

Queensland Health

Tuberculosis epi 2022 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
HIV	Human immunodeficiency virus
MDR-TB	Multi-drug resistant TB
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 1 August 2023 by notification date for the period 1 January 2018–31 December 2022. Population data was sourced from Total estimated resident population of Queensland as at June 2021, prepared by Statistical Services Branch. 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 133 notifications of active TB in 2022 (Figure 1). Ninety percent were laboratory confirmed by culture or NAT and 10% were clinical diagnoses only. The notification rate of TB in Queensland has been decreasing since 2018 and in 2022 was 2.5 per 100,000 population, which was the lowest notification rate since 2008. From 2008 to 2021 notification rates have remained between 3 and 4 notifications per 100,000 population per year.

The breakdown by TBCU is shown in Table 1.

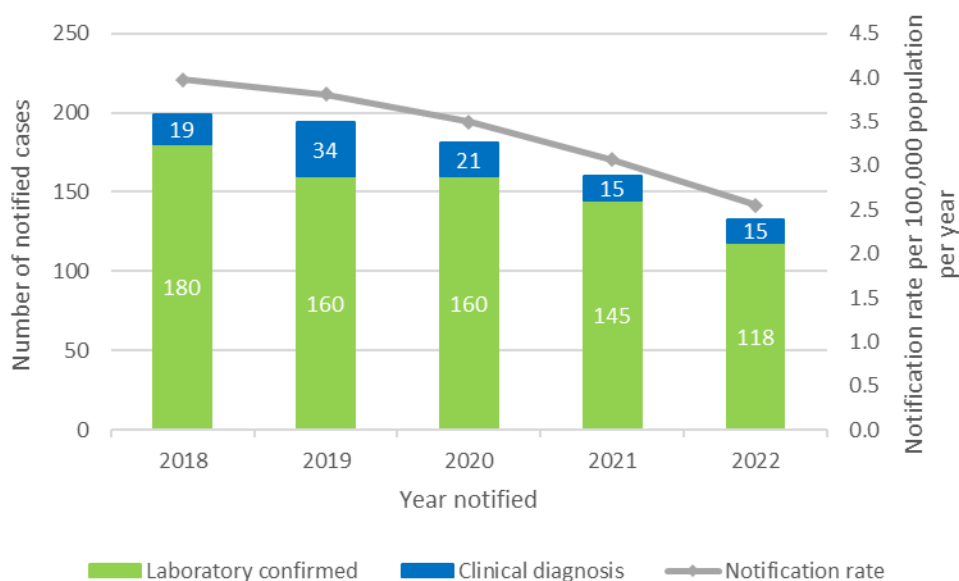


Figure 1 Number of notified cases of tuberculosis by diagnosis type and notification rate, Queensland 2018–2022

Table 1 Number of notified cases of tuberculosis by TBCU, Queensland 2018–2022

TBCU	2018	2019	2020	2021	2022
MSCTBS	136	138	138	117	100
Cairns	33	26	19	23	12
Townsville	11	10	10	4	9
Rockhampton	7	2	7	8	5
Torres and Cape	8	6	2	3	2
Toowoomba	3	6	2	4	3
Mackay	1	6	3	1	2
Total	199	194	181	160	133

Demographics

In 2022, there were 68 females (51%) and 65 males (49%) notified with TB. The age range of cases was 0 to 85 years, with a median age of 36 years. The most frequently notified age groups were between 25–39 years of age (Figure 2). There were a small number of children aged under 15 years (3, 2%) notified with TB in 2022.

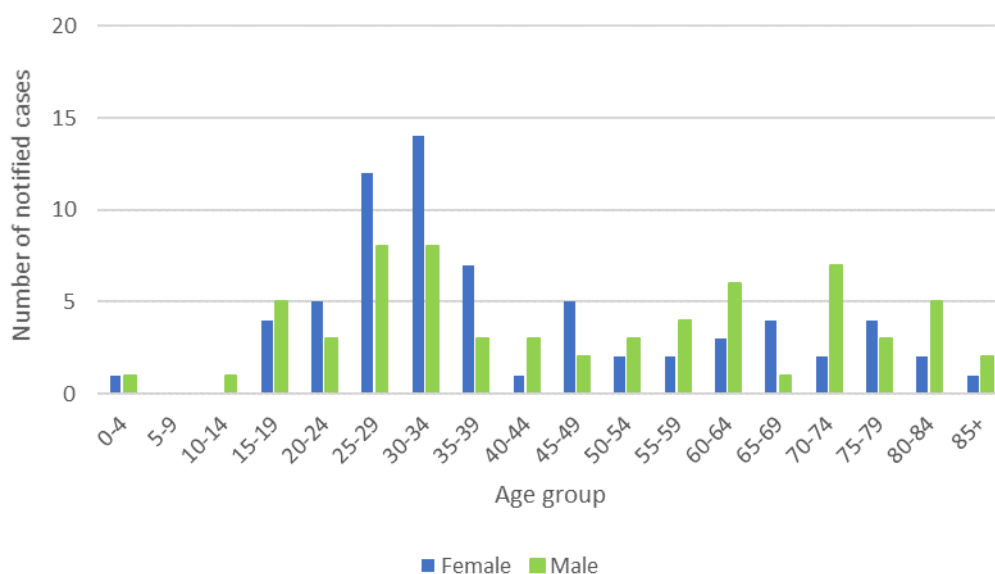


Figure 2 Number of notified cases of tuberculosis by sex and age group, Queensland 2022

Cases were predominantly residents of metropolitan Brisbane with a total of 57% of cases residing in Metro South and Metro North HHS areas (Table 2).

Table 2 Tuberculosis cases by hospital and health service of residence, Queensland 2022

Hospital and Health Service	Number of cases	%
Torres and Cape	3	2%
Cairns and Hinterland	10	8%
North West	1	1%
Townsville	5	4%
Mackay	2	2%
Central Queensland	6	5%
Central West	0	0%
Wide Bay	5	4%
Sunshine Coast	4	3%
Metro North	35	26%
Metro South	41	31%
Darling Downs	2	2%
West Moreton	5	4%
Gold Coast	9	7%
Overseas residents	5	4%
Total	133	100%

Twelve (9%) persons notified with TB in Qld during 2022 were born in Australia (Table 3). Of these 12 cases, 4 (33%) were First Nations Queenslanders. One hundred and twenty-one (91%) cases were born overseas, of which 112 (93%) were born in a country with high TB incidence (a current TB incidence of 40 cases per 100,000 population or greater).

Table 3 Tuberculosis cases by country of birth, Queensland 2022

Country of birth	Number of cases	%
Philippines	29	22%
India	12	9%
Australia	12	9%
Papua New Guinea	11	8%
Vietnam	9	7%
Nepal	9	7%
Indonesia	7	5%
Bhutan	5	4%
China	5	4%
England	3	2%
Thailand	3	2%
New Zealand	3	2%
Malaysia	3	2%
Zimbabwe	2	1%
Kenya	2	1%
Somalia	2	1%
South Africa	2	1%
Myanmar (Burma)	2	1%
Other	12	9%
Total	133	100%

There were no cross border PNG cases notified as resident of villages covered under the provisions of the Torres Strait Treaty Act 1984. Australian citizens and permanent residents accounted for 50% of TB cases in 2022 (Table 4).

Table 4 Tuberculosis cases by visa status, Queensland 2022

Visa status	Number of cases	%
Australian born	12	9%
Overseas born Australian citizens or Permanent Resident	55	41%
Overseas Visitor	17	13%
Overseas Student	14	11%
Refugee/Humanitarian	5	4%
Treaty Visitation Rights (PNG/TSI treaty zone)	0	0%
Unauthorised Person	0	0%
Other	27	20%
Unknown	3	3%
Total	133	100%

Clinical presentation

The majority of TB cases in 2022 were new cases (119, 89%) with a small number of relapse cases following treatment overseas (n=8) or in Australia (n=4), and 2 cases where the information was unknown. Sixty-eight (51%) presented with symptoms consistent with TB, 20 cases (15%) were found by TB screening, 43 cases (32%) had an incidental diagnosis and the reason for presentation was unknown for 2 cases. Seventy-one percent of cases had pulmonary TB involvement (Table 5). The most common extrapulmonary sites of disease were lymph node and abdomen (Table 6).

Table 5 Number of tuberculosis cases by pulmonary involvement, Queensland 2022

Pulmonary involvement	Number of cases	%
Pulmonary only	74	56%
Pulmonary plus other sites	20	15%
Extra pulmonary only	39	29%
Total	133	100%

Table 6 Extra pulmonary sites of disease* reported in tuberculosis cases, Queensland 2022

Sites of disease	Number of cases
Lymph Node	27
Abdominal	12
Pleural	9
Bone/joint	7
Eye/ocular	3
Genito/Urinary	2
Pericardial	1
Soft tissue	2
Central Nervous System	5
Other	7

*More than one site of disease may be reported per person

Eighty-eight percent (n=117) of 2022 TB cases were tested for HIV, of which one was coinfecting with HIV.

Drug susceptibility testing results were available for 112 of 118 laboratory confirmed cases in 2022. Drug susceptibility results indicate the majority of 2022 cases have fully susceptible disease (Table 9). There were two cases of MDR-TB persons born in high TB incidence countries.

Table 7 Drug susceptibility testing of laboratory confirmed cases, Queensland 2022.

Drug susceptibility	Number	%
Fully susceptible	86	72%
Isoniazid (H) resistance (but susceptible to rifampicin R)	9	8%
Sensitive to rifampicin in the absence of any other testing	6	5%
Rifampicin (R) resistant	0	0%
Rifampicin resistance indeterminate	2	2%
Multi-drug resistance (resistant to at least H & R)	2	2%
Other resistance (but not H or R)†	9	8%
No DST data*	6	5%
Total	120	100%

†There were 8 patients with resistance to Pyrazinamide and 1 with low-level resistance to Moxifloxacin

*There were 6 patients diagnosed via in-house PCR where no susceptibility information is available, one of them also grew non-tuberculosis mycobacterium from a separate specimen.

During 2022, there were 2 further cases related to the MPT64 antigen negative outbreak that is ongoing. There have been 47 cases identified within the outbreak including 42 confirmed cases linked by whole genome sequencing (WGS) and 5 probable cases epi-linked to a confirmed case where WGS data is not available. The majority of cases are First Nations

peoples and resident of Northern Queensland. The first case identified was diagnosed with TB in 2002 (retrospectively linked by WGS) and the most recent diagnosis was December 2022.

TB treatment outcomes for drug susceptible cases are reported for the previous year (Table 8). The majority (95%) of cases completed their TB treatment and 3% had transferred out of Australia. A small number of 2012 cases died of TB (2%).

Table 8 TB treatment outcome for drug susceptible cases, Queensland 2021.

TB treatment outcome	Number	%
Completed Treatment	148	95%
Transferred out of Australia	5	3%
Died of TB	3	2%
Died of Other cause	0	0%
Patient Still on Treatment	0	0%
Lost to follow up	0	0%
Total non-MDR TB cases	156	100%

Discussion

2022 represents the third year of the global COVID-19 pandemic. There was a further 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 persons notified with TB in Queensland in 2022 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.