Government of Western Australia
North Metropolitan Health Service
Public Health and Clinical Excellence

Western Australian Tuberculosis Control Program

Tuberculosis notifications in Western Australia 2024

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EXECUTIVE SUMMARY

In 2024, Western Australia recorded 224 cases of active tuberculosis (TB) — the highest annual total ever reported and a 39% increase from the previous year. This surge is most plausibly linked to the substantial rise in overseas arrivals during 2022 and 2023, following the acceleration of visa processing to address COVID era backlogs and intensified migration flows. These figures highlight how tuberculosis trends in low incidence settings remain highly sensitive to demographic shifts and population movements.

The changing epidemiological profile was most evident among overseas born residents, who accounted for 92% of cases and experienced an incidence of 18 per 100,000, compared with 0.7 per 100,000 among Australian born individuals. Aboriginal Australians continued to face a disproportionate burden, with an incidence of 5.1 per 100,000, underscoring persistent inequities in health outcomes. Geographically, cases were reported across 40 Local Government Areas, though the vast majority (87%), were concentrated in metropolitan Perth. The East Metropolitan region alone accounted for two in every five cases, particularly within Swan, Canning, Bayswater, Gosnells, and Belmont, highlighting the need for adaptable service delivery models.

The demographic and clinical profile reflects a younger, working age population, with a median age of 38 years and a slight predominance of males. Pulmonary disease remained the most common presentation (60%), while 40% were extrapulmonary, most often involving the lymph nodes, pleura, or gastrointestinal tract. Laboratory confirmation was achieved in 80% of cases, a modest decline from the previous year due to fewer culture confirmed extrapulmonary diagnoses. Among culture positive cases, 16% demonstrated resistance to at least one first line drug — nearly double the rate observed in 2023 — and six cases were confirmed as multidrug resistant TB. Whole Genome Sequencing revealed that 16% of isolates were part of genomic clusters, suggesting small but contained transmission networks and reinforcing the value of molecular surveillance.

Despite the growing caseload and increasing clinical complexity, the WA TB Control Program continued to deliver strong outcomes. Treatment success remained exceptionally high at 97%, with no TB attributable deaths and minimal treatment interruption or loss to follow up. The proportion of smear positive pulmonary TB cases continued to decline, reflecting effective containment. However, the median diagnostic delay lengthened to 55 days, up from 34 in 2023, with the greatest impact seen in extrapulmonary cases. This trend highlights the need for heightened clinical vigilance and streamlined access to specialist services.

Preventive measures also strengthened. A total of 875 individuals commenced treatment for latent TB infection in 2024, representing a 14% increase from the previous year, and completion rates rose to 90%. Most of those treated were younger adults and predominantly overseas born,

aligning with the state's risk profile and supporting long term prevention. Contact tracing remained central to TB control, with 3,460 contacts identified and 1,683 (49%) completing screening. One in five screened contacts was diagnosed with latent infection, and six secondary TB cases were detected, confirming the effectiveness of targeted follow up. Nevertheless, screening completion at 49% reflects increasing workload and the need for additional resources to strengthen follow up systems.

Taken together, the 2024 data show TB in Western Australia is evolving in scale, complexity, and distribution. Rising notifications, drug resistance, and longer diagnostic delays present clear challenges, yet consistently high treatment success, very low mortality, rare childhood TB, and strong preventive outcomes demonstrate effective control. In a low burden setting, effectiveness should be judged by these core indicators rather than short term fluctuations in case numbers. Sustained governmental support, resilient surveillance and laboratory systems, timely diagnosis and contact tracing, accessible specialist pathways, and scalable preventive therapy remain essential. Measured, proportionate investment that protects core functions and enables surge capacity when needed is consistent with national guidance, the National Tuberculosis Advisory Committee position statement, and international best practice for TB control in low incidence contexts.

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TB IN WESTERN AUSTRALIA: 2024 SNAPSHOT

CATEGORY	MEASURE	2024 DATA	TREND vs 2023
CASES & INCIDENCE	Total Notifications	224	▲ 39.1%
	Incidence Rate	7.6/100,000	▲ 35.2%[1]
POPULATION RATES	Australian-Born	0.7/100,000	▼ 12.5%[1]
	Indigenous Population	5.1/100,000	▲ 18.6%[1]
	Overseas-Born	18.0/100,000	▲ 40.6%[1]
GEOGRAPHIC SPREAD	LGAs Affected	40	▲ 14.3%
	Metropolitan Perth	8.2/100,000	▲ 28.1%[1]
	Regional Areas	4.9/100,000	▲ 96.0%[1]
CLINICAL CARE	Health System Delay	55 days	▲ 42.9%[1]
	Culture Confirmation	80% (n=180)	▼ 4.8%
DRUG RESISTANCE	Any First-Line Drug	18% (n=32)	▲ 61.2%
	MDR-TB	3% (n=6)	▲ 51.1%
SURVEILLANCE	Genotyping (WGS)	99%	No change
	Cluster Rate	16% (n=29)	▲ 35.8%
WORKFORCE	Healthcare Workers	9% (n=18)	▼ 17.4%
	Smear-Positive Cases	2 cases	No change
TREATMENT RESULTS & OUTCOMES	Success Rate (2023)	97%	▼ 1.0%
	Case Fatality	0%	▼ (1% in 2022)
PREVENTION	Preventive treatment Completion	90% (n=785)	▲ 2.3%
CONTACT TRACING	Contacts Identified	3,460	▲ 88.5%
	No TB Infection	75%	▼ 8.5%
	TB Infection	20%	▲ 42.9%
	Secondary TB	0.4%	▼ 42.9%

Notes: [1]Population data based on Australian Bureau of Statistics (ABS) census estimates.

DATA SOURCES

TB notifications:

This report draws on tuberculosis (TB) notification data recorded in the Western Australia Notifiable Infectious Diseases Database (WANIDD). Under the Public Health Act 2016, medical practitioners and laboratory pathologists are legally required to notify TB cases to the WA Department of Health's Communicable Disease Control Directorate. Notification data include information on TB type, demographics, clinical presentation, laboratory results, risk factors, and selected case management details.

Case counts are based on individuals diagnosed while residing in Western Australia. Persons diagnosed interstate or overseas who subsequently moved to WA are excluded. Treatment outcomes are reported for cases notified in the previous year (2023), reflecting the time required to complete TB treatment.

Population estimates used to calculate notification rates are derived from the Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP), which includes all individuals who usually reside in WA, regardless of citizenship or visa status. Molecular typing data are provided by the WA Mycobacterium Reference Laboratory, which performs most TB cultures and all isolate identification and genotyping in the state.

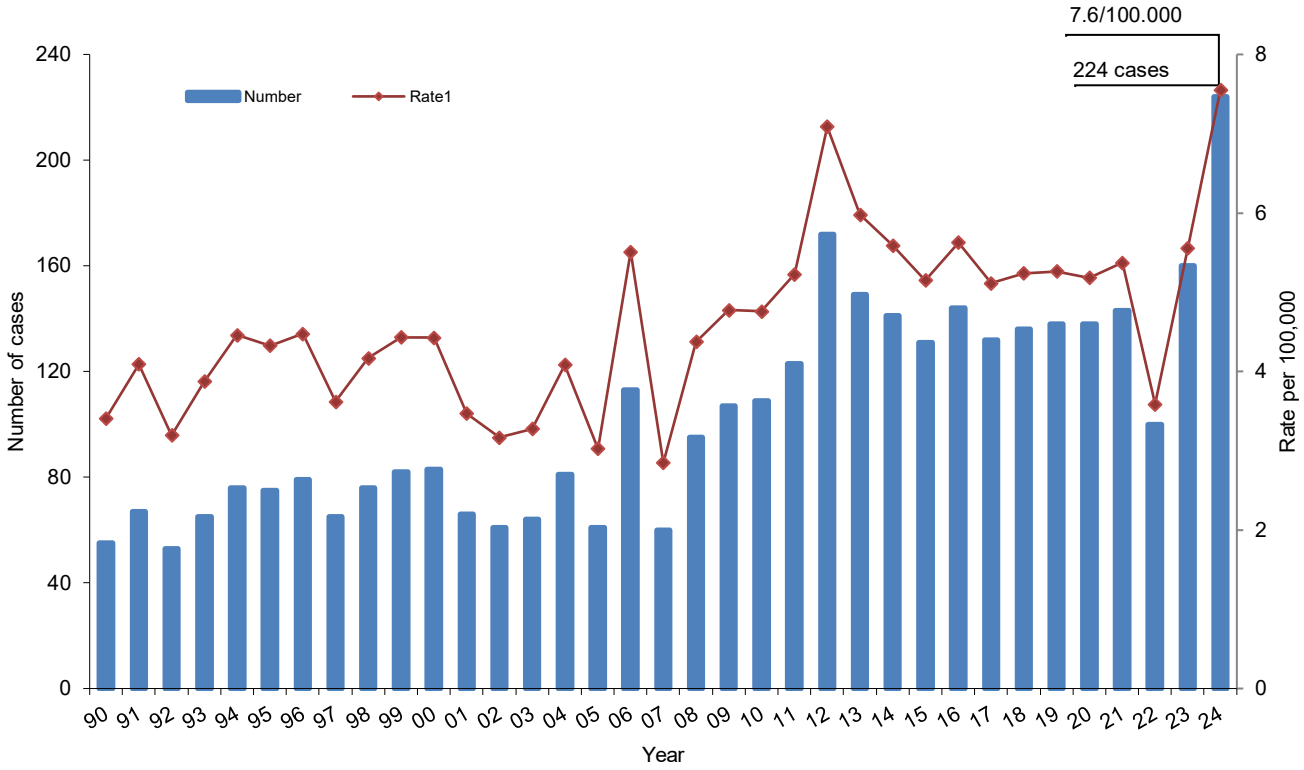
TB Infection and Contact Investigation:

Data on TB infection (TBI) and contact investigations are extracted from the WA TB Control Program (WATBCP) working databases. These databases are primarily designed to support case management workflows. Measures have been implemented to improve the completeness and consistency of data entry, thereby enhancing data quality.

TB in WESTERN AUSTRALIA

In 2024, Western Australia reported 224 active TB cases—a 39% increase from 2023—marking the highest annual count and incidence rate ever recorded in the state, with a notification rate of 7.6 per 100,000 population. This rise may reflect increased case detection and migration following the easing of pandemic-related restrictions.

Figure 1: Tuberculosis notifications numbers and rates, WA, 1990-2024



1990-2000:
Overall increase: 51%
Average annual increase: 4%

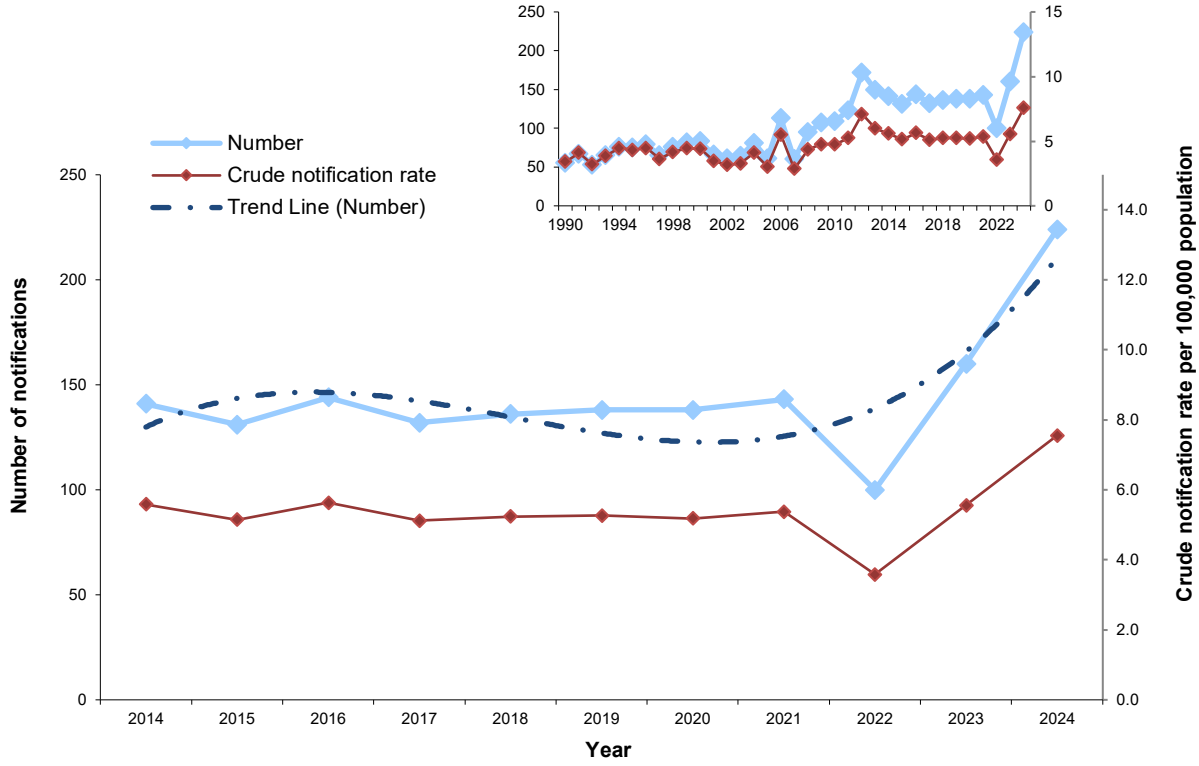
2001-2011:
Overall increase: 86%
Average annual increase: 6%

2012-2024:
Overall increase: 30%
Average annual increase: 2%

Over the past three decades, TB notifications in Western Australia have fluctuated with changing epidemiological pressures and demographic trends. From 1990 to 2000, notifications rose by 51% (average annual increase 4%), accelerating between 2001 and 2011 with an 86% rise (6% annually). In contrast, 2012–2023 saw a more moderate 30% increase (2% annually).

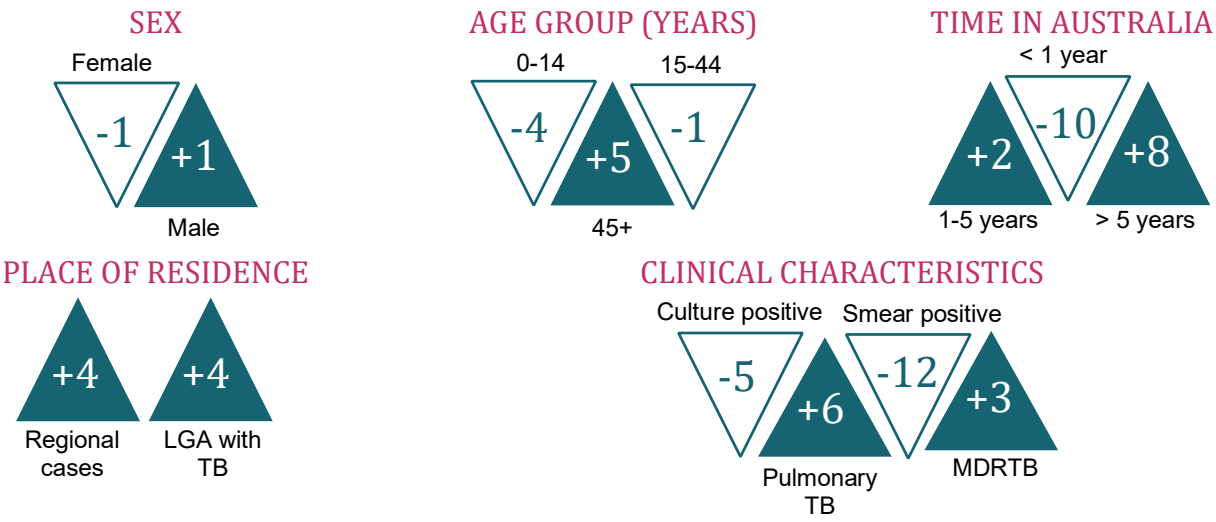
OVERALL NUMBERS AND RATES

Figure 2: Tuberculosis notifications numbers and rates, WA, 2014-2024



More recently, notifications grew from 141 in 2014 to 224 in 2024, with the rate rising from 5.6 to 7.6 per 100,000. The 2024 figures underscore the evolving TB landscape in Western Australia, shaped by resumed international mobility and shifting population dynamics.

Figure 3: Percentage point change for selected TB case characteristics, WA 2023-2024



DEMOGRAPHIC CHARACTERISTICS

AGE AND SEX

Figure 4: Tuberculosis by Sex and age-group, WA 2024

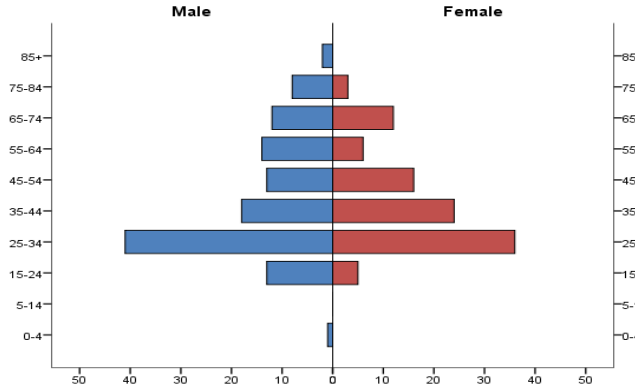
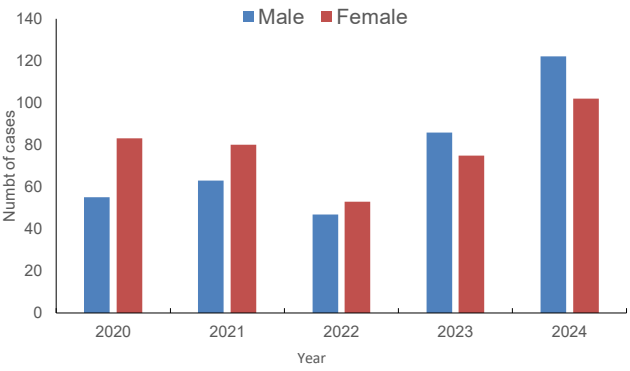


Figure 5: Tuberculosis by sex distribution, WA 2019-2024



The male predominance observed in 2023 continued, reversing a six-year trend of female predominance. Males accounted for 55% (n=122) of cases, yielding a male-to-female ratio of 1.2:1. Although not statistically significant, this pattern aligns with consistent global and national trends of higher TB prevalence among males.

Figure 6: Tuberculosis by age group, WA 2020-2024

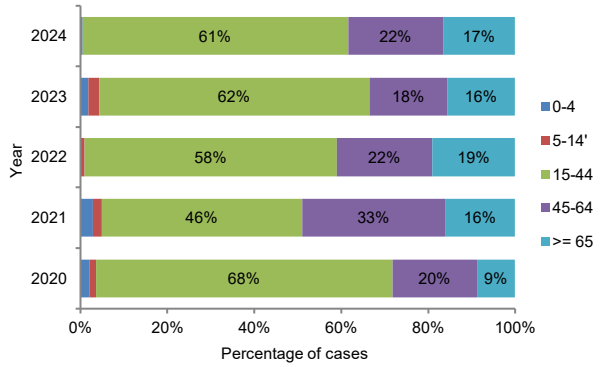
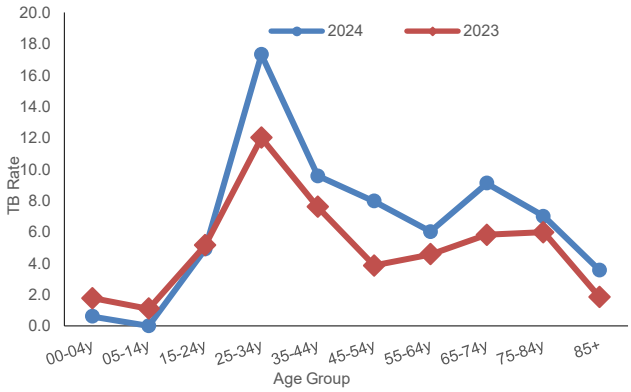


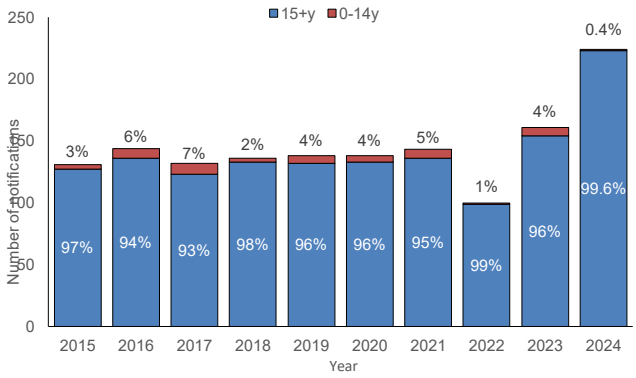
Figure 7: Tuberculosis rates by age-group, WA 2023-2024



The age distribution remained skewed toward younger individuals, with a median age of 38 years (35 in 2023), ranging from 4 to 88 years. Notification rates peaked in the 25–34 age group (n=77; 17.3 per 100,000), followed by 35–44 (n=42; 9.6), 45–54 (n=29; 8.0), and 65–74 (n=24; 9.1). Median ages were 38 for males (range: 4–88) and 38.5 for females (range: 15–81).

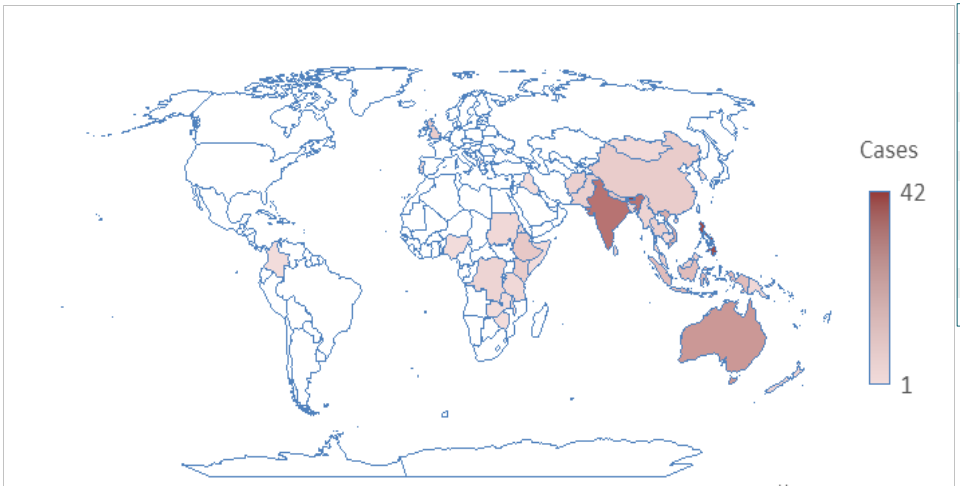
TB in children under 15 years declined from 4% in 2023 to 0.4% (one case), with a rate of 0.2 per 100,000—well below the national average of 1.1. The child diagnosed with TB was a 4-year-old Australian-born close contact of a parent with smear-positive pulmonary TB.

Figure 8: Percentage of total TB notifications that are children, WA 2015-2024



COUNTRY OF BIRTH

Figure 9: Tuberculosis cases by place of birth, WA, 2024

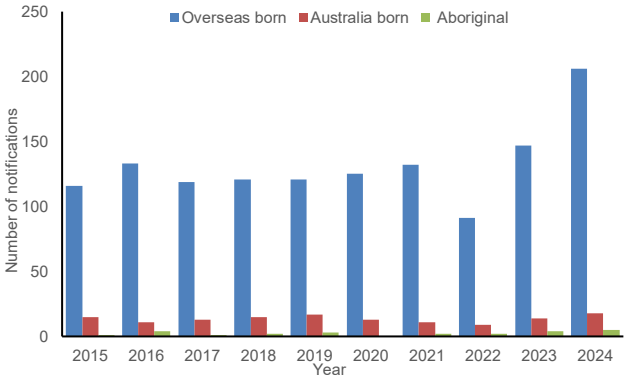


Country of Birth	Number	% Total
Bhutan	42	18%
Philippines	38	17%
India	27	12%
Australia	18	8%
Vietnam	13	6%
Indonesia	9	4%
Ethiopia	6	3%
Nepal	6	3%
Kenya	5	2%
China	5	2%

Cases were reported among individuals born in 36 countries, with 92% (n=206) born overseas—primarily from high TB-burden nations: Bhutan (18%, n=42), the Philippines (17%, n=38), India (12%, n=27), and Vietnam (6%, n=11).

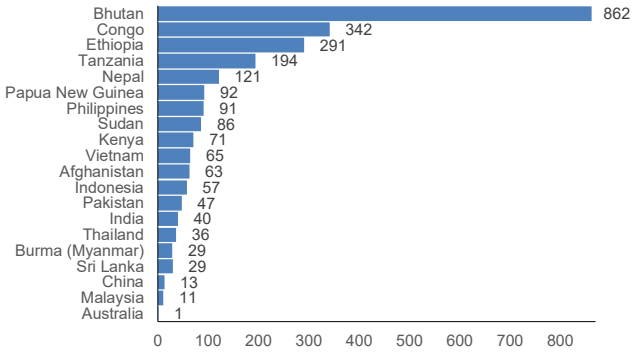
Australian-born cases remained stable at 8% (n=18), with an incidence of 0.98 per 100,000. Among these, 5 were Aboriginal, yielding a rate of 5.1 per 100,000. Aboriginal cases represented 2% of total notifications and 28% of Australian-born cases.

Figure 10: Tuberculosis cases by place of birth, WA, 2015 – 2024



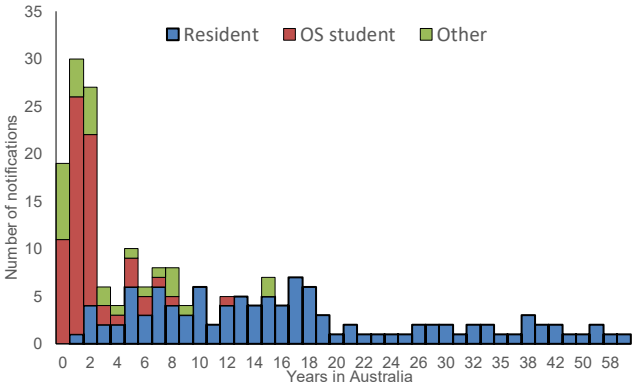
Notification rates varied significantly by country of birth. Bhutanese-born individuals had the highest rate at 862 per 100,000, while the overall rate for overseas-born individuals rose to 18 per 100,000, up from 13 in 2023.

Figure 11: Tuberculosis rates by place of birth, WA 2024



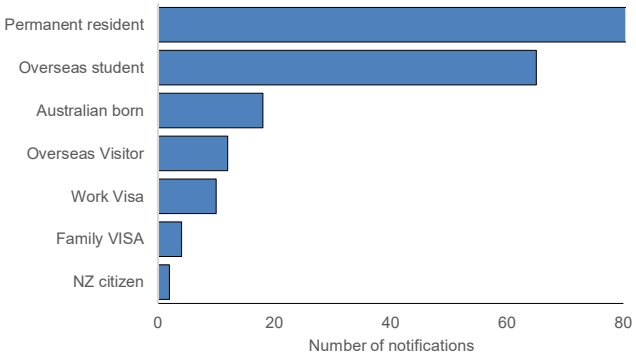
The time between arrival in Australia and TB diagnosis ranged from 0 to 64 years, with a median of six years. Notably, 38% (n=78) of cases were diagnosed within two years of arrival, and 48% (n=98) within five years—figures consistent with those reported in 2023.

Figure 12: Overseas born cases by time in Australia and immigration status



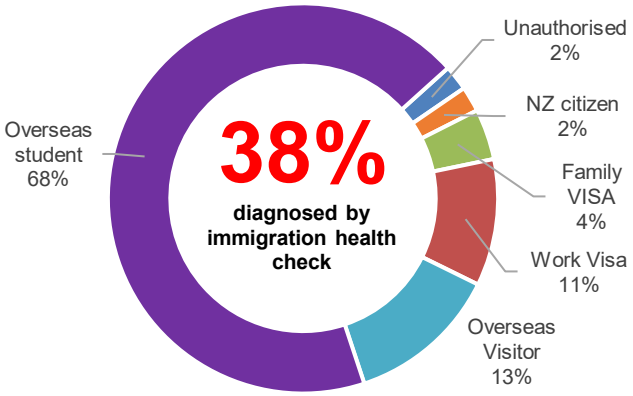
When stratified by immigration status, permanent residents comprised 54% (n=110) of cases, overseas students 32% (n=65)—a 60% increase from 2023—and overseas visitors 6% (n=12), down from 11% the previous year.

Figure 13: Tuberculosis cases by immigration status, WA 2024



Among temporary residents (n=96), 38% (n=36) were diagnosed during immigration health assessments, returning to 2022 levels after a decline in 2023. These patterns underscore the importance of targeted screening and early detection strategies among newly arrived populations.

Figure 14: Tuberculosis diagnosis by immigration screening, WA 2024



PLACE OF RESIDENCE

In terms of geographic distribution, TB cases were reported across 40 Local Government Areas (LGAs) in 2024, up from 35 in 2023. The Perth metropolitan area continued to carry the bulk of the burden, accounting for 87% (n=196) of cases, with an incidence rate of 8.2 per 100,000 population (95% CI: 7.0–9.3). Regional Western Australia contributed 13% (n=28) of cases, with a rate of 4.9 per 100,000 (95% CI: 3.1–6.7), up from 8% the previous year.

Table 1: Tuberculosis notification numbers and rates, WA Regions 2024

Region	Number	Rate[1] (95% CI)[2]
Metropolitan Perth	196	8.2 (7.0 – 9.3)
South-West	8	4.0 (1.2 – 6.7)
Goldfields-Esperance	6	10.4 (2.1 – 18.8)
Wheatbelt	5	6.5 (0.8 – 12.2)
Great Southern	3	4.5 (-0.6 – 9.7)
Midwest- Gascoyne	3	4.3 (-0.6 – 9.2)
Kimberley	2	5.0 (-1.9 – 11.9)
Pilbara	1	1.6 (-1.6 – 4.9)

[1] Crude notification rate per 100,000 population
[2] 95% Confidence interval

The East Metropolitan Health Service (EMHS) reported the highest number of cases, comprising 40% (n=90) of the state's total. Five EMHS LGAs—City of Swan, Canning, Bayswater, Gosnells, and Belmont—together accounted for 38% (n=86) of all TB notifications.

Figure 15: Tuberculosis notifications by health service area, WA Regions 2024

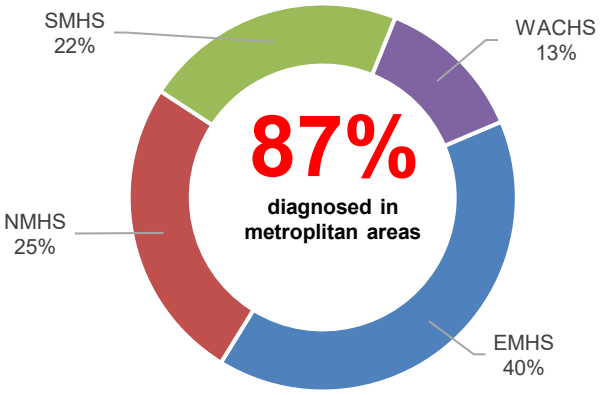
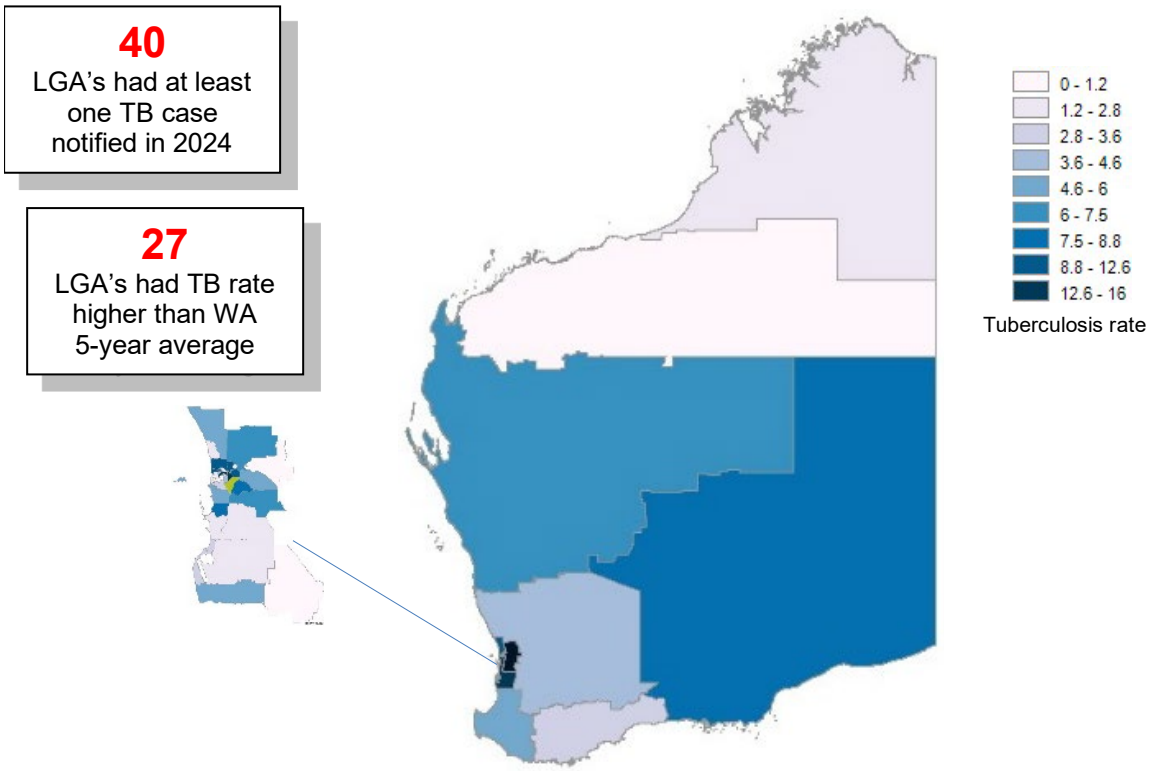


Figure 16: Five-year average tuberculosis incidence rates by WA Regions 2020-2024



Over the five-year period from 2020 to 2024, the average TB incidence was highest in the Perth metropolitan area (6.7 per 100,000), followed by Goldfields-Esperance (4.3), Midwest-Gascoyne (3.6), South-West (2.5), and Wheatbelt (2.4). The Great Southern, Kimberley, and Pilbara regions reported slightly lower average rates of 2.2, 2.1, and 2.0 per 100,000, respectively.

Table 2: Regional comparison of tuberculosis notifications, WA 2024

		Metro	Country	P value
Age	Median (IQR)	38 (28-56)	43 (35-59)	>0.05
Sex	Male	103 (53%)	19 (68%)	>0.05
	Female	93 (47%)	9 (32%)	
Place of Birth	Australia	14 (7%)	4 (14%)	>0.05
	Overseas	182 (93%)	24 (86%)	
TB Type	PTB	118 (60%)	17 (61%)	>0.05
	XPTB	78 (40%)	11 (39%)	
HIV Status	Positive	1 (1%)	0 (0%)	>0.05
	Negative	185 (94%)	27 (96%)	
	Not tested or refused	10 (5%)	1 (4%)	
HS lag time	Median (IQR)	56 (27-118)	55 (19-148)	>0.05
HS Delay	Yes	103 (53%)	16 (57%)	>0.05
	No	93 (47%)	12 (43%)	

A comparative analysis between metropolitan and regional cases revealed no statistically significant differences in key demographic or clinical characteristics, including age, sex, place of birth, TB type, HIV status, or health system delay.

CLINICAL CHARACTERISTICS

In 2024, 60% (n=135) of TB cases reported in Western Australia involved pulmonary disease, with 48% (n=108) classified as pulmonary-only and 12% (n=27) presenting with both pulmonary and extrapulmonary involvement. The remaining 40% (n=89) were extrapulmonary TB without any pulmonary manifestation.

Among extrapulmonary TB cases, presentations varied widely. The most common forms included lymph node (39%), pleura (18%), gastrointestinal tract (11%), and osteoarticular TB (8%). Disseminated TB—defined as involvement of two or more non-contiguous sites—accounted for 7% of cases. Less frequent presentations included ocular (6%), cutaneous (3%), meningeal (3%), and genitourinary TB (3%), along with other uncommon forms. Multiple sites could be reported for a single case.

Of the 224 TB cases reported, 95% (n=213) were new diagnoses, while 5% (n=11) were recurrences. Among the recurrent cases, five had been previously treated overseas and six within Australia. Of those treated domestically, four had completed a full course of treatment, whereas two had received only partial treatment.

Figure 17: Tuberculosis notifications by site of disease, WA 2024

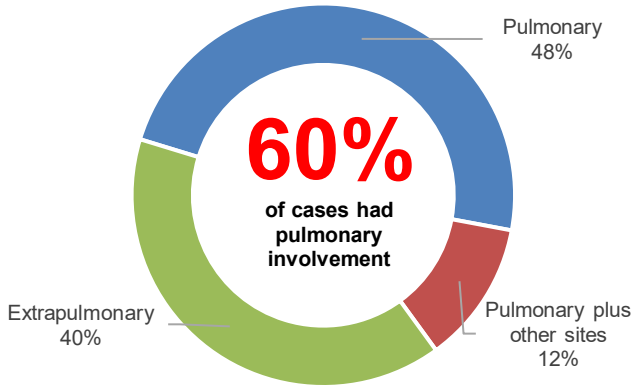
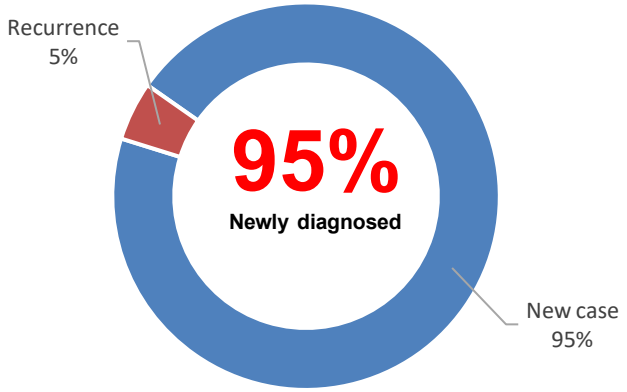


Table 3: Extra-pulmonary TB notifications by site of disease, WA 2024

Site of extra-pulmonary TB*	Number	% Total
Lymph Node	48	39%
Pleural	22	18%
Peritoneal (includes all GI sites)	13	11%
Bone/Joint	10	8%
Disseminated TB	8	7%
Ocular	7	6%
Cutaneous	4	3%
Meningeal	3	3%
Genito/Urinary	3	3%
Other	4	3%
Total	122	100%

** More than one extra-pulmonary site may be reported for each notified case of TB*

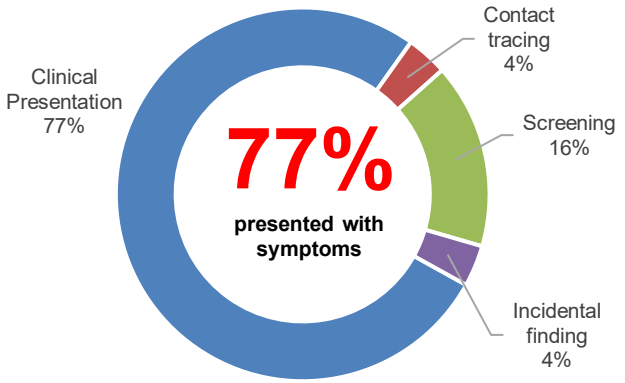
Figure 18: Tuberculosis case classification, WA 2024



In terms of detection, the majority of cases (77%, n=172) were diagnosed following symptomatic presentation. Screening processes, such as immigration health checks, accounted for 16% (n=36) of diagnoses. Incidental findings and contact tracing each contributed 4% (n=8) of cases.

This distribution underscores the predominance of pulmonary disease and symptomatic presentation in TB detection, while highlighting the continued importance of proactive screening and contact tracing to identify cases that might otherwise remain undetected.

Figure 19: Tuberculosis case by detection method, WA 2024

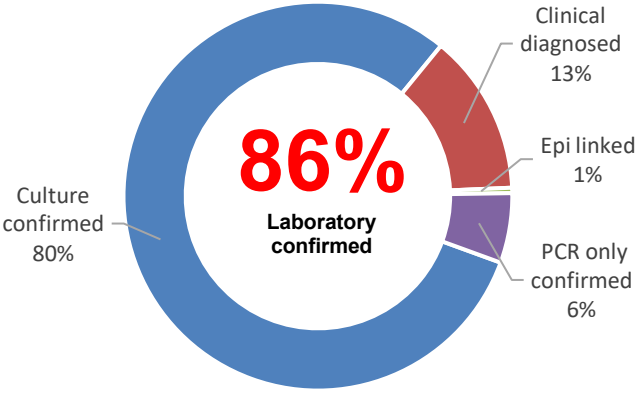


MYCOBACTERIAL LABORATORY DATA

In 2024, 80% (n=180) of TB cases in Western Australia were confirmed by culture, a slight decline from 84% in 2023. This reduction was largely attributed to lower confirmation rates among extrapulmonary cases, which dropped to 58% in 2024 compared to 74% in 2023. In contrast, culture confirmation for pulmonary and mixed-site cases rose modestly, from 92% in 2023 to 95% in 2024.

Beyond culture, an additional 13 cases—comprising 3 pulmonary and 10 extrapulmonary—were confirmed using Nucleic Acid Amplification Tests (NAAT). One case was epidemiologically linked, and 30 were clinically diagnosed without laboratory confirmation.

Figure 20: Tuberculosis Notifications by method of diagnosis, WA 2024



Whole Genome Sequencing (WGS) was performed on cultured isolates, identifying 98% as *Mycobacterium tuberculosis*. Exceptions included one isolate of *M. africanum*, one of *M. bovis*, and two unresolved cases—one due to sequencing delays at an interstate laboratory and another due to insufficient culture purity.

Table 4: Tuberculosis Notifications by culture and sputum smear result, WA 2024

Site	Culture Positive		Sputum Smear Positive	
	Number	% Site	Number	% Site*
All TB notifications	180	80%	68	53%
Pulmonary only	102	94%	58	57%
Pulmonary plus other sites	26	96%	10	38%
Extrapulmonary only	52	58%	0	0%

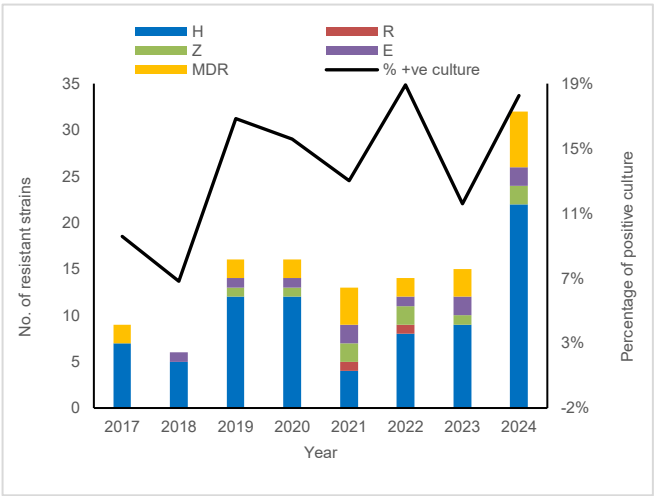
*Percentage of all cases including culture negative

Among pulmonary TB cases, 94% of pulmonary-only presentations were culture-positive, with 57% of these also testing positive on sputum smear. Cases involving both pulmonary and extrapulmonary sites showed a 96% culture confirmation rate, though sputum smear positivity was lower at 38%. As expected, no extrapulmonary-only cases were sputum smear-positive. Overall, 53% of culture-positive pulmonary TB cases were sputum smear-positive, marking a decline from 65% in 2023.

Drug susceptibility

Drug susceptibility testing showed that 84% (n=151) of the 180 culture-confirmed TB cases were fully susceptible to first-line drugs, while 16% (n=29) demonstrated resistance to at least one drug—up from 9% in the previous year. Six cases were identified as multi-drug resistant TB (MDR-TB), including one resistant to all first-line drugs, representing twice the number reported in 2023. Within the drug-resistant cohort, one patient was Australian-born with mono-resistance and the remaining 28 were overseas-born. Three of the 29 drug-resistant cases were relapses: two with MDR-TB (one previously treated overseas and one fully treated in Australia) and one with isoniazid-resistant TB following full treatment in Australia.

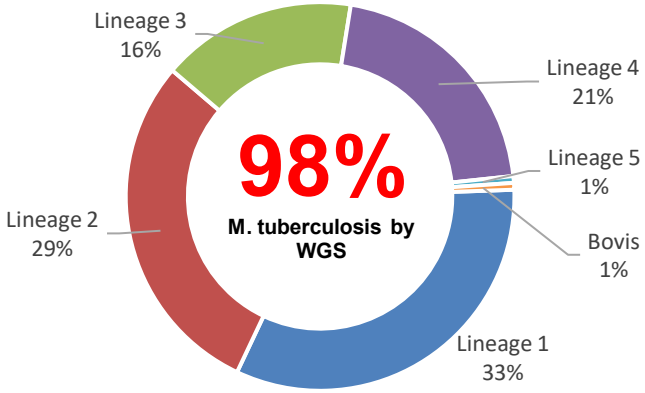
Figure 21: Tuberculosis cases with drug resistance, WA, 2017-2024



Genotyping and strain identification

Since 2020, the TB reference laboratory in Western Australia has used whole genome sequencing (WGS) to characterise *Mycobacterium tuberculosis* strains and assess potential transmission links. Isolates differing by fewer than 10 single nucleotide polymorphisms (SNPs) are flagged and referred to the WA TB Control Program for epidemiological investigation.

Figure 22: WGS tuberculosis strains, WA 2024



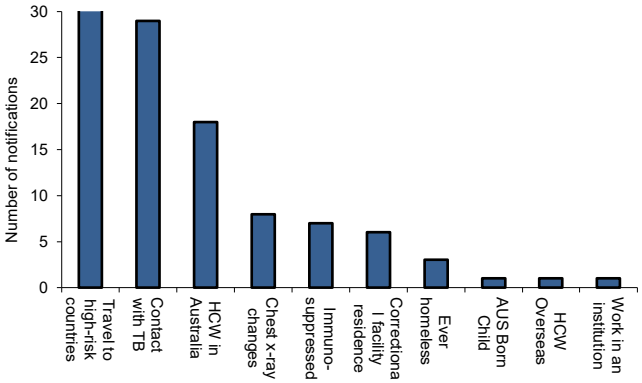
In 2024, the most common lineage identified was Indo-Oceanic (Lineage 1, 33%), followed by East-Asian (Lineage 2, 29%), Euro-American (Lineage 4, 21%), and East African-Indian (Lineage 3, 16%). Of the 178 isolates sequenced (two culture-confirmed cases were not sequenced), 16% (n=29) formed genomic clusters involving at least two cases reported in 2024 or earlier, while the remaining 149 culture-positive cases (88%) showed no genomic linkage at the time of analysis.

Clustered cases had a median age of 32 years (range 20–69) and were predominantly male (62%, n=18). Most (n=26) lived in the Perth metropolitan area—16 in EMHS, 8 in North Metropolitan Health Service, and 2 in South Metropolitan Health Service —while three resided in regional WA. Pulmonary disease was present in 83% (n=24) of clustered cases, of which 58% (n=14) were smear-positive for acid-fast bacilli (AFB). Four clustered cases were Australian-born Aboriginal males aged 20–48 years; the remaining 25 were overseas-born, most commonly from Bhutan (n=12), Congo (n=3), and Kenya (n=3). Epidemiological links were confirmed in five clusters, involving 13 cases with household or close-contact exposure.

TB RISK FACTORS

In 2024, 40% (n=90) of TB cases had no recognised risk factors, while risk information was not recorded for 15% (n=33). Among the remaining 101 cases with documented risk factors, the most frequently reported was prior travel to or residence in a high TB prevalence country (41%). This was followed by household or close contact with a TB case (23%) and a history of employment in Australian healthcare settings (14%). Additionally, 6% of cases involved individuals who were immunosuppressed due to underlying medical conditions or immunosuppressive therapy.

Figure 23: Risk factors reported for tuberculosis notifications, WA 2024



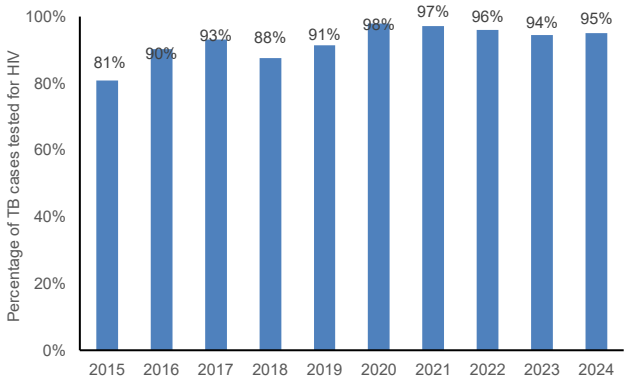
Among Australian-born individuals with TB, the most commonly reported risk factor was household or close contact with a person diagnosed with TB. In contrast, among overseas-born individuals, the most frequently identified risk factor was prior travel to or residence in a high TB prevalence country. This pattern should be interpreted with caution, as in previous years some cases were misclassified when country of birth was recorded as a risk factor rather than as a demographic attribute. Case managers were subsequently educated to avoid this error, and the frequency of this risk factor declined in following years. The 2024 distribution raises the possibility that similar misclassification may again have contributed to the higher proportion of overseas-born patients reported with this risk factor.

Table 5: Risk factors for tuberculosis by place of birth, WA 2024

Risk Factor	All cases	Australian born	Overseas born
Travel to a high prevalence country	51 (41%)	4 (27%)	47 (43%)
Contact with TB	29 (23%)	3 (20%)	26 (24%)
Ever employed in Australian health	18 (14%)	1 (7%)	17 (15%)
Chest X-ray changes	8 (6%)	-	8 (7%)
Immuno-suppressed	7 (6%)	1 (7%)	6 (5%)
Correctional facility residence	6 (5%)	3 (20%)	3 (3%)
Ever homeless	3 (2%)	2 (13%)	1 (1%)

In 2024, HIV status was documented for 95% (n=213) of TB cases, a slight increase from 94% in 2023. Among those tested, one individual—an overseas-born patient—was newly diagnosed with HIV at the time of TB notification.

Figure 24: HIV screening at time of TB diagnosis, WA 2015-2024



TB AMONG HEALTH CARE WORKERS

In 2024, occupation was documented for 205 individuals diagnosed with TB, of whom 9% (n=18) were healthcare workers. Seven of these had pulmonary TB, including two who were smear-positive for acid-fast bacilli (AFB). Contact investigations for these pulmonary cases did not identify any additional active TB. Of the 18 healthcare workers diagnosed with TB, one was Australian-born and the remainder were overseas-born, predominantly from countries with a high TB burden.

HEALTH SYSTEM (HS) DELAY

In 2024, among the 224 reported TB cases, 30% (n=68) were diagnosed within 30 days of first healthcare contact, 36% (n=81) between 30 and 90 days, and 33% (n=75) after more than 90 days. The median diagnostic interval was 55 days (range: 1–2,657), longer than in 2023 (34 days) and 2022 (43 days), but shorter than the 69-day delay reported in 2021.

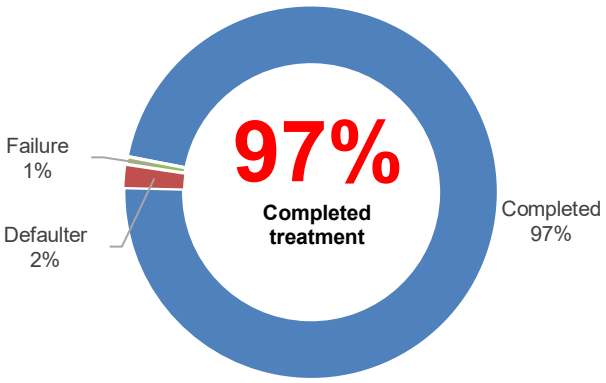
By disease type, pulmonary TB had a median diagnostic delay of 45 days (range: 1–1,979), up from 30 days in 2023. Extrapulmonary TB showed a longer median delay of 73 days (range: 3–2,657), compared with 44 days in the previous year.

Using the delay matrix introduced in 2016, significant diagnostic delay was identified in 53% (n=119) of cases, up from 44% in 2023. Pulmonary TB was more often linked to health system delays, with 59% meeting the criteria for significant delay compared with 44% of extrapulmonary cases. This corresponded to an odds ratio of 1.86 (95% CI: 1.08–3.21), compared with 2.26 in 2023.

TREATMENT OUTCOMES, 2023

In 2023, treatment outcomes were available for 94% (n=150) of the 160 reported TB cases. Ten cases were excluded from analysis: five were transferred out of Western Australia and five died from causes unrelated to TB during treatment. At the time of reporting, no patients remained on therapy.

Figure 25: Assessable tuberculosis treatment outcome, WA, 2023



Among assessable cases, the treatment success rate—defined as completion of therapy or documented cure—was 97% (n=146), a slight decline from 98% in 2022. No TB-related deaths were recorded in 2023, compared with 1% (n=1) mortality in 2022. Three patients defaulted before completing treatment, an increase from one case in the previous year.

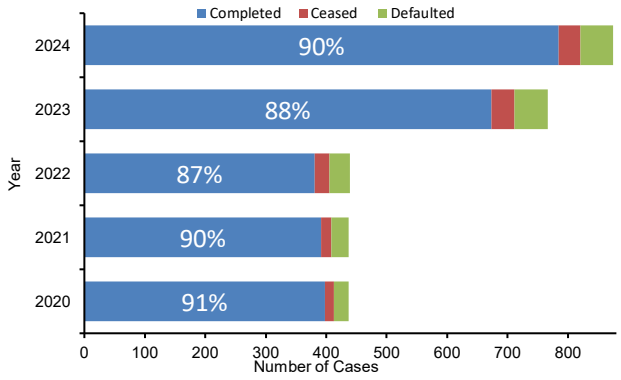
Table 6: Tuberculosis treatment outcome, WA, 2024

Outcome	Number	% Total
Assessable outcomes		
Treatment success	146	97%
Cured (bacteriologically confirmed)	0	0%
Completed treatment	146	97%
Interrupted treatment	0	0%
Died of TB (died during treatment of TB, as a result of TB disease)	0	0%
Defaulter	3	2%
Failure	1	1%
Not followed up, outcome unknown	0	0%
Total assessable	150	100%
Non-assessable outcomes		
Transferred out of Australia	5	3%
Died of other cause (died during treatment of cause other than TB)	5	3%
Did not start treatment	0	0%
Total	160	100%

TUBERCULOSIS INFECTION (previously termed Latent tuberculosis infection)

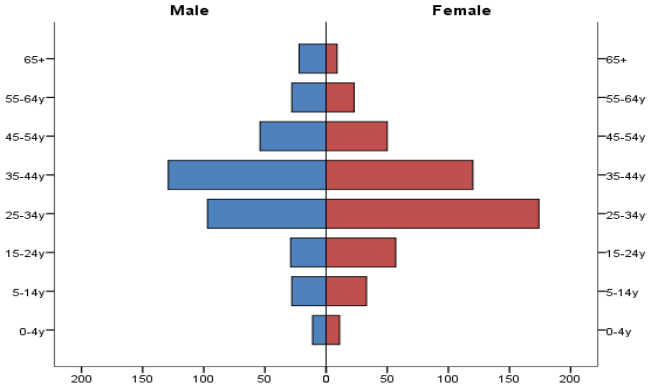
In 2024, 875 individuals initiated treatment for Tuberculosis infection (TBI), a 14% increase from 767 in 2023. The treatment completion rate was 90% (n=785), up from 88% in 2023.

Figure 26: TBI treatment outcomes, WA 2020 - 2024



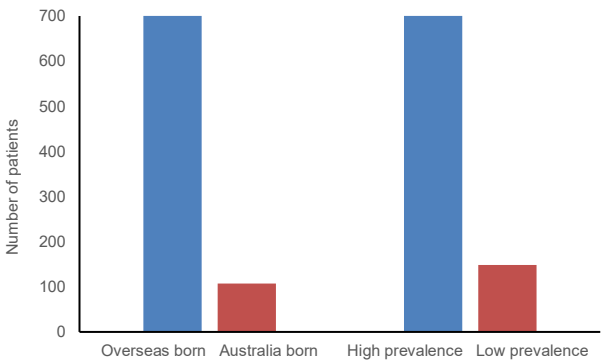
Females comprised 55% (n=477) of those starting TBI treatment, giving a male-to-female ratio of 1:1.2. Most patients (79%) were under 44 years of age, with a median age of 34 years; the 25–34-year group accounted for the largest proportion (31%).

Figure 27: TBI treatment by age group and sex, WA 2023



Among those with documented country of birth, 88% were overseas-born, and 83% originated from countries with a high TB burden (≥40 cases per 100,000 annually).

Figure 28: TBI cases by place of birth, WA 2024



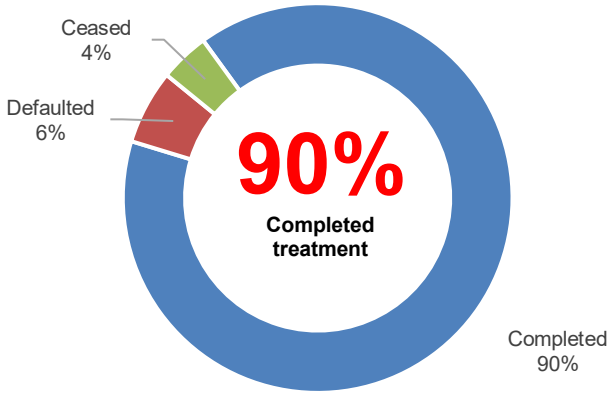
The most common indications for TBI screening were healthcare worker screening (30%), recent migration (24%), contact tracing after TB exposure (23%), refugee health screening (10%), and pre-immunosuppressive therapy assessment (8%).

Table 7: Reason for TBI test in cases treated, WA 2024

Screening Reason	Number	% Total
Healthcare worker screening	264	30%
Recent migrant	212	24%
TB Contacts	204	23%
Recently arrived refugee	85	10%
Immunosuppressed	74	8%
Other	36	4%

Of those who did not complete treatment, 4% (n=36) discontinued due to adverse drug reactions and 6% (n=54) due to non-adherence or missed appointments. These findings suggest opportunities for targeted interventions to further improve adherence and completion rates.

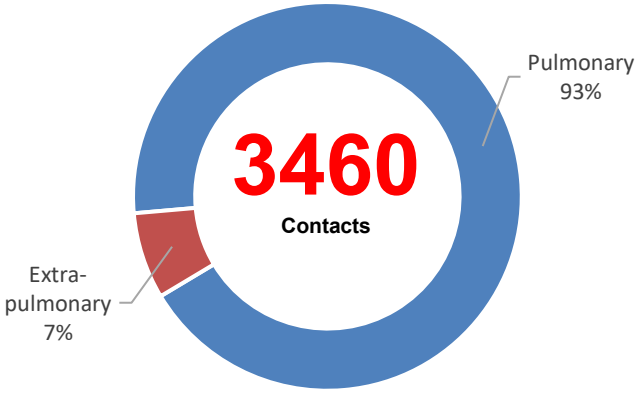
Figure 29: TBI by treatment outcome, WA 2024



TB CONTACT INVESTIGATION

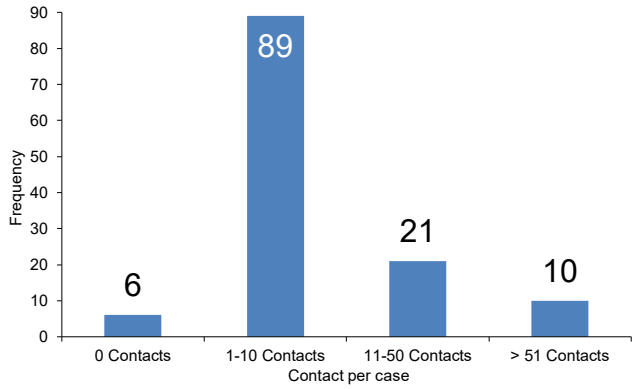
In 2024, 3,460 contacts were identified from 205 of the 224 notified tuberculosis (TB) cases, representing 92% of all notifications. Of these, 93% (n=3,211) were linked to 126 pulmonary TB cases and 7% (n=249) to 79 extrapulmonary cases. No contacts were identified for four pulmonary and four extrapulmonary cases, and 19 cases (9 pulmonary, 10 extrapulmonary) had no documented contact tracing at the time of reporting.

Figure 30: Number of TB contacts, WA 2024



The largest number of contacts for a single case was 844, linked to a smear-positive pulmonary TB case investigated across household and congregate settings. The overall median number of contacts per case was 3 (interquartile range [IQR]: 2–8). For pulmonary TB, the median was 4 (IQR: 2–13). Most pulmonary TB cases (71%, n=89) had 10 or fewer contacts; 17% (n=21) had 11–50 contacts, and 8% (n=10) had more than 50. Among pulmonary TB contacts, 41 (1%) were children under five.

Figure 31: Number of contacts per case of pulmonary TB, WA 2024

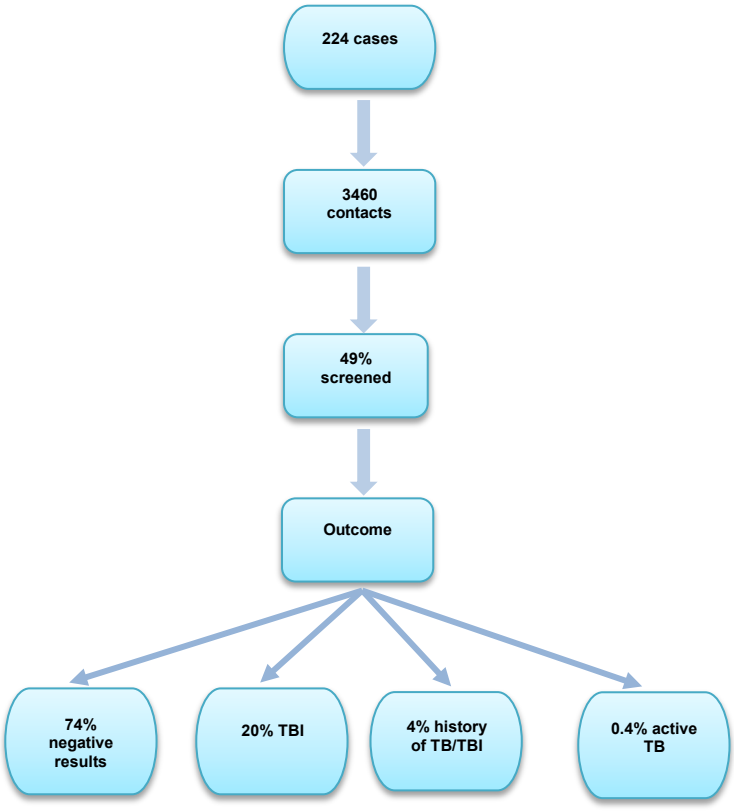


Contact investigation outcomes

Of the 3,460 identified contacts, 51% (n=1,777) did not attend, did not complete screening, or had no documented outcome—up from 36% in 2023. This group included two individuals (0.1%) who died before completing screening and 56 (2%) who were transferred out of Western Australia.

Among the 1,683 contacts who completed assessment, 74% (n=1,249) had negative results, 20% (n=337) were diagnosed with TB infection (TBI), 4% (n=71) had a history of previous TB or TBI, and 0.4% (n=6) were identified as secondary active TB cases. The secondary active TB cases included one child aged four years and five adults aged 26–47 years. All were household or close contacts of the index cases.

Figure 32: Contact investigation outcome, WA 2024



The marked rise in TB notifications in 2024 (up 39% from 2023) was accompanied by an 88.5% increase in identified contacts. This surge placed substantial pressure on WA TB Control Program resources and may have contributed to the reduced follow-up of contacts who did not attend or complete screening. These findings underscore the need for sustained support and resourcing to ensure adequate response capacity as case numbers fluctuate.

DATA QUALITY AND COMPLETENESS

Notification data

TB notification data in Western Australia is collected through a core framework consistent with other notifiable infectious diseases. An enhanced TB surveillance database captures additional disease-specific variables not included in the core dataset. A completion audit is conducted on primary notification fields, excluding those auto-populated from other database entries.

Core notification data

All audited core notification variables were complete, with no missing values identified. Data cleaning procedures applied during report preparation continue to ensure dataset integrity.

Enhanced TB surveillance data

All audited enhanced surveillance variables were complete, except for ‘residence time in Australia’ and ‘Australia arrival date’. As noted in previous reports, the absence of these data reflects database design limitations rather than true missing values and should be considered when interpreting results.

TB Infection and contact investigation data

In 2024, the quality of TBI data improved, with all essential fields fully populated. However, two variables—‘Year of Australia Entry’ and ‘Risk Factor’—remained incomplete.

For contact investigation data, 8% (n=19) of notified TB cases had no documented contact tracing. In addition, 31% (n=1,086) of identified contacts lacked recorded screening outcomes, a marked increase from 8% in 2023. This trend indicates a growing gap in data completeness that requires further investigation and targeted intervention.

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