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# HIV, viral hepatitis and sexually transmissible infections in Australia Annual surveillance report 2024

# Hepatitis B

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# HIV, viral hepatitis and sexually transmissible infections in Australia
## Annual surveillance report 2024


Kirby Institute, UNSW Sydney

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in collaboration with networks in surveillance for HIV, viral hepatitis and sexually transmissible infections



The Kirby Institute, UNSW Sydney is funded by the Australian Government Department of Health and Aged Care and is affiliated with the Faculty of Medicine, UNSW Sydney. The Surveillance and Evaluation Research Program at the Kirby Institute, UNSW Sydney is responsible for the public health monitoring and evaluation of patterns of transmission of bloodborne viral and sexually transmissible infections in Australia.





ISSN 2206-1630 (Online)

This publication and associated data are available at internet address kirby.unsw.edu.au

**Suggested citation:**

King, J., Kwon J., McManus, H., Gray, R., & McGregor, S., 2024, HIV, viral hepatitis and sexually transmissible infections in Australia: Annual surveillance report 2024, The Kirby Institute, UNSW Sydney, Sydney, Australia.

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# Hepatitis B

We recognise communities and individuals impacted by and at risk of hepatitis B, hepatitis C, HIV, and sexually transmissible infections. These people and communities are crucial stakeholders in the work we do, with invaluable contributions and lived experiences. We acknowledge and affirm their crucial role in the development of this report, and public health surveillance more broadly. This report aims to ensure that ongoing and emerging public health threats and inequities are apparent, and that high quality data are available to inform appropriate public health responses to address these issues. We also acknowledge the ongoing negative impacts stigma and societal discrimination play in perpetuating inequity, and support principles of empowerment, community ownership, and partnership.

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# 1 Summary data

## Hepatitis B notifications

- In 2023, there were a total of 5390 hepatitis B notifications in Australia, with 2491 (46%) among females, 2885 (53%) among males, and 14 (<1%) notifications for whom gender was not reported.
- The hepatitis B notification rate declined by 29% between 2014 and 2023, from 27.7 to 19.8 per 100 000. Declines between 2019 and 2021 were likely attributable in part to the impact of vaccination, as well as COVID-19 impacts on migration, healthcare access, and testing during 2020 and 2021.
- Compared to other age groups, the hepatitis B notification rate in 2023 was highest among those aged 35 to 39 years (36.2 per 100 000) and those aged 40 to 49 years (35.0 per 100 000). The rate declined considerably among younger age groups between 2014 and 2023 (down 60% among people under 20 years, 61% among those aged 20 to 29 years, and 40% among those aged 30 to 39 years). Little change was seen among those aged 40 years and older. The overall trends by age group during 2014 – 2019 likely reflect the impact of hepatitis B vaccination programs, while the declines between 2019 and 2021 also reflect the COVID-19 pandemic and related disruptions.
- The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples is based on data from six jurisdictions (Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania, and Western Australia), where Aboriginal and Torres Strait Islander status was reported for at least half of all hepatitis B notifications for each the five years (2019 – 2023).
- The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples declined by 18% between 2019 and 2023 from 25.1 to 20.5 per 100 000.
- The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples was higher compared with non-Indigenous people in 2023 (20.5 and 17.2 per 100 000, respectively).

## Testing and care

- According to modelled estimates, in 2023, an estimated 69% (151 161) of people living with chronic hepatitis B in Australia had been diagnosed, and of those, an estimated 24% (53 765) were receiving regular clinical care. Best practice indicates that all people diagnosed with chronic hepatitis B require regular monitoring to assess the stage and progression of their liver disease and to facilitate the commencement of treatment as needed.
- Treatment for hepatitis B is recommended for a proportion of patients who meet specific criteria for treatment based on age, viral load, liver function tests, liver fibrosis stage and family history. In 2023, 13% (27 641) of people living with chronic hepatitis B were estimated to be receiving antiviral therapy. Of those living with chronic hepatitis B, 37 420 eligible people did not receive antiviral treatment.

## Prevention

- In 2023, infant hepatitis B vaccination coverage at 12 months of age was 90% among Aboriginal and Torres Strait Islander infants and 94% among non-Indigenous infants, reaching 96% among both populations by 24 months of age. Declines in overall vaccination coverage have been observed since 2020 and work is ongoing to investigate barriers to achieving high rates of vaccination coverage.

# 2 Interpretation

Hepatitis B among adolescents and adults in Australia is transmitted through a variety of pathways, including injection drug use and sexual contact. Most people living with chronic hepatitis B in Australia were born overseas and acquired hepatitis B at birth or in early childhood. Therefore, hepatitis B notifications reflect trends in both the incidence of new infections and testing for those with chronic infections. Between 2019 and 2021, there were reductions in testing, diagnosis, and monitoring of hepatitis B, likely due to the ongoing COVID-19 pandemic. This change represents reduced progress toward Australia's National Strategy Targets for diagnosis.

Between 2014 and 2023, age-specific hepatitis B notification rates declined among younger age groups (under 40 years) that are most likely to have benefited from the introduction of universal vaccination of infants in 2000 (1990 in the Northern Territory) and adolescent catch-up programs from 1998 (with variations by jurisdiction in when school-based vaccination programs were introduced). Vaccination programs introduced in countries that many Australian migrants emigrate from have also has led to lower hepatitis B prevalence among recent migrants to Australia. Other strategies to prevent mother to child transmission of hepatitis B including maternal screening and treatment, and hepatitis B Immunoglobulin (HBIG) injection for infants born to women with hepatitis B, are also likely to have contributed to this decline.

There was a decline in hepatitis B vaccination rates among Aboriginal and Torres Strait Islander children between 2017 and 2023. This decline impacts the progress towards the elimination of vertical transmission and has the potential to increase hepatitis B infections among Aboriginal and Torres Strait Islander peoples over the coming decades. Also, given the high proportion of hepatitis B notifications without a reported Aboriginal and Torres Strait Islander status, the actual hepatitis B-related burden of disease among Aboriginal and Torres Strait Islander peoples may be even higher than what is currently reported. Improved completeness of Aboriginal and Torres Strait Islander status is essential to more accurately understand the true impact of hepatitis B on Aboriginal and Torres Strait Islander communities.

# 3 Hepatitis B notifications

This section focuses on people notified with hepatitis B infection in Australia, including notifications of newly acquired hepatitis B infection (having evidence of hepatitis B acquisition within two years prior to diagnosis) and unspecified (those without evidence of being newly acquired).

There were 5390 hepatitis B notifications in Australia in 2023 with the vast majority (98%, 5304) reported as unspecified (without evidence of recent infection), and only 86 (2%) were reported as newly acquired. Of all hepatitis B notifications, 135 (3%) were among Aboriginal and Torres Strait Islander peoples, 3213 (60%) were among non-Indigenous people, and there were a further 2042 (38%) notifications for which Aboriginal and Torres Strait Islander status was not reported. In 2023, just over half (54%, 2885) of hepatitis B notifications were among males, 59% (3190) were among people aged 40 years and above, and 82% (4438) were among people residing in major cities (Table 1).

**Table 1 Characteristics of hepatitis B notifications, 2014 – 2023**

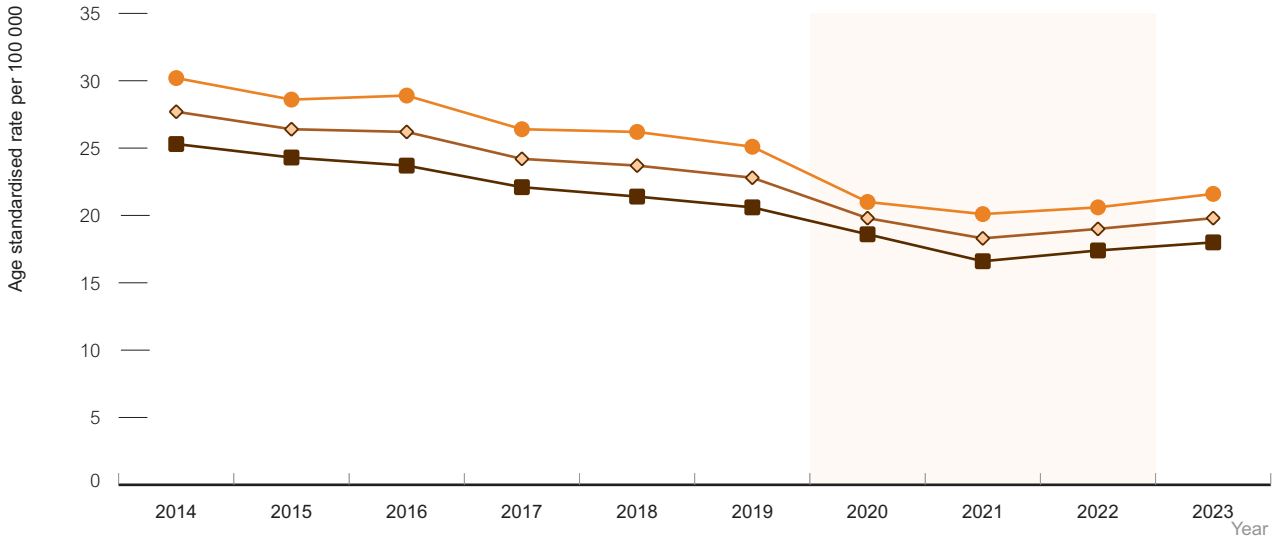
| | Year of diagnosis | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Total cases** | 6476 | 6261 | 6306 | 5956 | 5923 | 5782 | 5068 | 4712 | 5034 | 5390 |
| **Newly acquired**[a] | 175 | 148 | 169 | 145 | 139 | 166 | 127 | 83 | 62 | 86 |
| **Sex** | | | | | | | | | | |
| Female | 2975 | 2901 | 2870 | 2746 | 2701 | 2643 | 2415 | 2164 | 2335 | 2491 |
| Male | 3472 | 3342 | 3410 | 3194 | 3199 | 3116 | 2637 | 2533 | 2680 | 2885 |
| Not reported | 29 | 18 | 26 | 16 | 23 | 23 | 16 | 15 | 19 | 14 |
| **Age group (years)** | | | | | | | | | | |
| <20 | 240 | 233 | 256 | 170 | 145 | 164 | 94 | 73 | 87 | 104 |
| 20–29 | 1540 | 1426 | 1276 | 1194 | 1136 | 987 | 732 | 605 | 619 | 655 |
| 30–39 | 1973 | 1860 | 1992 | 1824 | 1802 | 1844 | 1541 | 1326 | 1367 | 1441 |
| 40–49 | 1243 | 1182 | 1188 | 1110 | 1224 | 1136 | 1015 | 1083 | 1078 | 1202 |
| 50–59 | 821 | 878 | 855 | 835 | 787 | 769 | 821 | 780 | 846 | 861 |
| 60–69 | 474 | 481 | 480 | 567 | 574 | 619 | 607 | 559 | 670 | 726 |
| 70+ | 182 | 197 | 257 | 256 | 255 | 263 | 257 | 286 | 367 | 401 |
| Not reported | 3 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| **Aboriginal and Torres Strait Islander status** | | | | | | | | | | |
| Aboriginal and/or Torres Strait Islander | 200 | 254 | 191 | 175 | 170 | 154 | 173 | 162 | 108 | 135 |
| Non-Indigenous | 3444 | 3200 | 3619 | 3648 | 3770 | 3550 | 2922 | 2722 | 2846 | 3213 |
| Not reported | 2832 | 2807 | 2496 | 2133 | 1983 | 2078 | 1973 | 1828 | 2080 | 2042 |
| **Area of residence** | | | | | | | | | | |
| Major cities | 5476 | 5268 | 5400 | 5070 | 4999 | 4911 | 4268 | 3884 | 4274 | 4438 |
| Regional | 733 | 708 | 687 | 619 | 635 | 626 | 583 | 611 | 588 | 720 |
| Remote | 151 | 174 | 102 | 120 | 107 | 97 | 114 | 120 | 73 | 102 |
| Not reported | 116 | 111 | 117 | 147 | 182 | 148 | 103 | 97 | 99 | 130 |
| **State/Territory** | | | | | | | | | | |
| ACT | 90 | 83 | 89 | 86 | 83 | 84 | 79 | 66 | 88 | 84 |
| NSW | 2465 | 2250 | 2248 | 2223 | 2340 | 2156 | 1937 | 1727 | 2027 | 1963 |
| NT | 153 | 161 | 109 | 101 | 85 | 83 | 92 | 32 | 45 | 94 |
| QLD | 939 | 1031 | 1048 | 908 | 853 | 943 | 841 | 754 | 802 | 1021 |
| SA | 372 | 342 | 318 | 295 | 274 | 309 | 266 | 200 | 192 | 239 |
| TAS | 61 | 41 | 40 | 43 | 43 | 67 | 57 | 76 | 64 | 52 |
| VIC | 1760 | 1779 | 1793 | 1764 | 1749 | 1689 | 1276 | 1314 | 1390 | 1419 |
| WA | 636 | 574 | 661 | 536 | 496 | 451 | 520 | 543 | 426 | 518 |

a Newly acquired hepatitis B is defined as newly diagnosed hepatitis B infection with evidence of acquisition in the two years before diagnosis. Enhanced surveillance procedures related to hepatitis B vary by state/territory. The total number of cases reported here is likely to be an underestimation of the true number of newly acquired infections.

Source: Australian National Notifiable Diseases Surveillance System.

The hepatitis B notification rate in Australia declined by 29%, from 27.7 per 100 000 in 2014 to 19.8 per 100 000 in 2023. The sharp decline in notification rates between 2019 and 2021, followed by a slight increase between 2021 and 2023, likely due in part to the impacts of the COVID-19 pandemic, in particular the impact on testing uptake, international travel, and migration. The overall decline since 2014 was likely due to hepatitis B vaccination programs in Australia and overseas [1]. Notification rates have been consistently higher among males than females, and were 21.6 and 18.0 per 100 000 in 2023, respectively (Figure 1).

**Figure 1** Hepatitis B notification rate per 100 000 population by gender, 2014 – 2023




| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| Female | 25.3 | 24.3 | 23.7 | 22.1 | 21.4 | 20.6 | 18.6 | 16.6 | 17.4 | 18.0 |
| Male | 30.2 | 28.6 | 28.9 | 26.4 | 26.2 | 25.1 | 21.0 | 20.1 | 20.6 | 21.6 |
| Total | 27.7 | 26.4 | 26.2 | 24.2 | 23.7 | 22.8 | 19.8 | 18.3 | 19.0 | 19.8 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

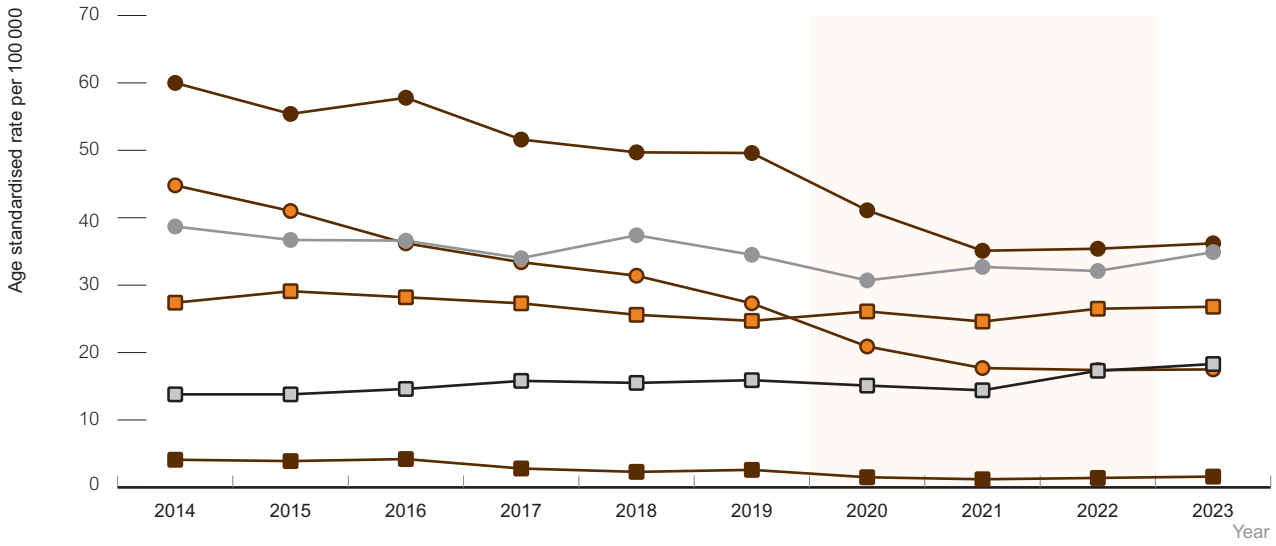
Source: Australian National Notifiable Diseases Surveillance System & The Australian Bureau of Statistics.

## What does this mean?

The rate of hepatitis B diagnoses has declined since 2014. Overall, males are diagnosed slightly more often than females.

In 2023, the highest notification rates were seen among those aged 30 to 39 years (36.2 per 100 000), 40 to 49 years (35.0 per 100 000), and 50 to 59 years (26.8 per 100 000). Between 2014 and 2023, hepatitis B notification rates declined overall with the greatest declines seen among younger age groups. A decline of 61% was seen among those aged 20 to 29 years (from 44.8 to 17.5 per 100 000), 60% among those aged under 20 years (from 4.1 to 1.6 per 100 000) and 40% among those aged 30 to 39 years (from 60.0 to 36.2 per 100 000) (Figure 2). In the same period, the notification rate fluctuated among those aged 40 to 49 years (35.0 per 100 000 in 2023) and those aged 50 to 59 years (26.8 per 100 000) in 2023. Among those aged 60 years and older, the notification rate increased by 33% from 13.8 per 100 000 in 2014 to 18.3 per 100 000 in 2023.The greater declines seen among the younger age groups are likely due hepatitis B immunisation, introduced nationally for infants in Australia in 2000, and in many countries with high migration to Australia in the 1990s. (Figure 2). Detailed breakdowns of notification rates by gender and age are available on the Kirby Institute data site.

**Figure 2 Hepatitis B notification rate per 100 000 population by age group, 2014 – 2023**




| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| <20 | 4.1 | 3.9 | 4.2 | 2.8 | 2.3 | 2.6 | 1.5 | 1.2 | 1.4 | 1.6 |
| 20–29 | 44.8 | 41.0 | 36.2 | 33.4 | 31.4 | 27.3 | 20.9 | 17.7 | 17.4 | 17.5 |
| 30–39 | 60.0 | 55.4 | 57.8 | 51.6 | 49.7 | 49.6 | 41.1 | 35.1 | 35.4 | 36.2 |
| 40–49 | 38.7 | 36.7 | 36.6 | 34.0 | 37.4 | 34.5 | 30.7 | 32.7 | 32.1 | 34.9 |
| 50–59 | 27.4 | 29.1 | 28.2 | 27.3 | 25.6 | 24.7 | 26.1 | 24.6 | 26.5 | 26.8 |
| 60+ | 13.8 | 13.8 | 14.6 | 15.8 | 15.5 | 15.9 | 15.1 | 14.4 | 17.3 | 18.3 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

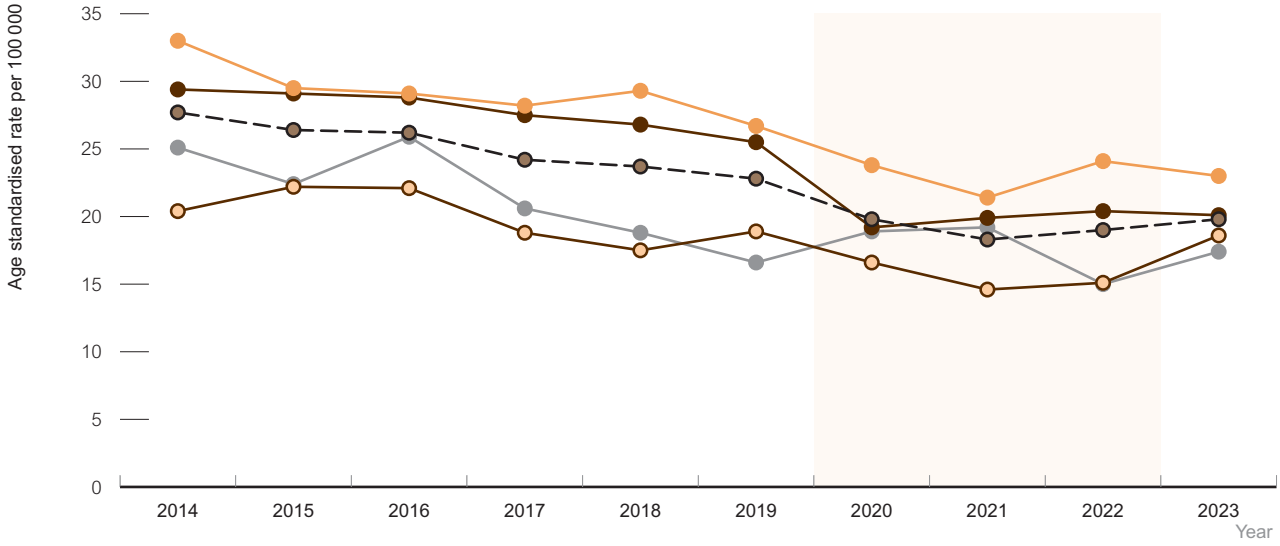
Source: Australian National Notifiable Diseases Surveillance System & The Australian Bureau of Statistics.

**What does this mean?**

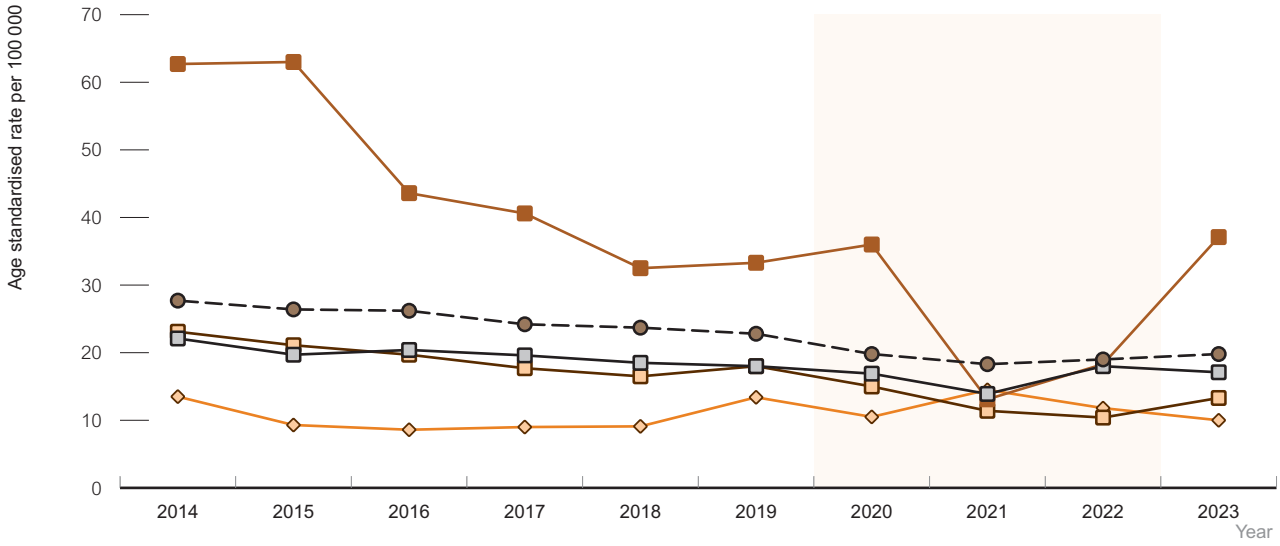
Since 2014, hepatitis B diagnoses have decreased across all age groups under 40 years, especially for people aged under 30 years.

The hepatitis B notification rate declined in every state and territory between 2014 and 2023 with the greatest declines observed in South Australia (42%), the Northern Territory (41%), Victoria (30%), and New South Wales (29%). In 2023, the highest notification rates were observed in the Northern Territory (37.1 per 100 000), New South Wales (23.0 per 100 000), and Victoria (20.1 per 100 000) (Figure 3).

**Figure 3 Hepatitis B notification rate per 100 000 population by state/territory, 2014 – 2023**




| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| NSW | 33.0 | 29.5 | 29.1 | 28.2 | 29.3 | 26.7 | 23.8 | 21.4 | 24.1 | 23.0 |
| QLD | 20.4 | 22.2 | 22.1 | 18.8 | 17.5 | 18.9 | 16.6 | 14.6 | 15.1 | 18.6 |
| VIC | 29.4 | 29.1 | 28.8 | 27.5 | 26.8 | 25.5 | 19.2 | 19.9 | 20.4 | 20.1 |
| WA | 25.1 | 22.4 | 25.9 | 20.6 | 18.8 | 16.6 | 18.9 | 19.2 | 15.0 | 17.4 |
| Australia | 27.7 | 26.4 | 26.2 | 24.2 | 23.7 | 22.8 | 19.8 | 18.3 | 19.0 | 19.8 |




| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| ACT | 22.1 | 19.7 | 20.4 | 19.6 | 18.5 | 18.0 | 16.9 | 13.9 | 18.0 | 17.1 |
| NT | 62.7 | 63.0 | 43.6 | 40.6 | 32.5 | 33.3 | 36.0 | 13.1 | 18.3 | 37.1 |
| SA | 23.1 | 21.1 | 19.7 | 17.7 | 16.5 | 18.0 | 15.0 | 11.4 | 10.4 | 13.3 |
| TAS | 13.5 | 9.3 | 8.6 | 9.0 | 9.1 | 13.4 | 10.5 | 14.5 | 11.8 | 10.0 |
| Australia | 27.7 | 26.4 | 26.2 | 24.2 | 23.7 | 22.8 | 19.8 | 18.3 | 19.0 | 19.8 |

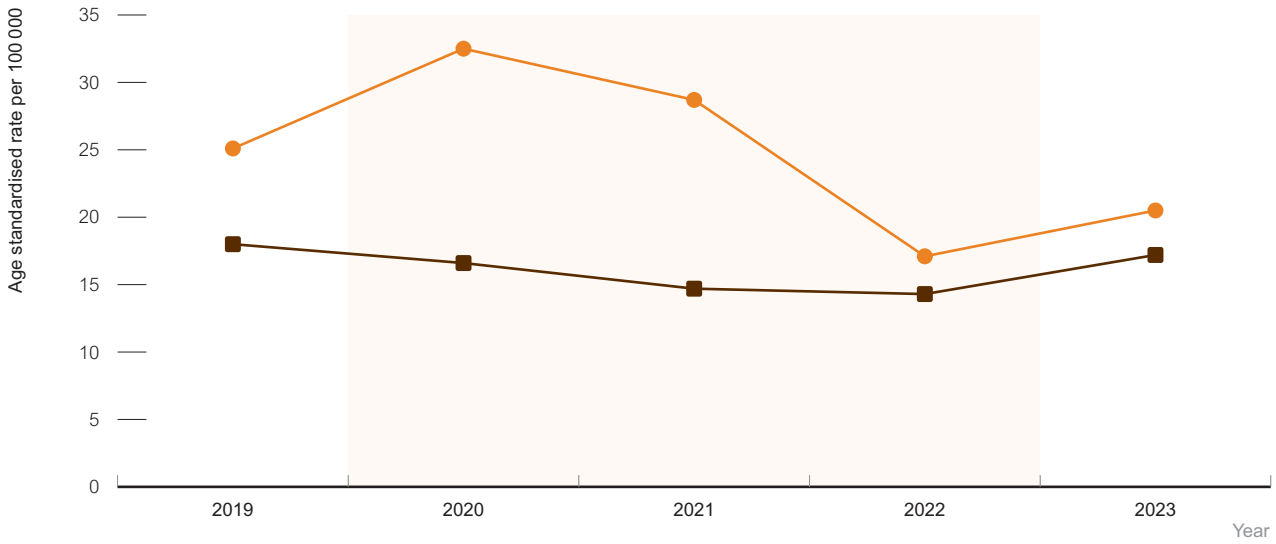
Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

Source: Australian National Notifiable Diseases Surveillance System & The Australian Bureau of Statistics.

The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples is based on data from six jurisdictions (Australian Capital Territory, Northern Territory, Queensland, Tasmania, South Australia, and Western Australia), where Aboriginal and Torres Strait Islander status was reported for at least half of all hepatitis B notifications for each of the five years (2019 – 2023). Approximately 50% of Aboriginal and Torres Strait Islander peoples reside in these jurisdictions, so it is important to note that the notification rates presented below are not necessarily nationally representative.

In 2023, the hepatitis B notification rate was 19% higher among Aboriginal and Torres Strait Islander peoples (20.5 per 100 000) compared with non-Indigenous people (17.2 per 100 000) (Figure 4). Among Aboriginal and Torres Strait Islander peoples in the reported jurisdictions, the notification rate declined by 18% from 25.1 per 100 000 in 2019 to 20.5 per 100 000 in 2023. Over the same period the hepatitis B notification rate among non-Indigenous people fluctuated and was 17.2 per 100 000 in 2023. For further information on hepatitis B notification rates by Aboriginal and Torres Strait Islander status and age, please refer to the Kirby Institute data site and the *Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander peoples: annual surveillance report 2024* [2].

**Figure 4 Hepatitis B notification rate per 100 000 population by Aboriginal and Torres Strait Islander status, 2019 – 2023**




| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Aboriginal and Torres Strait Islander | 25.1 | 32.5 | 28.7 | 17.1 | 20.5 |
| Non-Indigenous | 18.0 | 16.6 | 14.7 | 14.3 | 17.2 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

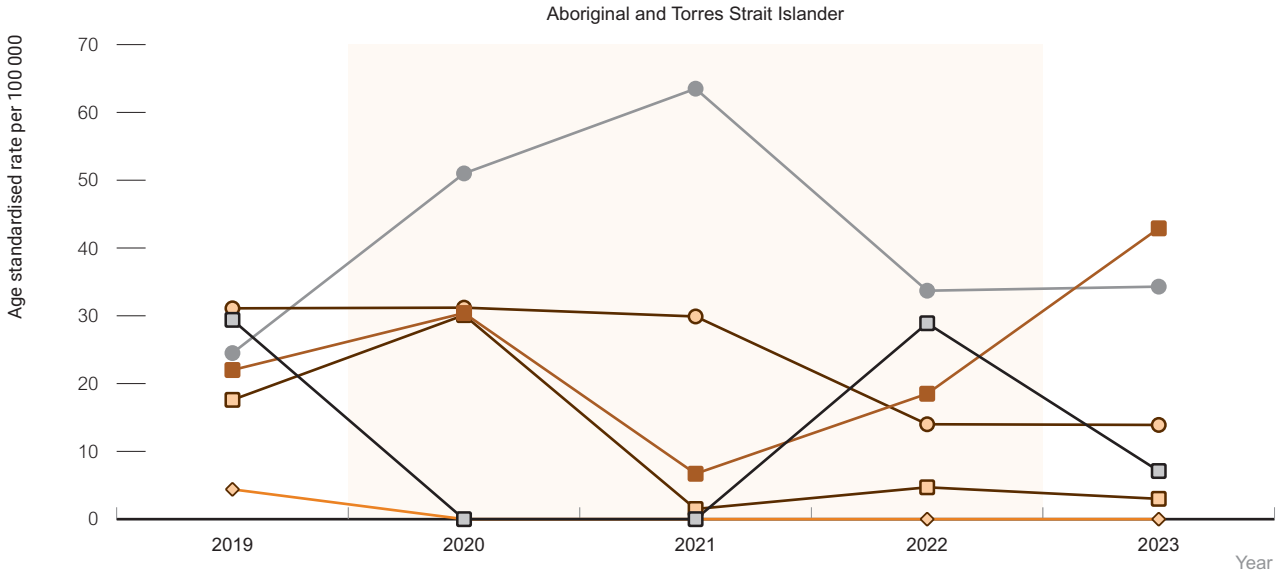
Source: Australian National Notifiable Diseases Surveillance System. Includes jurisdictions in which Aboriginal and Torres Strait Islander status was reported for ≥50% of notifications for each year (Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania, and Western Australia) & The Australian Bureau of Statistics.

## What does this mean?

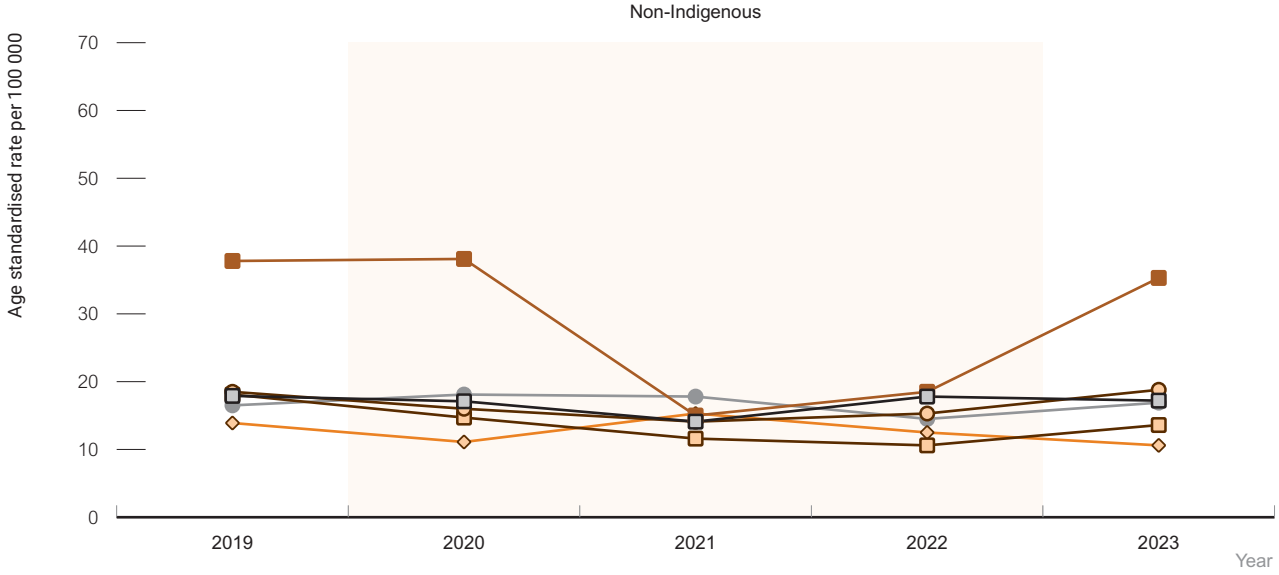
The Hepatitis B diagnosis rate has declined since 2019 among both among Aboriginal and Torres Strait Islander peoples and non-Indigenous people.

Higher rates of newly diagnosed hepatitis B among Aboriginal and Torres Strait Islander populations compared to the non-Indigenous population reflects the higher prevalence of chronic hepatitis B among Aboriginal and Torres Strait Islander peoples. This relates to historical vertical and early childhood transmission, particularly in the pre-vaccine era, with some additional infections through sexual and blood contact in adolescence and adulthood [3]. Aboriginal and Torres Strait Islander peoples also have higher rates of risk factors for adult hepatitis B acquisition which reflect ongoing consequences of colonisation and the Stolen Generation. However, it should be acknowledged that among the jurisdictions reported, the gap between the Aboriginal and Torres Strait Islander notification rate and the non-Indigenous notification rate in 2023 is the smallest in the reporting period. This changing trend may be partly due to high hepatitis B vaccination rates among Aboriginal and Torres Strait Islander peoples (See Hepatitis B prevention).

## Figure 5 Hepatitis B notification rate per 100 000 by state/territory and Aboriginal and Torres Strait Islander status, 2019 – 2023




| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| ACT | 29.4 | 0.0 | 0.0 | 28.9 | 7.1 |
| NT | 22.0 | 30.4 | 6.7 | 18.5 | 42.9 |
| QLD | 31.1 | 31.2 | 29.9 | 14.0 | 13.9 |
| SA | 17.6 | 30.1 | 1.5 | 4.7 | 3.0 |
| TAS | 4.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| WA | 24.5 | 51.0 | 63.5 | 33.7 | 34.3 |



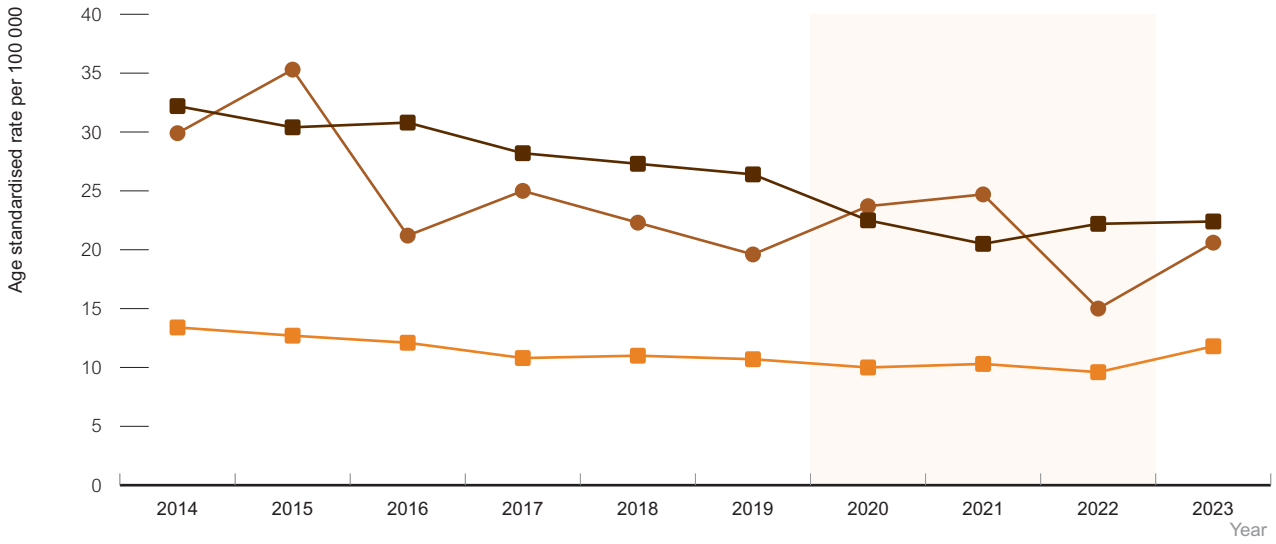

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| ACT | 17.9 | 17.1 | 14.1 | 17.8 | 17.2 |
| NT | 37.8 | 38.1 | 15.0 | 18.5 | 35.3 |
| QLD | 18.5 | 16.0 | 14.1 | 15.3 | 18.8 |
| SA | 18.1 | 14.7 | 11.6 | 10.6 | 13.6 |
| TAS | 13.9 | 11.1 | 15.3 | 12.5 | 10.6 |
| WA | 16.5 | 18.1 | 17.8 | 14.5 | 16.9 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

Source: Australian National Notifiable Diseases Surveillance System. Includes jurisdictions in which Aboriginal and Torres Strait Islander status was reported for ≥50% of notifications for each year (Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania, and Western Australia) & The Australian Bureau of Statistics.

Hepatitis B notification rates were higher in 2023 among people residing in major cities (22.4 per 100 000) than in remote and regional areas (20.6 and 11.8 per 100 000 respectively). Between 2014 and 2023, the hepatitis B notification rate declined by 31% in remote areas and major cities, and 11% in regional areas. The differing rates in decline may relate to a combination of the variation in levels of overseas immigration between areas and the impact of Australian hepatitis B immunisation programs. (Figure 6). These patterns were similar among males and females, with notification rates lowest in regional areas for both genders. Due to small numbers of hepatitis B notifications by Aboriginal and Torres Strait Islander status and state/territory, trends over time should be interpreted with caution. For breakdowns of notification rates by gender and remoteness area please see the Kirby Institute data site.

**Figure 6 Hepatitis B notification rate per 100 000 population by region of residence, 2014 – 2023**




| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| Major cities | 32.2 | 30.4 | 30.8 | 28.2 | 27.3 | 26.4 | 22.5 | 20.5 | 22.2 | 22.4 |
| Regional | 13.4 | 12.7 | 12.1 | 10.8 | 11.0 | 10.7 | 10.0 | 10.3 | 9.6 | 11.8 |
| Remote | 29.9 | 35.3 | 21.2 | 25.0 | 22.3 | 19.6 | 23.7 | 24.7 | 15.0 | 20.6 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

Source Australian National Notifiable Diseases Surveillance System.

# 4 Number of people living with hepatitis B and prevalence

## Number of people living with hepatitis B

Estimates included in this report are derived using a mathematical model for the natural history of hepatitis B in Australia. To ensure estimates most accurately reflect the current epidemiology and clinical pattern of chronic hepatitis B in Australia, data inputs and assumptions are updated annually to incorporate new information. For this reason, historical indicator estimates provided in this report will differ from those in previous reports. These data as well as more detailed data relating to hepatitis B are published as part of the National Surveillance for Hepatitis B Indicators Project and the Viral Hepatitis Mapping Project.

At the end of 2023 there were an estimated 219 800 people living with chronic hepatitis B in Australia. Of those, an estimated 159 576 (73%) were born overseas, 31 489 (14%) were Australian-born non-Indigenous people, and 14 785 (7%) were Aboriginal and/or Torres Strait Islander people (Table 2). People born in Southeast Asia and Northeast Asia, together with Aboriginal and Torres Strait Islander peoples, represent 10% of the Australian population [3], but account for more than half of all people living with chronic hepatitis B in Australia. The estimated proportion of people living with hepatitis B was also higher among people who inject drugs (5998, 3% of people living with chronic hepatitis B) and gay and bisexual men (7952, 4% of people living with chronic hepatitis B). The prevalence estimates among overseas-born Australians reflect the prevalence in the country of their birth, which is particularly high in the Asia-Pacific region (Figure 7).

**Table 2 Estimated number of people living with chronic hepatitis B and estimated prevalence by country of birth, 2023**

| Population | People living with chronic hepatitis B | Proportion of all people living with chronic hepatitis B | Hepatitis B prevalence |
|---|---|---|---|
| Total | 219 800 | 100% | 0.82% |
| Other Australian-born non-Indigenous[a] | 31 489 | 14.30% | 0.19% |
| Born in Northeast Asia | 51 840 | 23.60% | 4.92% |
| Born in Southeast Asia | 49 995 | 22.70% | 3.91% |
| Born in Sub-Saharan Africa | 10 658 | 4.80% | 2.42% |
| Other regions of birth | 47 083 | 21.40% | 0.84% |
| Aboriginal and/or Torres Strait Islander | 14 785 | 6.70% | 1.43% |
| People who inject drugs | 5 998 | 2.70% | 2.39% |
| Gay and bisexual men[b] | 7 952 | 3.60% | 2.10% |

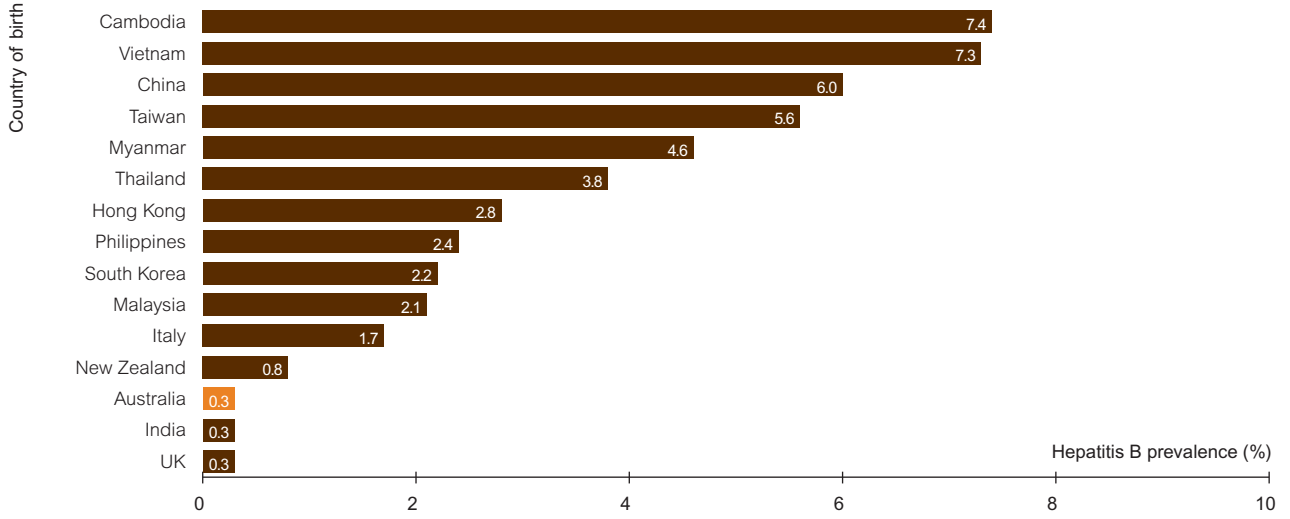
Note: Although people may belong to more than one subgroup, they are allocated only one in the model, due to lack of data about overlapping risks.

a Estimates are for Australian-born non-Indigenous people due to prioritisation of country of birth and Aboriginal and Torres Strait Islander status as risk factors.

b Estimates for this population based on sexual behaviour data from the Second Australian Study of Health and Relationships.

Source: National Viral Hepatitis Mapping Project, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute.

## Figure 7 Estimated prevalence of chronic hepatitis B infection among Australians born overseas by country of birth, 2023

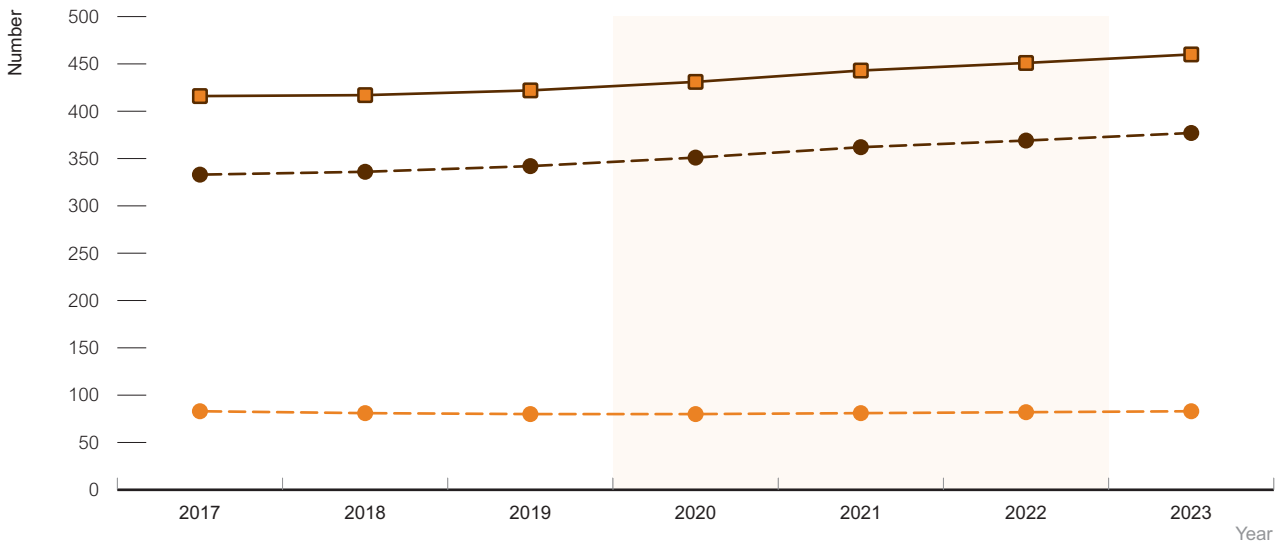



Source: Adjusted Australian antenatal prevalence data [4,5], international population seroprevalence data [6,7], generated by the National Viral Hepatitis Mapping Project, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute.

# Hepatitis B morbidity

The total number of estimated attributable deaths has changed over time, decreasing during the mid-2000s due to the introduction of effective antiviral treatment and the resulting reduction in mortality associated with chronic hepatitis B among people at greatest risk of adverse outcomes. In recent years, the number of deaths has plateaued and started increasing instead of continuing to decrease, in part due to ageing, an increasing population and treatment uptake not increasing sufficiently. There were an estimated 460 deaths attributable to chronic hepatitis B in 2023, with most deaths attributed to hepatocellular carcinoma (377 deaths), compared with decompensated cirrhosis (83 deaths) (Figure 8).

**Figure 8 Estimated number of deaths due to chronic hepatitis B, 2017 – 2023**




| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Deaths due to decompensated cirrhosis | 83 | 81 | 80 | 80 | 81 | 82 | 83 |
| Deaths due to hepatocellular carcinoma | 333 | 336 | 342 | 351 | 362 | 369 | 377 |
| Total deaths | 416 | 417 | 422 | 431 | 443 | 451 | 460 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

Source: National Viral Hepatitis Mapping Project, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute.

There is no comprehensive registry of advanced liver disease related to hepatitis B in Australia. One indicator of the extent of liver disease caused by hepatitis B is the number of liver transplants due to chronic hepatitis B infection. Of the 236 liver transplants in 2023, 6 (3%) were attributable to chronic hepatitis B infection. Many factors influence the selection of candidates for transplant, and the numbers may not necessarily reflect the overall morbidity and mortality attributable to individual causes of liver disease. For detailed information relating to chronic hepatitis B among liver transplant patients, please see the Kirby Institute data site.

# 5 Hepatitis B testing and care

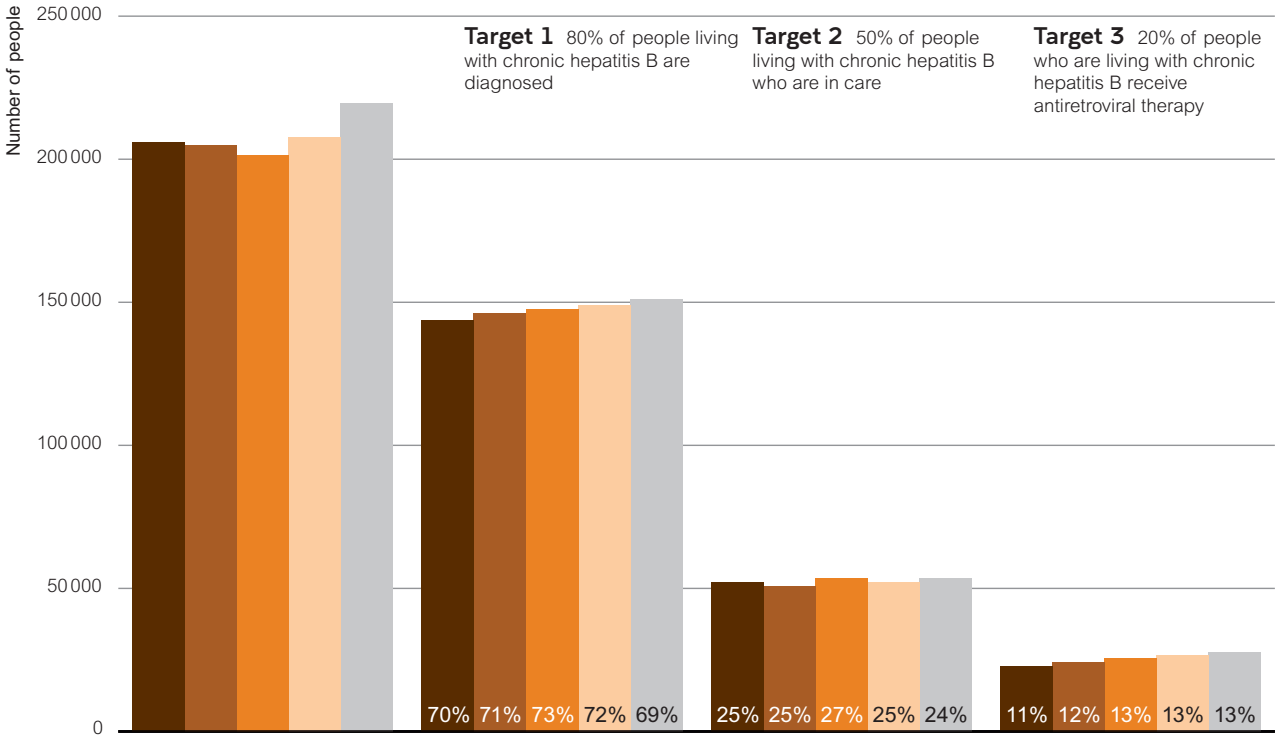
## The hepatitis B diagnosis and care cascade

This section includes the hepatitis B diagnosis and care cascade, which estimates the number of people living with chronic hepatitis B infection in Australia, number diagnosed, number retained in care and number receiving antiviral treatment.

These estimates are produced by the WHO Collaborating Centre for Viral Hepatitis at the Doherty Institute and are intended to support improvements in the delivery of services to people with hepatitis B infection. Proportions of people in each stage of the cascade in Australia were estimated using mathematical modelling, notifications, and Medicare data. The approach was informed by recommendations from a national stakeholder reference group (see Methodology for further detail).

At the end of 2023, an estimated 219 800 people were living with chronic hepatitis B in Australia. Of those, an estimated 151 161 (68.8%) were diagnosed, 53 765 (24.5% of those living with chronic infection) received care (viral load monitoring or received antiviral therapy), and 27 641 (12.6% of those living with chronic infection) received antiviral therapy (Figure 9). Of those living with chronic hepatitis B, 37 420 eligible people did not receive antiviral treatment (data not shown).

**Figure 9 The hepatitis B diagnosis and care cascade, 2019 – 2023**




| | Living with hepatitis B infection | Diagnosed with hepatitis B infection | Receiving care | Received treatment |
|---|---|---|---|---|
| 2019 | 205 898 | 143 754 | 52 105 | 23 019 |
| 2020 | 204 913 | 146 122 | 50 978 | 24 300 |
| 2020 | 201 609 | 147 726 | 53 516 | 25 724 |
| 2021 | 207 750 | 149 083 | 52 352 | 26 617 |
| 2023 | 219 800 | 151 161 | 53 765 | 27 641 |

Note: Due to updated modelling methods, estimates may be different from figures presented in previous years of reporting.

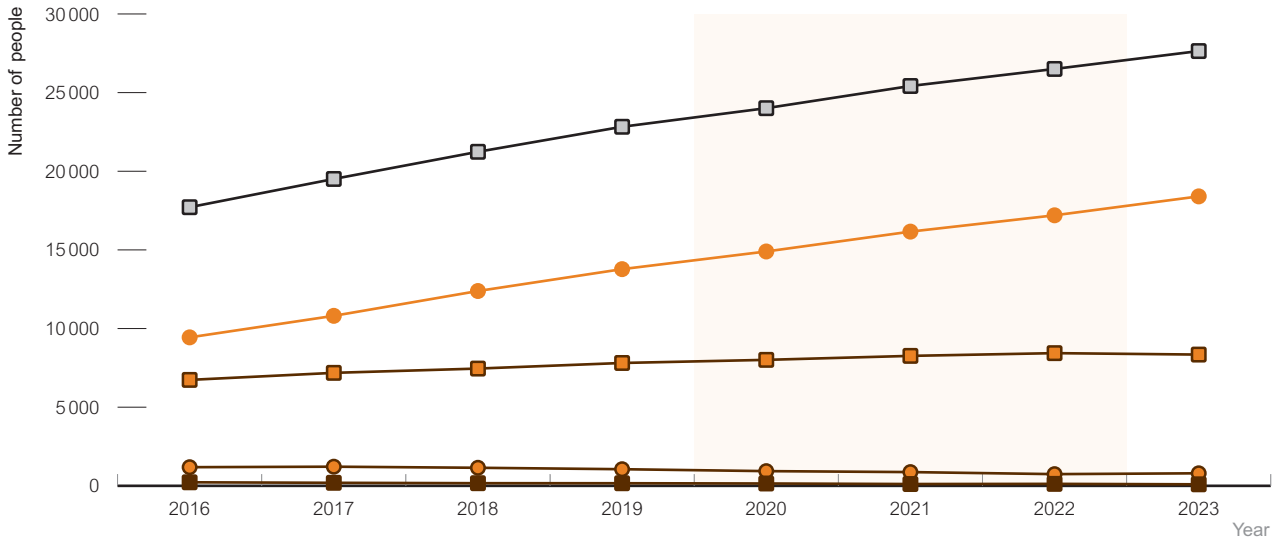
Source: National Surveillance for Hepatitis B Indicators Project, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute.

# Hepatitis B treatment

While treatment for hepatitis B is not curative, it can reduce morbidity and mortality associated with infection. Treatment controls viral replication and resulting liver damage, which profoundly reduces progression to advanced liver disease and hepatocellular carcinoma. In general, people who are chronically infected but do not have any signs of significant viral replication or active liver damage do not need treatment. However, it is important to closely monitor liver health with regular (at least annual) liver function tests, liver fibrosis assessment, and quantitative viral DNA tests. Treatment for hepatitis B should be considered for people with elevated hepatitis B viral load, abnormal liver function tests, or significant liver fibrosis.

From the start of 2017 to the end of 2023, there was a 56% increase in the number of people who were dispensed hepatitis B antiviral treatment, from 17 714 to 27 641 (Figure 10). However, the population of people living with chronic hepatitis B has also grown in recent years (see The hepatitis B diagnosis and care cascade), and the proportion of people on treatment remains substantially below the target level (see Figure 9). Of people who received hepatitis B antiviral treatments in 2020, 67% received entecavir, and 30% received tenofovir (Figure 10).

**Figure 10 Number of people dispensed antiviral drugs for hepatitis B, 2016 – 2023, by drug type**




| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| adefovir | 225 | 193 | 168 | 165 | 149 | 115 | 125 | 97 |
| entecavir | 9 439 | 10 808 | 12 386 | 13 776 | 14 899 | 16 162 | 17 199 | 18 402 |
| lamivudine (hep B) | 1 185 | 1 217 | 1 148 | 1 057 | 935 | 874 | 744 | 797 |
| tenofovir | 6 735 | 7 183 | 7 455 | 7 811 | 8 009 | 8 262 | 8 436 | 8 345 |
| any drug | 17 714 | 19 510 | 21 237 | 22 828 | 24 010 | 25 420 | 26 504 | 27 641 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.
Patients on telbivudine and interferonalfa-2b are excluded; there were no more than 35 for in any year. Excludes temporary residents who are ineligible for Medicare. See Methodology for detail.

Source: Pharmaceutical Benefits Scheme data, generated by the National Viral Hepatitis Mapping Project, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute.

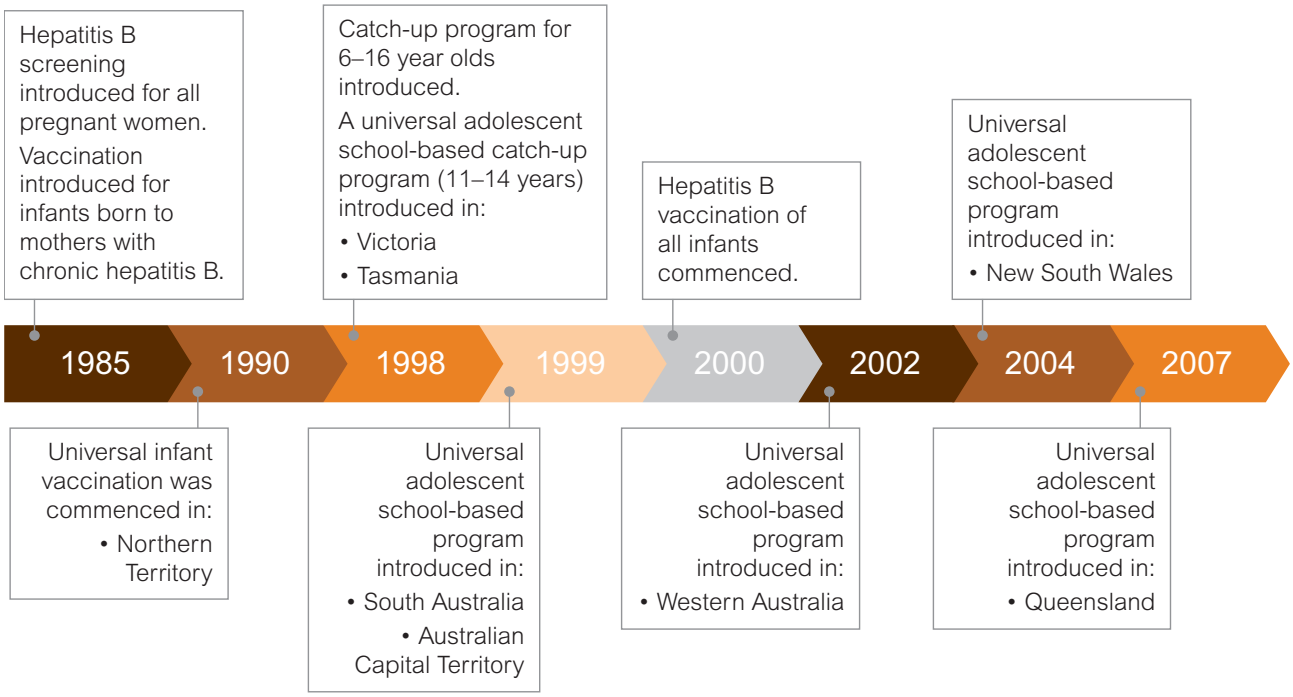
# 6 Hepatitis B prevention

Vaccination is the cornerstone of hepatitis B primary prevention. Other strategies to protect people from acquiring hepatitis B infection include use of sterile needles and syringes and ancillary equipment among people who inject drugs, condom use, universal precautions in healthcare settings, monitoring of pregnant women living with chronic hepatitis B and their babies, and screening of blood donors [8]. Secondary prevention strategies to reduce the risk of progression to hepatocellular carcinoma include improving access to diagnosis, monitoring, and antiviral treatment for those with evidence of active liver disease. Data regarding the uptake of this treatment will be presented in forthcoming reporting.

## Hepatitis B vaccination

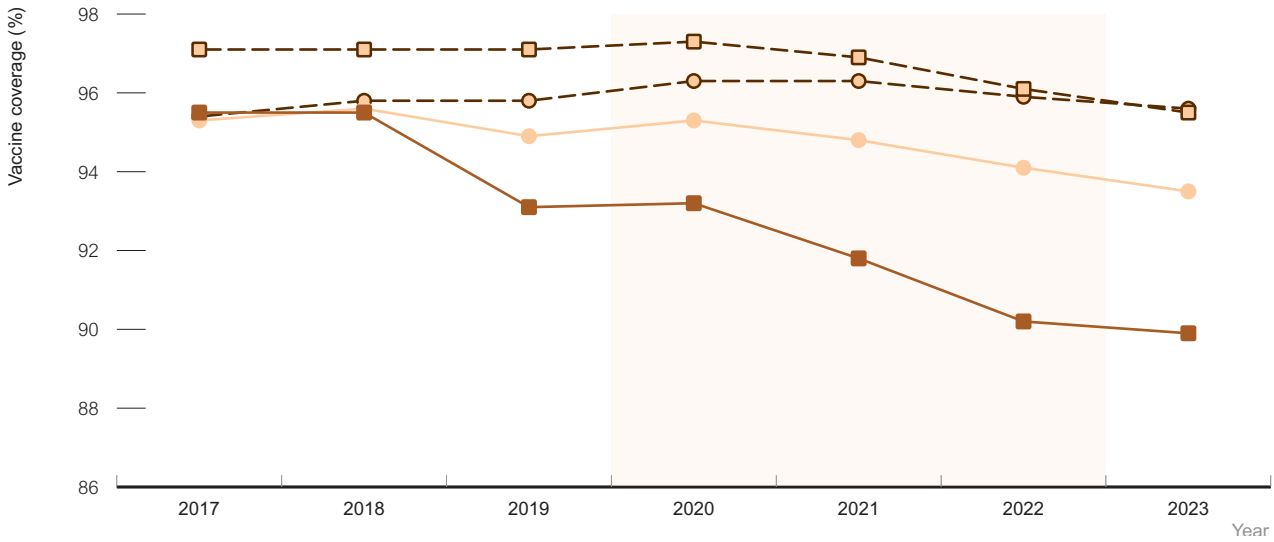
Patterns of hepatitis B infection in Australia should be interpreted with knowledge of the history of hepatitis B immunisation programs. In the Northern Territory, hepatitis B screening was introduced for all pregnant women and vaccination to infants born to mothers living with chronic infection in 1985; universal infant vaccination was implemented in 1990, and a catch-up program for children aged 6 to 16 years was introduced in 1998. In other states and territories, hepatitis B vaccination of all infants commenced in 2000, and a universal adolescent (children aged 11 to 14 years) school-based hepatitis B vaccination catch-up program commenced in 1998 in Victoria and Tasmania, in 1999 in South Australia and the Australian Capital Territory, in 2002 in Western Australia, in 2004 in New South Wales, and in 2007 in Queensland (Figure 10) [9].

**Figure 11 Roll-out of hepatitis B vaccination in Australia, by year**




Between 2017 and 2023, hepatitis B vaccination coverage rates for non-Indigenous children aged 12 months remained high in Australia, between 94.1% and 95.6% (Figure 12). Among Aboriginal and Torres Strait Islander children aged 12 months, the vaccination coverage rate declined from 95.5% in 2017 to 89.9% in 2023. Among non-Indigenous children and Aboriginal and Torres Strait Islander children aged 24 months, vaccination coverage rates remained over 95% between 2017 and 2023, reaching 95.6% and 95.5% in 2023 for both populations, respectively (Figure 12). Overall vaccination coverage rates have declined since 2020. The National Vaccination Insights Project has been established to gain insights into barriers to completing vaccination schedules and inform the development of strategies to improve vaccination uptake.

## Figure 12 Hepatitis B vaccination coverage estimates at 12 and 24 months by Aboriginal and Torres Strait Islander status, 2017 – 2023




| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| Aboriginal and Torres Strait Islander 12 months (%) | 95.5 | 95.5 | 93.1 | 93.2 | 91.8 | 90.2 | 89.9 |
| Aboriginal and Torres Strait Islander 24 months (%) | 97.1 | 97.1 | 97.1 | 97.3 | 96.9 | 96.1 | 95.5 |
| Non-Indigenous 12 months (%) | 95.3 | 95.6 | 94.9 | 95.3 | 94.8 | 94.1 | 93.5 |
| Non-Indigenous 24 months (%) | 95.4 | 95.8 | 95.8 | 96.3 | 96.3 | 95.9 | 95.6 |

Note: The shaded section of the chart indicates the years most affected by the COVID-19 pandemic, 2020 – 2022.

Source: National Centre for Immunisation Research and Surveillance Australia; see Methodology for detail.

### What does this mean?

The hepatitis B vaccination rate has declined among Aboriginal and Torres Strait Islander infants aged 12 months since 2017, particularly among infants aged 12 months.

# References


1. MacLachlan J, Allard N, Carville K, Haynes K, Cowie B. Mapping progress in chronic hepatitis B: geographic variation in prevalence, diagnosis, monitoring and treatment, 2013-15. Aust N Z J Public Health. 2018 Feb;42(1):62–8.
2. Naruka E, Miller A, Thomas J, McGregor S, Monaghan R. Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people Annual Surveillance Report 2024. Sydney, Australia: Kirby Institute, UNSW Sydney; 2024.
3. Graham S, MacLachlan JH, Gunaratnam P, Cowie BC. Chronic hepatitis B prevalence in Australian Aboriginal and Torres Strait Islander people before and after implementing a universal vaccination program: a systematic review and meta-analysis. Sex Health. 2019 Jun;16(3):201–11.
4. Reekie J, Gidding HF, Kaldor JM, Liu B. Country of birth and other factors associated with hepatitis B prevalence in a population with high levels of immigration. Journal of Gastroenterology and Hepatology. 2013 Sep;28(9):1539–44.
5. He WQ, Duong MC, Gidding H, MacLachlan J, Wood J, Kaldor JM, et al. Trends in chronic hepatitis B prevalence in Australian women by country of birth, 2000 to 2016. Journal of Viral Hepatitis. 2020;27(1):74–80.
6. Schweitzer A. Worldwide prevalence of chronic hepatitis B virus infection: estimations based on a systematic review of data published between 1965 and 2013. The Lancet. 2015;online.
7. Kowdley KV, Wang CC, Welch S, Roberts H, Brosgart CL. Prevalence of chronic hepatitis B among foreign-born persons living in the United States by country of origin. Hepatology. 2012 Aug;56(2):422–33.
8. World Health Organization. Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection. Geneva: WHO; 2015.
9. National Centre for Immunisation Research and Surveillance. Significant events in hepatitis B vaccination practice in Australia. Sydney: NCIRS; 2015.