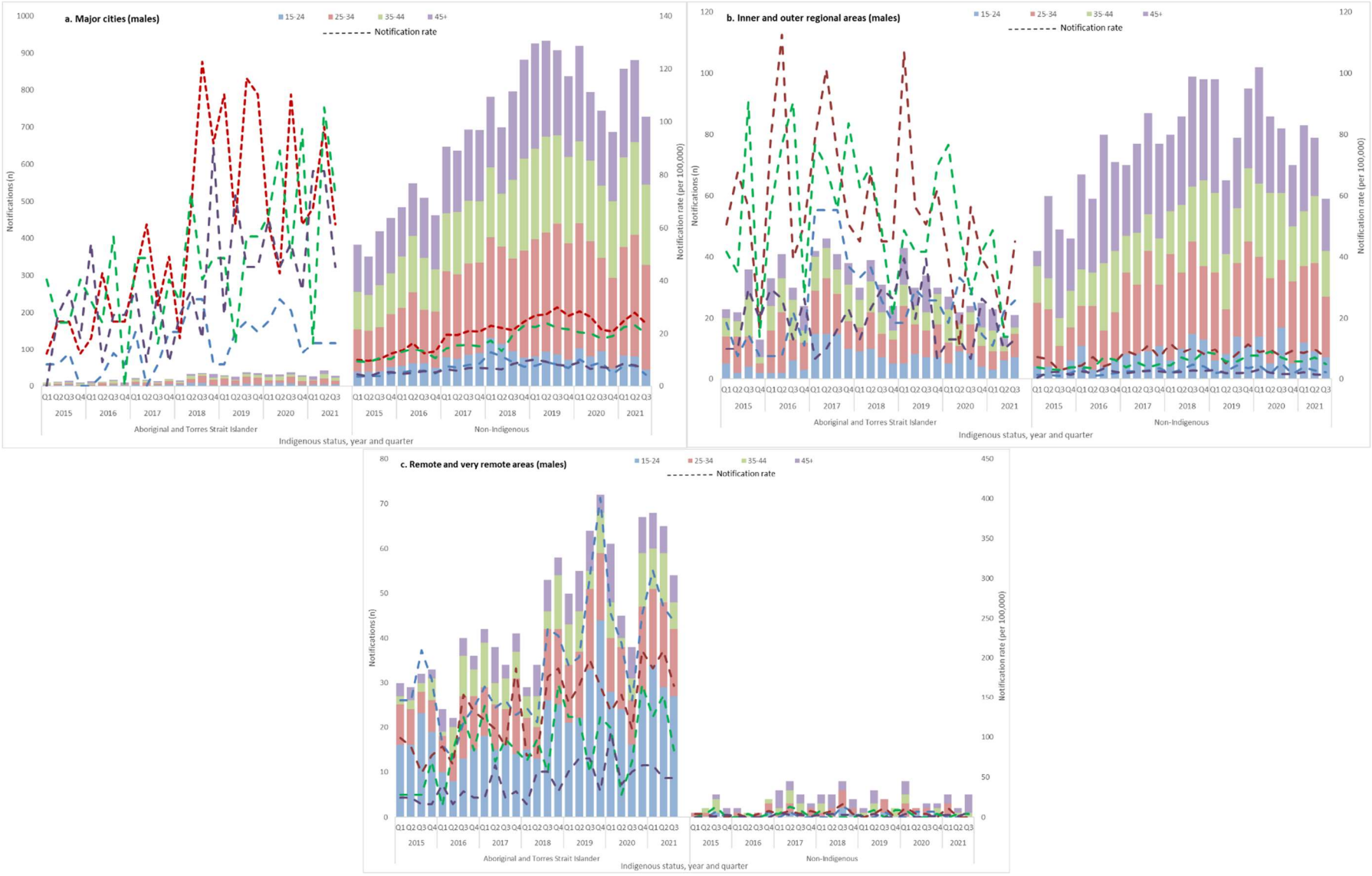
- *Inner and outer regional areas*

Non-Indigenous men represented the greatest proportion of cases reported in the past 12 months in inner and outer regional areas (53%) followed by Aboriginal and Torres Strait Islander women (18%), non-Indigenous women (15%) and Aboriginal and Torres Strait Islander men (15%). Notifications among Aboriginal and Torres Strait Islander men and women and non-Indigenous men and women residing in inner and outer regional areas of Australia declined across all age groups (with the exception of non-Indigenous women aged 35-44 years and Aboriginal and Torres Strait Islander men aged 45+) in the past 12 months (1 October 2020 – 30 September 2021) as compared to the preceding 12 months (1 October 2019 – 30 September 2020) (Figures 2b and 3b).

- *Remote and very remote areas*

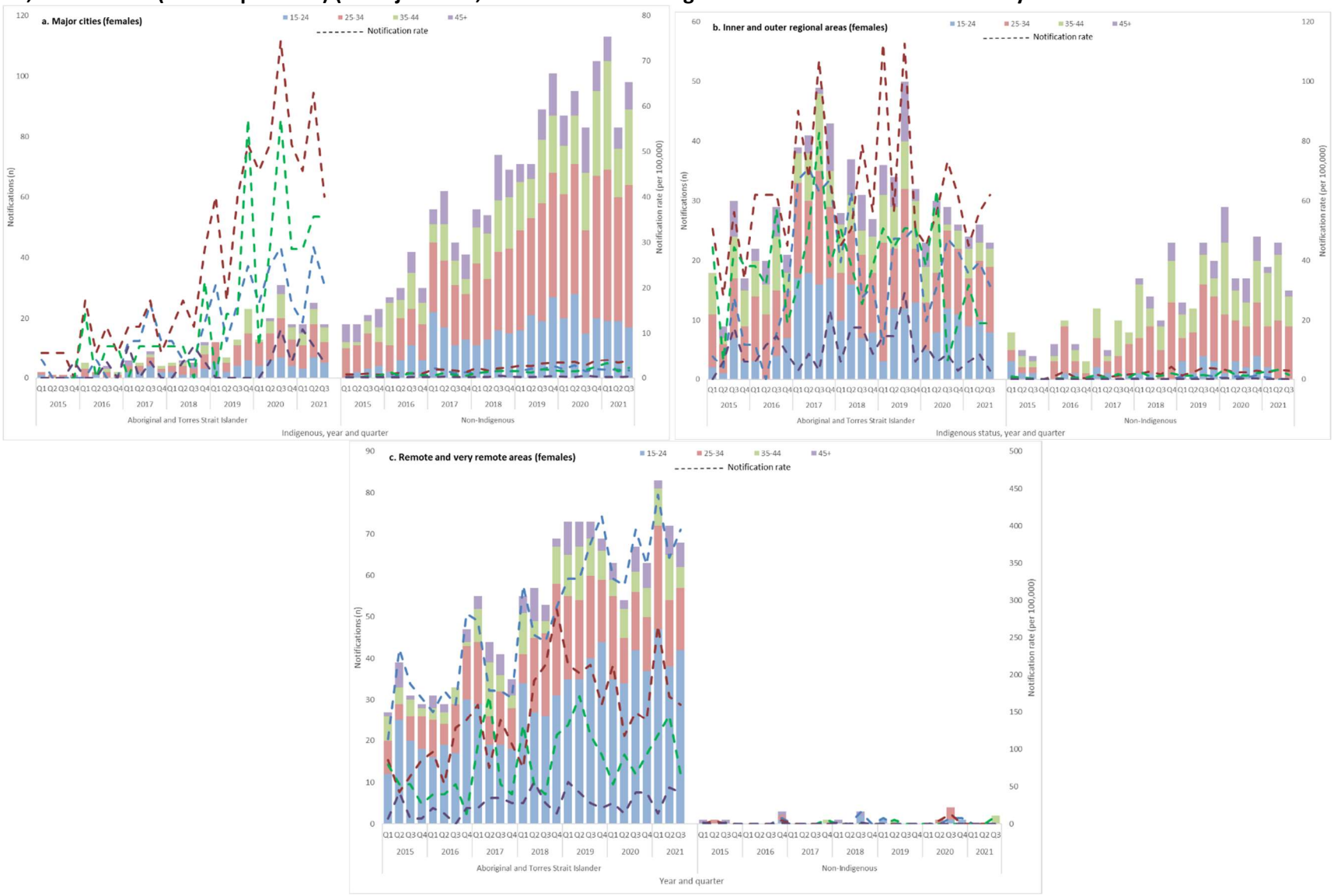
Aboriginal and Torres Strait Islander women and men represented 97% of cases reported over the previous 12 months (1 October 2020 – 30 September 2021) in remote and very remote areas of Australia. Across all remoteness areas, notification rates were highest in Aboriginal and Torres Strait Islander men and women, particularly in younger age groups (Figures 2c and 3c).

**Figure 2 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in males, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 30 September) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote areas)***




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

**Figure 3 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 30 September) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote area**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

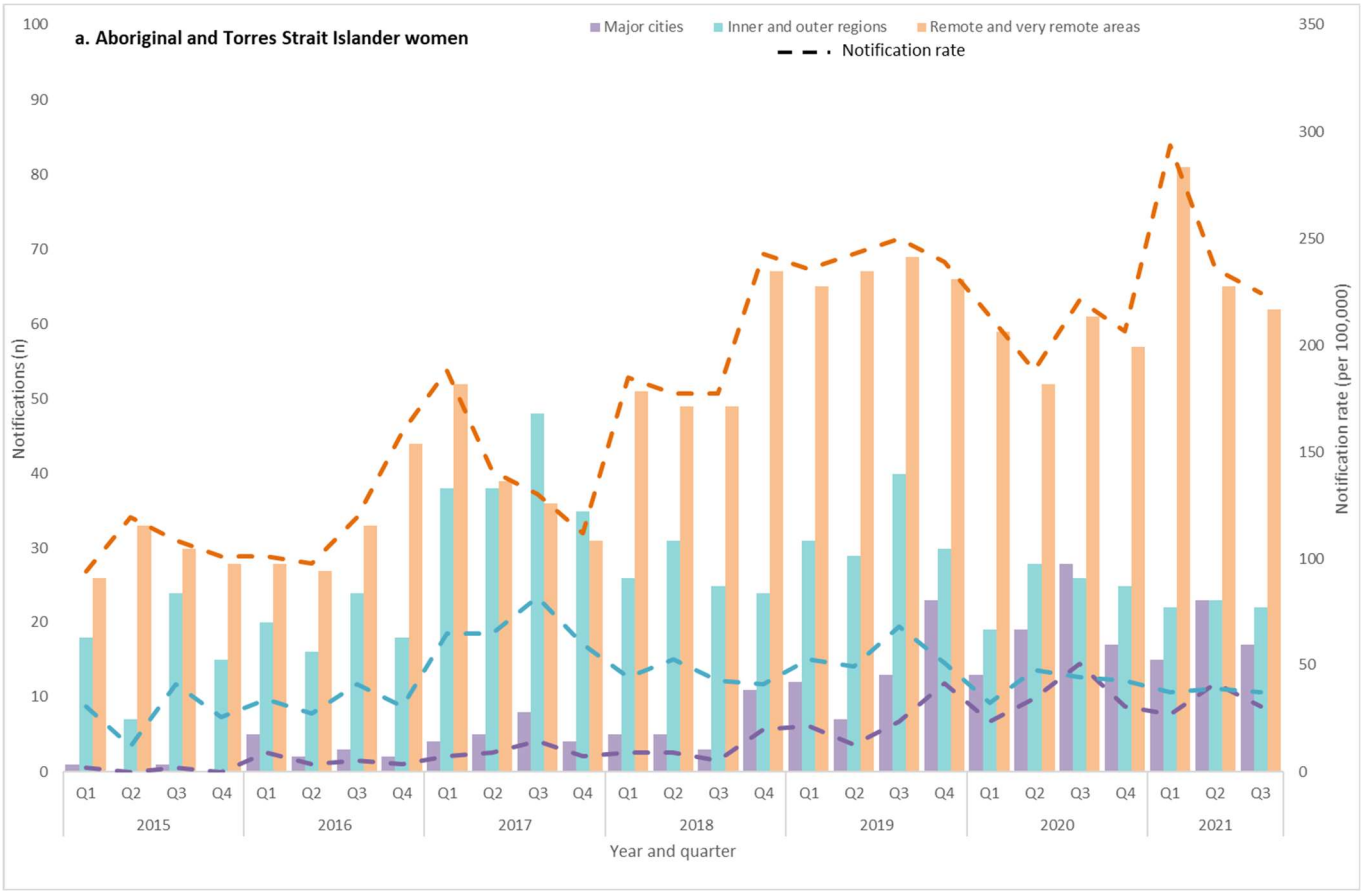
***Indicator 1.2 - Rate of infectious syphilis among women of reproductive age (15-44 years)***

Over the previous 12 months (1 October 2020 – 30 September 2021) notifications of syphilis among Aboriginal and Torres Strait Islander women aged 15-44 years were predominately in residents of remote and very remote areas of Australia, consistent with historical trends (Figure 4a). The highest notification rates, as expected, were in remote and very remote areas, increasing by 11% in the previous 12 months compared to the preceding 12 months (1 October 2019 – 30 September 2020). Inner and outer regional areas recorded the second highest rates in the previous 12 months, however compared to the preceding 12 months rates declined by 11% and 20% compared to the 5 year average. In contrast, notification rates in Aboriginal and Torres Strait Islander women residing in major cities of Australia, although lower, increased by 54% compared to the 5 year average, but declined (13%) when compared to the preceding 12 months.

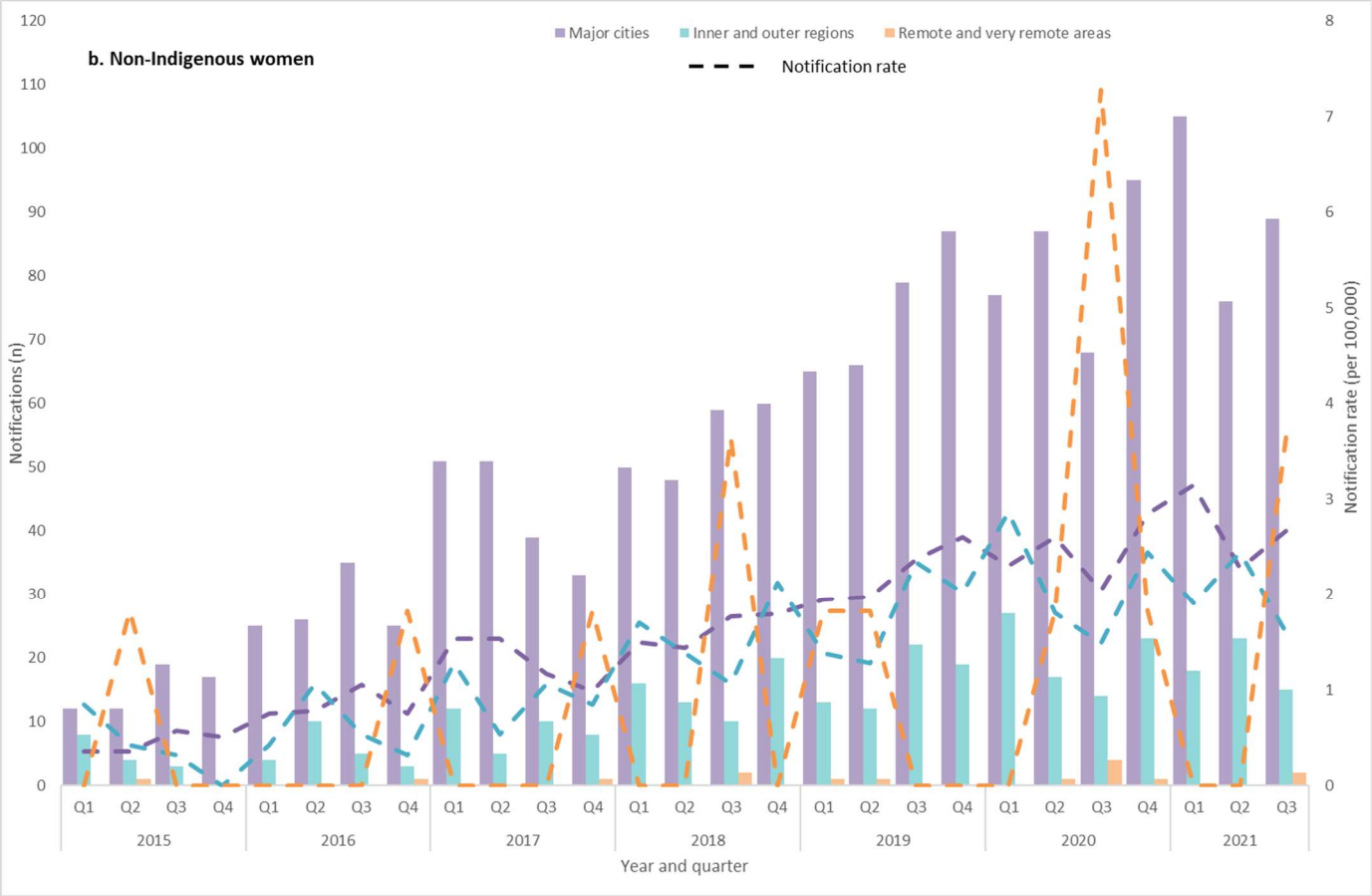
Non-Indigenous women of reproductive age diagnosed with syphilis over the previous 12 months were predominately residents of major cities of Australia, consistent with historical trends (Figure 4b). Notifications rates increased for this group by 14% between the previous 12 months and the 12 months prior, and 39% compared to the 5 year average. Notification rates in inner and outer regional areas increased slightly between the previous 12 months and the 12 months prior (3%) and compared to the 5 year average increased considerably (32%). Notification rates in remote and very remote Australia have fluctuated, noting that overall notifications in these areas are low for non-Indigenous women.

**Figure 4a-b: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females aged 15-44 years, by Indigenous status, remoteness area, quarter and year, 2015 – 2021 (to 30 September) (a. Aboriginal and Torres Strait Islander and b. non-Indigenous)***

**a.**



**b.**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

***Indicator 1.3 - Proportion of infectious syphilis notifications in men reporting sexual exposure with men only***
***Indicator 1.4 - Proportion of infectious syphilis notifications in men reporting sexual exposure with both men and women***

Enhanced data are used to report against indicators 1.3 and 1.4. Syphilis data by sexual exposure (same sex, opposite sex and both sexes)

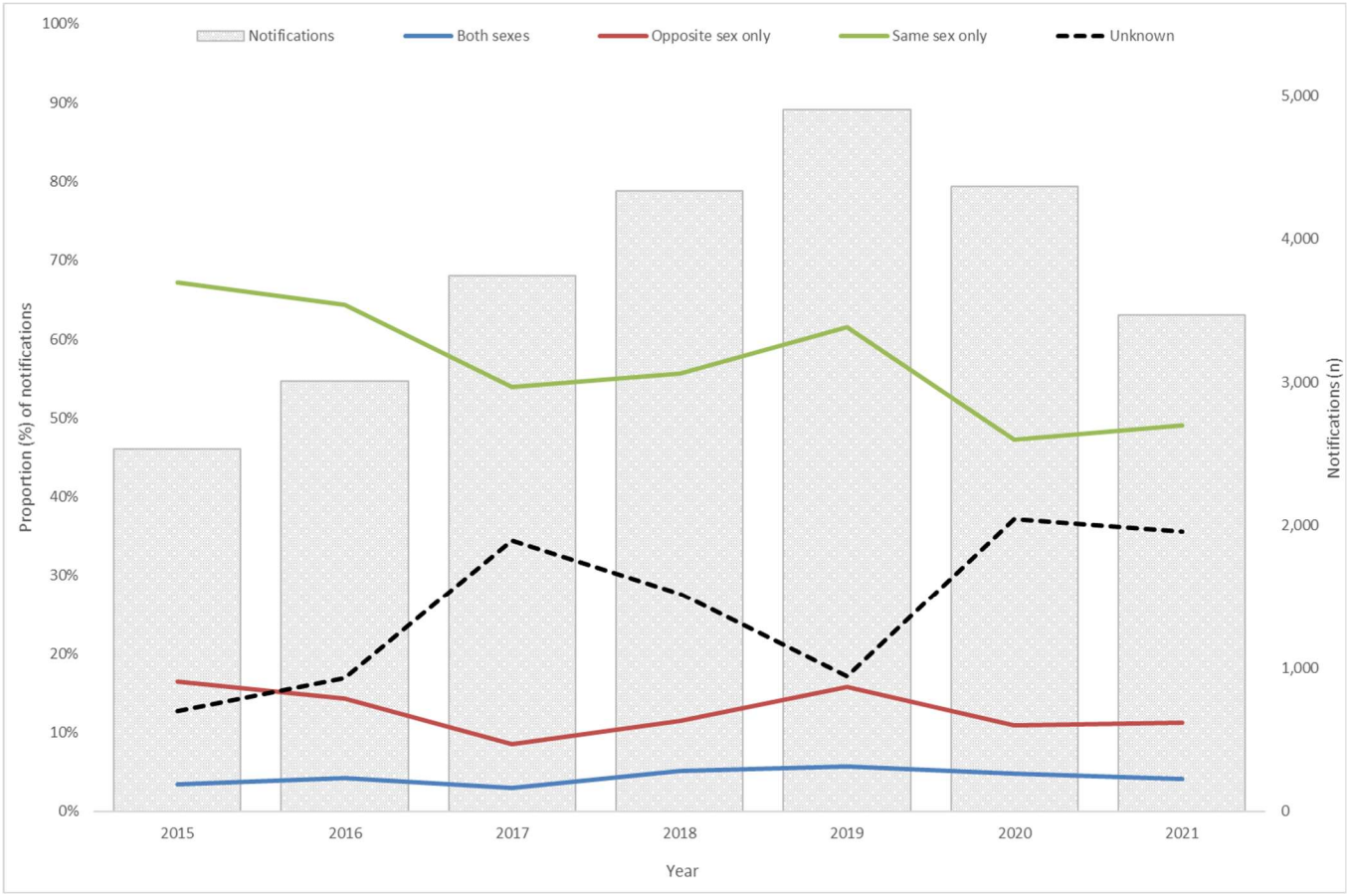
*Completeness of enhanced sexual exposure data*

Completeness of the sexual exposure in males notified with infectious syphilis fluctuated between 2015 and 2021 (to 30 September), ranging from 63% and 87% (average 74%).

Same sex only was the most commonly reported exposure across all years during the reporting period, representing on average 57% of notifications overall, followed by opposite sex only (13%) and both sexes (4%). The proportion of cases reporting same sex only exposure fluctuate across the reporting period with the highest in 2015 (67%) and lowest in 2020 (47%), noting higher proportions of unknown cases in more recent years (Figure 5).

Although men reporting sexual exposure with both men and women represented the lowest proportion of all cases during the reporting period (range 3 -6%), notifications reporting this category of sexual exposure increased by 140% between 2015 and 2020 (Figure 5).

**Figure 5: Number of infectious syphilis notifications among men and proportion (%) of cases by sexual exposure and year 2015 – 2021 (to 30 September)**




## Target 2: Eliminate congenital syphilis

***Indicator 2.1 - Number of congenital syphilis notifications***

***Indicator 2.2 - Notification rate of congenital syphilis per 100,000 live births***

***Indicator 2.3 - Number of congenital syphilis cases that were reported to have died from the condition***

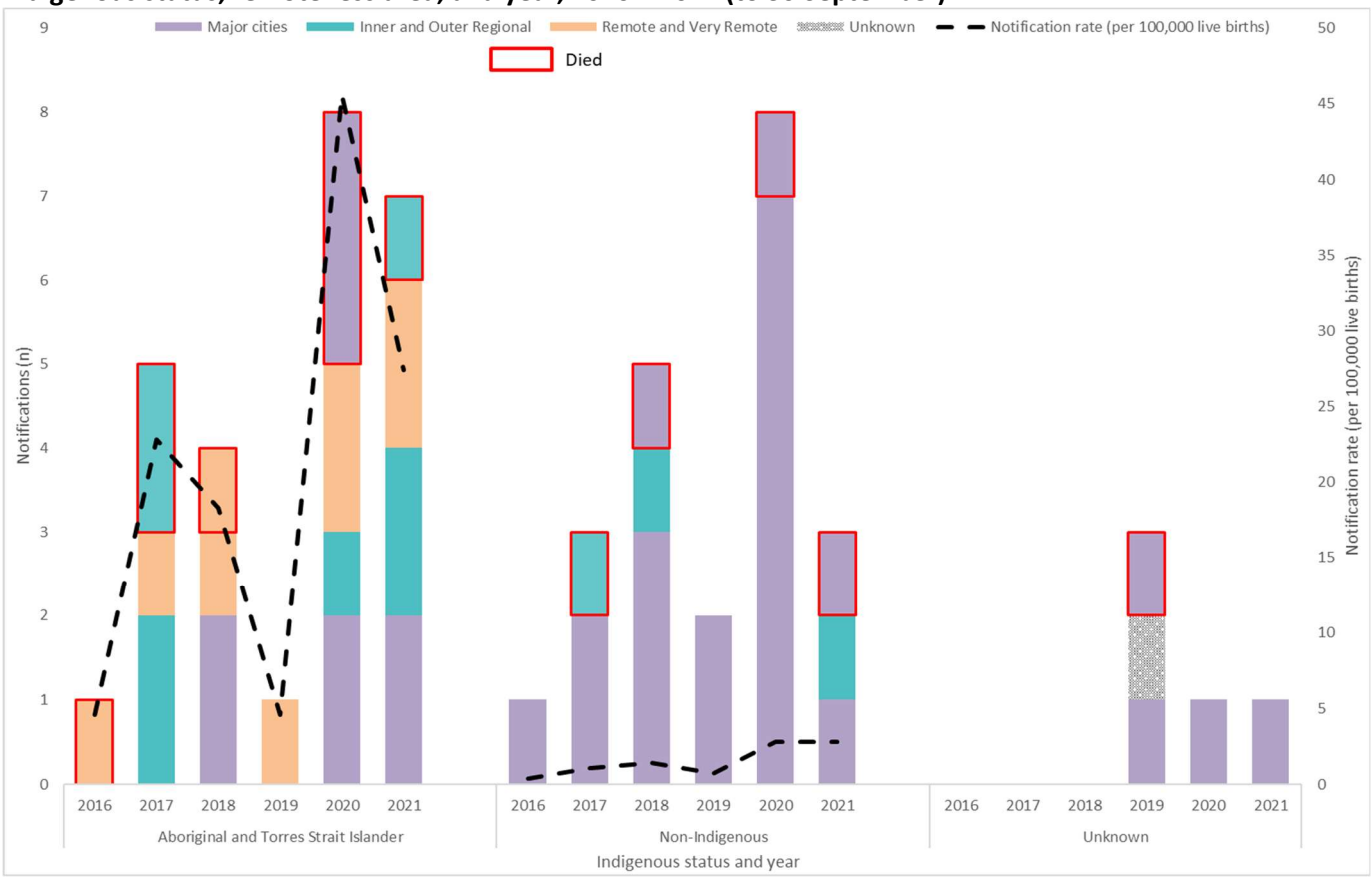
Fifty-three (53) cases of congenital syphilis were reported between 2016 and 30 September 2021, 26 were reported in Aboriginal and Torres Strait Islander infants, 22 were non-Indigenous and 5 had an unknown Indigenous status (Figure 6). Among the 26 Aboriginal and Torres Strait Islander cases, 35% (9/26) were residents of major cities, 35% (9/26) from inner/outer regional areas and 31% (8/26) from remote/very remote areas. Eighty-nine per cent (89%, 19/22) of non-Indigenous cases were residents of major cities and 14% (3/22) from inner/outer regional areas. Cases with an unknown Indigenous status were largely reported from major cities (80%, 4/5) with the remaining case (20%, 1/5) reporting an unknown residence. [iii]

Aboriginal and Torres Strait Islander infants are disproportionately represented in the notification data, with rates per 100,000 live births on average almost 20 times that of non-Indigenous infants, noting that rates have fluctuated in both groups over time.

Thirteen (13) congenital syphilis associated deaths were reported between 2016 and 30 September 2021, 8 (62%, 8/13) were Aboriginal and Torres Strait Islander infants, 4 (31%, 4/13) were non-Indigenous and 1 (8%, 1/13) had an unknown Indigenous status. Of the Aboriginal and Torres Strait Islander infants that died, 3 (38%, 3/8) were reported in major cities, 3 (38%, 3/8) from inner/outer regional areas and 2 (25%, 2/8) from remote/very remote areas. Of the non-Indigenous infants 3 (75%, 3/4) were reported in major cities and 1 (25%, 1/3) a resident of an inner/outer regional area. The remaining case (unknown Indigenous status) reported to have died was from a major city.

[iii] Totals may not equal 100% due to rounding.

**Figure 6: Notifications (n) and notification rate (per 100,000 live births) of congenital syphilis reported in, by Indigenous status, remoteness area, and year, 2016 – 2021 (to 30 September)**




***Indicator 2.4 - Proportion of syphilis notifications among women who were pregnant[iv] at time of diagnosis***

Pregnancy status was available for 6 jurisdictions in 2021, 5 in 2020 and 3 between 2017 and 2019[vi]. Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends overtime should be interpreted with caution.

In 2021 (to 30 September), of the syphilis notifications among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years), 12% were pregnant at the time of diagnosis, 50% were not pregnant and 38% had an unknown pregnancy status (Figure 7). The proportion of Aboriginal and Torres Strait Islander women pregnant at time of syphilis diagnosis in 2021 is lower than the proportions reported between 2017 and 2020 (range 14%-17%) noting that number of jurisdictions reporting data each year varied.

Among non-Indigenous women of reproductive age in 2021, 14% were pregnant at the time of diagnosis, 58% were not pregnant and 28% had an unknown pregnancy status (Figure 7). The proportion of non-Indigenous women pregnant at time of syphilis diagnosis in 2021, was lower than the proportions reported between 2017 and 2020 (range 18%-22%), noting that number of jurisdictions reporting data each year varied.

[iv] Pregnancy status: 2017 -2019 includes data from Queensland, New South Wales and Western Australia; 2020 includes data from Queensland, New South Wales, Western Australia, South Australia and the Australian Capital Territory, and; 2021 includes from Queensland, New South Wales, Western Australia, South Australia, the Australian Capital Territory and Victoria.

**Figure 7: Number of syphilis notifications among women of reproductive age (15-44 years) and proportion (%) of cases pregnant at time of syphilis diagnosis, by Indigenous status and year, 2017-2021 (to 30 September)**


***Indicator 2.5 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis in pregnancy by gestation period***
***Indicator 2.6 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis late[v] in pregnancy***

Enhanced data are used to report against indicators 2.5 and 2.6.

*Completeness of enhanced congenital syphilis data*

- Between 2016 and September 2021, 91% (48/53) of congenital syphilis cases had enhanced data available, including information about the mother of the infant diagnosed with congenital syphilis. Data were available for 100% of cases in 2016 (2/2), 2017 (8/8), 2018 (9/9) and 2020 (17/17). In 2019 67% (4/6) of cases had enhanced data available at the time of writing and in 2021 73% (8/11).

Of the 48 congenital syphilis cases with enhanced data available between 2016 and September 2021, 3 (6%, 3/48) mothers giving birth to an infant with congenital syphilis were diagnosed in the 1st or 2nd trimester, 12 (25%, 12/48) in the 3rd trimester, 14 (29%, 14/48) on the day of delivery, 17 (35%, 15/48) post-birth and 2 (4%, 2/48) had an unknown date of syphilis diagnosis (Table 1).

Eighty-one per cent (81%, 39/48) of mothers giving birth to an infant with congenital syphilis were diagnosed late in pregnancy, including 8 mothers diagnosed in the 3rd trimester less than 30 days prior to delivery.

[v] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

**Table 1: Number of women* giving birth to an infant with congenital syphilis, by gestation period mother was diagnosed with syphilis and year, 2016 – 2021 (to 30 September)**

| Gestation period of mother's syphilis diagnosis | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 (to September) |
|---|---|---|---|---|---|---|
| 1st Trimester | 0 | 0 | 1 | 0 | 0 | 0 |
| 2nd Trimester | 1 | 0 | 0 | 0 | 1 | 0 |
| 3rd Trimester | 1 | 2 | 3 | 2 | 2 | 2 |
| At birth (Day of delivery) | 0 | 2 | 2 | 0 | 6 | 4 |
| Post-birth | 0 | 3 | 2 | 2 | 8 | 2 |
| Unknown | 0 | 1 | 1 | 0 | 0 | 0 |
| **Total** | **2** | **8** | **9** | **4** | **17** | **8** |
| **Late diagnosis[vi]** | **0** | **6** | **7** | **3** | **15** | **8** |

*Represents cases with enhanced data only (48/53 cases).

## Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia

An outbreak of infectious syphilis began in northern Queensland in January 2011, extending to the Northern Territory in July 2013, the Kimberley in Western Australia in June 2014 and South Australia in November 2016.

The AHPPC, in consultation with affected jurisdictions, Aboriginal Community Controlled Health Services (ACCHS) and key stakeholders, developed a National Strategic Approach and Action Plan to address the disproportionately high rates of syphilis and other BBV and STI in regional and remote Aboriginal and Torres Strait Islander communities. The Strategic Approach and Action Plan were endorsed by the Australian Health Ministers Advisory Council in December 2017.

Further information on the outbreak and response activities are available on the Department of Health website.

***Indicator 3.1 - Number of outbreak associated infectious syphilis notifications***

Since the commencement of the outbreak on 1 January 2011 to 30 June 2021, a total of 4,477 infectious syphilis outbreak cases (category 1 and 2[vii]) were reported from 4 jurisdictions (Figure 8, Table 2):

- 1,788 from Queensland;
- 1,666 from the Northern Territory;
- 868 from Western Australia;
- 155 from South Australia.

Across the 4 outbreak jurisdictions, 54% (2,379/4,383) of all category 1 cases were female and 46% (2,003/4,383) were male, with a male to female ratio of 0.8:1 suggesting predominately heterosexual transmission overall, noting the variability across specific outbreak regions and jurisdictions (Figure 9 a-d, Table 2).

On 19 November 2020, the Multi-Jurisdictional Syphilis Working Group endorsed the expansion of the 'target age group' from 15-29 years to 15-34 years[viii]. This change came into effect from the February 2021. Overall 72% (3,161/4,383) of all outbreak cases were reported in 15-34 year olds, with the proportion of cases in this age group across the outbreak period (1 January 2011-30 September 2021) ranging between 70% and 82% (Figure 9a-d).

[vi] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

[vii] Outbreak cases are reported as either category 1 or category 2: category 1 cases include Aboriginal and Torres Strait Islander people residing in an outbreak declared region at the time of diagnosis, and; category 2 cases include people who are a sexual contact of a confirmed outbreak case which includes Aboriginal and Torres Strait Islander people who do not reside in an outbreak area at the time of diagnosis and non-Indigenous people regardless of where they reside. **All data are provisional and subject to change due to ongoing case investigation**.

[viii] Multijurisdictional Syphilis Outbreak Surveillance Report: February 2021

**Figure 8: Notifications of category 1 infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions of Queensland, the Northern Territory, Western Australia and South Australia from commencement of the outbreak in each jurisdiction to 30 September 2021**

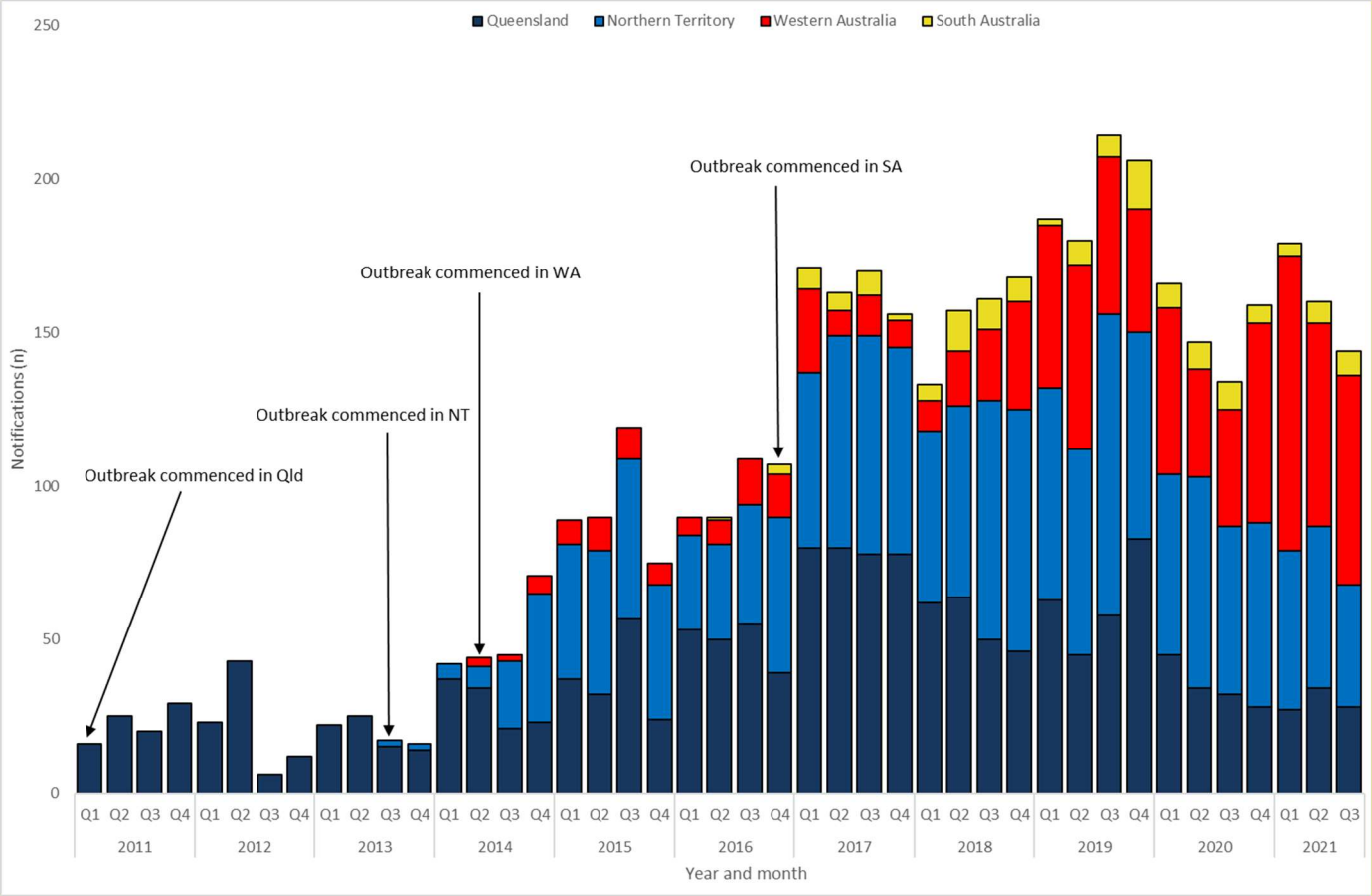



**Table 2: Characteristics of infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions[ix] of Queensland, the Northern Territory, Western Australia and South Australia to 30 September 2021**

| | **Queensland** (five HHSs) | **Northern Territory** (seven regions) | **Western Australia** (three regions) | **South Australia** (three regions) |
|---|---|---|---|---|
| **Category 1** | | | | |
| Outbreak commencement month/year | January 2011 | July 2013 | June 2014 | November 2016 |
| Total number of cases | 1,727 | 1,647 | 862 | 147 |
| % Male / % Female | 46% / 54% | 46% / 54% | 44% / 56% | 51% / 49% |
| % 15-34 year age group | 70% | 73% | 75% | 68% |
| **Category 2** | | | | |
| Aboriginal and Torres Strait Islander people[x] | 15 | 2 | 6 | - |
| Non-Indigenous people[xi] | 46 | 17 | - | 8 |

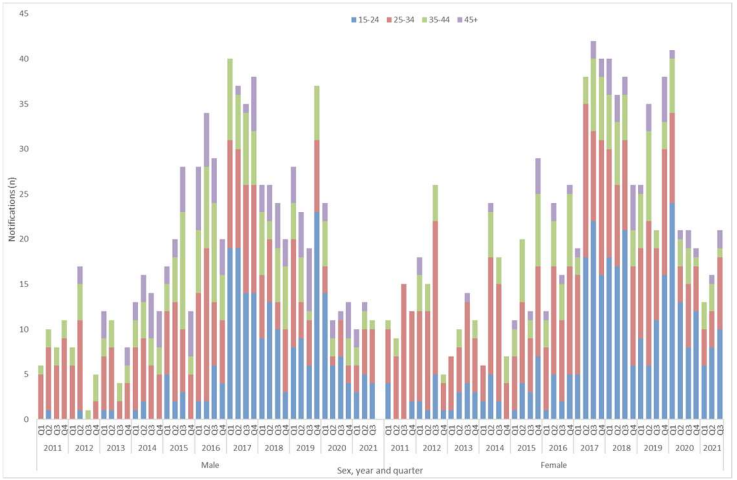
[ix] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

[x] Aboriginal and Torres Strait Islander people who are sexual contacts of a confirmed outbreak case and reside outside an outbreak declared region at the time of diagnosis.

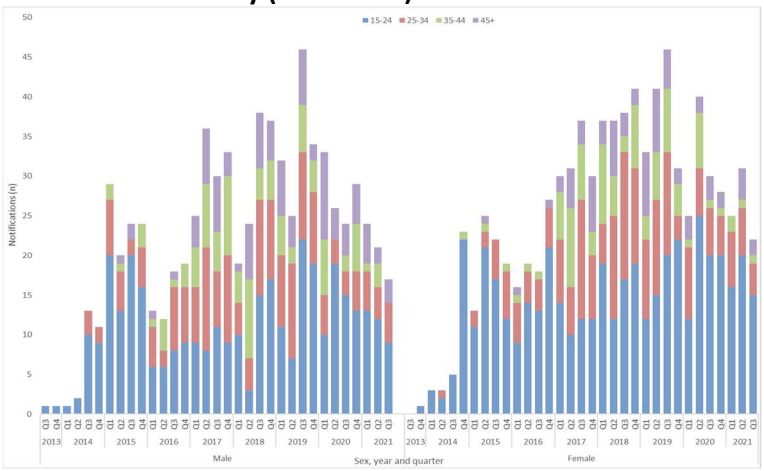
[xi] Non-Indigenous people who are sexual contacts of a confirmed outbreak case and reside in or out of an outbreak declared region at the time of diagnosis.

**Figure 9 a-d: Notifications (n) of category 1 outbreak associated syphilis cases, by age*, sex, jurisdiction, year and quarter from commencement in each jurisdiction to 30 September 2021 (a. Queensland, b. the Northern Territory, c. Western Australia and d. South Australia)[xii]**

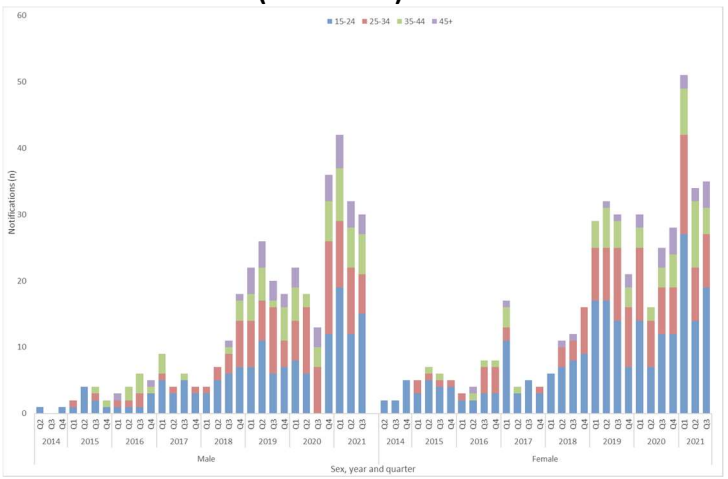
**a. Queensland (2011-2021)**



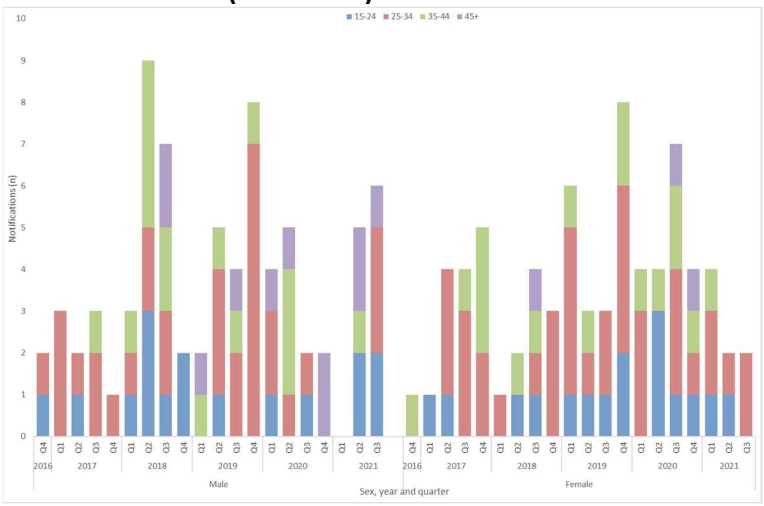

**b. Northern Territory (2013-2021)**




**c. Western Australia (2014-2021)**




**d. South Australia (2016-2021)**




*Excludes cases aged <15 years of age.

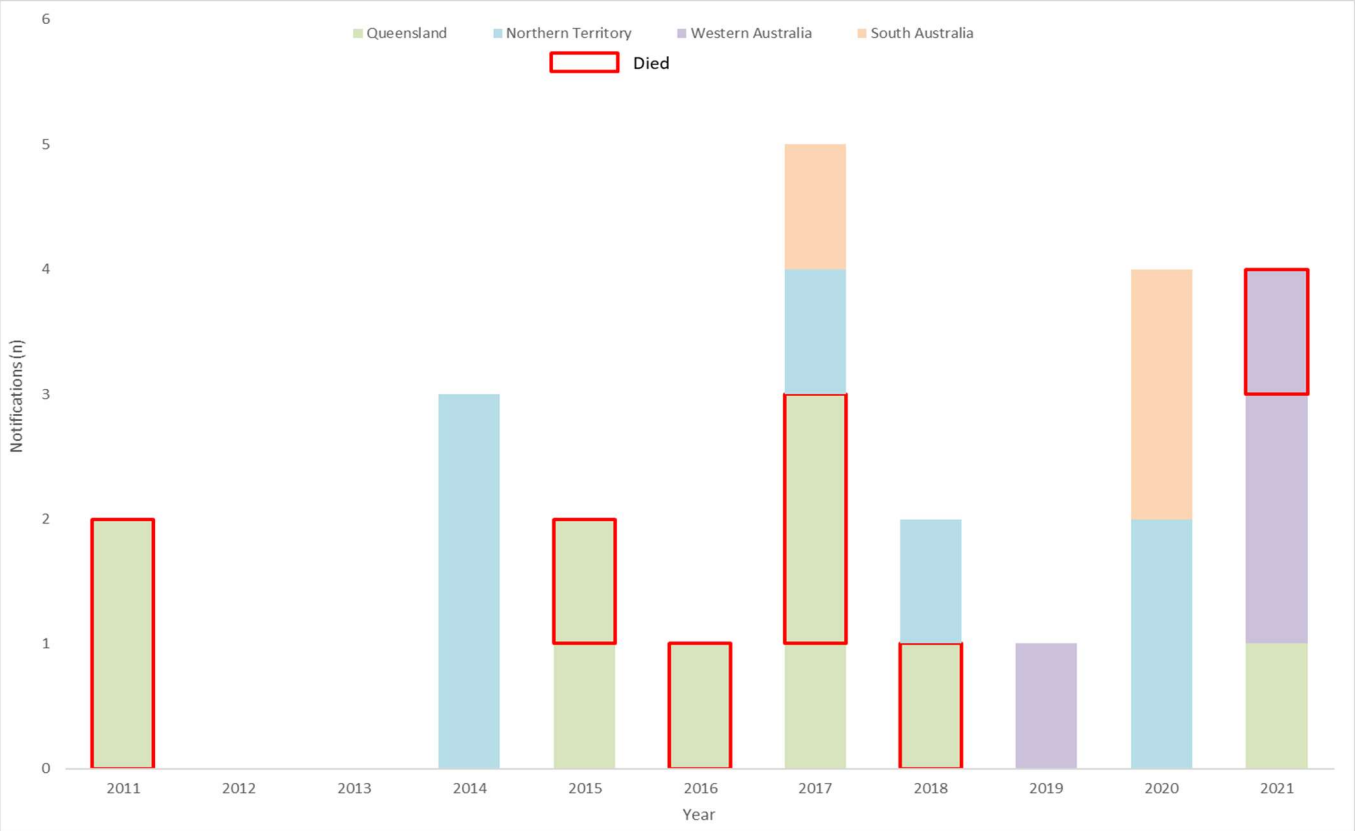
[xii] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

***Indicator 3.2 - Number of outbreak associated congenital syphilis notifications***

***Indicator 3.3 - Number of outbreak associated congenital syphilis cases that were reported to have died from the condition***

Since the commencement of the outbreak in January 2011 to 30 September 2021, there were 24 outbreak associated cases of congenital syphilis reported, 10 from Queensland, 7 from the Northern Territory, 4 from Western Australia and 3 from South Australia. Eight (8) of these cases were reported to have died from the condition, 7 from Queensland and 1 from Western Australia (Figure 10).

**Figure 10: Notifications (n) of outbreak associated congenital syphilis cases and reported deaths, by jurisdiction, and year, 2016 – 2021 (to 30 September)[xvi]**




***Indicator 3.4 - Proportion of outbreak associated infectious syphilis notifications among women who were pregnant[xiii] at time of diagnosis***

Pregnancy status was available for 3 out of 4 outbreak jurisdictions in 2020 and 2021 (Queensland, Western Australia and South Australia). Between 2017 and 2019, pregnancy status was available for 2 out of 4 jurisdictions (Queensland and Western Australia). Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends overtime should be interpreted with caution.

In 2021 (to 30 September), of the outbreak associated notifications of syphilis among women of reproductive age (15-44 years) reported in Queensland, Western Australia and South Australia, 12% were pregnant at the time of diagnosis, 60% were not pregnant and 29% had an unknown pregnancy status (Figure 11). The proportion of women pregnant at syphilis diagnosis in 2021 is slightly lower than 2020 (14%). Between 2017 and 2019, the proportion of women pregnant at time of diagnosis was 17% in 2017 and 16% in 2018 and 15% in 2019, noting that this is representative of only 2 out of 4 outbreak affected jurisdictions (Queensland and Western Australia).

[xiii] Pregnancy status (outbreak jurisdictions): 2017 -2019 includes data from Queensland and Western Australia; 2020-2021 includes data from Queensland, Western Australia and South Australia. No data from the Northern Territory were available at the time of writing.

**Figure 11: Proportion (%) of outbreak associated syphilis notifications among women of reproductive age (15-44 years), by pregnancy status at time of syphilis diagnosis and year, 2016 – 2021 (to 30 September)**


***Indicator 3.5 - Cumulative number of syphilis tests delivered through participating ACCHS in outbreak affected jurisdictions***
***Indicator 3.6 - Proportion of people attending participating ACCHS who received a syphilis test***

On 1 August 2018, the test and treat model to curb the syphilis outbreak commenced at ACCHS in Townsville (Queensland), Cairns (Queensland) and Darwin (Northern Territory). These sites were chosen in consultation with the jurisdictions and the National Aboriginal Community Controlled Health Organisation (NACCHO). On 1 September 2018, the second phase commenced in ACCHS in Katherine (Northern Territory), East Arnhem (Northern Territory) and the Kimberley east (Western Australia). On 1 May 2019, the third phase commenced with additional services in the West Arnhem (Northern Territory), Pilbara (Western Australia) and Kimberley west (Western Australia). The first ACCHS in South Australia were funded as part of the third phase (Western and Eyre, Far North and Adelaide). The fourth phase commenced from May 2020 at ACCHS in Mt Isa (Queensland), and Tennant Creek (Northern Territory). The below data summarises syphilis testing data and coverage for participating ACCHS, noting that data are missing for some services.

***Please note that due to changes in reporting, at the time of writing data were only available to 30 June 2021. Data from 1 July – 30 September 2021 (Q3 2021) will be reported in subsequent quarterly reports.***

As at 30 June 2021, through participating ACCHS (Figures 12 and 13 a-b):

- 61,092 syphilis tests, point-of-care tests (PoCT) and serological tests, were delivered from the commencement of phase 1 of the test and treat model rollout on 1 August 2018. On average 1,745 new tests are performed each month (Figure 11).
- the monthly testing coverage for all individuals was 8.2%, lower than the monthly average for the preceding 12 months (8.6%, 1 July 2020 – 30 June 2021) (Figure 12a).
- the monthly testing coverage for the target age group (15-34 years) was 14.0%, lower than the monthly average for the preceding 12 months (15.6%, 1 July 2020 – 30 June 2021) (Figure 12b).
- the rolling 12 month testing coverage (1 July 2020 – 30 June 2021) for all age groups was 25% and 38% for the target age group (15-34 years).

**Figure 12: Cumulative number of syphilis tests (PoCT and serology) delivered through participating ACCHS to Aboriginal and Torres Strait Islander peoples, by month and year, August 2018 – 30 June 2021**

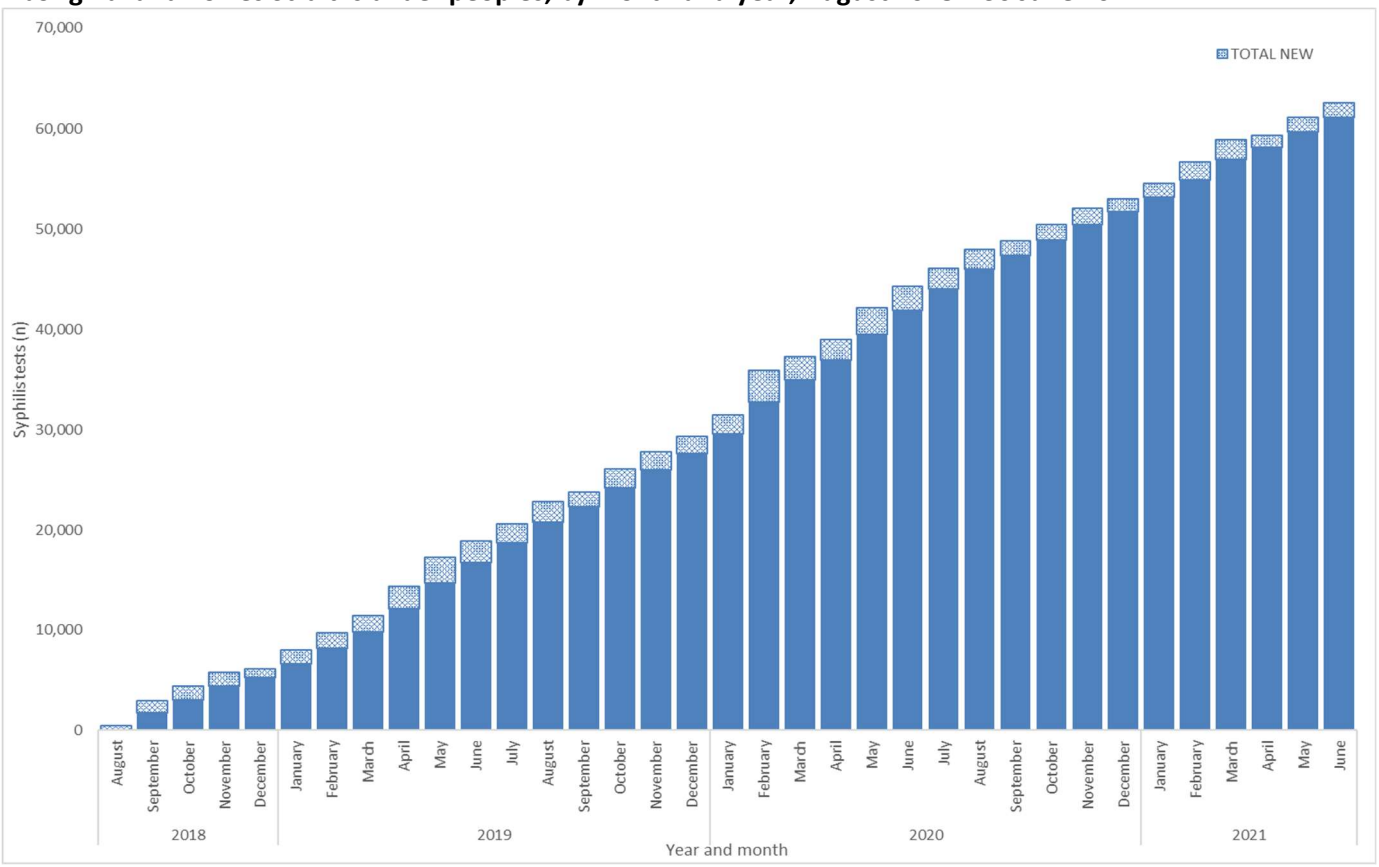
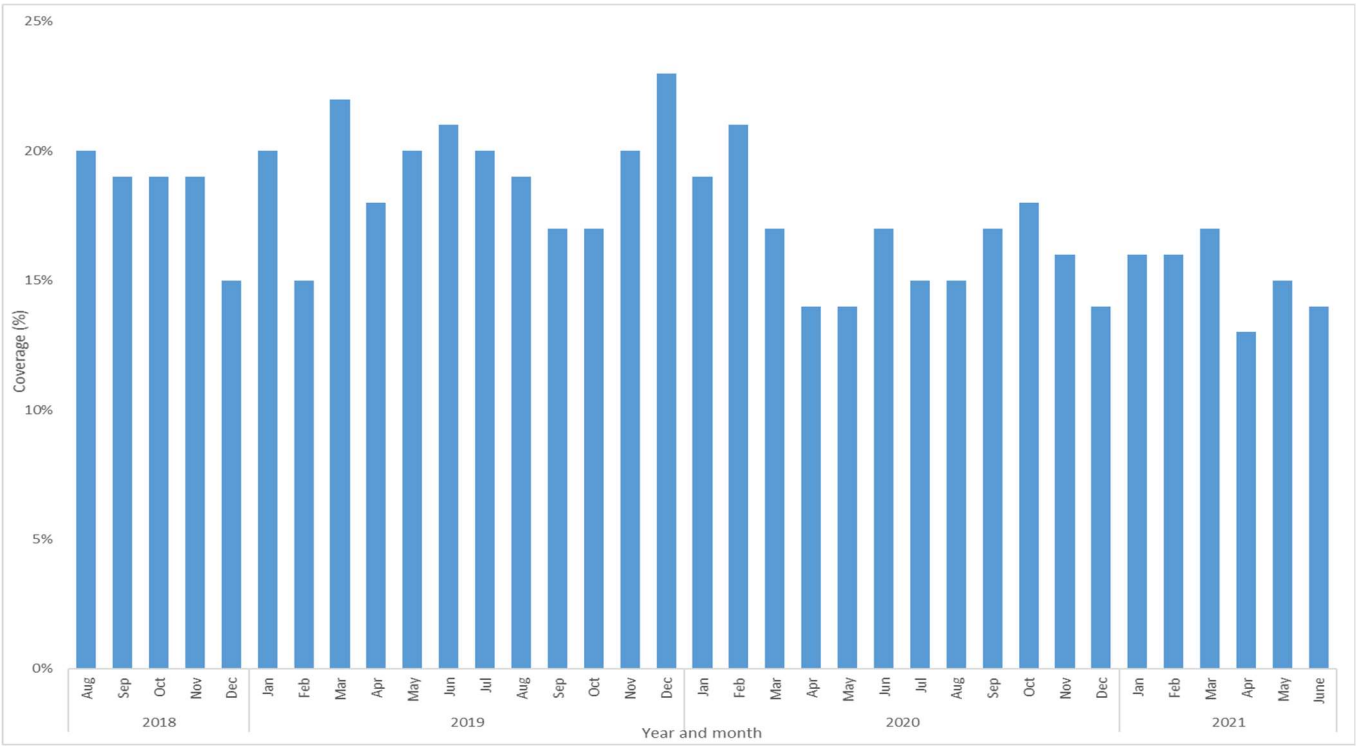


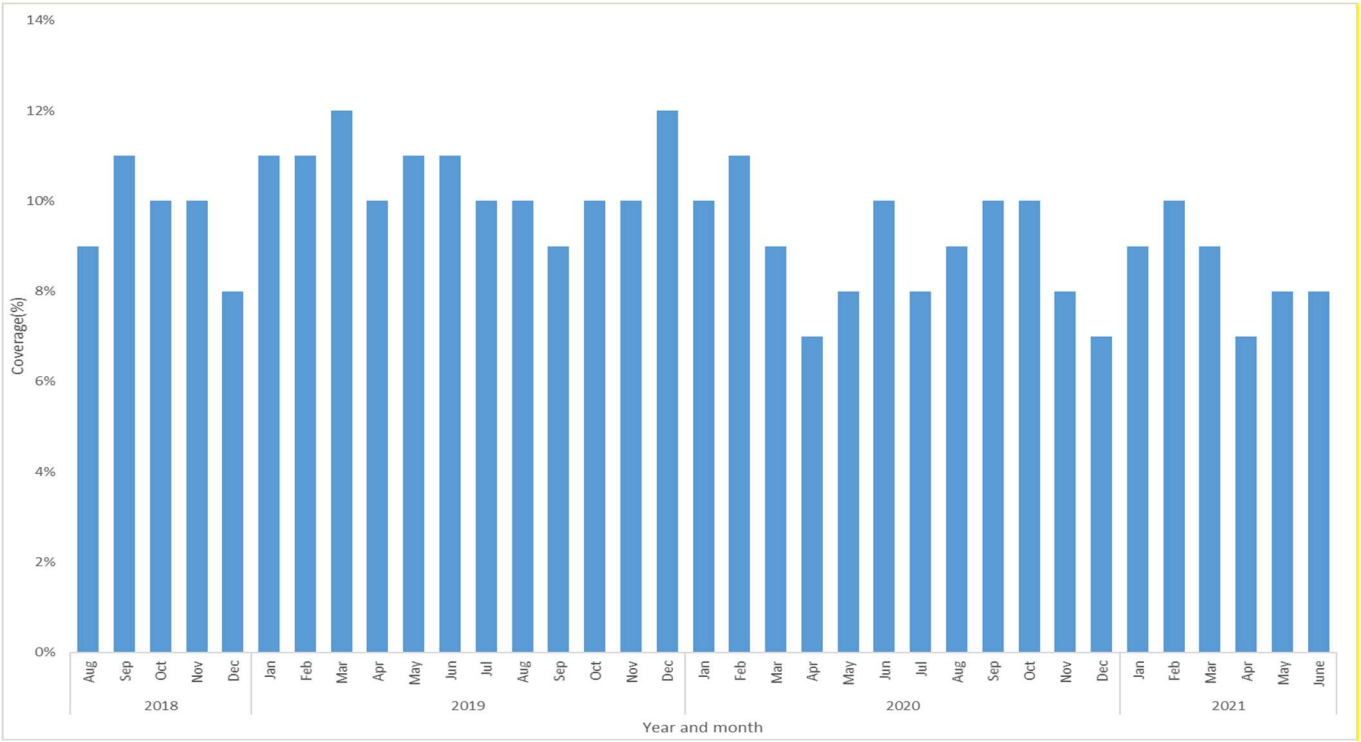

**Figure 13 a-b: Proportion of Aboriginal and Torres Strait Islander peoples attending participating ACCHS who received a syphilis test (PoCT and/or serology), month and year, August 2018 – June 2021[xiv]**
**(a. target age group 15-34 years b. all age groups)**

**a.**




[xiv] Excludes testing data for individuals for whom age was not reported.

**b.**




## Methodological notes

Data were extracted from the NNDSS on 2 November 2021, by diagnosis date. Due to the dynamic nature of the NNDSS, data in this extract are subject to retrospective revision and may vary from data reported in published NNDSS reports and reports of notification data by states and territories. Data are to 30 September 2021 unless otherwise specified.

In general, notification data represent only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown and is most likely variable by disease and jurisdiction.

In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs including the preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur annually.

*Data elements*

- 'Diagnosis year' was used to define the period of analysis. This date represents either the onset date or where the date of onset was not known, the earliest of the specimen collection date, the notification date, or the notification received date.
- 'Residential postcode' reported to the NNDSS was used to allocate notifications of infectious and congenital syphilis to *remoteness areas* (as defined by the Australian Bureau of Statistics). Where a postcode was not reported the notification was excluded from remoteness area analysis.
    - Tasmania and Northern Territory do not have major cities as defined by the Australian Bureau of Statistics. Tasmanian "major cities" refers to inner regional areas and in the Northern Territory refers to outer regional areas.
- 'Residential postcode' usually reflects the residential location of a case at the time of testing and does not necessarily represent the place where the disease was acquired.

- The 'population denominator' used to calculate remoteness area rates and rates by sex and age (per 100,000 population) was extracted from the Australian Bureau of Statistics Census Table Builder (based on 2016 Census data) on 2 November 2021.
- The determination of the *Indigenous status* is by descent, self-identification, and community acceptance. While completeness of the Indigenous status field is generally high, it should be interpreted with caution as completeness of this field varies from year to year and jurisdiction to jurisdiction.
- 'Syphilis testing data' have been provided by participating ACCHS. A participating service refers to clinics currently funded by the Australian Government Department of Health to deliver point of care testing in syphilis outbreak regions. Services extract data from local clinical information management systems reporting to the Australian Government Department of Health. Data are provided for the reporting month, and cumulatively for the previous 12 months. 'Testing coverage' is calculated using as the denominator 'clients attending the service' (a participating ACCHS) during the reporting period.

*Case definitions*

The CDNA national surveillance case definitions for infectious and congenital syphilis, including any historical edits, are available at: https://www.health.gov.au/casedefinitions.

The outbreak case definition classifying cases reported under 'Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia' is defined:

> Nationally, an infectious syphilis outbreak case is defined as: any person who is newly diagnosed with confirmed or probable infectious syphilis according to the CDNA national surveillance case definition for infectious syphilis, **AND**, is an Aboriginal or Torres Strait Islander person who resides in any of the following outbreak declared regions as defined and documented by that jurisdiction, at or after the dates indicated: Qld - North West Hospital and Health Service area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018) (category 1 outbreak cases) OR, is a sexual contact of a confirmed outbreak case (category 2 outbreak cases).

## Acknowledgements

The Department of Health acknowledges the Communicable Diseases Network Australia; the work of public health officers involved in the collection of surveillance data; state and territory public health communicable disease surveillance managers and data managers; participating Aboriginal Community Controlled Health Services, and; all public and private laboratories that support laboratory surveillance in Australia.

## Contact

For any further details about information contained in this report please contact Ms Amy Bright in the Communicable Diseases Epidemiology and Surveillance Section (CDESS@health.gov.au).

## Introduction

On 23 March 2021, the Australian Health Protection Principal Committee (AHPPC) endorsed the *National strategic approach for responding to rising rates of syphilis in Australia 2021* (Strategic Approach) developed to guide the national response to the continued rise in syphilis notifications in Australia. The Strategic Approach outlines three national targets which provide a specific focus for efforts towards addressing the rising rates of syphilis and adverse outcomes in Australia:

1. Reduce incidence of syphilis overall, with a focus on women of reproductive age.
2. Eliminate[i] congenital syphilis.
3. Control outbreaks[ii] among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia.

Supporting the Strategic Approach is the *National syphilis surveillance and monitoring plan* (Surveillance Plan) which outlines indicators that will be used to monitor progress towards achieving the three specific targets.

This report provides a quarterly account of progress against the targets and indicators in the Strategic Approach and Surveillance Plan.

## Analysis

***The Department of Health acknowledges the providers of the many sources of data used in this report and greatly appreciates their contribution.***

### *Summary*

- Aboriginal and Torres Strait Islander peoples continue to be disproportionately represented in the syphilis notification data.
- While the greatest proportion of syphilis cases were reported in non-Indigenous men, who were largely residents of major cities, notification rates declined in non-Indigenous men over the previous 12 months.
- Notification rates in Aboriginal and Torres Strait Islander and non-Indigenous men and women declined across most age groups in major cities and inner/outer regional areas as compared to the preceding 12 months (1 January – 31 December 2020).
- Notification rates in Aboriginal and Torres Strait peoples continued to also increase in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia.
- Notification rates among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years) residing in remote/very remote areas of Australia reported increases over the previous 12 months. Rates in non-Indigenous women of reproductive age reported increases in major cities.
- Increases among women of reproductive age in recent years have coincided with the highest number of congenital syphilis cases diagnosed in 2020 (n=17) since 2001.
- Eighty-four per cent (84%) of women giving birth to an infant with congenital syphilis were diagnosed late in pregnancy.[iii]

Data presented are to 31 December 2021 unless otherwise specified.

### *Considerations*

This report aims to increase awareness of syphilis in Australia by providing an analysis of available notification and testing data. Delays in the reporting of data may cause data to change retrospectively. When considering the below analysis, it is important to note that the impact of the COVID-19 pandemic on health seeking behaviours, testing and sexual behaviour in relation to syphilis is not yet known. However, it is expected that syphilis testing will have declined overall due to the diversion of resources to COVID-19 testing.

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[i] The 2018-22 National STI Strategy and Aboriginal and Torres Strait Islander BBV and STI Strategy, define elimination of congenital syphilis as '*no new cases of congenital syphilis nationally notified for two consecutive years*'.

[ii] At the time of writing Queensland, the Northern Territory, Western Australia and South Australia were the only jurisdictions with officially declared outbreak regions. New outbreak regions in other jurisdictions may be declared with endorsement from the CDNA, after which this target will be amended.

[iii] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

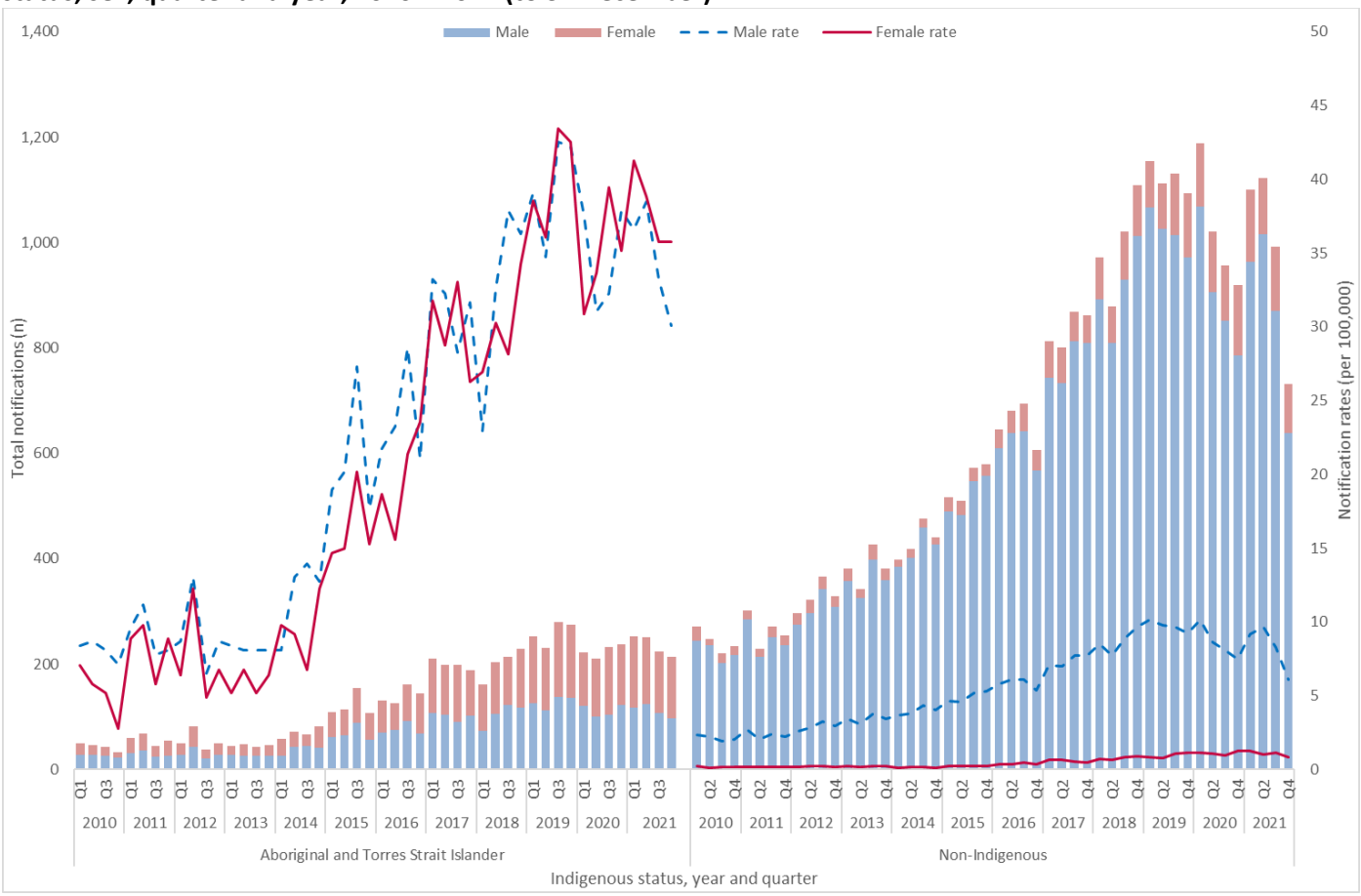
## Target 1: Reduce incidence of syphilis overall, with a focus on women of reproductive age

***Indicator 1.1 - Rate of infectious syphilis***

In the previous 12 months (1 January – 31 December 2021), there were 5,518 cases of infectious syphilis reported to the National Notifiable Diseases Surveillance System (NNDSS), with 4,895 cases (89%) reporting Indigenous status and sex:

- The greatest proportion of cases were among non-Indigenous males (71%, n=3,488/4,895), followed by Aboriginal and Torres Strait Islander females (10%, 501/4,895), non-Indigenous females (9%, 460/4,895) and Aboriginal and Torres Strait Islander males (9%, 446/4,895).
- Aboriginal and Torres Strait Islander females and males are disproportionately represented in the notification data, with notification rates reported for the previous 12 months as 152 and 138 per 100,000 respectively. Non-Indigenous males, despite representing the greatest proportion of total notifications, reported a notification rate substantially lower (33 per 100,000) followed by non-Indigenous females (4 per 100,000) (Figure 1).
- While reporting the lowest rate, non-Indigenous females observed the greatest proportional rate increase compared to the 5 year mean (16%) and declined marginally (3%) compared to the preceding 12 months. Aboriginal and Torres Strait Islander females reported the second greatest proportional increase compared to the 5 year mean (9%) and compared to the preceding 12 months reported the greatest increase (8%) of the four population groups.
- Compared to the 5 year mean, notification rates in non-Indigenous males declined by 4% and compared to the preceding 12 months declined by 4%. Among Aboriginal and Torres Strait Islander males notification rates remained unchanged when compared to the preceding 12 months and the 5 year mean.

**Figure 1: Notifications (n) and notification rate (per 100,000) of infectious syphilis* reported, by Indigenous status, sex, quarter and year, 2010 – 2021 (to 31 December)**




*Excludes cases for whom sex and/or Indigenous status was not reported.

*Remoteness area*

Across all remoteness areas of Australia, Aboriginal and Torres Strait Islander men and women have substantially higher notification rates compared to non-Indigenous men and women (Figures 2 a-c and 3 a-c).

In the previous 12 months (1 January – 31 December 2021) the highest notification rates were reported among Aboriginal and Torres Strait Islander men and women aged 15-34 years old residing in remote and very remote areas of Australia, reflecting sustained transmission associated with the outbreak in Queensland, the Northern Territory, Western Australia and South Australia (see Target 3 below for further information on the outbreak).

- *Major cities*

Despite representing the greatest proportion (84%) of syphilis notifications in major cities across Australia, notification rates in non-Indigenous men observed declines in the 15-24 and 45+ age groups in the past 12 months (1 January – 31 December 2021) as compared to the preceding 12 months (1 January – 31 December 2020). Notification rates in Aboriginal and Torres Strait men declined among the 15-24 and 35-44 age groups as compared to the preceding 12 months. Notification rates in Aboriginal and Torres Strait Islander women declined across all age groups as compared to the preceding 12 months, with the exception of women aged 45+ which increased by 80% (noting the increase was from a lower base). Notification rates in non-Indigenous women increased in the 25-44 year age groups and declined in the remaining age groups (Figures 2a and 3a). The greatest increases between the previous 12 months and 12 months prior, were among Aboriginal and Torres Strait Islander women aged 45+ years (80% increase, noting the low base), followed by Aboriginal and Torres Strait Islander men also aged 45+ years (43%) and non-Indigenous women aged 35-44 years (16%).

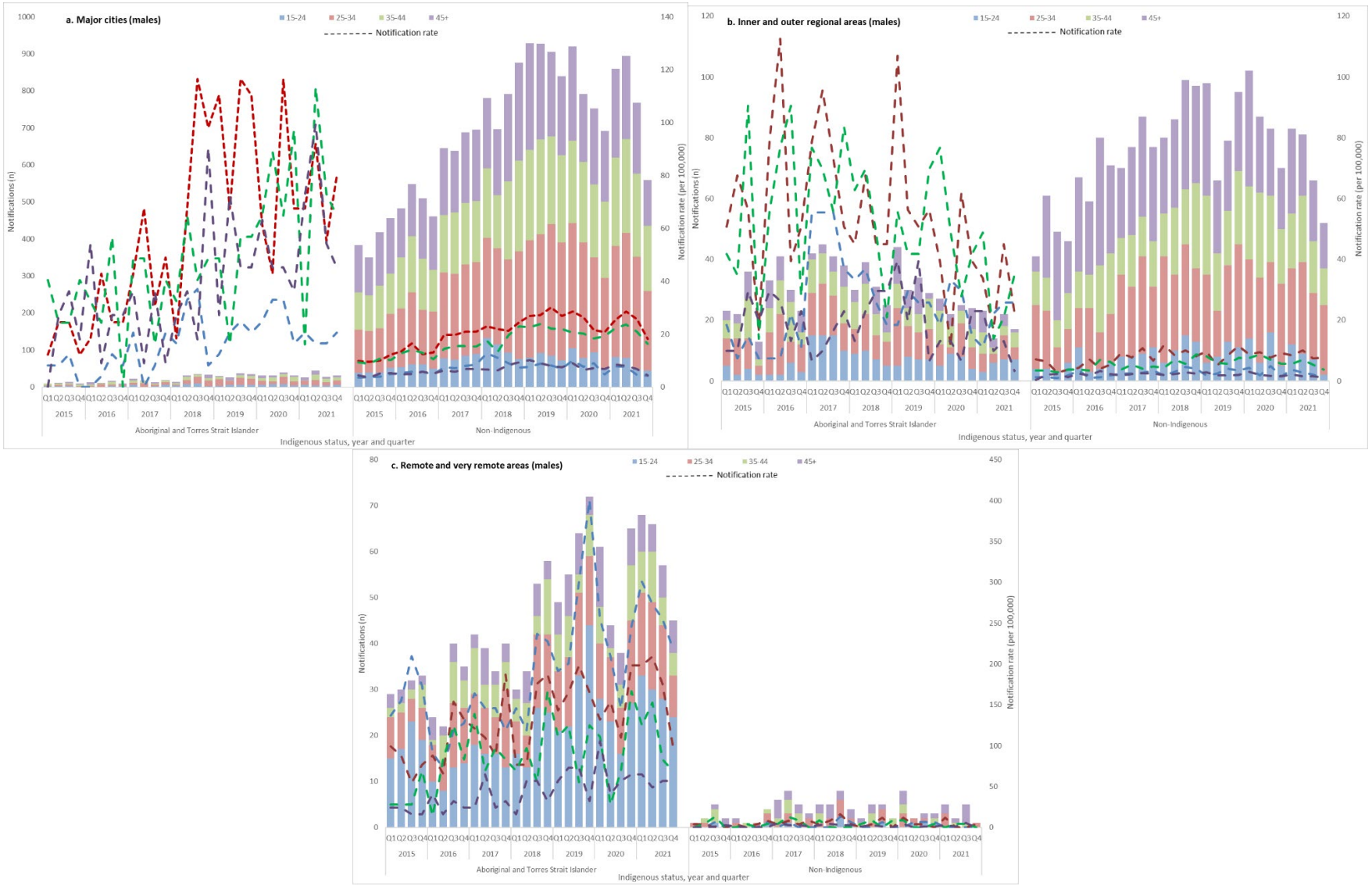
- *Inner and outer regional areas*

Non-Indigenous men represented the greatest proportion of cases reported in the past 12 months in inner and outer regional areas (54%) followed by Aboriginal and Torres Strait Islander women (17%), non-Indigenous women (15%) and Aboriginal and Torres Strait Islander men (14%). Notifications among Aboriginal and Torres Strait Islander men and women and non-Indigenous men and women residing in inner and outer regional areas of Australia declined across all age groups (with the exception of non-Indigenous women aged 25-34 years) in the past 12 months (1 January – 31 December 2021) as compared to the preceding 12 months (1 January – 31 December 2020) (Figures 2b and 3b).

- *Remote and very remote areas*

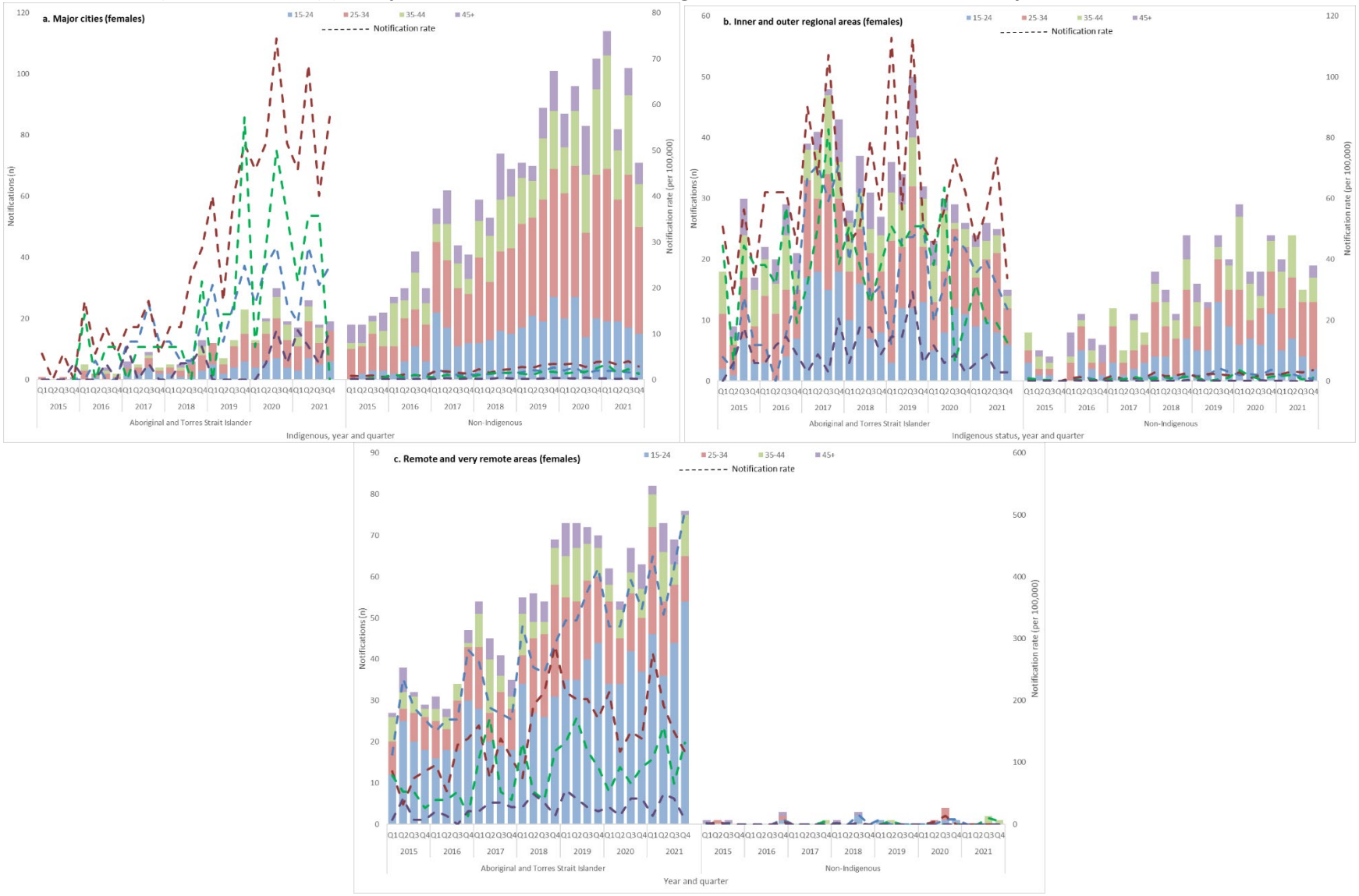
Aboriginal and Torres Strait Islander women and men represented 97% of cases reported over the previous 12 months (1 January – 31 December 2021) in remote and very remote areas of Australia. Across all remoteness areas, notification rates were highest in Aboriginal and Torres Strait Islander men and women, particularly in younger age groups (Figures 2c and 3c).

**Figure 2 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in males, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 31 December) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote areas)***




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

**Figure 3 a-c: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females, by Indigenous status, remoteness area, age, quarter and year, 2015 – 2021 (to 31 December) (a. Major cities, b. Inner and outer regional areas and c. Remote and very remote area**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

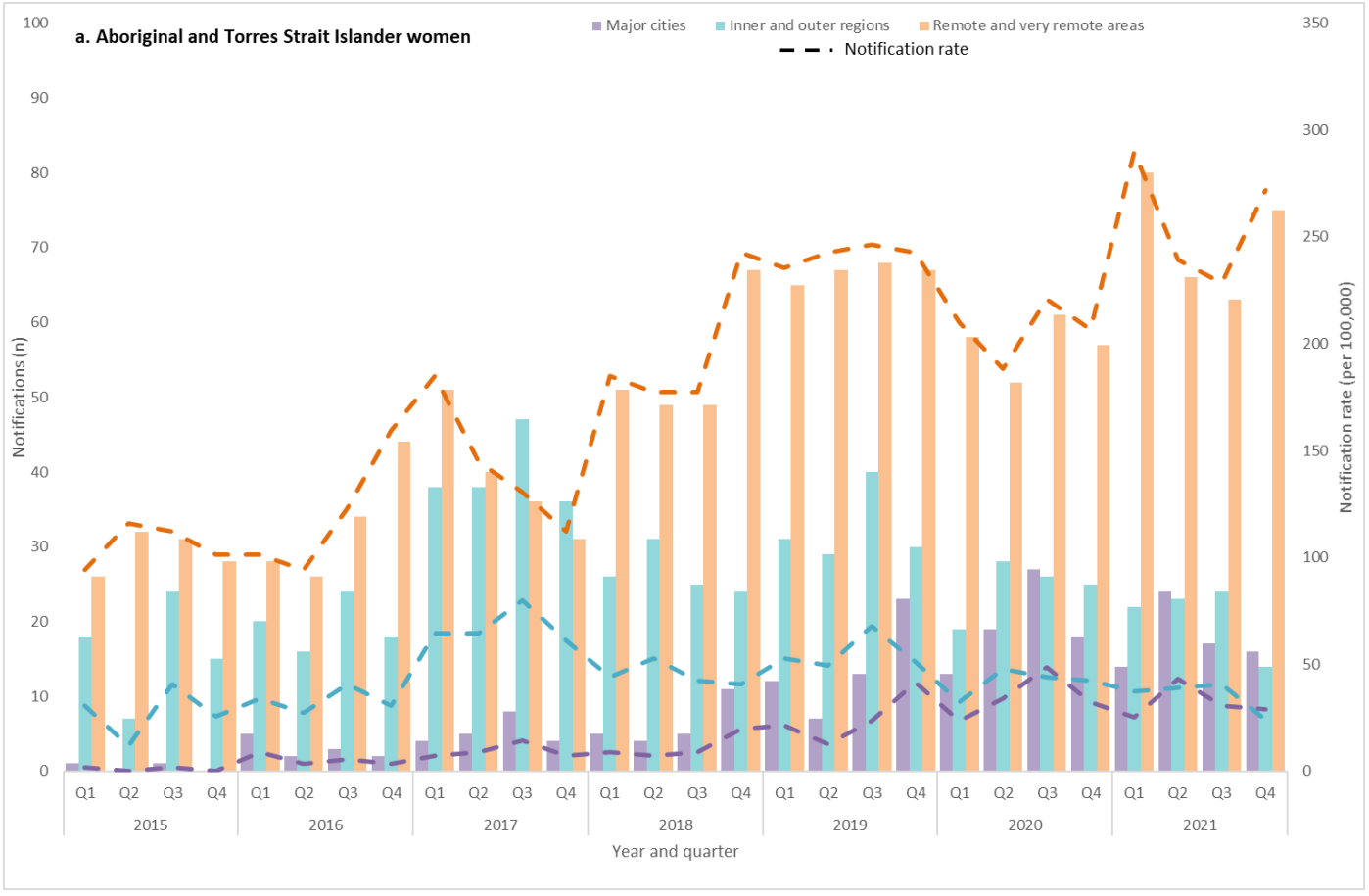
***Indicator 1.2 - Rate of infectious syphilis among women of reproductive age (15-44 years)***

Over the previous 12 months (1 January – 31 December 2021) notifications of syphilis among Aboriginal and Torres Strait Islander women aged 15-44 years were predominately in residents of remote and very remote areas of Australia, consistent with historical trends (Figure 4a). The highest notification rates, as expected, were in remote and very remote areas, increasing by 25% in the previous 12 months compared to the preceding 12 months (1 January – 31 December 2020). Inner/outer regional areas recorded the second highest rates in the previous 12 months, however compared to the preceding 12 months rates declined by 15% and 28% compared to the 5 year average. In contrast, notification rates in Aboriginal and Torres Strait Islander women residing in major cities of Australia, although lower, increased by 43% compared to the 5 year average, but declined (8%) when compared to the preceding 12 months.

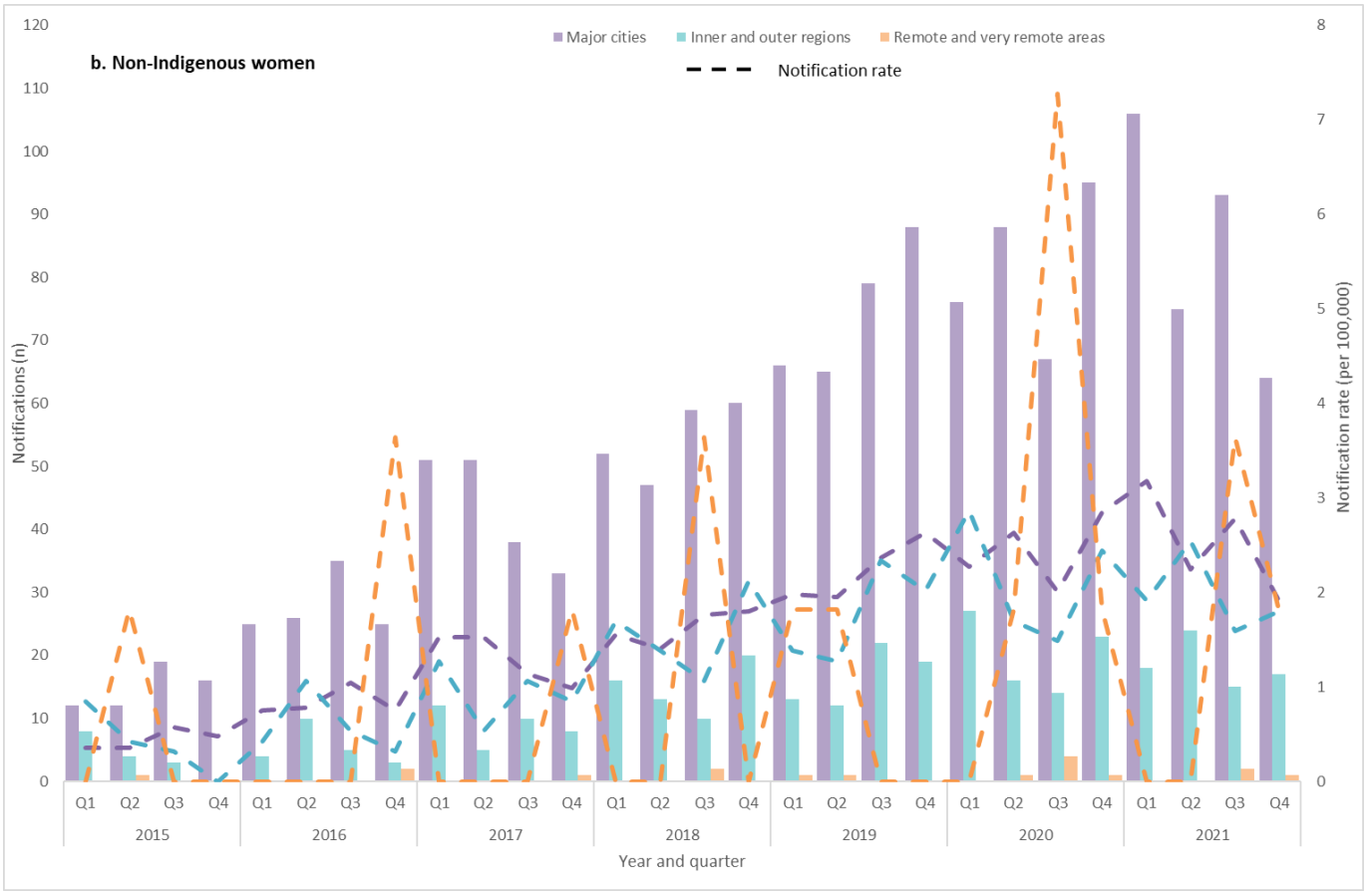
Non-Indigenous women of reproductive age diagnosed with syphilis over the previous 12 months were predominately residents of major cities of Australia, consistent with historical trends (Figure 4b). Notifications rates increased for this group by 4% between the previous 12 months and the 12 months prior, and 25% compared to the 5 year average. Notification rates in inner/outer regional areas declined between the previous 12 months and the 12 months prior (8%) and compared to the 5 year average increased by 18%. Notification rates in remote and very remote Australia have fluctuated, noting that overall notifications in these areas are low for non-Indigenous women.

**Figure 4a-b: Notifications (n) and notification rate (per 100,000) of infectious syphilis reported in females aged 15-44 years, by Indigenous status, remoteness area, quarter and year, 2015 – 2021 (to 31 December) (a. Aboriginal and Torres Strait Islander and b. non-Indigenous)***

**a.**



**b.**




*Excludes cases for whom sex, age, Indigenous status and/or residential postcode were not reported.

***Indicator 1.3 - Proportion of infectious syphilis notifications in men reporting sexual exposure with men only***
***Indicator 1.4 - Proportion of infectious syphilis notifications in men reporting sexual exposure with both men and women***

Enhanced data (sexual exposure: same sex, opposite sex and both sexes) are used to report against indicators 1.3 and 1.4.

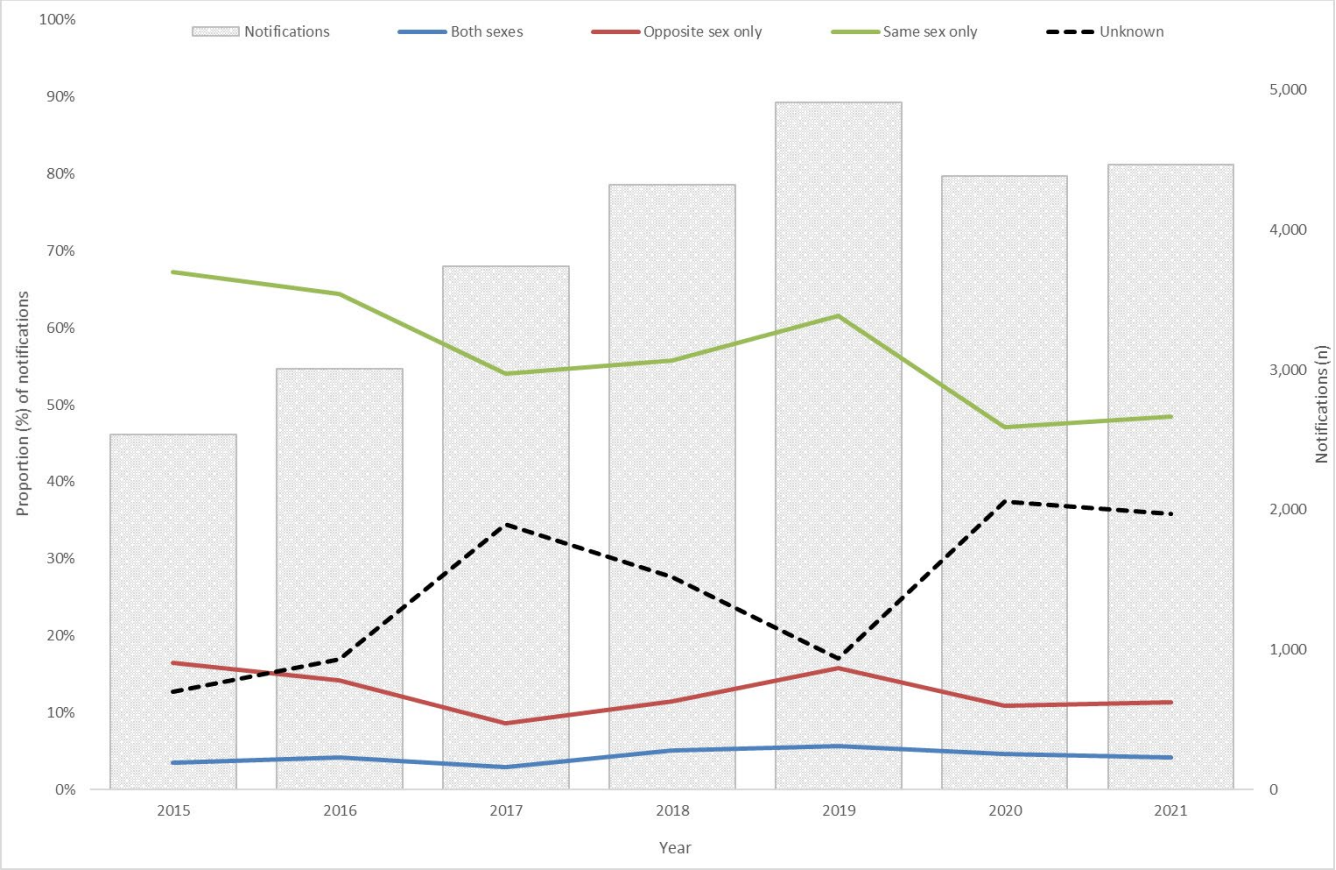
*Completeness of enhanced sexual exposure data*

Completeness of the sexual exposure in males notified with infectious syphilis fluctuated between 2015 and 2021 (to 31 December), ranging from 63% and 87% (average 74%).

Same sex only was the most commonly reported exposure across all years during the reporting period, representing on average 57% of notifications overall, followed by opposite sex only (13%) and both sexes (4%). The proportion of cases reporting same sex only exposure fluctuate across the reporting period with the highest in 2015 (67%) and lowest in 2020 (47%), noting higher proportions of unknown cases in more recent years (Figure 5).

Although men reporting sexual exposure with both men and women represented the lowest proportion of all cases during the reporting period (range 3 -6%), notifications reporting this category of sexual exposure increased by 63% between 2015 and 2021 (Figure 5).

**Figure 5: Number of infectious syphilis notifications among men and proportion (%) of cases by sexual exposure and year 2015 – 2021 (to 31 December)**




## Target 2: Eliminate congenital syphilis

***Indicator 2.1 - Number of congenital syphilis notifications***

***Indicator 2.2 - Notification rate of congenital syphilis per 100,000 live births***

***Indicator 2.3 - Number of congenital syphilis cases that were reported to have died from the condition***

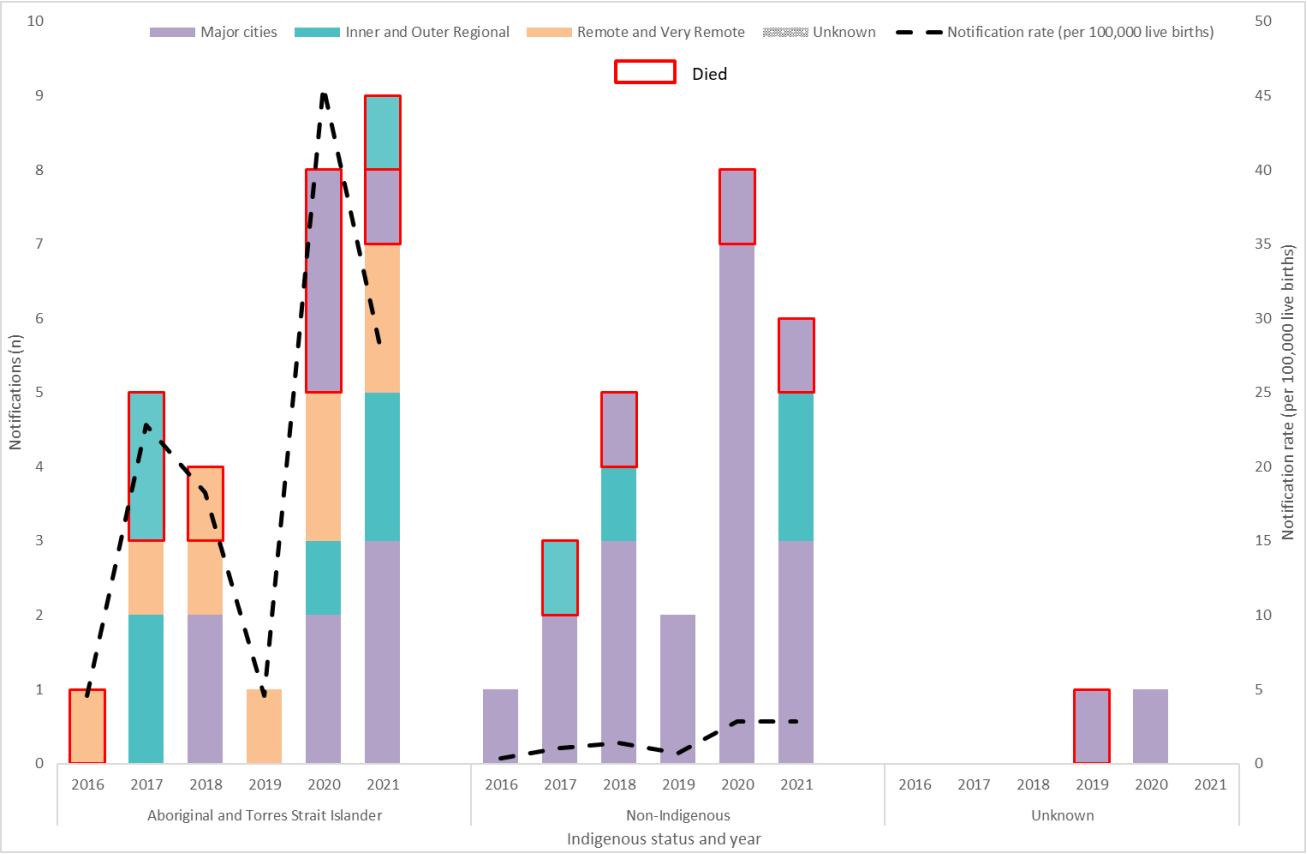
Fifty-five (55) cases of congenital syphilis were reported between 2016 and 31 December 2021, 28 were reported in Aboriginal and Torres Strait Islander infants, 25 were non-Indigenous and 2 had an unknown Indigenous status (Figure 6). Among the 28 Aboriginal and Torres Strait Islander cases, 39% (11/28) were residents of major cities, 29% (8/28) from inner/outer regional areas and 32% (9/28) from remote/very remote areas. Eighty-four per cent (84%, 21/25) of non-Indigenous cases were residents of major cities and 16% (4/25) from inner/outer regional areas. All cases with an unknown Indigenous status were reported from major cities (100%, 2/2). [iv]

Aboriginal and Torres Strait Islander infants are disproportionately represented in the notification data, with rates per 100,000 live births on average almost 20 times that of non-Indigenous infants, noting that rates have fluctuated in both groups over time.

Fourteen (14) congenital syphilis associated deaths were reported between 2016 and 31 December 2021, 9 (64%, 9/14) were Aboriginal and Torres Strait Islander infants, 4 (29%, 4/14) were non-Indigenous and 1 (7%, 1/14) had an unknown Indigenous status. Of the Aboriginal and Torres Strait Islander infants that died, 4 (44%, 4/9) were reported in major cities, 3 (33%, 3/9) from inner/outer regional areas and 2 (14%, 2/9) from remote/very remote areas.[iii] Of the non-Indigenous infants 3 (75%, 3/4) were reported in major cities and 1 (25%, 1/3) a resident of an inner/outer regional area. The remaining case (unknown Indigenous status) reported to have died was from a major city.

[iv] Totals may not equal 100% due to rounding.

**Figure 6: Notifications (n) and notification rate (per 100,000 live births) of congenital syphilis reported in, by Indigenous status, remoteness area, and year, 2016 – 2021 (to 31 December)**




***Indicator 2.4 - Proportion of syphilis notifications among women who were pregnant[v] at time of diagnosis***

Pregnancy status was available for 6 jurisdictions in 2021, 5 in 2020 and 3 between 2017 and 2019[vi]. Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends overtime should be interpreted with caution.

In 2021 (to 31 December), of the syphilis notifications among Aboriginal and Torres Strait Islander women of reproductive age (15-44 years), 15% were pregnant at the time of diagnosis, 73% were not pregnant and 12% had an unknown pregnancy status (Figure 7). The proportion of Aboriginal and Torres Strait Islander women pregnant at time of syphilis diagnosis in 2021 is lower than the proportions reported between 2017 and 2020 (range 14%-17%) noting that number of jurisdictions reporting data each year varied.

Among non-Indigenous women of reproductive age in 2021, 15% were pregnant at the time of diagnosis, 76% were not pregnant and 9% had an unknown pregnancy status (Figure 7). The proportion of non-Indigenous women pregnant at time of syphilis diagnosis in 2021, was lower than the proportions reported between 2017 and 2020 (range 18%-22%), noting that number of jurisdictions reporting data each year varied.

[v] Pregnancy status: 2017 -2019 includes data from Queensland, New South Wales and Western Australia; 2020 includes data from Queensland, New South Wales, Western Australia, South Australia and the Australian Capital Territory, and; 2021 includes from Queensland, New South Wales, Western Australia, South Australia, the Australian Capital Territory and Victoria.

**Figure 7: Number of syphilis notifications among women of reproductive age (15-44 years) and proportion (%) of cases pregnant at time of syphilis diagnosis, by Indigenous status and year, 2017-2021 (to 31 December)**


***Indicator 2.5 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis in pregnancy by gestation period***

***Indicator 2.6 - Number of women giving birth to an infant with congenital syphilis who were diagnosed with syphilis late[vi] in pregnancy***

Enhanced data are used to report against indicators 2.5 and 2.6.

*Completeness of enhanced congenital syphilis data*

- Between 2016 and December 2021, 100% (55/55) of congenital syphilis cases had enhanced data available, including information about the mother of the infant diagnosed with congenital syphilis.

Of the 55 congenital syphilis cases reported between 2016 and December 2021, 3 (5%, 3/55) mothers giving birth to an infant with congenital syphilis were diagnosed in the 1st or 2nd trimester, 13 (24%, 13/55) in the 3rd trimester, 15 (27%, 15/55) on the day of delivery, 22 (40%, 22/55) post-birth and 2 (4%, 2/55) had an unknown stage of pregnancy at the time of syphilis diagnosis (Table 1).

Eighty-four per cent (84%, 46/55) of mothers giving birth to an infant with congenital syphilis were diagnosed late in pregnancy, including 9 mothers diagnosed in the 3rd trimester less than 30 days prior to delivery.

[vi] 'Late diagnosis' is defined as a syphilis diagnosis less than 30 days prior to delivery, at birth (day of delivery) or post birth.

**Table 1: Number of women giving birth to an infant with congenital syphilis, by gestation period mother was diagnosed with syphilis and year, 2016 – 2021 (to 31 December)**

| Gestation period of mothers syphilis diagnosis | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| 1st Trimester | 0 | 0 | 1 | 0 | 0 | 0 |
| 2nd Trimester | 1 | 0 | 0 | 0 | 1 | 0 |
| 3rd Trimester | 1 | 2 | 3 | 2 | 2 | 3 |
| At birth (Day of delivery) | 0 | 2 | 2 | 0 | 6 | 5 |
| Post-birth | 0 | 3 | 2 | 2 | 8 | 7 |
| Unknown | 0 | 1 | 1 | 0 | 0 | 0 |
| Total | 2 | 8 | 9 | 4 | 17 | 15 |
| **Late diagnosis** | **0** | **6** | **7** | **3** | **15** | **15** |

## Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia

An outbreak of infectious syphilis began in northern Queensland in January 2011, extending to the Northern Territory in July 2013, the Kimberley in Western Australia in June 2014 and South Australia in November 2016.

The AHPPC, in consultation with affected jurisdictions, Aboriginal Community Controlled Health Services (ACCHS) and key stakeholders, developed a National Strategic Approach and Action Plan to address the disproportionately high rates of syphilis and other BBV and STI in regional and remote Aboriginal and Torres Strait Islander communities. The Strategic Approach and Action Plan were endorsed by the Australian Health Ministers Advisory Council in December 2017.

Further information on the outbreak and response activities are available on the Department of Health website.

***Indicator 3.1 - Number of outbreak associated infectious syphilis notifications***

Since the commencement of the outbreak on 1 January 2011 to 31 December 2021, a total of 4,656 infectious syphilis outbreak cases (category 1 and 2[vii]) were reported from 4 jurisdictions (Figure 8, Table 2):

- 1,833 from Queensland;
- 1,719 from the Northern Territory;
- 942 from Western Australia;
- 162 from South Australia.

Across the 4 outbreak jurisdictions, 54% (2,472/4,547) of all category 1 cases were female and 46% (2,075/4,547) were male, with a male to female ratio of 0.8:1 suggesting predominately heterosexual transmission overall, noting the variability across specific outbreak regions and jurisdictions (Figure 9 a-d, Table 2).

On 19 November 2020, the Multi-Jurisdictional Syphilis Working Group endorsed the expansion of the 'target age group' from 15-29 years to 15-34 years[viii]. This change came into effect from the February 2021. Overall, 75% (3,393/4,547) of all outbreak cases were reported in 15-34 year olds, with the proportion of cases in this age group across the outbreak period (1 January 2011-31 December 2021) ranging between 70% and 82% (Figure 9a-d).

[vii] Outbreak cases are reported as either category 1 or category 2: category 1 cases include Aboriginal and Torres Strait Islander people residing in an outbreak declared region at the time of diagnosis, and; category 2 cases include people who are a sexual contact of a confirmed outbreak case which includes Aboriginal and Torres Strait Islander people who do not reside in an outbreak area at the time of diagnosis and non-Indigenous people regardless of where they reside. **All data are provisional and subject to change due to ongoing case investigation**.

[viii] Multijurisdictional Syphilis Outbreak Surveillance Report: February 2021

**Figure 8: Notifications of category 1 infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions of Queensland, the Northern Territory, Western Australia and South Australia from commencement of the outbreak in each jurisdiction to 31 December 2021**

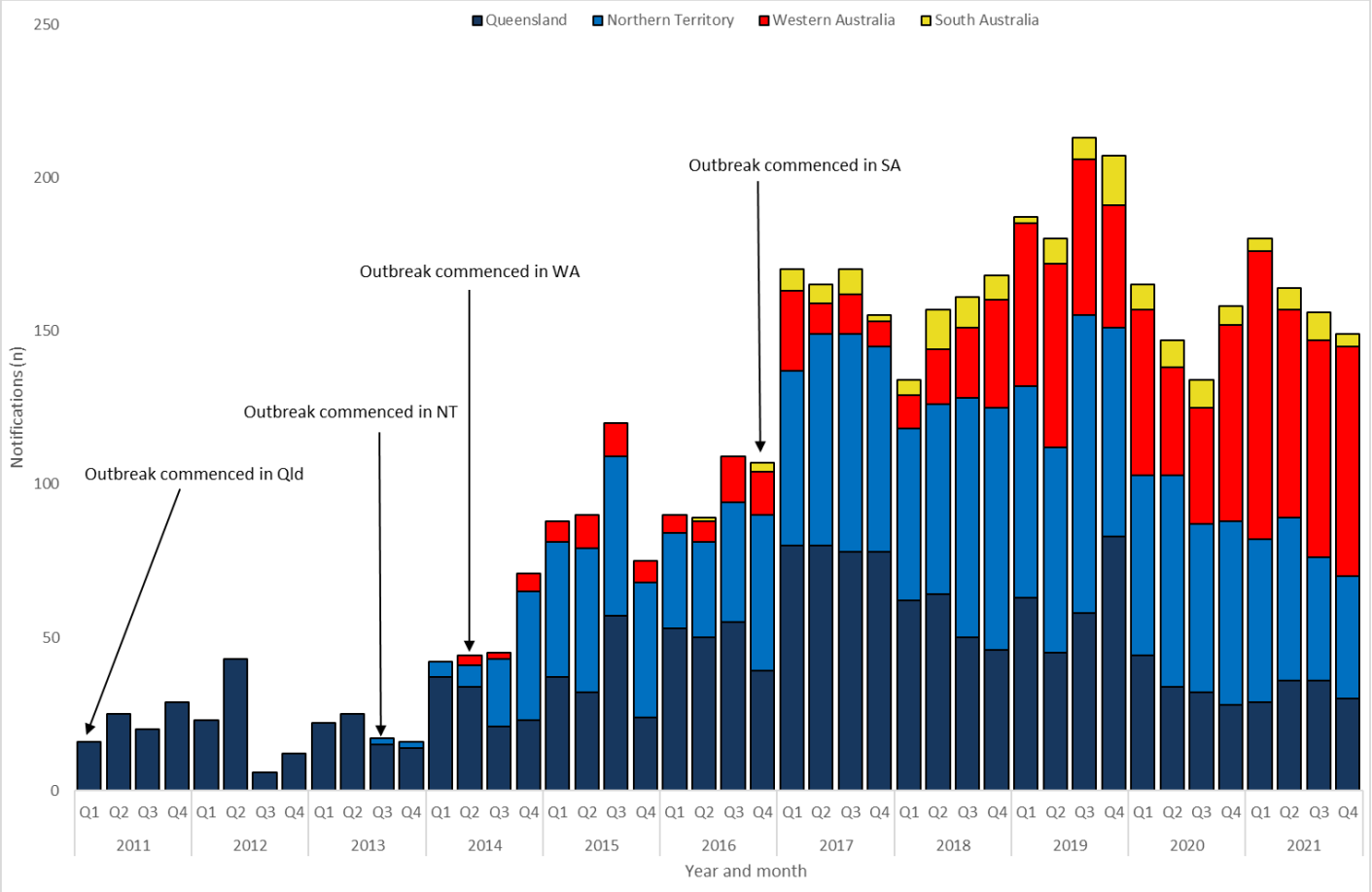



**Table 2: Characteristics of infectious syphilis outbreak cases notified in Aboriginal and Torres Strait Islander people residing in affected regions[ix] of Queensland, the Northern Territory, Western Australia and South Australia to 31 December 2021**

| | **Queensland** (five HHSs) | **Northern Territory** (seven regions) | **Western Australia** (three regions) | **South Australia** (three regions) |
|---|---|---|---|---|
| **Category 1** | | | | |
| Outbreak commencement month/year | January 2011 | July 2013 | June 2014 | November 2016 |
| Total number of cases | 1,771 | 1,688 | 936 | 152 |
| % Male / % Female | 46% / 54% | 14% / 54% | 43% / 57% | 49% / 51% |
| % 15-34 year age group | 76% | 73% | 76% | 68% |
| **Category 2** | | | | |
| Aboriginal and Torres Strait Islander people[x] | 15 | 14 | 6 | - |
| Non-Indigenous people[xi] | 47 | 17 | - | 10 |

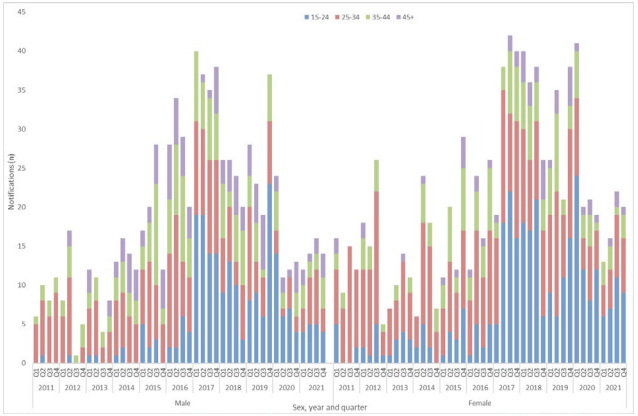
[ix] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

[x] Aboriginal and Torres Strait Islander people who are sexual contacts of a confirmed outbreak case and reside outside an outbreak declared region at the time of diagnosis.

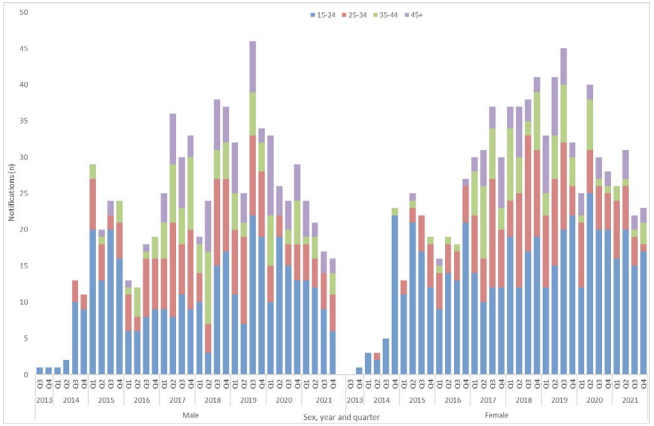
[xi] Non-Indigenous people who are sexual contacts of a confirmed outbreak case and reside in or out of an outbreak declared region at the time of diagnosis.

**Figure 9 a-d: Notifications (n) of category 1 outbreak associated syphilis cases, by age*, sex, jurisdiction, year and quarter from commencement in each jurisdiction to 31 December 2021 (a. Queensland, b. the Northern Territory, c. Western Australia and d. South Australia)[xii]**

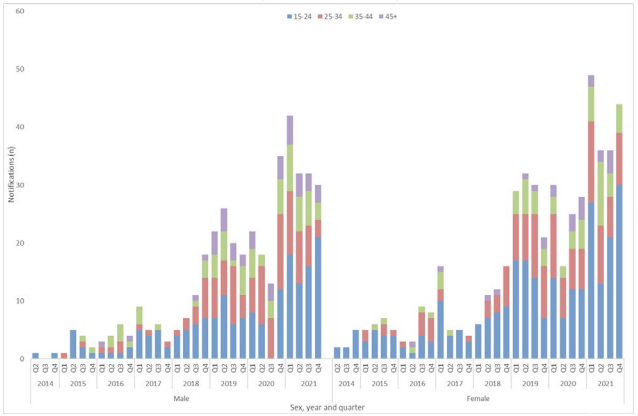
**a. Queensland (2011-2021)**



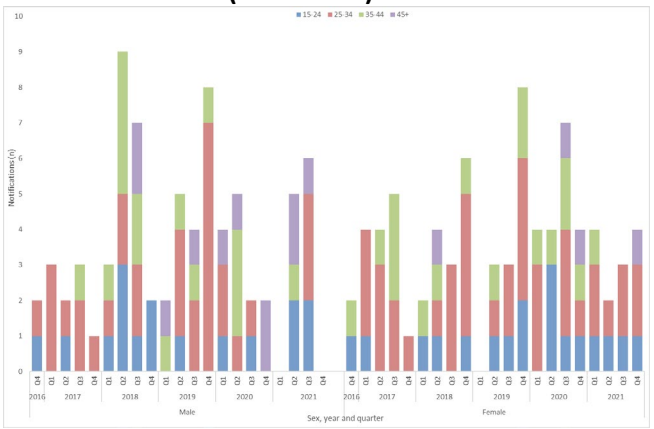

**b. Northern Territory (2013-2021)**




**c. Western Australia (2014-2021)**




**d. South Australia (2016-2021)**




*Excludes cases aged <15 years of age.

[xii] Qld - North West Hospital and Health Service (HHS) area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018).

***Indicator 3.2 - Number of outbreak associated congenital syphilis notifications***

***Indicator 3.3 - Number of outbreak associated congenital syphilis cases that were reported to have died from the condition***

Since the commencement of the outbreak in January 2011 to 31 December 2021, there were 24 outbreak associated cases of congenital syphilis reported, 10 from Queensland, 7 from the Northern Territory, 4 from Western Australia and 3 from South Australia. Eight (8) of these cases were reported to have died from the condition, 7 from Queensland and 1 from Western Australia (Figure 10).

**Figure 10: Notifications (n) of outbreak associated congenital syphilis cases and reported deaths, by jurisdiction, and year, 2016 – 2021 (to 31 December)[xvi]**


***Indicator 3.4 - Proportion of outbreak associated infectious syphilis notifications among women who were pregnant[xiii] at time of diagnosis***

Pregnancy status was available for 3 out of 4 outbreak jurisdictions in 2020 and 2021 (Queensland, Western Australia and South Australia). Between 2017 and 2019, pregnancy status was available for 2 out of 4 jurisdictions (Queensland and Western Australia). Given the high proportion of cases with an unknown pregnancy status and retrospective changes to the data, trends over time should be interpreted with caution.

In 2021 (to 31 December), of the outbreak associated notifications of syphilis among women of reproductive age (15-44 years) reported in Queensland, Western Australia and South Australia, 11% were pregnant at the time of diagnosis, 78% were not pregnant and 11% had an unknown pregnancy status (Figure 11). The proportion of women pregnant at syphilis diagnosis in 2021 was the same as 2020 (11%). Between 2017 and 2019, the proportion of women pregnant at time of diagnosis was 17% in 2017 and 16% in 2018 and 15% in 2019, noting that this is representative of only 2 out of 4 outbreak affected jurisdictions (Queensland and Western Australia).

[xiii] Pregnancy status (outbreak jurisdictions): 2017 -2019 includes data from Queensland and Western Australia; 2020-2021 includes data from Queensland, Western Australia and South Australia. No data from the Northern Territory were available at the time of writing.

**Figure 11: Proportion (%) of outbreak associated syphilis notifications among women of reproductive age (15-44 years), by pregnancy status at time of syphilis diagnosis and year, 2016 – 2021 (to 31 December)**


***Indicator 3.5 - Cumulative number of syphilis tests delivered through participating ACCHS in outbreak affected jurisdictions***
***Indicator 3.6 - Proportion of people attending participating ACCHS who received a syphilis test***

On 1 August 2018, the test and treat model to curb the syphilis outbreak commenced at ACCHS in Townsville (Queensland), Cairns (Queensland) and Darwin (Northern Territory). These sites were chosen in consultation with the jurisdictions and the National Aboriginal Community Controlled Health Organisation (NACCHO). On 1 September 2018, the second phase commenced in ACCHS in Katherine (Northern Territory), East Arnhem (Northern Territory) and the Kimberley east (Western Australia). On 1 May 2019, the third phase commenced with additional services in the West Arnhem (Northern Territory), Pilbara (Western Australia) and Kimberley west (Western Australia). The first ACCHS in South Australia were funded as part of the third phase (Western and Eyre, Far North and Adelaide). The fourth phase commenced from May 2020 at ACCHS in Mt Isa (Queensland), and Tennant Creek (Northern Territory). The below data summarises syphilis testing data and coverage for participating ACCHS, noting that data are missing for some services.

***Please note that due to changes in reporting, at the time of writing data were only available to 30 June 2021. Data from 1 July – 31 December 2021 will be reported in subsequent quarterly reports.***

As at 30 June 2021, through participating ACCHS (Figures 12 and 13 a-b):

- 61,092 syphilis tests, point-of-care tests (PoCT) and serological tests, were delivered from the commencement of phase 1 of the test and treat model rollout on 1 August 2018. On average 1,745 new tests are performed each month (Figure 11).
- the monthly testing coverage for all individuals was 8.2%, lower than the monthly average for the preceding 12 months (8.6%, 1 July 2020 – 30 June 2021) (Figure 12a).
- the monthly testing coverage for the target age group (15-34 years) was 14.0%, lower than the monthly average for the preceding 12 months (15.6%, 1 July 2020 – 30 June 2021) (Figure 12b).
- the rolling 12 month testing coverage (1 July 2020 – 30 June 2021) for all age groups was 25% and 38% for the target age group (15-34 years).

**Figure 12: Cumulative number of syphilis tests (PoCT and serology) delivered through participating ACCHS to Aboriginal and Torres Strait Islander peoples, by month and year, August 2018 – 30 June 2021**

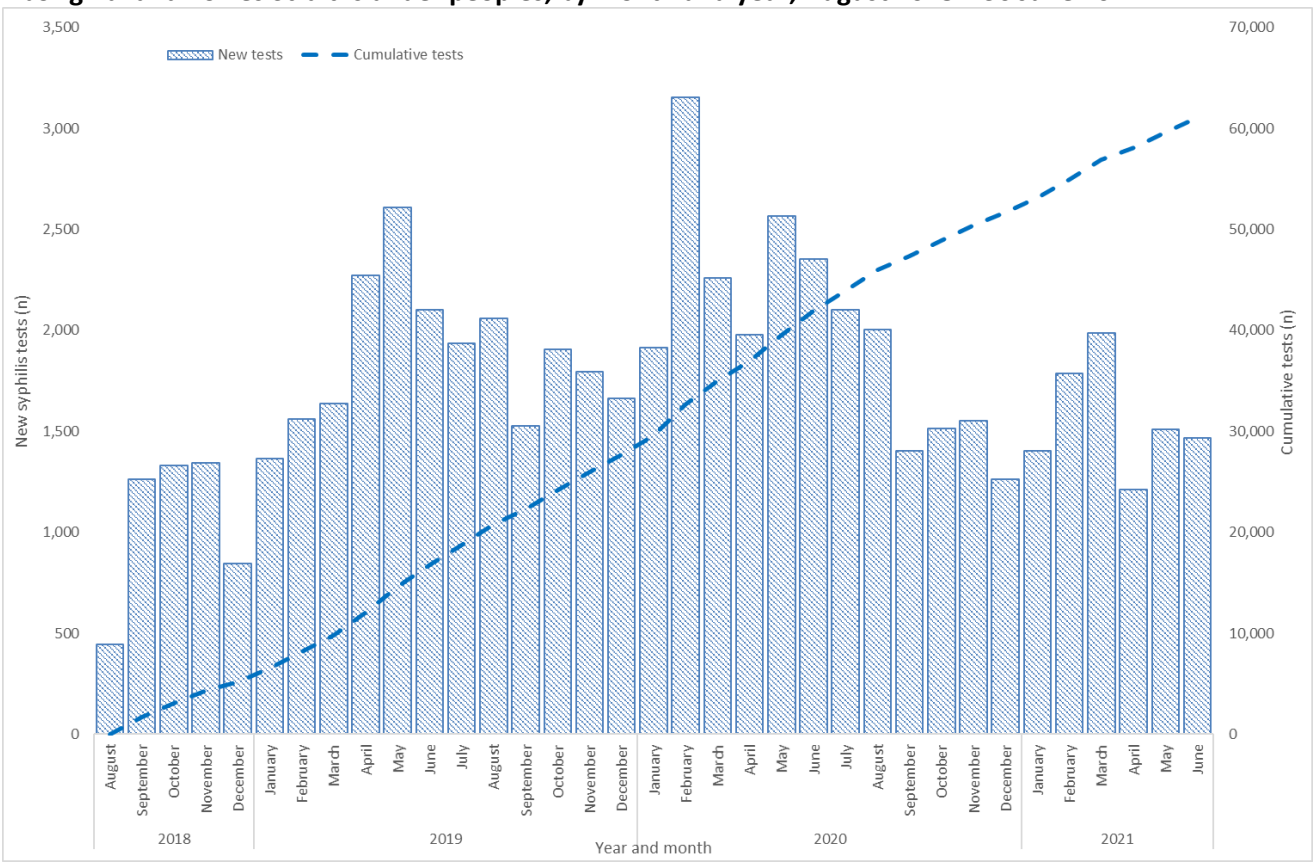
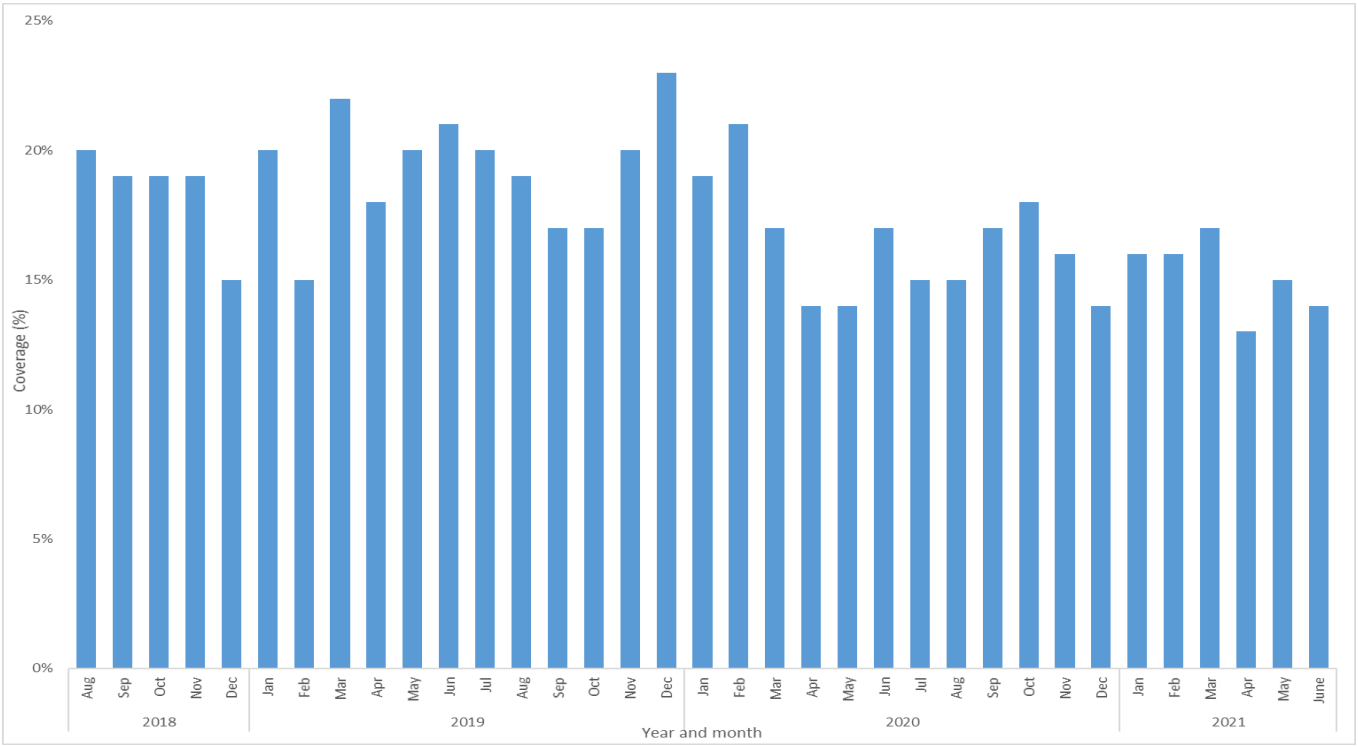


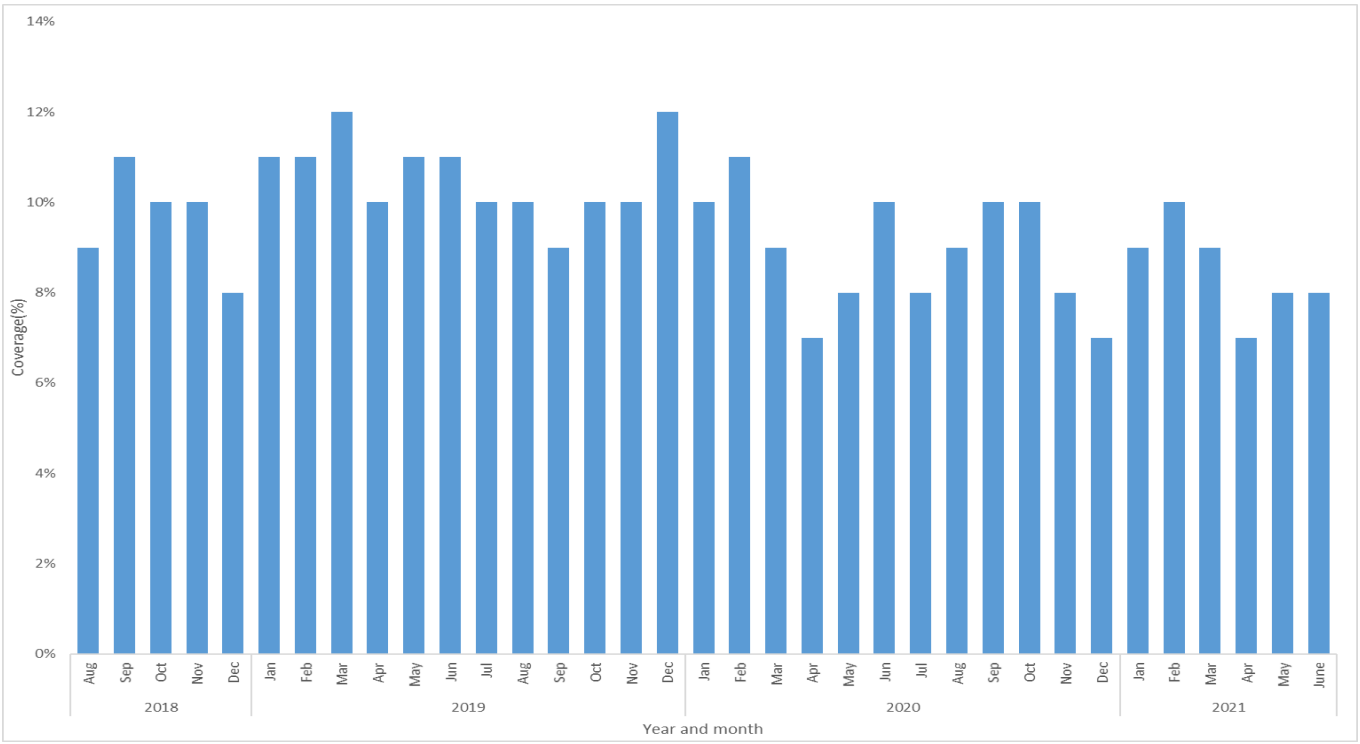

**Figure 13 a-b: Proportion of Aboriginal and Torres Strait Islander peoples attending participating ACCHS who received a syphilis test (PoCT and/or serology), month and year, August 2018 – June 2021[xiv]**
**(a. target age group 15-34 years b. all age groups)**

**a.**




[xiv] Excludes testing data for individuals for whom age was not reported.

**b.**




## Methodological notes

Data were extracted from the NNDSS on 21 March 2022, by diagnosis date. Due to the dynamic nature of the NNDSS, data in this extract are subject to retrospective revision and may vary from data reported in published NNDSS reports and reports of notification data by states and territories. Data are to 31 December 2021 unless otherwise specified.

In general, notification data represent only a proportion of the total cases occurring in the community, that is, only those cases for which health care was sought, a test conducted and a diagnosis made, followed by a notification to health authorities. The degree of under-representation of all cases is unknown and is most likely variable by disease and jurisdiction.

In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs including the preferential testing of high-risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur annually.

*Data elements*

- 'Diagnosis year' was used to define the period of analysis. This date represents either the onset date or where the date of onset was not known, the earliest of the specimen collection date, the notification date, or the notification received date.
- 'Residential postcode' reported to the NNDSS was used to allocate notifications of infectious and congenital syphilis to *remoteness areas* (as defined by the Australian Bureau of Statistics). Where a postcode was not reported the notification was excluded from remoteness area analysis.
    - Tasmania and Northern Territory do not have major cities as defined by the Australian Bureau of Statistics. Tasmanian "major cities" refers to inner regional areas and in the Northern Territory refers to outer regional areas.
- 'Residential postcode' usually reflects the residential location of a case at the time of testing and does not necessarily represent the place where the disease was acquired.

- The 'population denominator' used to calculate remoteness area rates and rates by sex and age (per 100,000 population) was extracted from the Australian Bureau of Statistics Census Table Builder (based on 2016 Census data) on 21 March 2022.
- The determination of the *Indigenous status* is by descent, self-identification, and community acceptance. While completeness of the Indigenous status field is generally high, it should be interpreted with caution as completeness of this field varies from year to year and jurisdiction to jurisdiction.
- 'Syphilis testing data' have been provided by participating ACCHS. A participating service refers to clinics currently funded by the Australian Government Department of Health to deliver point of care testing in syphilis outbreak regions. Services extract data from local clinical information management systems reporting to the Australian Government Department of Health. Data are provided for the reporting month, and cumulatively for the previous 12 months. 'Testing coverage' is calculated using as the denominator 'clients attending the service' (a participating ACCHS) during the reporting period.

*Case definitions*

The CDNA national surveillance case definitions for infectious and congenital syphilis, including any historical edits, are available at: https://www.health.gov.au/casedefinitions.

The outbreak case definition classifying cases reported under 'Target 3: Control outbreaks among Aboriginal and Torres Strait Islander peoples in Queensland, the Northern Territory, Western Australia and South Australia' is defined:

> Nationally, an infectious syphilis outbreak case is defined as: any person who is newly diagnosed with confirmed or probable infectious syphilis according to the CDNA national surveillance case definition for infectious syphilis, **AND**, is an Aboriginal or Torres Strait Islander person who resides in any of the following outbreak declared regions as defined and documented by that jurisdiction, at or after the dates indicated: Qld - North West Hospital and Health Service area (from 1 January 2011); Torres and Cape Hospital and Health Service area (from 1 December 2012); Cairns and Hinterland Hospital and Health Service area (from 1 August 2013); Townsville Hospital and Health Service area (from 1 January 2014); Central Queensland Hospital and Health Service area (from 1 June 2017) NT - Alice Springs Rural and Urban or Barkly district (from 1 July 2013); Katherine district (from 1 May 2014); East Arnhem district (from 1 November 2015); Darwin Rural and Urban (from 1 January 2017); WA - Kimberley region (from 1 June 2014); Pilbara region (from 1 February 2018); Goldfields region (from 1 January 2019); SA - Far North and Western and Eyre regions (from 15 November 2016); Adelaide (from 1 February 2018) (category 1 outbreak cases) OR, is a sexual contact of a confirmed outbreak case (category 2 outbreak cases).

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## Contact

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