

Queensland Health

# **Tuberculosis epi 2021 summary report**

Communicable Diseases Branch



**Queensland  
Government**

# Abbreviations

The following abbreviations will be used in this report:

DST	Drug susceptibility testing
HHS	Hospital and health service
MSCTBS	Metro South Clinical Tuberculosis Service
NAT	Nucleic acid (amplification) testing
TB	Tuberculosis
TBCU	Tuberculosis Control Unit

# Introduction

Data for this report were extracted from notifiable diseases register (Notifiable Conditions System – NoCS) on 28 July 2022 by notification date for the period 1 January 2017–31 December 2021. Up to date TB data are available in the [Queensland Health Weekly Notifiable Conditions Report](#).

Data are subject to change as a result of ongoing data quality activities.

# Notifications

There were 161 notifications of active TB in 2021 (Figure 1). Ninety percent were laboratory confirmed by culture or NAT and 10% were clinical diagnoses only. The notification rate of TB in Queensland remains between 3 and 4 per 100 000 population per year and has been decreasing since 2018. The breakdown by TBCU is shown in Table 1.

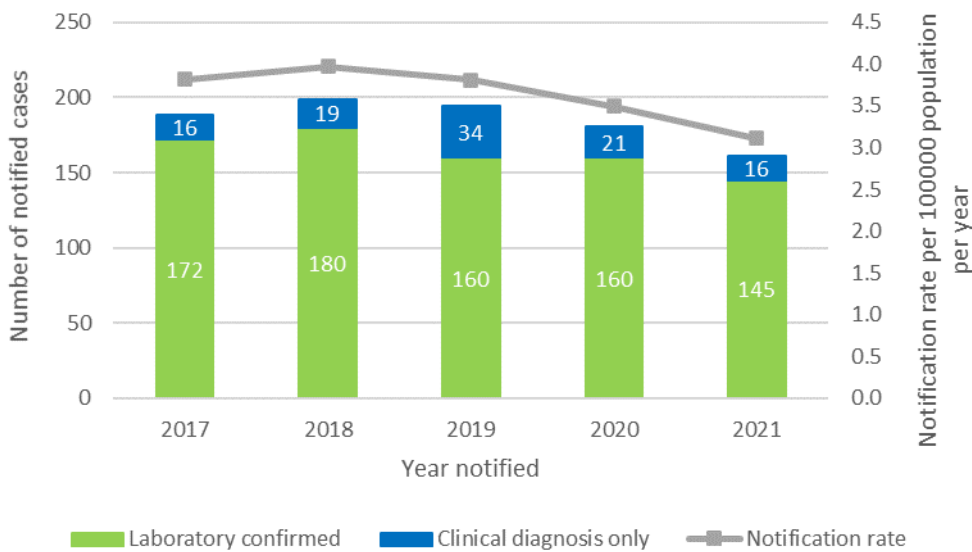


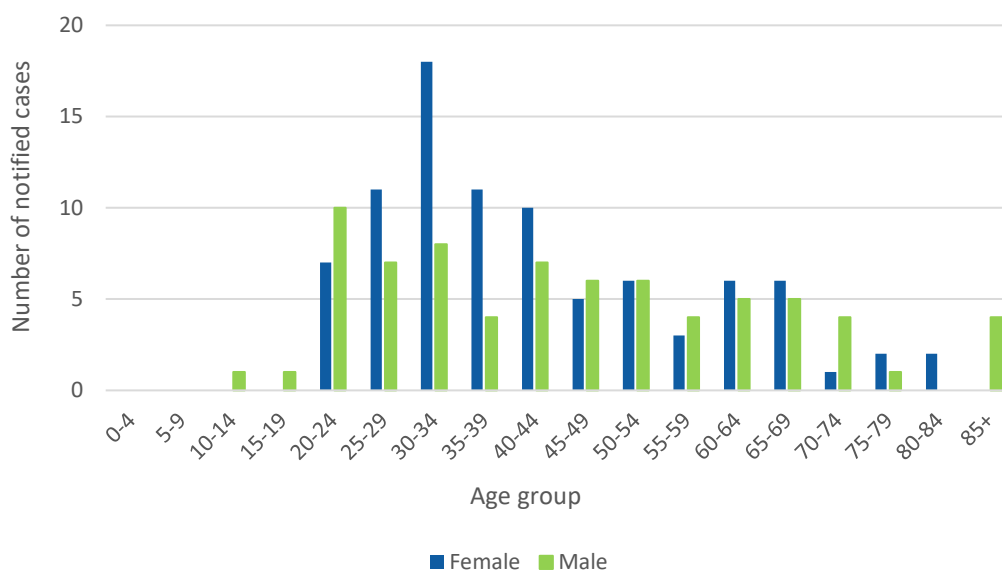
Figure 1 Number of notified cases of tuberculosis by diagnosis type and notification rate, Queensland 2017–2021

**Table 1 Number of notified cases of tuberculosis by TBCU, Queensland 2017–2021**

TBCU	2017	2018	2019	2020	2021
MSCTBS	140	136	137	138	118
Cairns	23	33	27	19	23
Townsville	10	11	10	10	4
Rockhampton	3	7	2	7	8
Torres and Cape	6	8	6	2	3
Toowoomba	6	3	6	2	4
Mackay	0	1	6	3	1
<b>Total</b>	<b>188</b>	<b>199</b>	<b>194</b>	<b>181</b>	<b>161</b>

## Demographics

In 2021, there were 88 females (55%) and 73 males (45%) notified with TB. The age range of cases was 14 to 96 years, with a median age of 41 years. The most frequently notified age groups were between 20–35 years of age (Figure 2).



*Figure 2 Number of notified cases of tuberculosis by sex and age group, Queensland 2021*

Cases were predominantly residents of metropolitan Brisbane with 39% of cases residing in Metro South HHS and 18% in Metro North HHS (Table 2).

**Table 2 Tuberculosis cases by hospital and health service of residence, Queensland 2021**

Hospital and Health Service	Number of cases	%
Cairns and Hinterland	23	14%
Central Queensland	7	4%
Central West	0	0%
Darling Downs	4	2%
Gold Coast	8	5%
Mackay	1	1%
Metro North	29	18%
Metro South	63	39%
North West	1	1%
South West	0	0%
Sunshine Coast	4	2%
Torres and Cape	2	1%
Townsville	3	2%
West Moreton	5	3%
Wide Bay	7	4%
Overseas residents	4	2%
<b>Total</b>	<b>161</b>	<b>100%</b>

Nineteen (12%) cases of TB notified in Qld during 2021 were born in Australia (Table 3). Of these 19 cases, 10 (53%) were Aboriginal or Torres Strait Islanders. One hundred and forty-two (88%) cases were born overseas, of which 135 (95%) were born in a country with a current TB incidence of 40 cases per 100,000 population or greater.

**Table 3 Tuberculosis cases by country of birth, Queensland 2021**

Country of birth	Number of cases	%
Philippines	28	17%
India	24	15%
Australia	19	12%
Vietnam	15	9%
Papua New Guinea	12	7%
Nepal	9	6%
China	4	2%
New Zealand	3	2%
Afghanistan	3	2%
Indonesia	3	2%
Kenya	3	2%
Myanmar (Burma)	3	2%

Country of birth	Number of cases	%
Pakistan	2	1%
Thailand	2	1%
Sudan	2	1%
Zimbabwe	2	1%
Eritrea	2	1%
Cambodia	2	1%
Sri Lanka	2	1%
Republic of South Korea	2	1%
Other	19	12%
<b>Total</b>	<b>161</b>	<b>100%</b>

There was one cross border PNG case who was a resident of villages covered under the provisions of the Torres Strait Treaty Act 1984. Australian citizens and permanent residents accounted for 60% of TB cases in 2021 (Table 4).

**Table 4 Tuberculosis cases by visa status, Queensland 2021**

Visa status	Number of cases	%
Australian born	19	12%
Overseas born Australian citizens or Permanent Resident	77	48%
Other	26	16%
Overseas Student	15	9%
Overseas Visitor	12	7%
Refugee/Humanitarian	10	6%
Treaty Visitation Rights (PNG/TSI treaty zone)	1	1%
Unauthorised Person	0	0%
Unknown	1	1%
<b>Total</b>	<b>161</b>	<b>100%</b>

# Clinical presentation

The majority of TB cases in 2021 were new cases (153, 95%) with a small number of relapse cases following treatment overseas (n=7) or in Australia (n=1). Eighty-seven (54%) presented with symptoms, 18 cases (11%) were found by TB screening and 56 cases (35%) had an incidental diagnosis. Sixty percent of cases had pulmonary involvement (Table 5). The most common extrapulmonary sites were lymph node and abdomen (Table 6).

**Table 5 Number of tuberculosis cases by pulmonary involvement, Queensland 2021**

Pulmonary involvement	Number of cases	%
Pulmonary only	70	43%
Pulmonary plus other sites	26	16%
Extra pulmonary only	65	40%
<b>Total</b>	<b>161</b>	<b>100%</b>

**Table 6 Extra pulmonary sites of disease\* reported in tuberculosis cases, Queensland 2021**

Sites of disease	Number of cases
Lymph Node	37
Abdominal	11
Pleural	7
Bone/joint	6
Eye/ocular	4
Genito/Urinary	2
Pericardial	1
Soft tissue	1
CNS, Meningeal	0
Other	3

*\*More than one site of disease may be reported per person, specific sites have not been reported for cases with disseminated disease*

Ninety one percent (n=146) of 2021 TB cases were tested for HIV, of which 3 were coinfecting with HIV.

Drug susceptibility testing results were available for 142 of 145 laboratory confirmed cases in 2021. Drug susceptibility results indicate the majority of 2021 cases have fully susceptible disease (Table 7).

**Table 7 Drug susceptibility testing of laboratory confirmed cases, Queensland 2021.**

Drug susceptibility	Number	%
Fully susceptible	119	82%
Isoniazid (H) resistance (but susceptible to rifampicin R)	6	4%
Sensitive to rifampicin in the absence of any other testing	10	7%
Rifampicin (R) resistant	1	1%
Rifampicin resistance indeterminate	2	1%
Multi-drug resistance (resistant to at least H & R)	4	3%
Other resistance (but not H or R)	1	1%
No DST data*	2	1%
<b>Total</b>	<b>145</b>	<b>100%</b>

\*There were 2 patients who grew *Mycobacterium tuberculosis* and non-tuberculous mycobacterium from the same specimen where DST data is not available

TB treatment outcomes for drug susceptible cases are reported for the previous year (Table 8). At the time of reporting 69% of cases had a completed treatment outcome with a further 26% of cases to have their outcome updated. A small number of 2020 cases died of TB.

**Table 8 TB treatment outcome for drug susceptible cases, Queensland 2020.**

TB treatment outcome	Number	%
Completed Treatment	124	69%
Patient Still on Treatment	46	26%
Died of TB	4	2%
Transferred out of Australia	6	3%
<b>Total non-MDR TB cases</b>	<b>180</b>	<b>100%</b>

## Discussion

2021 represents the second year of the global COVID-19 pandemic. There was a small reduction in total TB notifications in Queensland, likely due to a dramatic fall in overseas migration and cessation of free movement of residents of the Torres Strait Islands and Papua New Guinea who reside in the Torres Strait Protected Zone. Disruption to health systems and possible reduced health seeking behaviour during periods of public health actions including community lockdowns may also have a role.

The proportion of First Nations people of all Australian born notified with TB in Queensland, 2021 remains significant but numbers are small and reducing.

It is anticipated that the total numbers of TB notifications will rise as migration and cross border travel increases with easing of COVID-19 disease control measures at Australia's borders. The impact of health system disruption in many countries on the proportion of new migrants with recently acquired TB infection which may progress to active disease following migration, is unknown.