Australian Centre for Disease Control

Diphtheria in Australia – Epidemiological update

As at 1 June 2026

Data extracted from NNDSS: 2 June 2026
Latest diagnosis date: 1 June 2026
Due to the dynamic nature of the National Notifiable Diseases Surveillance System (NNDSS) and case investigations, data in this report are subject to retrospective revision and may vary from data reported in other national reports and reports by states and territories. Case definitions for the diseases included in this report are available on the Australian Centre for Disease Control website (https://www.cdc.gov.au/resources/collections/cdna-surveillance-case-definitions).

Background

- Diphtheria is an acute illness caused by toxigenic strains of *Corynebacterium diphtheriae* and *Corynebacterium ulcerans*. Infection may lead to 2 major different clinical outcomes: respiratory disease or cutaneous (skin) disease.
- Since the implementation of vaccination programs in the 1940s, the incidence of diphtheria has declined in Australia, and globally. Although diphtheria is considered rare in Australia, it remains endemic in many developing countries.
- Prior to the COVID-19 pandemic, most Australian cases were imported from overseas, with a high proportion of these cases reported as cutaneous diphtheria.
    - Between 1999 and 2019, cutaneous and respiratory diphtheria occurred mostly among adults.
    - During this period there were 2 deaths reported in unvaccinated adults who both acquired their infections in Australia.
- Between 2020 and 2022, there were 4 localised diphtheria clusters, each in a different geographical area of North Queensland, and involving a high proportion of cutaneous cases and several respiratory cases.
- The Australian Immunisation Handbook recommends diphtheria-toxoid vaccine for: routine vaccination in infants, children and adolescents; routine booster vaccination in adults, including those in special risk groups such as pregnant women, laboratory workers, and travellers to countries where health services are difficult to access. Vaccination is recommended every 10 years for travellers to countries where health services are difficult to access. Travellers to some areas where there is a higher risk of acquiring diphtheria are recommended to be vaccinated every 5 years.

Key summary points

- Diphtheria notifications had been increasing since October 2025, with a marked increase since February 2026, however in recent weeks the number of cases notified has been decreasing.
- A total of 288 cases of diphtheria have been notified in Australia in 2026, including 287 confirmed cases and one probable case[i].
    - In the past fortnight, there were 53 cases notified compared to 64 cases in the previous fortnight. Among cases notified this fortnight (n=53), diagnosis dates ranged from 28 April to 1 June 2026, with 18 cases (34%) classified as respiratory diphtheria.
- Most cases in 2026 have been reported in the Northern Territory (58.3%; n=168) and Western Australia (38.5%; n=111), with a few cases in South Australia (n=6) and Queensland (n=3).

[i] CDNA diphtheria case definition: https://www.cdc.gov.au/system/files/2025-09/diphtheria-surveillance-case-definition_0.pdf

- Two cutaneous cases were acquired overseas.
- Among locally acquired cases (n=287), almost all are residents in areas classified as 'outer regional' or 'remote and very remote' (99.7%).
  - Over the past fortnight, newly notified cases have predominantly acquired their infections in areas with recently reported diphtheria infections.
- Most cases (94.4%) have been among Aboriginal and/or Torres Strait Islander people.
- Around two-thirds of cases (66.7%) have been cutaneous diphtheria, with 32.6% classified as respiratory diphtheria, and clinical presentation information pending for two cases.
  - The proportion of cases notified in the past 4 weeks that have been respiratory diphtheria infections was 37.6%.
  - All of the 94 respiratory diphtheria infections in 2026 have been locally acquired.
- The median age of cases is 25 years (IQR: 12.0-37.0), with the median age of cutaneous diphtheria cases being higher (30 years) compared to respiratory diphtheria cases (18 years).
- Overall, a quarter of diphtheria cases (26.5%) have been hospitalised, with the proportion hospitalised being slightly higher for respiratory diphtheria cases compared to cutaneous diphtheria cases, and noting that cases may be hospitalised for public health management reasons.
  - The cause of death for a diphtheria case notified in April 2026 indicates that diphtheria was the probable cause.

- AusTrakka genomic analyses indicate recent cases in Western Australia, the Northern Territory, South Australia and Queensland are genomically linked.
  - Previous analyses suggests that the current cluster shares genomic characteristics of cases from a 2020 to 2023 cluster in Queensland, noting that the findings are not considered definitive epidemiological evidence.
- The vaccination status among diphtheria cases has varied by clinical presentation, with a higher proportion of respiratory diphtheria cases (84.9%) in 2026 having received at least three valid vaccine doses (primary course) compared with cutaneous diphtheria cases (75.0%).
  - Consistent with the National Immunisation Program and broader Australian Immunisation Handbook recommendations, the number of doses received tended to increase with increasing age.
  - During 2026, the median period (years) since last vaccine dose was lower among cutaneous diphtheria cases (3.1 years) than among respiratory diphtheria cases (7.1 years), with the median period since last vaccine dose slightly higher among hospitalised cases.
  - Vaccination provides strong protection against the severe effects of diphtheria toxin, but it does not consistently prevent carriage or transmission.

Current epidemiology of diphtheria in Australia

As of 1 June 2026, a total of 288 diphtheria infections have been notified in Australia in 2026, including one probable case[i] (Figure 1). Notifications of diphtheria had been increasing since October 2025, with a marked increase since February 2026, however, in recent weeks, the number of cases notified has been decreasing. In the past fortnight, there were 53 cases notified compared to 64 cases in the preceding fortnight. Among cases notified this fortnight (n=53), diagnosis dates ranged from 28 April to 1 June 2026.

Current case numbers however are well above the historical pandemic-adjusted 5-year monthly mean and pre-pandemic levels (Figure 1). For the equivalent periods in 2022 to 2025[ii], an average of 8.0 cases were reported, whereas the number of cases notified to date in 2026 is 36 times this average (Table 1). The last peak in annual notifications was in 2022, with 31 cases notified and associated with several clusters in northern Queensland (80.6%; 25/31).

Figure 1: Notifications of diphtheria by confirmation status and year, Australia, 1 January 2014 to 1 June 2026

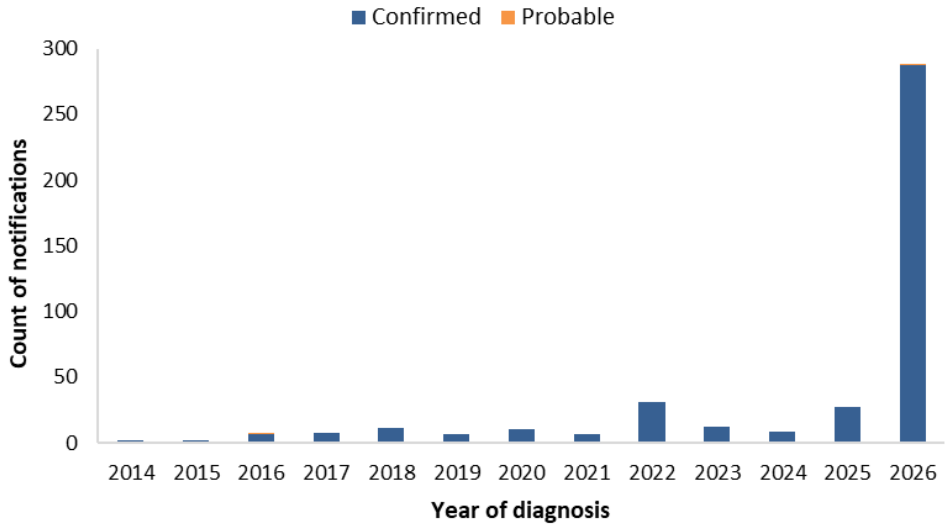
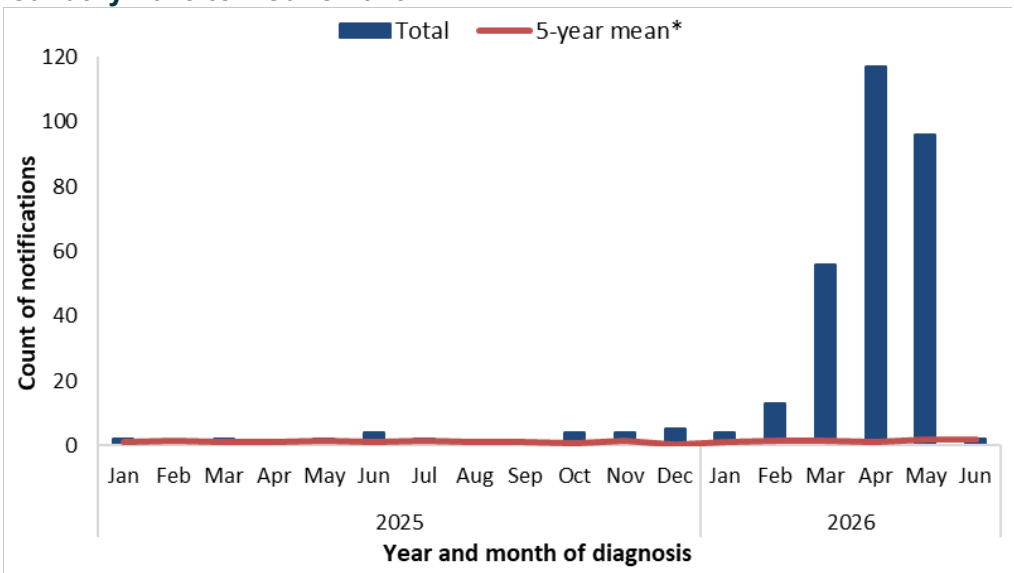


Figure 2: Notifications of diphtheria by month of diagnosis with 5-year monthly rolling mean*, Australia, 1 January 2025 to 1 June 2026



** 2025 rolling monthly mean based on the mean number of cases in the equivalent months during 2018, 2019 and 2022 to 2024. 2026 rolling monthly means are based on the mean number of cases in the equivalent months during 2019 and 2022 to 2025.*

[ii] 1 January to 1 June

Species

Under the national case definition for diphtheria, a confirmed case requires isolation of toxigenic *Corynebacterium diphtheriae* or toxigenic *C. ulcerans* from the upper respiratory tract or skin lesion[i]. In 2026, almost all confirmed cases were reported as *C. diphtheriae* (286/287), with one case of *C. ulcerans* diagnosed in late March this year, and no cases of unknown species reported.

Geographic distribution

Among cases reported in 2026, 58.3% (168/288) were reported in the Northern Territory, a third (38.5%; 111/288) in Western Australia, 6 cases in South Australia and 3 cases in Queensland (Figure 3). Among locally acquired cases, there has been a notable increase in the proportion residing in 'remote and very remote' areas since 2021 (Figure 4). In 2026, among locally acquired cases (99.3%; 286/288), 86.0% resided in areas classified as 'remote' and 'very remote', while a further 13.6% resided in 'outer regional' areas. Over the past fortnight, newly notified cases have predominantly been acquired in areas with previously reported diphtheria infections.

Figure 3: Notifications of diphtheria by jurisdiction and year, Australia, 1 January 2025 to 1 June 2026

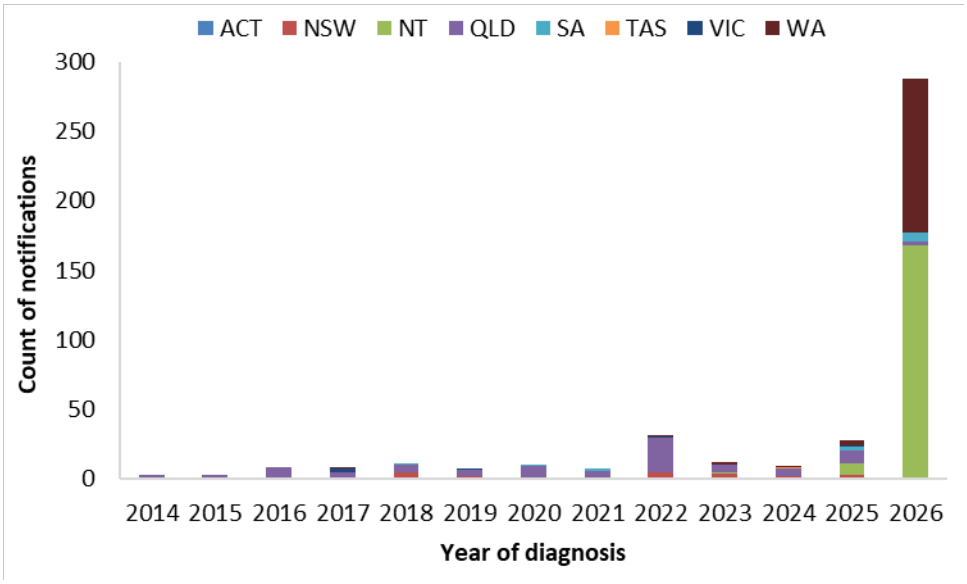
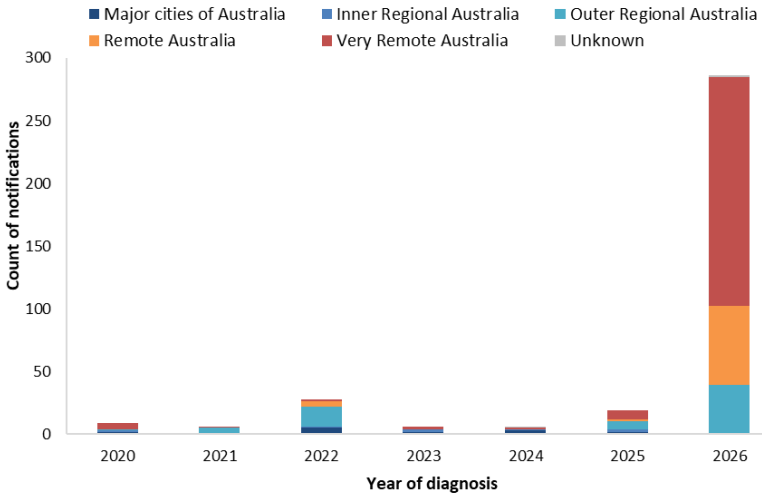


Figure 4: Notifications of locally acquired diphtheria* by year and remoteness area, 1 January 2020 to 1 June 2026

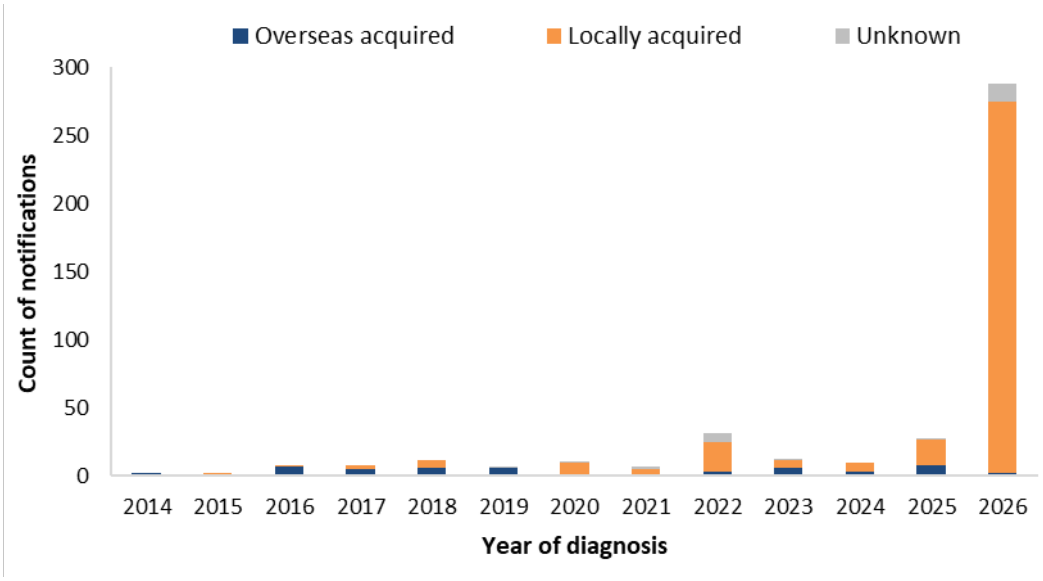


** Excludes cases acquired overseas.*

Place of acquisition

By place of acquisition, between 2014 and 2019, the majority of diphtheria cases were acquired overseas (Figure 5), predominantly in the Western Pacific and South-East Asia regions. Since 2020, the majority of diphtheria notifications have been locally acquired. So far in 2026, 2 cases (0.7%; 2/288) are reported to have acquired their infection overseas.

Figure 5: Notifications of diphtheria by place of acquisition*, Australia, 1 January 2014 to 1 June 2026

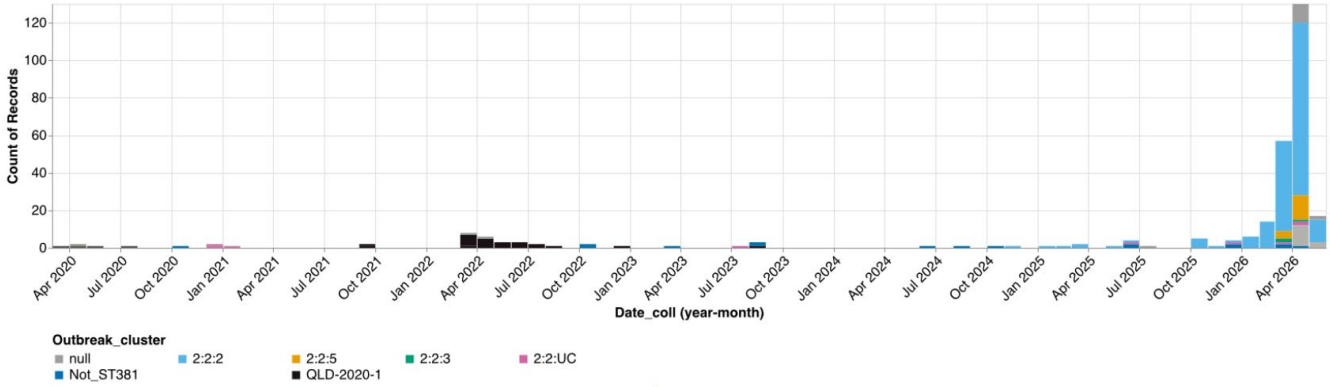


** The source of infection for 2026 cases are provisional and subject to change.*

Since 2020, there have been 15 diphtheria clusters (with 2 or more cases) reported by jurisdictions, with 10 of these clusters reported in 2026. The largest epidemiologically linked clusters (10 to 16 cases) occurred in North Queensland with cases involved in these clusters spanning 2020 to 2023. The more recent clusters in 2026 have been in Western Australia, the Northern Territory and South Australia, with the size of these epidemiologically linked clusters ranging from 2 to 7 cases.

Genomic analysis of *C. diphtheriae* sequences uploaded to AusTrakka with dates of collection from 2025 up to 7 May 2026, suggests that the Western Australia, Northern Territory, Queensland and South Australian cases since 2025 are genomically linked (Cluster 2:2:2) (Figure 6). Two additional clusters (Cluster 2:2:3 and 2:2:5) linked to the current outbreak at the broader genomic level (Cluster 2:2) were identified in March 2026, which includes cases from the Northern Territory and South Australia. This genetic drift is not unexpected given the timeframe and geographic spread of cases. Previous analyses suggest that the main cluster (Cluster 2:2:2) appears to have descended from a 2020 to 2023 cluster in Queensland (Cluster 1:1:1), and the new clusters (2:2:3 and 2:2:5) have emerged from cluster 2:2:2. However, noting the small number of available intermediate sequences, the findings should be interpreted as evidence of shared genomic characteristics rather than definitive epidemiological evidence of linkage to the earlier Queensland cluster.

Figure 6: AusTrakka* SNP clustering of toxigenic *C. diphtheriae* sequences, 12 March 2020 to 7 May 2026



** AusTrakka Genomic Analysis Report ATOI26001 – Corynebacterium diphtheriae (26 May 2026).*

Clinical presentation

Across Australia, from 2016 to 2025, most diphtheria notifications were reported as cutaneous diphtheria, with only a small number of respiratory diphtheria cases reported annually across most years during this period (Figure 7). The increase and upward trend in locally acquired cutaneous diphtheria cases during the latter part of this period may be attributable to changes in testing practices, including toxigenic testing, particularly of wounds, as well as the inclusion of cutaneous diphtheria in the national case definition from 2017[i]. In 2022, respiratory diphtheria accounted for 19.4% (6/31) of cases, with all of these cases locally acquired.

In 2026, the predominant clinical presentation continues to be cutaneous diphtheria (66.7%; 192/288), with respiratory diphtheria accounting for 32.6% (94/288) of cases, and clinical presentation information pending for two cases (Figure 8).

Figure 7: Notifications of diphtheria by clinical presentation, Australia, 1 January 2014 to 1 June 2026

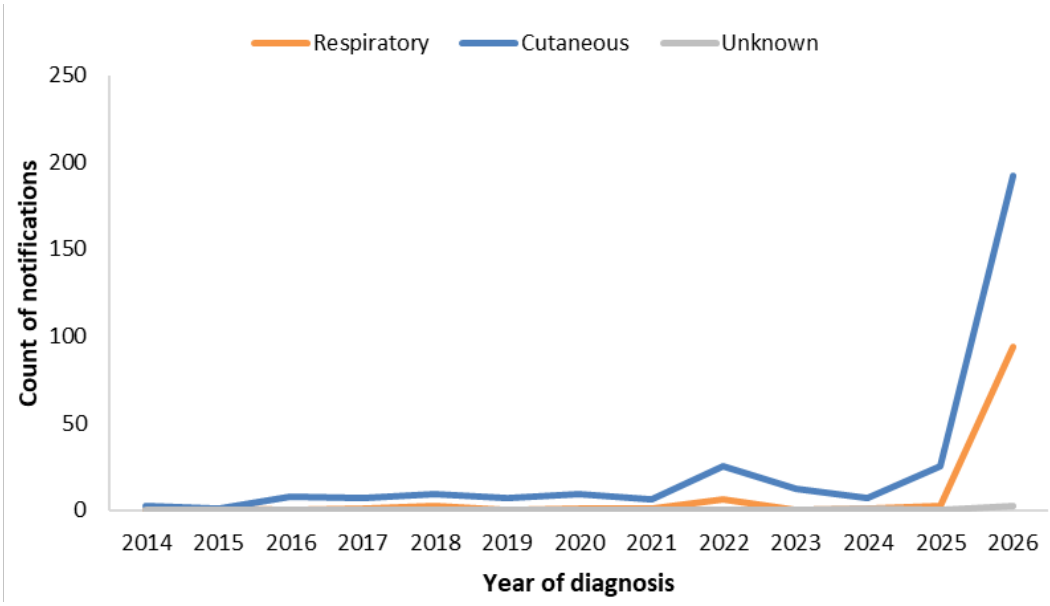
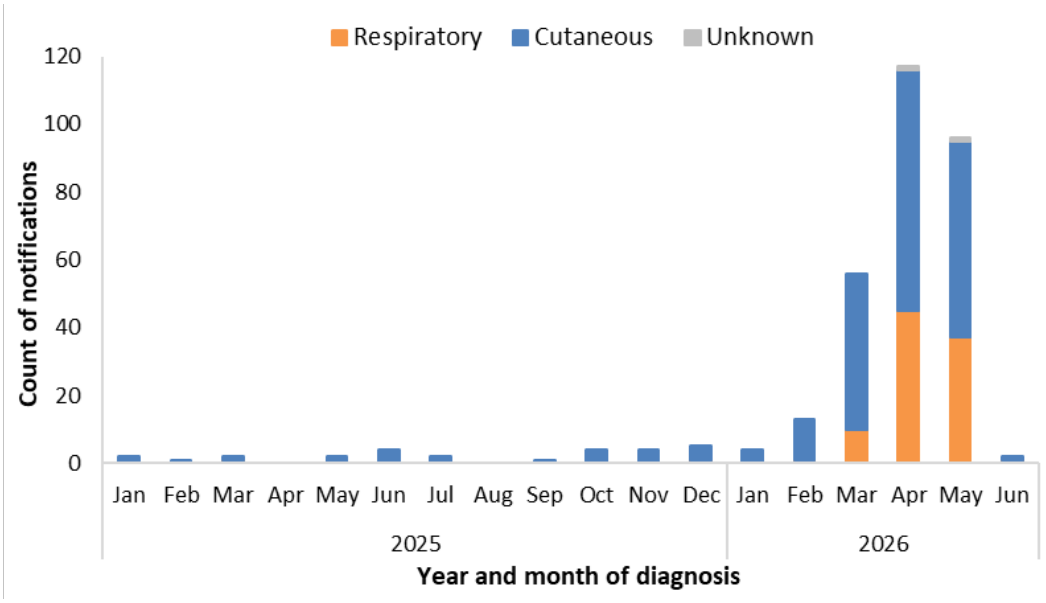


Figure 8: Notifications of diphtheria by clinical presentation and month, Australia, 1 January 2025 to 1 June 2026



Age and sex

Since 2014, notifications of diphtheria have predominantly been reported among those aged 25 years and over, with variability in the proportion of cases reported among those in younger age groups since 2017 (Figure 9). The highest number of cases so far in 2026 are among those in the 25 to 44 years age group (Figure 10), with notification rates highest among those aged 5 to 14 years and 15 to 24 years. So far in 2026, by clinical presentation, the median age of cutaneous diphtheria cases (30 years; IQR 15.8-41.0) has been higher compared to respiratory diphtheria cases (18 years; IQR 12.0-27.0), with this pattern consistent with previous years (Figure 10).

Between 2022 and 2025, the distribution of cases by sex was relatively balanced (47.4% females), with some variability by age group. In 2026, a higher proportion of cases overall are among females (56.6%), with variability also observed by age group.

Figure 9: Proportion of diphtheria notifications by age group, Australia, 1 January 2014 to 1 June 2026

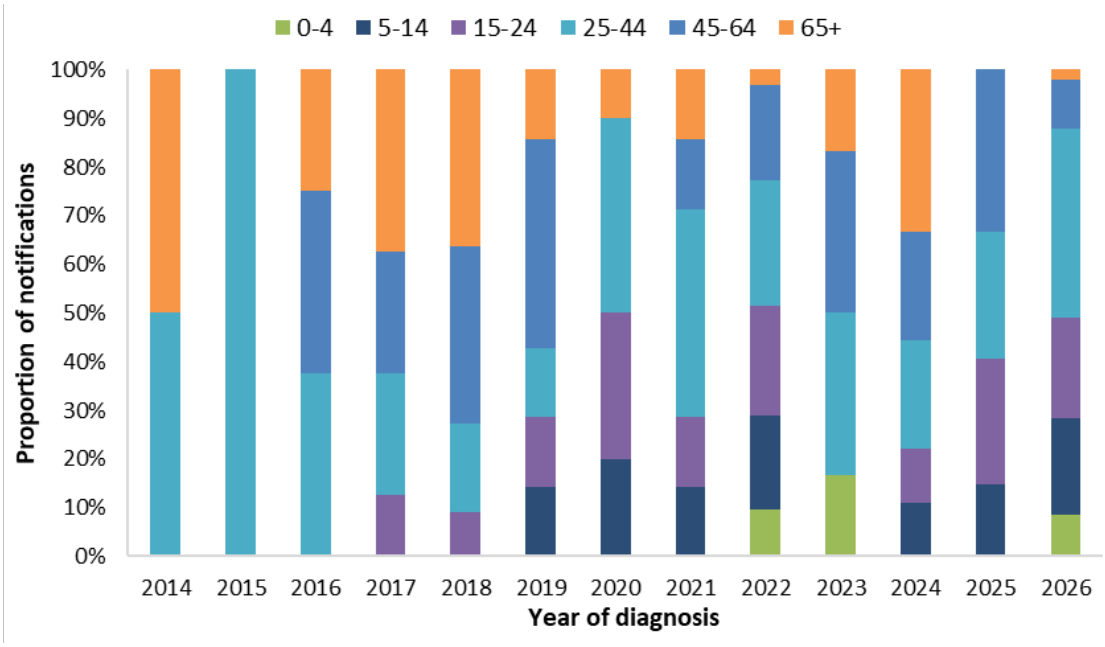
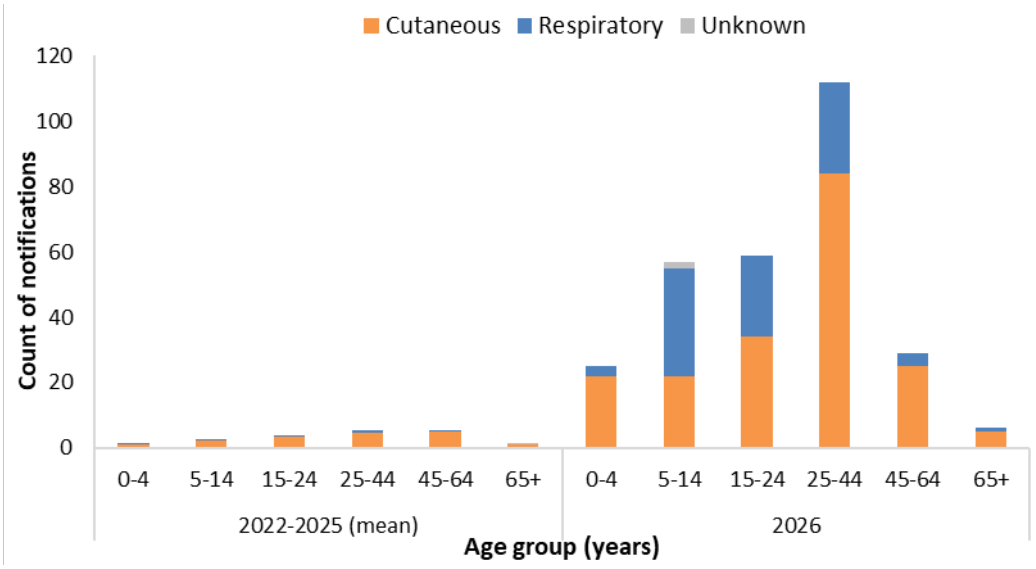


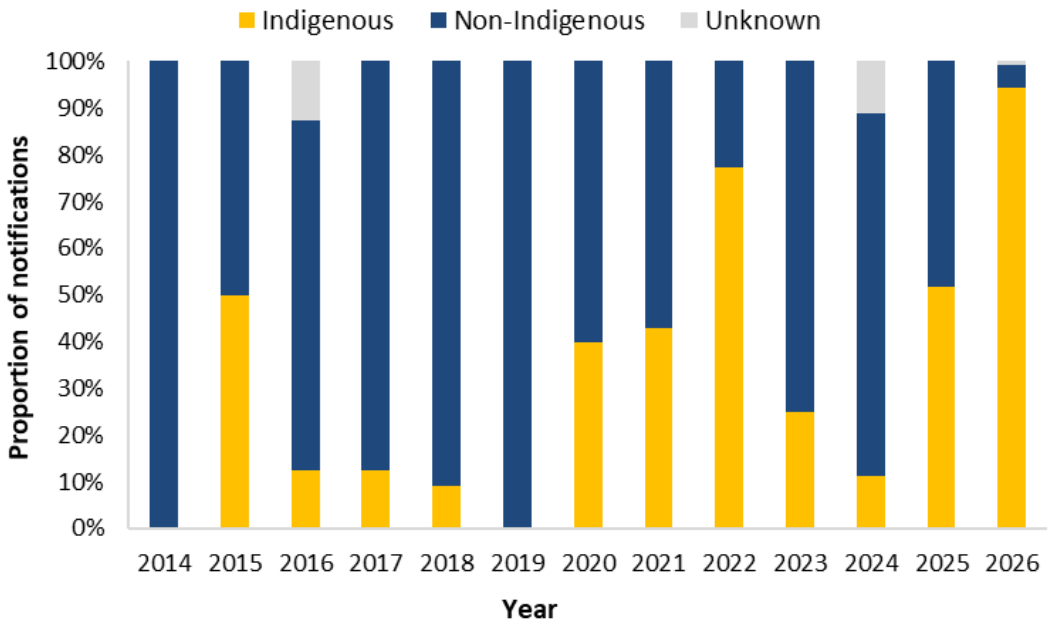
Figure 10: Notifications of diphtheria by age group and clinical presentation, Australia, 1 January 2022 to 1 June 2026



Indigenous status

Indigenous status completeness for diphtheria has remained consistently high, at over 99.0% across 2014 to 2026. Between 2014 and 2019, the proportion of diphtheria cases among Aboriginal and/or Torres Strait Islander people was around 10.5% of cases, noting that there were very few cases reported in 2014 and 2015 (n=4) (Figure 11). Between 2020 to 2022, which included multiple diphtheria clusters in North Queensland, the proportion of cases among Aboriginal and/or Torres Strait Islander people increased to 64.6%. So far in 2026, 94.7% (235/248) of cases have been reported among Aboriginal and/or Torres Strait Islander people.

Figure 11: Proportion of diphtheria notifications by Indigenous status, Australia, 1 January 2014 to 1 June 2026



Severity

Between 2022 and 2025, just over a quarter (28.2%) of diphtheria notifications were reported as being hospitalised, with proportions of cases hospitalised higher among those with respiratory diphtheria. So far in 2026, a similar proportion (23.2%; 67/288) of all diphtheria

cases have been hospitalised. The proportion of respiratory diphtheria cases hospitalised (26.6%; 25/94) is higher than the proportion among cutaneous diphtheria cases (21.9%; 42/192). The proportion of cases hospitalised may vary over time and by clinical presentation type due either to true differences in disease severity or differences in the public health management of infections, including for infection control purposes.

In 2026, one death has been reported in a diphtheria case notified in April, with diphtheria indicated as the probable cause. Prior to 2026, the most recent diphtheria associated death was reported in 2018.

Vaccination status

The vaccination status among diphtheria cases has differed by clinical presentation type (Figure 12). In 2026, a higher proportion of respiratory diphtheria cases (84.9%) had received 3 or more valid doses, compared with 75.0% of cutaneous diphtheria cases.

While vaccination provides strong protection against the severe effects of diphtheria toxin, it does not consistently prevent carriage or transmission of *C. diphtheriae*, regardless of whether the strain produces toxin or not.

Consistent with the National Immunisation Program and broader Australian Immunisation Handbook recommendations, the number of doses received tended to increase with increasing age (Figure 13). In 2026, among diphtheria cases reported to have received at least 3 vaccine doses, the median number of years since last vaccine dose has typically been lower among cutaneous diphtheria cases (3.1 years) than among respiratory diphtheria cases (7.1 years) (Figure 14). For this same period, the median number of years since last vaccine dose was slightly higher among hospitalised cases.

More broadly, national diphtheria–tetanus–pertussis (DTP) vaccination coverage rates as at September 2025, based on the National Immunisation Program Schedule, was:

- 93.4% (range: 91.9% to 94.8%) among all children aged 5 years
- 94.7% (range: 92.9% to 96.3%) among Aboriginal and Torres Strait Islander children aged 5 years.

However, ‘fully immunised’ rates among the 5-year-old cohort, regardless of Indigenous status, have been gradually declining since peaking in 2020.

Figure 12: Notifications of diphtheria by vaccination status and clinical presentation type, Australia, 1 January 2014 to 1 June 2026

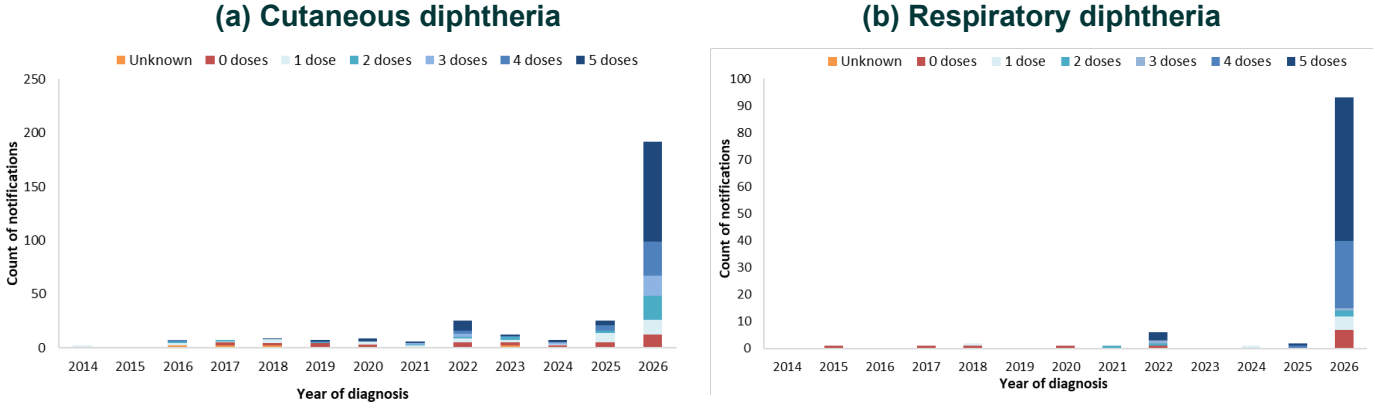


Figure 13: Notifications of diphtheria by vaccination status, clinical presentation type and age group, Australia, 1 January to 1 June 2026

(a) Cutaneous diphtheria **(b) Respiratory diphtheria**

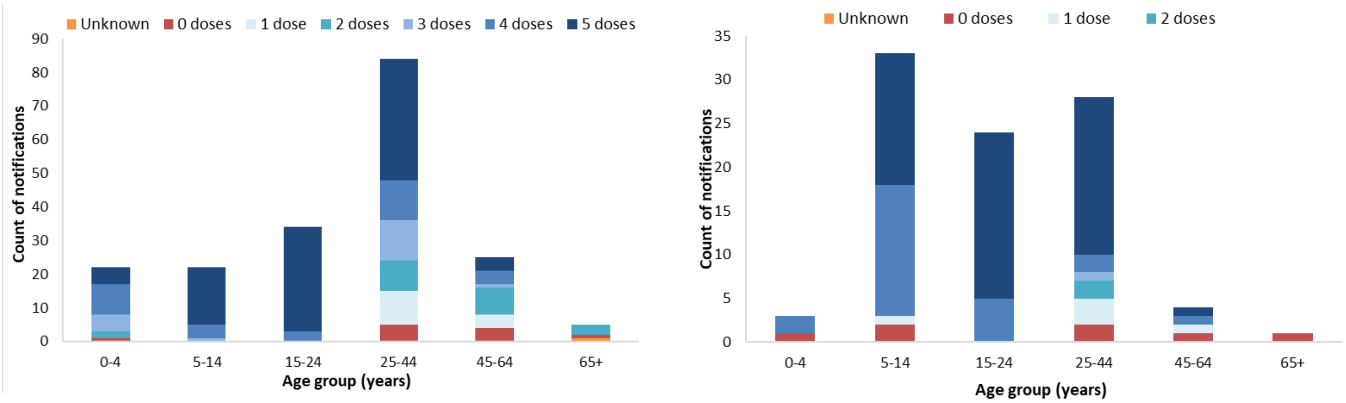
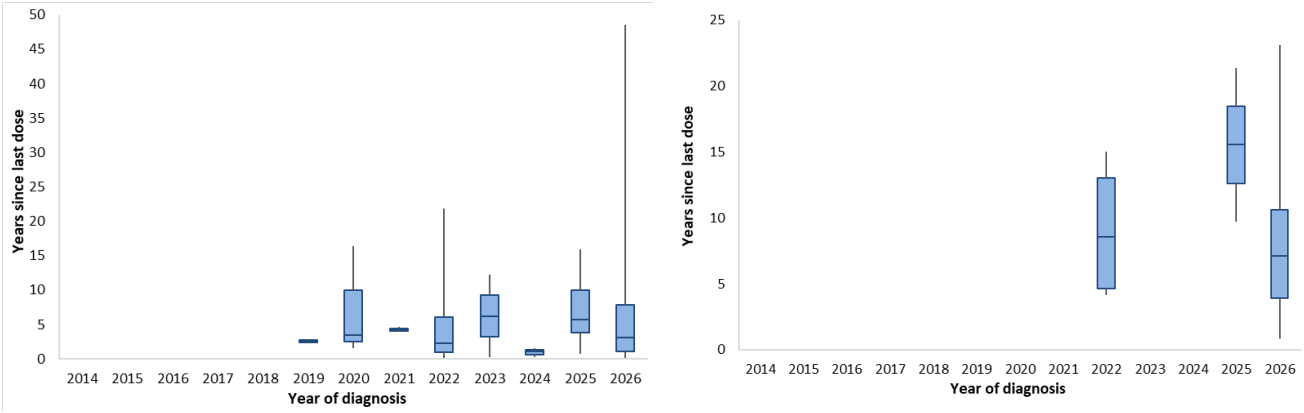


Figure 14: Distribution of years since last vaccine dose for notifications of diphtheria with at least 3 doses*, by clinical presentation type, Australia, 1 January 2014 to 1 June 2026

(a) Cutaneous diphtheria **(b) Respiratory diphtheria**



** Periods where there were less than 2 cases that had received 3 or more vaccine doses are not shown.*

Epidemiological characteristics of diphtheria cases

Table 1: Epidemiological summary of diphtheria cases in Australia, 1 January 2025 to 1 June 2026

	2026 YTD*	2025 YTD*	2025	2022–2025 YTD* (mean)	2022–2025 (mean)
Total	288	7	27	8	19.8
Confirmation status					
Confirmed	287 (100%)	7 (100%)	27 (100%)	8.0 (100%)	19.8 (100%)
Probable	1 (0%)	0 (0%)	0 (0%)	0.0 (0%)	0.0 (0%)
Species					
C. diphtheriae	287 (100%)	7 (100%)	27 (100%)	7.0 (88%)	17.3 (87%)
C. ulcerans	1 (0%)	0 (0%)	0 (0%)	1.0 (13%)	2.5 (13%)
State					
ACT	0 (0%)	0 (0%)	0 (0%)	0.0 (0%)	0.0 (0%)
NSW	0 (0%)	1 (14%)	2 (7%)	1.0 (13%)	2.5 (13%)
NT	168 (58%)	1 (14%)	9 (33%)	0.3 (3%)	2.5 (13%)
QLD	3 (1%)	3 (43%)	9 (33%)	5.8 (72%)	11.5 (58%)
SA	6 (2%)	1 (14%)	3 (11%)	0.3 (3%)	0.8 (4%)
TAS	0 (0%)	0 (0%)	0 (0%)	0.0 (0%)	0.3 (1%)
VIC	0 (0%)	0 (0%)	1 (4%)	0.0 (0%)	0.5 (3%)
WA	111 (39%)	1 (14%)	3 (11%)	0.8 (9%)	1.8 (9%)
Remoteness area					
Major cities	1 (0%)	1 (14%)	6 (22%)	1.5 (19%)	5.3 (27%)
Regional areas	40 (14%)	2 (29%)	11 (41%)	4.5 (56%)	9.5 (48%)
Remote areas	246 (85%)	4 (57%)	10 (37%)	2.0 (25%)	4.8 (24%)
Unknown	1 (0%)	0 (0%)	0 (0%)	0.0 (0%)	0.3 (1%)
Place of acquisition					
Overseas acquired	2 (1%)	2 (29%)	8 (30%)	1.3 (16%)	5.0 (25%)
Locally acquired	273 (95%)	4 (57%)	18 (67%)	6.0 (75%)	12.8 (65%)
Unknown	13 (5%)	1 (14%)	1 (4%)	0.8 (9%)	2.0 (10%)
Clinical manifestation					
Cutaneous	192 (67%)	6 (86%)	25 (93%)	7.3 (91%)	17.3 (87%)
Respiratory	94 (33%)	1 (14%)	2 (7%)	0.8 (9%)	2.3 (11%)
Unknown	2 (1%)	0 (0%)	0 (0%)	0.0 (0%)	0.3 (1%)
Age (years)					
Median (IQR)	25.0 (12.0-37.0)	14.0 (9.5-15.5)	36.0 (18.5-48.0)	27.9 (21.6-35.9)	39.3 (22.5-52.6)
Age group (years)					
0-4	25 (9%)	0 (0%)	0 (0%)	0.5 (6%)	1.3 (6%)
5-14	57 (20%)	4 (57%)	4 (15%)	2.0 (25%)	2.8 (14%)
15-24	59 (20%)	3 (43%)	7 (26%)	1.8 (22%)	3.8 (19%)
25-44	112 (39%)	0 (0%)	7 (26%)	2.5 (31%)	5.3 (27%)
45-64	29 (10%)	0 (0%)	9 (33%)	0.8 (9%)	5.3 (27%)
65+	6 (2%)	0 (0%)	0 (0%)	0.5 (6%)	1.5 (8%)
Sex					
Male	125 (43%)	2 (29%)	15 (56%)	3.8 (47%)	10.3 (52%)
Female	163 (57%)	5 (71%)	12 (44%)	4.3 (53%)	9.5 (48%)
Indigenous status					
Indigenous	272 (94%)	5 (71%)	14 (52%)	5.8 (72%)	10.5 (53%)
Non-Indigenous	14 (5%)	2 (29%)	13 (48%)	2.3 (28%)	9.0 (46%)
Unknown	2 (1%)	0 (0%)	0 (0%)	0.0 (0%)	0.3 (1%)

	2026 YTD*	2025 YTD*	2025	2022–2025 YTD* (mean)	2022–2025 (mean)
Severity					
Hospitalised	67 (23%)	2 (29%)	10 (37%)	1.8 (22%)	5.5 (28%)
Died	1† (0%)	0 (0%)	0 (0%)	0.0 (0%)	0.0 (0%)
Vaccination status					
0 doses	18 (6%)	1 (14%)	5 (19%)	1.3 (16%)	3.8 (19%)
1 dose	19 (7%)	0 (0%)	9 (33%)	0.8 (9%)	4.5 (23%)
2 doses	24 (8%)	0 (0%)	2 (7%)	0.5 (6%)	1.8 (9%)
3 doses	20 (7%)	0 (0%)	0 (0%)	1.0 (13%)	1.5 (8%)
4 doses	57 (20%)	3 (43%)	6 (22%)	1.3 (16%)	2.5 (13%)
5 doses	149 (52%)	3 (43%)	5 (19%)	3.0 (38%)	5.0 (25%)
Unknown	1 (0%)	0 (0%)	0 (0%)	0.3 (3%)	0.8 (4%)

** YTD represents the year-to-date period of 1 January to 1 June.*
† The cause of death indicates that diphtheria was the probable cause.