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HIV, viral hepatitis and sexually transmissible infections in Australia Annual surveillance report 2022

Hepatitis B

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HIV, viral hepatitis and sexually transmissible infections in Australia
Annual surveillance report 2022

Kirby Institute, UNSW Sydney

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Hepatitis B

The years for comparison in this report are from 2012 to 2021 unless focus is given to the impact of the COVID-19 epidemic, where the years for comparison are 2012 to 2019, and 2019 and 2021.

1 Summary data

New hepatitis B notifications

- In 2021, there were a total of 4732 hepatitis B notifications in Australia, with 2541 (54%) among males and 2173 (46%) among females.
- The hepatitis B notification rate declined by 17% between 2012 and 2019, from 27.8 to 23.0 per 100 000. The hepatitis B notification rate declined a further 20% between 2019 and 2021 and was 18.4 per 100 000 in 2021. 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, and travel during 2020 and 2021.
- Compared to other age groups, the hepatitis B notification rate in 2021 was highest among those aged 35 to 39 years (36.5 per 100 000) and those aged 30 to 34 years (34.1 per 100 000). The rate declined among younger age groups between 2012 and 2021 (77% among people aged 0 to 14 years, 75% among those aged 15 to 19 years, 67% among those aged 20 to 24 years, and 66% among those aged 25 to 29 years). Declines were also seen among those aged 30 to 34 years (48%), 35 to 39 years (25%), with a smaller decline among those aged 40 years and older (7%). The overall trends by age group during 2016 -2019 reflect the impact of hepatitis B vaccination programs, while the declines to 2021 also reflect the COVID-19 pandemic and related disruptions.
- The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples fluctuated between 2017 and 2021 and was 31.0 per 100 000 in 2021.
- The hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples was more than twice as high as the non-Indigenous population in 2021 (31.0 and 14.7 per 100 000, respectively).

Prevalence and morbidity

- According to modelled estimates, there were an estimated 200 385 people living with chronic hepatitis B in Australia at the end of 2021, of whom an estimated 45 994 (23%) were born in Northeast Asia and 45 125 (23%) were born in Southeast Asia, 13 463 (7%) were Aboriginal and/or Torres Strait Islander people and 32 297 (16%) were Australian-born non-Indigenous people.
- The estimated chronic hepatitis B prevalence was 5% among people living in Australia who were born in Northeast Asia, 4% among people born in Southeast Asia, 2% among Aboriginal and/or Torres Strait Islander people, 3% among people who inject drugs, and 4% among gay and bisexual men.
- An estimated 453 deaths attributable to chronic hepatitis B infection occurred in 2021.

Testing and care

- According to modelled estimates, in 2021, an estimated 73% (145 281) of people living with chronic hepatitis B in Australia had been diagnosed, and of those, an estimated 26% (52 789) were receiving regular clinical care (viral load monitoring or treatment). 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 is recommended for a proportion of patients who meet specific criteria for treatment based on clinical stage. In 2021, 13% (25 410) of people living with chronic hepatitis B were estimated to be receiving antiviral therapy.

Prevention

- In 2021 coverage of infant hepatitis B vaccination at 12 months of age was 92% among Aboriginal and Torres Strait Islander peoples and 95% among the non-Indigenous population, reaching 97% and 96% by 24 months of age, respectively.

2 Interpretation

Hepatitis B among adolescents and adults in Australia is transmitted through a variety of pathways, including injecting drug use and sexual contact. However, most people living with chronic hepatitis B in Australia were born overseas and acquired hepatitis B at birth or in early childhood and so hepatitis B notifications reflect trends in both incidence of new infection and testing for those with chronic infection. Between 2019 and 2021, there were reductions in testing, diagnosis, and monitoring of hepatitis B, likely due to the ongoing COVID-19 pandemic.

Between 2012 and 2021, age-specific notification rates for both overall and newly acquired hepatitis B declined among age groups (under 35 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). There have also been vaccination programs introduced in countries that many Australian migrants emigrate from which has led to a lower hepatitis B prevalence among recent migrants to Australia. Maternal screening and vaccination of infants born to women with hepatitis B are also likely to have contributed to this decline.

Of the people living with chronic hepatitis B in Australia in 2021, an estimated 27% remained undiagnosed. Of the people living with chronic hepatitis B, an estimated 26% were receiving care and 13% were receiving treatment. These data suggest an ongoing substantial gap in both the uptake of testing to diagnose chronic hepatitis B, and the uptake of monitoring and treatment to prevent morbidity and mortality. There is a need to strengthen strategies to ensure progress in all these areas.

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 of diagnosis) and unspecified (those without evidence of being newly acquired).

There were 4732 hepatitis B notifications in Australia in 2021. Of these, 156 (3%) were among Aboriginal and Torres Strait Islander peoples, 2526 (53%) were among non-Indigenous people, and there were a further 2050 (43%) notifications for which Aboriginal and Torres Strait Islander status was not reported.

In 2021, just over half (54%, 2541) of hepatitis B notifications were among males, 58% (2739) were among people aged 25 years and above, and 82% (3899) were among people residing in major cities. Of the 4732 hepatitis B notifications in 2021, the vast majority (98%, 4652) were reported as unspecified (without evidence of recent infection), probably representing chronic hepatitis B infection, and only 80 (2%) were reported as newly acquired (Table 1).

Table 1 Characteristics of hepatitis B notifications, 2012–2021

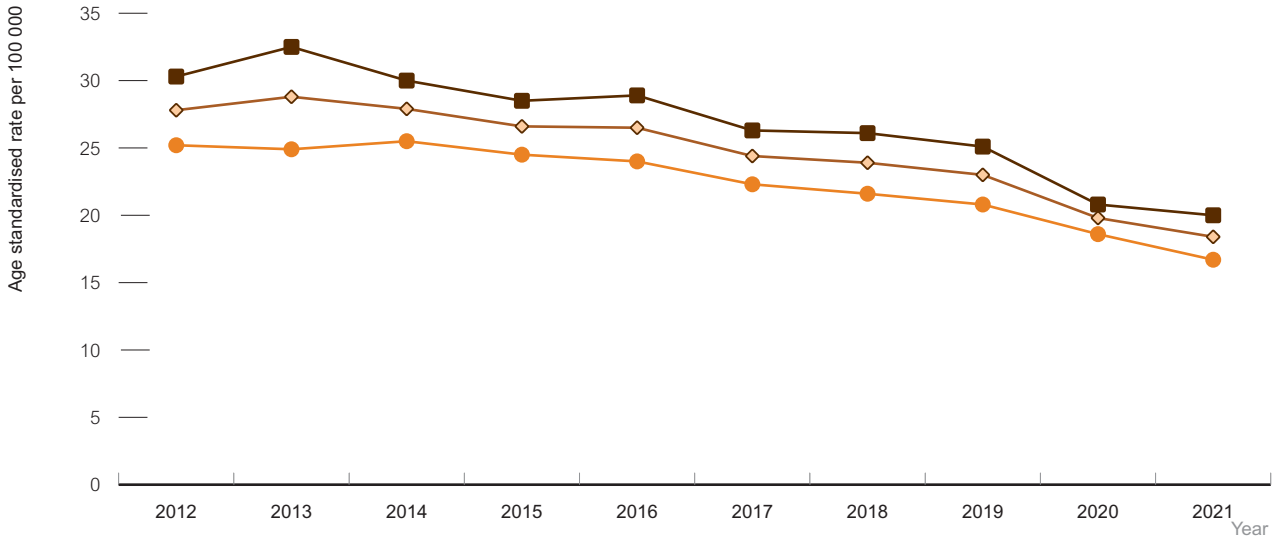
	Year of diagnosis									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Characteristic										
Total cases	6503	6962	6489	6287	6330	5974	5940	5800	5087	4732
Gender										
Male	3638	4044	3474	3352	3421	3200	3202	3122	2643	2541
Female	2840	2889	2980	2913	2882	2754	2711	2653	2424	2173
Missing	25	29	35	22	27	20	27	25	20	18
Age group										
0–14	84	90	76	68	81	49	40	49	24	20
15–19	250	310	163	147	171	118	99	112	67	49
20–24	628	657	514	448	414	374	359	315	255	195
25–29	1129	1105	1013	989	855	813	774	667	474	400
30–34	1076	1175	1134	1071	1090	1003	940	972	756	647
35–39	776	866	841	795	909	820	867	878	787	682
40+	2558	2759	2748	2768	2809	2797	2861	2807	2723	2739
Missing age	2	0	0	1	1	0	0	0	1	0
Aboriginal and Torres Strait Islander status										
Aboriginal and/or Torres Strait Islander	218	232	199	249	190	169	162	147	159	156
Non-Indigenous	3289	3580	3253	3048	3475	3485	3625	3387	2765	2526
Not reported	2996	3150	3037	2990	2665	2320	2153	2266	2163	2050
Newly acquired[a]	195	174	178	148	170	146	137	162	124	80
Area of residence										
Major cities	5256	5394	5493	5293	5426	5093	5016	4928	4289	3899
Regional	747	882	741	731	697	628	635	628	586	611
Remote	397	539	145	154	93	106	102	91	108	112
Not reported	103	147	110	109	114	147	187	153	104	110
State/Territory										
ACT	107	112	97	83	89	87	85	85	79	71
NSW	2290	2452	2469	2269	2265	2237	2351	2174	1945	1744
NT	196	331	153	161	109	101	85	83	89	31
QLD	785	863	942	1033	1051	912	860	947	847	754
SA	402	331	371	343	318	293	271	303	265	198
TAS	70	58	60	41	40	43	43	66	57	76
VIC	1828	1843	1761	1783	1796	1764	1749	1690	1283	1311
WA	825	972	636	574	662	537	496	452	522	547

a Newly acquired hepatitis B is defined as newly diagnosed hepatitis B infection with laboratory or clinical 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 17%, from 27.8 per 100 000 in 2012 to 23.0 per 100 000 in 2019. Between 2019 and 2021, the hepatitis B notification rate declined by 20% from 23.0 to 18.4 per 100 000 and was likely due in part to the impacts of the COVID-19 pandemic. Notification rates have been consistently higher among males than females, and were 20.0 and 16.7 per 100 000 in 2021, respectively (Figure 1).

Figure 1 Hepatitis B notification rate per 100 000 population by gender, 2012–2021



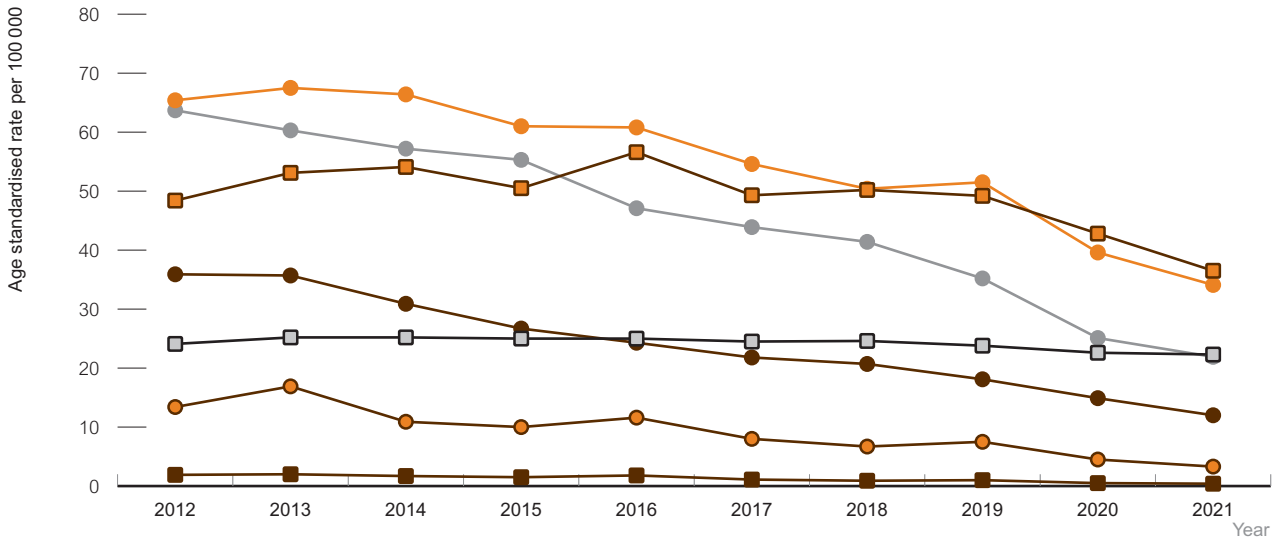
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Males	30.3	32.5	30.0	28.5	28.9	26.3	26.1	25.1	20.8	20.0
Females	25.2	24.9	25.5	24.5	24.0	22.3	21.6	20.8	18.6	16.7
Total	27.8	28.8	27.9	26.6	26.5	24.4	23.9	23.0	19.8	18.4

Source: Australian National Notifiable Diseases Surveillance System.

Declines in the hepatitis B notification rate were seen among all age groups between 2019 and 2021, likely due to the impacts of the COVID-19 pandemic in addition to the impacts of hepatitis B vaccination programs in Australia and overseas [1]. In 2021, the highest notification rates were seen among those aged 35 to 39 years (36.5 per 100 000), 30 to 34 years (34.1 per 100 000), and those aged 40 years and older (22.3 per 100 000).

Between 2012 and 2019, hepatitis B notification rates declined among all age groups with the greatest declines seen among the younger age groups. A decline of 44% was seen among those aged 0 to 14 years (from 1.9 to 1.0 per 100 000), 44% among those aged 15 to 19 years (from 13.4 to 7.5 per 100 000), 50% among those aged 20 to 24 years (from 35.9 to 18.1 per 100 000), 45% among those aged 25 to 29 years (from 63.7 to 35.2 per 100 000), and 21% among those aged 30 to 34 years (from 65.4 to 51.5 per 100 000) (Figure 2). In the same period, the notification rate remained relatively stable among those aged 35 to 39 years (between 48.4 and 56.6 per 100 000) and those aged 40 years and older (between 23.8 and 25.5 per 100 000). 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).

Figure 2 Hepatitis B notification rate per 100 000 population by age group, 2012–2021



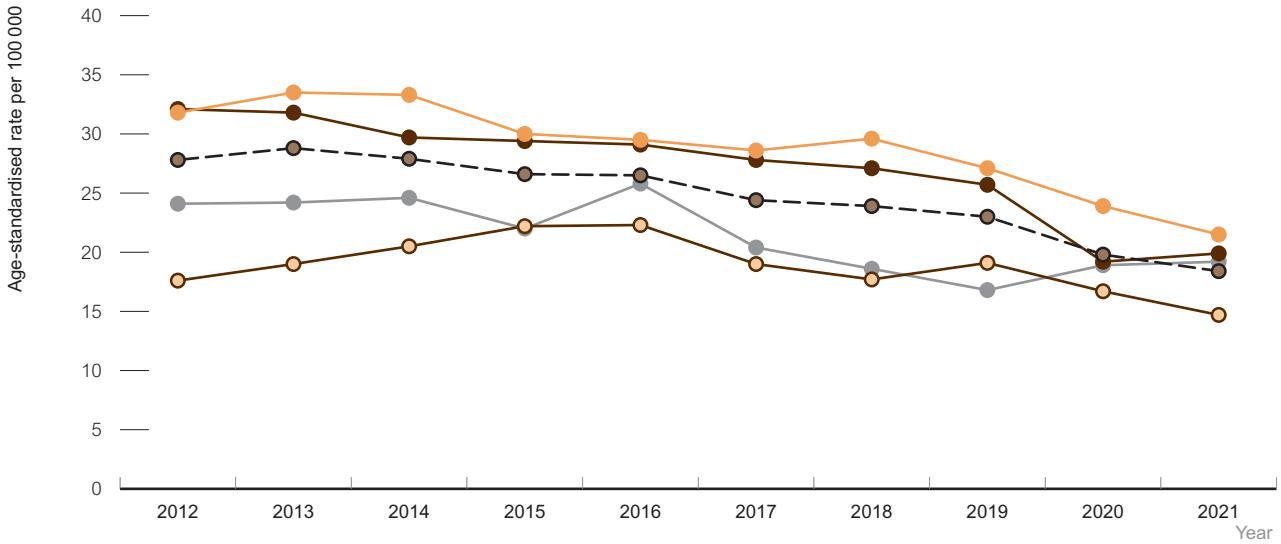
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0–14	1.9	2.0	1.7	1.5	1.8	1.1	0.9	1.0	0.5	0.4
15–19	13.4	16.9	10.9	10.0	11.6	8.0	6.7	7.5	4.5	3.3
20–24	35.9	35.7	30.9	26.7	24.3	21.8	20.7	18.1	14.9	12.0
25–29	63.7	60.3	57.2	55.3	47.1	43.9	41.4	35.2	25.1	21.9
30–34	65.4	67.5	66.4	61.0	60.8	54.6	50.4	51.5	39.6	34.1
35–39	48.4	53.1	54.1	50.5	56.6	49.3	50.2	49.2	42.8	36.5
40+	24.1	25.2	25.2	25.0	25.0	24.5	24.6	23.8	22.6	22.3

Source: Australian National Notifiable Diseases Surveillance System.

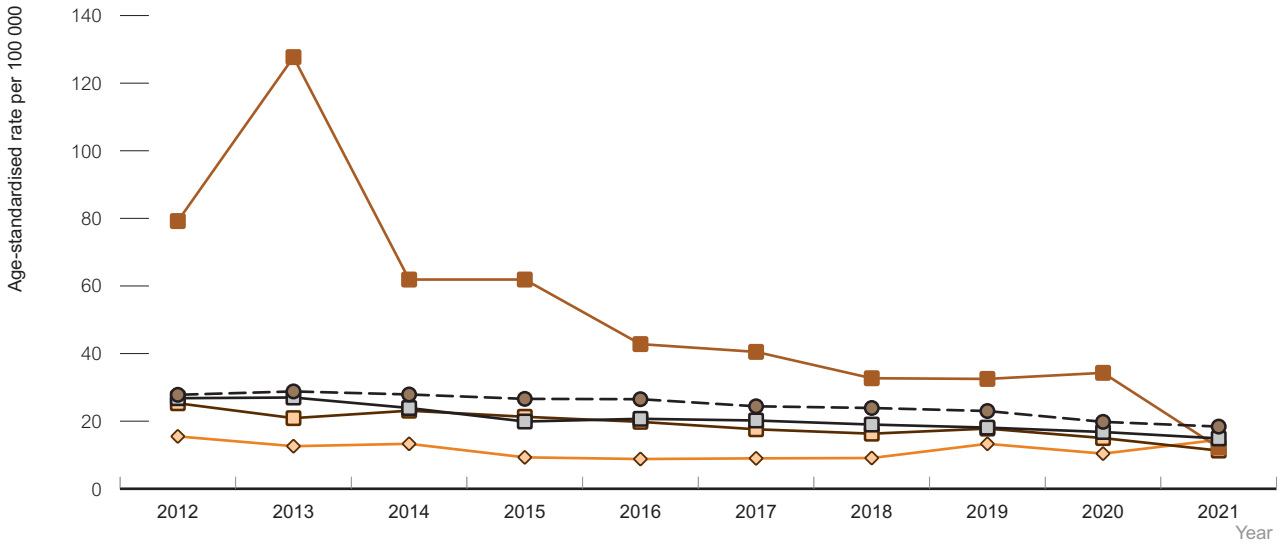
Notification rates among males and females declined across all age groups between 2012 and 2021 with the greatest declines seen among the younger age groups. Among those aged 0 to 14 years, notification rates decreased by 78% among males and 71% among females, (from 16.3 to 3.5 per 100 000 and from 10.4 to 3.1 per 100 000, respectively). Similarly, among those aged 0 to 14 years rates declined by 76% among males and 79% among females. Detailed breakdowns of notification rates by gender and age are available on the Kirby Institute data site.

The hepatitis B notification rate in Australia has consistently been highest in the Northern Territory but fell by 59% between 2012 and 2019 (from 79.2 to 32.5 per 100 000 in 2019), and a further 62% between 2019 to 2021 (from 32.5 to 12.2 per 100 000). Declines between 2012 and 2021 were also observed in other jurisdictions with 55% in South Australia, 44% in the Australian Capital Territory, 38% in Victoria, 32% in New South Wales, 20% in Western Australia, and 17% in Queensland (Figure 3).

Figure 3 Hepatitis B notification rate per 100 000 population by state/territory, 2012–2021



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NSW	31.8	33.5	33.3	30.0	29.5	28.6	29.6	27.1	23.9	21.5
QLD	17.6	19.0	20.5	22.2	22.3	19.0	17.7	19.1	16.7	14.7
VIC	32.1	31.8	29.7	29.4	29.1	27.8	27.1	25.7	19.2	19.9
WA	24.1	24.2	24.6	22.0	25.8	20.4	18.6	16.8	18.9	19.2
Australia	27.8	28.8	27.9	26.6	26.5	24.4	23.9	23.0	19.8	18.4



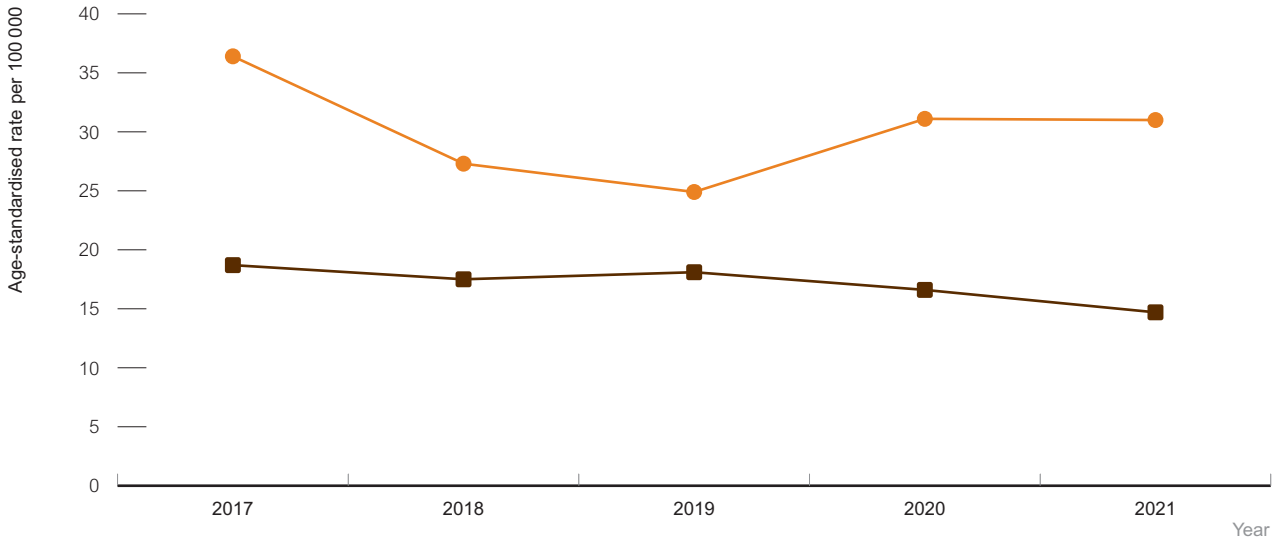
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ACT	26.8	27.0	23.9	19.9	20.7	20.2	19.0	18.1	16.8	14.9
NT	79.2	127.7	61.9	61.9	42.8	40.5	32.7	32.5	34.3	12.2
SA	25.3	20.9	23.1	21.3	19.8	17.6	16.3	17.8	15.0	11.3
TAS	15.5	12.6	13.3	9.3	8.8	9.0	9.1	13.3	10.4	14.5
Australia	27.8	28.8	27.9	26.6	26.5	24.4	23.9	23.0	19.8	18.4

Source: National Notifiable Diseases Surveillance System

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 (2017–2021). Approximately 60% of Aboriginal/or and Torres Strait Islander peoples reside in these jurisdictions, so it is important to note that the notification rates are not necessarily nationally representative.

In 2021, the hepatitis B notification rate among Aboriginal and Torres Strait Islander peoples in these jurisdictions was more than twice as high compared with the non-Indigenous population (31.0 per 100 000 compared with 14.7 per 100 000) (Figure 4). Among Aboriginal and Torres Strait Islander peoples in the reported jurisdictions, the rate fluctuated between 2017 and 2021. By comparison, among non-Indigenous people, the notification rate decreased by 21% from 18.7 per 100 000 in 2017 to 14.7 per 100 000 in 2021. 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 *Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: annual surveillance report 2022* [2].

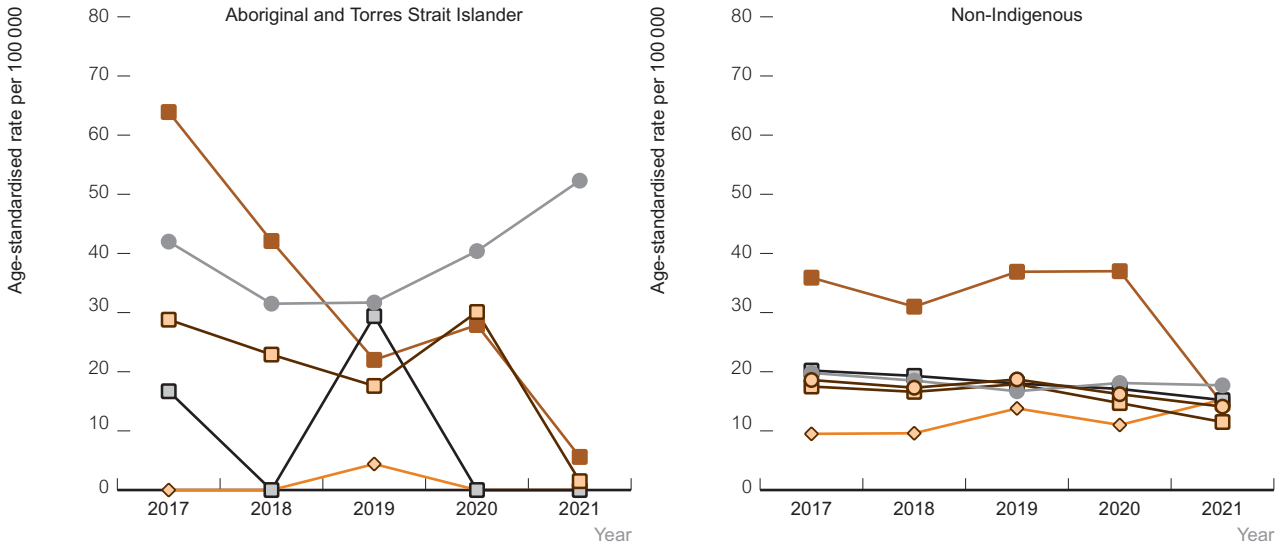
Figure 4 Hepatitis B notification rate per 100 000 population by Aboriginal and Torres Strait Islander status, 2017–2021



	2017	2018	2019	2020	2021
Non-Indigenous	18.7	17.5	18.1	16.6	14.7
Aboriginal and Torres Strait Islander	36.4	27.3	24.9	31.1	31.0

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).

Figure 5 Hepatitis B notification rate per 100 000 by state/territory and Aboriginal and Torres Strait Islander status, 2017–2021



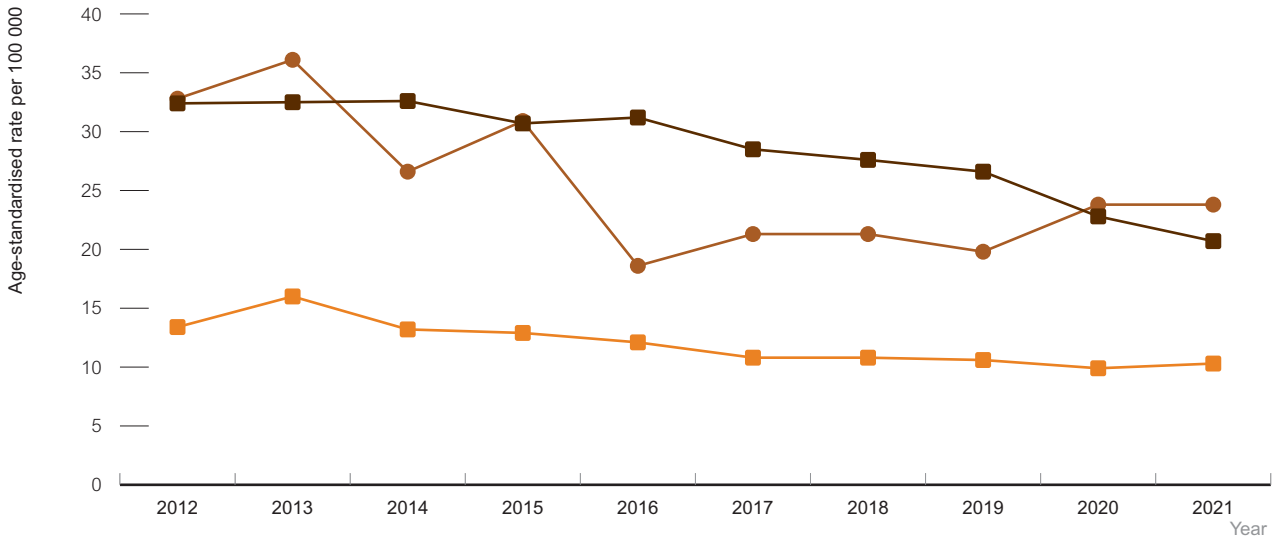
	Aboriginal and Torres Strait Islander					Non-Indigenous				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
ACT	16.7	0.0	29.4	0.0	0.0	20.2	19.3	18.0	17.1	15.2
NT	63.9	42.1	22.0	27.9	5.6	35.9	31.0	36.9	37.0	14.6
QLD	29.8	28.9	29.1	30.2	32.7	18.6	17.3	18.7	16.2	14.1
SA	28.8	22.9	17.6	30.1	1.5	17.5	16.6	17.9	14.7	11.5
TAS	0.0	0.0	4.4	0.0	0.0	9.5	9.6	13.8	11.0	15.3
WA	49.0	23.2	28.8	48.9	71.2	19.8	18.5	16.7	18.1	17.7

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

The higher rates of newly diagnosed hepatitis B among Aboriginal and Torres Strait Islander populations than among 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, including receptive syringe sharing among people who inject drugs. (See above under Hepatitis B prevention, p. 16.)

Hepatitis B notification rates were higher in 2021 among people residing in major cities and remote areas (20.7 and 23.8 per 100 000, respectively) than in regional areas (10.3 per 100 000). This trend has been consistent since 2012, and likely relates to higher proportions of people born overseas and Aboriginal and Torres Strait Islander peoples living in major cities and remote areas, respectively. Rates over the past 10 years (2012–2021) have declined in major cities by 36% from 32.4 to 20.7 per 100 000, 27% in remote areas, from 32.8 to 23.8 per 100 000 and 23% in regional areas from 13.4 to 10.3 per 100 000 (Figure 6). The pattern was similar among males and females, with notification rates lowest in regional areas for both genders. 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, 2012–2021



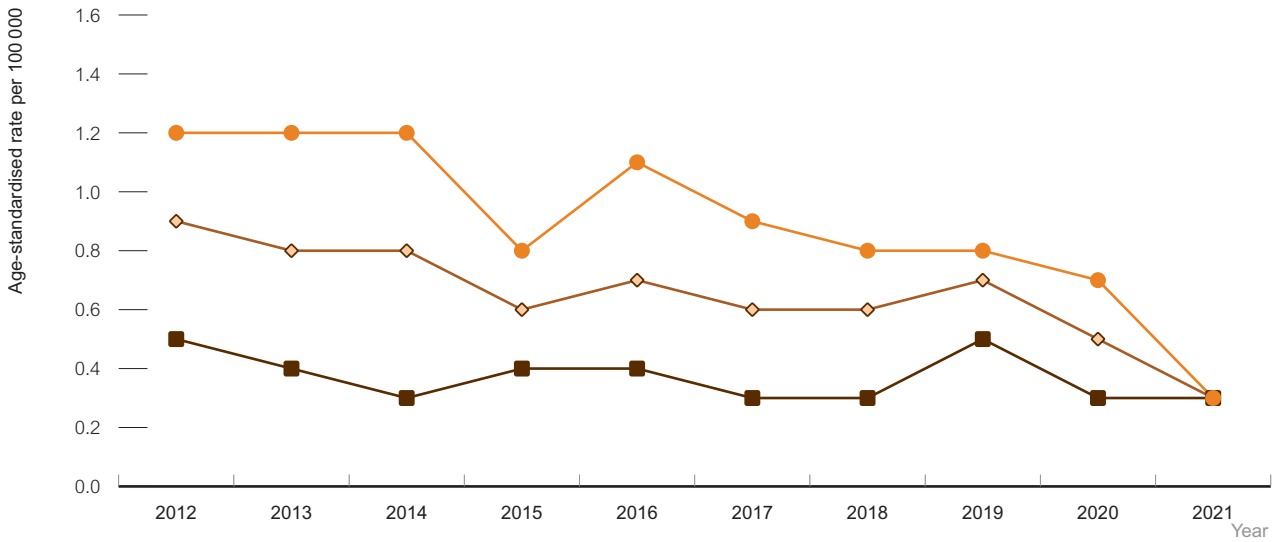
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major cities	32.4	32.5	32.6	30.7	31.2	28.5	27.6	26.6	22.8	20.7
Regional	13.4	16.0	13.2	12.9	12.1	10.8	10.8	10.6	9.9	10.3
Remote	32.8	36.1	26.6	30.9	18.6	21.3	21.3	19.8	23.8	23.8

Source Australian National Notifiable Diseases Surveillance System.

Newly acquired hepatitis B

The vast majority of hepatitis Cases B in Australia are chronic infections among people born in countries with high prevalence of hepatitis B [1]. For some hepatitis B notifications, it is possible to determine if the infection was acquired in the two years before diagnosis, on the basis of a prior negative test or other serological factors; these cases are defined as newly acquired hepatitis B. There was a 22% decline in the newly acquired hepatitis B notification rate, from 0.9 per 100 000 in 2012 to 0.7 per 100 000 in 2019, with a 33% decline among males and no decline among females. Between 2019 and 2021, the newly acquired hepatitis B notification rate declined by 64% among males, 30% among females and 52% overall, likely due to the impacts of the COVID-19 pandemic. In 2021, the rate of newly acquired hepatitis B was 0.3 per 100 000 among males and females (Figure 7).

Figure 7 Newly acquired hepatitis B notification rate per 100 000 population by gender, 2012–2021



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Males	1.2	1.2	1.2	0.8	1.1	0.9	0.8	0.8	0.7	0.3
Females	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.5	0.3	0.3
Total	0.9	0.8	0.8	0.6	0.7	0.6	0.6	0.7	0.5	0.3

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.

Updates were made in 2022 to historic chronic hepatitis B prevalence estimates for countries with the highest numbers of people living with chronic hepatitis B in Australia based on newly available data and examination of existing data sources. These updates have impacted the estimated number of people living with chronic hepatitis B in Australia, the estimated age distribution of Australians living with chronic hepatitis B, and hepatitis B attributable mortality. This adjustment to the number of people estimated to be living with chronic hepatitis B also has a flow on effect on the hepatitis B diagnosis, care, and treatment uptake estimates.

At the end of 2021, there were an estimated 200 385 people living with chronic hepatitis B in Australia. Of those, an estimated 140 317 (76%) were born overseas, 32 297 (16%) were Australian-born non-Indigenous people, and 13 463 (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 around one 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 (6160, 3% of people living with chronic hepatitis B) and gay and bisexual men (8149, 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 8).

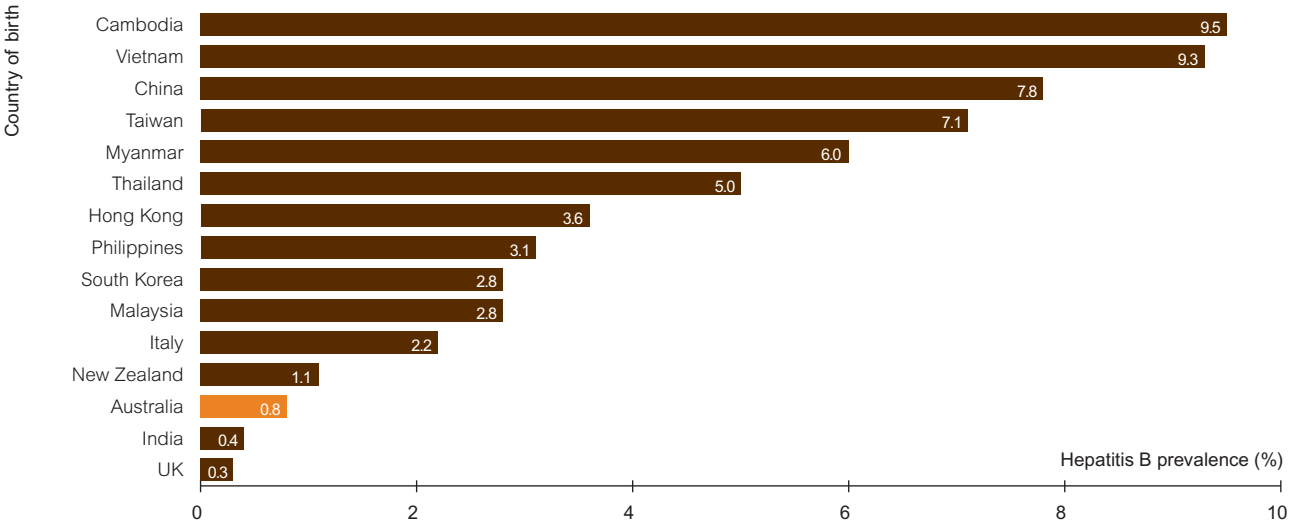
Table 2 Estimated number of people living with chronic hepatitis B and estimated prevalence by country of birth, 2021

Population	People living with chronic hepatitis B	Proportion of all people living with chronic hepatitis B	Hepatitis B prevalence
Total	200 385	100%	0.78%
Australian-born non-Indigenous	32 297	16.1%	0.19%
Born in Northeast Asia	45 994	23.0%	5.00%
Born in Southeast Asia	45 215	22.5%	4.03%
Born in Sub-Saharan Africa	8 541	4.3%	2.28%
Other regions of birth	40 657	20.3%	0.82%
Aboriginal and/or Torres Strait Islander	13 463	6.7%	1.54%
People who inject drugs[1]	6 160	3.1%	2.55%
Gay and bisexual men[1]	8 149	4.1%	2.24%

Note: Estimates by subpopulation may overlap; [1] population estimates are for Australian-born non-Indigenous people as being born outside Australia is ranked higher on the hierarchy of risk factors.

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

Figure 8 Estimated prevalence of chronic hepatitis B infection among Australians born overseas by country of birth, 2021



Source: Adjusted Australian antenatal prevalence data [4,5], international population seroprevalence data [6,7], 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 453 deaths attributable to chronic hepatitis B in 2021, with the majority of the deaths attributed to hepatocellular carcinoma (385 deaths), compared with decompensated cirrhosis (68 deaths). These estimates are produced by the WHO Collaborating Centre for Viral Hepatitis at the Doherty Institute and were derived from modelling, which may not correlate with transplant data.

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 207 liver transplants in 2021, four (2%) 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

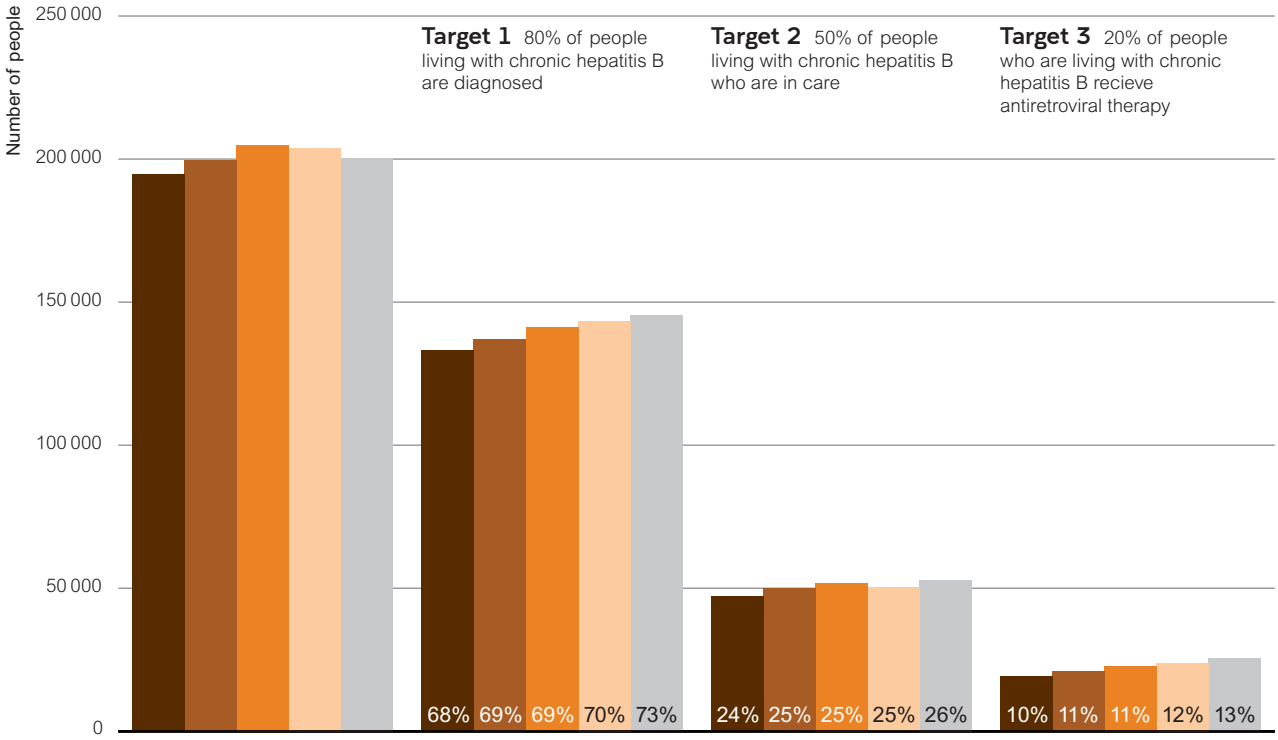
The hepatitis B diagnosis and care cascade

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 2021, an estimated 200 385 people were living with chronic hepatitis B in Australia. Of those, an estimated 145 281 (73%) were diagnosed, 52 789 (26% of those living with chronic infection) received care (viral load monitoring or received antiviral therapy), and 25 410 (13% of those living with chronic infection) received antiviral therapy (Figure 7)

Figure 9 The hepatitis B diagnosis and care cascade, 2017–2021



	Living with hepatitis B infection	Diagnosed with hepatitis B infection	Receiving care	Received treatment
2017	194 877	133 194	47 161	19 358
2018	199 650	137 214	49 971	21 135
2019	204 878	141 151	51 892	22 828
2020	203 865	143 508	50 229	23 787
2021	200 385	145 281	52 789	25 410

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

Source: WHO Collaborating Centre for Viral Hepatitis, Doherty Institute; see Methodology for detail.

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, hepatitis B treatment guidelines recommend that 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. At the end of 2021, this applied to an estimated 29% of all people living with hepatitis B.

Data on hepatitis B treatment to the end of 2021 were unavailable at the time of reporting. Future reporting will include data on hepatitis B treatment.

6 Hepatitis B prevention

Vaccination is the corner-stone 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.

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].

Between 2017 and 2021, hepatitis B vaccination coverage rates for children remained high in Australia (Figure 11). In 2021, hepatitis B vaccination coverage at 12 months of age was 92% among Aboriginal and Torres Strait Islander children and 95% among non-Indigenous children, reaching 97% and 96% at 24 months of age, respectively (Figure 11).

Figure 10 Roll-out of hepatitis B vaccination in Australia, by year

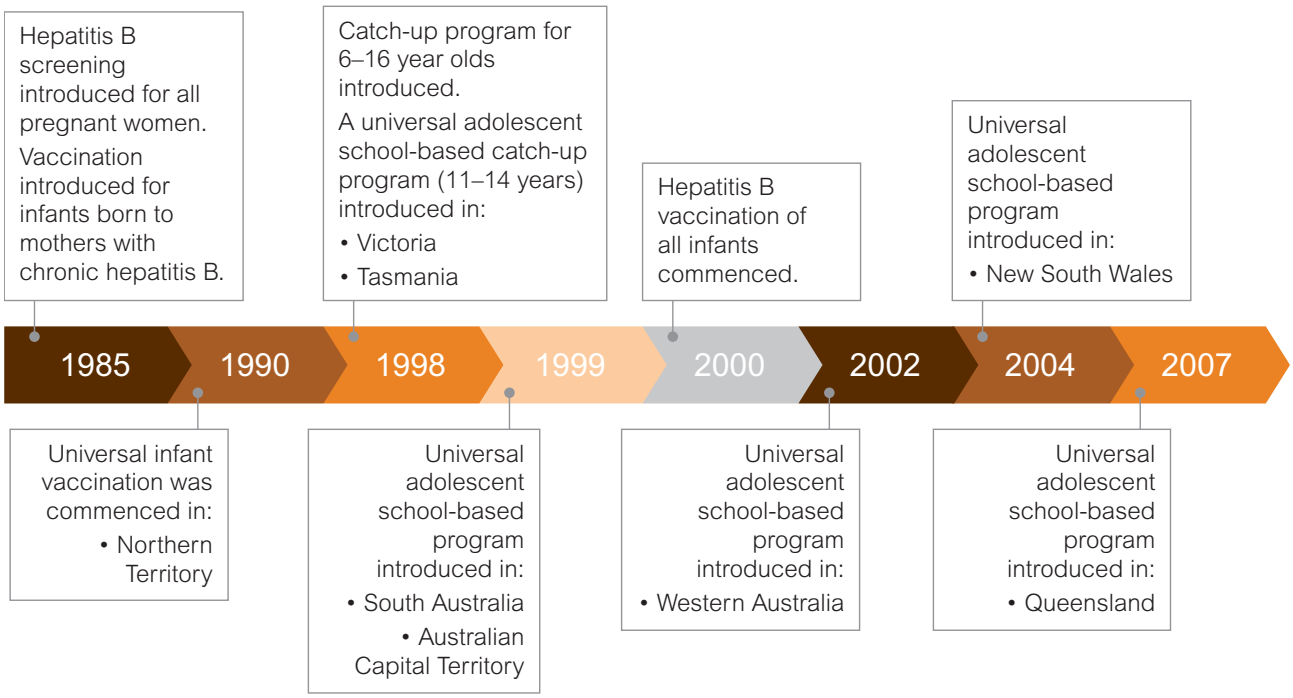
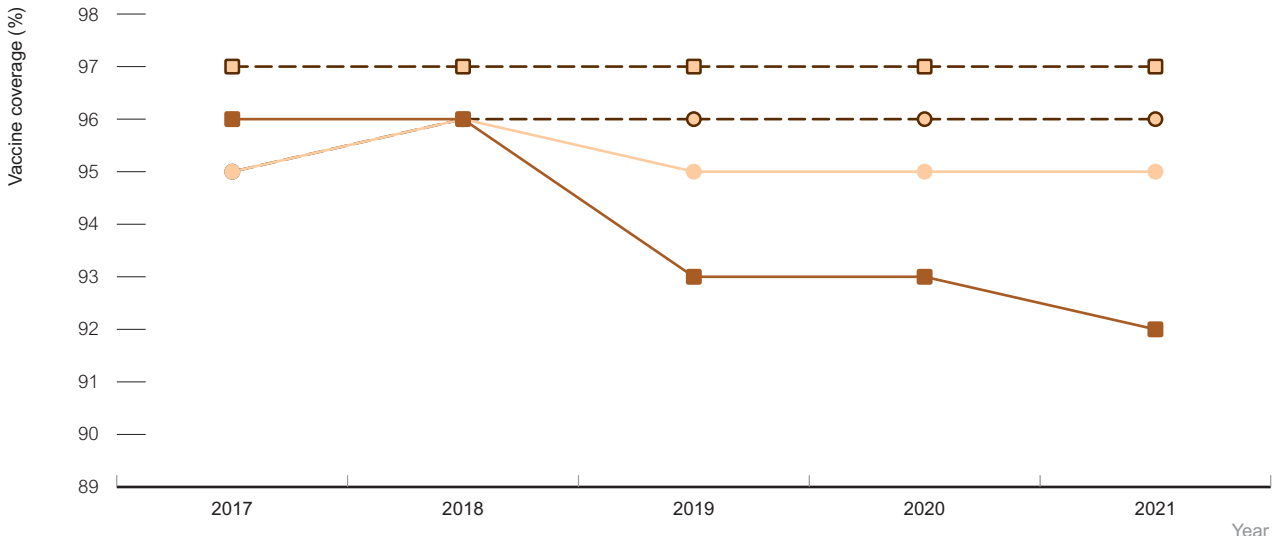


Figure 11 Hepatitis B vaccination coverage estimates at 12 and 24 months by Aboriginal and Torres Strait Islander status, 2017–2021



	2017	2018	2019	2020	2021
Aboriginal and Torres Strait Islander children 12 months (%)	96	96	93	93	92
Aboriginal and Torres Strait Islander children 24 months (%)	97	97	97	97	97
Non-Indigenous children 12 months (%)	95	96	95	95	95
Non-Indigenous children 24 months (%)	95	96	96	96	96

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

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