



UNSW
Kirby Institute

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



Hepatitis C



UNSW
SYDNEY

HIV, viral hepatitis and sexually transmissible infections in Australia

Annual surveillance report 2022

Kirby Institute, UNSW Sydney

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

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Abbreviations

ABS	Australian Bureau of Statistics
ACCESS	Australian Collaboration for Coordinated Enhanced Sentinel Surveillance
ANSPS	Australian Needle Syringe Program Survey
BBV	bloodborne virus

Hepatitis C

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. Additional years for comparison include 2015 to 2021 to highlight the effect of subsidised interferon-free direct-acting antiviral regimen availability from March 2016. Assessment of progress towards national and global hepatitis C elimination targets are presented in Australia's progress towards hepatitis C elimination: annual report 2022 and the Tracking the Progress Report. Due to data availability, data relating to newly acquired hepatitis C notifications are not presented in this report. Future reports will include these data.

1 Summary data

New hepatitis C notifications

- In 2021 there were 7487 hepatitis C notifications in Australia. Over two-thirds (5094, 68%) of the notifications were among males.
- The overall hepatitis C notification rate declined by 33% over the 10-year period 2012 to 2021, from 43.7 to 29.2 per 100 000 population.
- Among the age group most likely to have acquired hepatitis C recently, people aged 15 to 24 years, the notification rate declined by 36% between 2012 and 2021 (from 36.7 per 100 000 in 2012 to 23.7 per 100 000 in 2021). The decline among this age group was attributed largely to a 53% decline among women, from 27.2 to 12.9 per 100 000. Among men aged 15 to 24 years, the hepatitis C notification rate declined by 26% from 45.7 per 100 000 in 2012 to 33.7 per 100 000 in 2021.
- Between 2017 and 2021, the hepatitis C notification rate among Aboriginal and Torres Strait Islander peoples remained stable. In 2021, the notification rate among Aboriginal and Torres Strait Islander peoples was more than seven times as high as among non-Indigenous people in 2021 (194.3 and 26.2 per 100 000, respectively).

Testing

- Among people who inject drugs and attend clinics in the ACCESS network, the proportion who received a hepatitis C test in the past 12 months increased from 45% in 2012 to 54% in 2021. However, a decline in the number of people attending clinics in the ACCESS network since the start of the pandemic may mean that overall testing numbers among people who inject drugs declined in this period.
- Data from the ANSPS indicate that in 2021, about half (47%) of survey respondents reported a hepatitis C antibody test in the previous 12 months (47% for both men and women).

Incidence, prevalence, and morbidity

- Among people tested at ACCESS primary care sites between 2015 and 2019, the hepatitis C incidence declined from 1.2 to 0.4 new infections per 100 person-years and increased to 0.6 new infections per 100 person-years in 2021.
- Hepatitis C RNA prevalence among participants of the ANSPS was 16% in 2021, a decline from 57% in 2015.
- The proportion of people receiving liver transplants due to chronic hepatitis C or hepatitis C-related hepatocellular carcinoma reduced by more than two-thirds between 2015 (72, 33% of all transplants) and 2021 (19, 9% of all transplants).

Treatment

- In 2021 6474 people received PBS-subsidised DAA treatment. Between the start of 2016 and the end of 2021, 95 395 people received PBS-subsidised DAA treatment.
- Among Aboriginal and Torres Strait Islander respondents in the Australian Needle Syringe Program Survey, there was more than a five-fold increase in the proportion reporting ever having hepatitis C treatment, from 10% in 2015 to 56% in 2021. Among non-Indigenous participants over the same period, there was an almost six-fold increase in the number reporting ever having received treatment, from 11% to 65%.
- Among participants in the Australian Needle Syringe Program Survey in 2021 with self-reported history of chronic hepatitis C, 62% reported ever receiving hepatitis C treatment, an increase from 10% in 2012.

Injecting risk behaviour

- The reuse of needles and syringes that have been used by others (receptive syringe sharing) by people who inject drugs is a major risk factor for transmission of hepatitis C. The proportion of Australian Needle Syringe Program Survey respondents who reported receptive syringe sharing in the past month was 18% in 2021 with the proportion reporting receptive syringe sharing almost twice as high among Aboriginal and/or Torres Strait Islander survey participants (29%) compared with non-Indigenous participants (13%).

2 Interpretation

The decline in hepatitis C notifications and testing between 2019 and 2021 was likely influenced by COVID-19, including challenges in accessing testing and healthcare. The preceding decline in hepatitis C notifications between 2015 and 2019 (including among younger age groups) after stable rates between 2012 and 2015, along with corresponding reductions in prevalence among needle and syringe survey participants, suggest that the uptake of hepatitis C treatment is resulting in a population level decline of hepatitis C transmission. Notably, the decline in the notification rate among people aged between 15 and 24 years was largely seen among women in this age group. Also declines in testing since the start of the COVID-19 pandemic ⁽¹⁾ mean that notification rates may be an underrepresentation of the true number of hepatitis C infections in the community.

By comparison, no declines in hepatitis C notifications were seen among Aboriginal and Torres Strait Islander peoples suggesting inequity in the availability of direct acting antivirals as well as resources directed toward harm reduction and linkage to care, and this may be sustaining the rate of infection among Aboriginal and Torres Strait Islander peoples. Further, hepatitis C notification rates remain several-fold higher among Aboriginal and Torres Strait Islander people compared to non-Indigenous people. Underreporting of Aboriginal and Torres Strait Islander status means that the number of hepatitis C notifications nationally is likely underestimated.

Strategies are needed to raise awareness about the need for testing and availability of curative hepatitis C treatments to eliminate hepatitis C as a public health threat by 2030, in line with Australian Government and World Health Organization targets.

Overall, there has been no decrease in the rates of receptive syringe sharing between 2019 and 2021, highlighting the need for enhanced focus on prevention efforts. Results from the Australian Needle Syringe Program survey show that Aboriginal and Torres Strait Islander peoples were more than twice as likely as non-Indigenous people to report recent receptive syringe sharing in 2021 with the gap unchanged in recent years. Also, a disproportionate number of Aboriginal and/or Torres Strait Islander people are incarcerated each year, a setting where access to evidence-based harm-reduction strategies is very limited. Therefore, there is a need for expanded harm reduction strategies in prison settings and ensuring these are culturally safe and appropriate and co-designed with Aboriginal and Torres Strait Islander peoples both within community and prison settings.

In March 2016, direct-acting antiviral regimens became subsidised by the Pharmaceutical Benefits Scheme (PBS) for hepatitis C treatment. In 2016, the uptake of direct-acting antiviral therapies was initially high but has since steeply declined. Data from the PBS indicate that altogether more than 95 000 Australians have received these highly curative therapies.

People who inject drugs are a key population for hepatitis C treatment and prevention. Among participants of the Australian Needle Syringe Program Survey, treatment uptake has increased markedly, with the proportion of people who inject drugs and have a history of living with hepatitis C who report lifetime treatment increasing from 11% in 2015 to 64% in 2019, and 62% in 2021. The curative nature of hepatitis C treatment has resulted in a substantial reduction in the prevalence of active hepatitis C infection among this group, with hepatitis C RNA prevalence declining from 51% in 2015 to 16% in 2021.

3 Hepatitis C notifications

This section focuses on people notified with hepatitis C in Australia, including newly acquired hepatitis C notifications (evidence of hepatitis C acquisition within two years before diagnosis) and unspecified hepatitis C notifications (cases that do not meet any of the criteria for a newly acquired case, acquired hepatitis C more than 24 months before diagnosis or for cases of unknown duration).

A total of 7487 hepatitis C notifications (newly acquired and unspecified) were reported in Australia in 2021, of which 1232 (16%) occurred among Aboriginal and Torres Strait Islander peoples, 3615 (48%) were among non-Indigenous people, and a further 2640 (35%) were among people whose Indigenous status was not reported. Aboriginal and Torres Strait Islander peoples comprise an estimated 3% of the Australian population ⁽²⁾ meaning that these notifications reflect a disproportionate burden of disease (Table 1).

In 2021, 5094 (68%) hepatitis C notifications were among males, 6719 (90%) were among people aged 25 years and above, and 4294 (57%) were among people residing in major cities (Table 1).

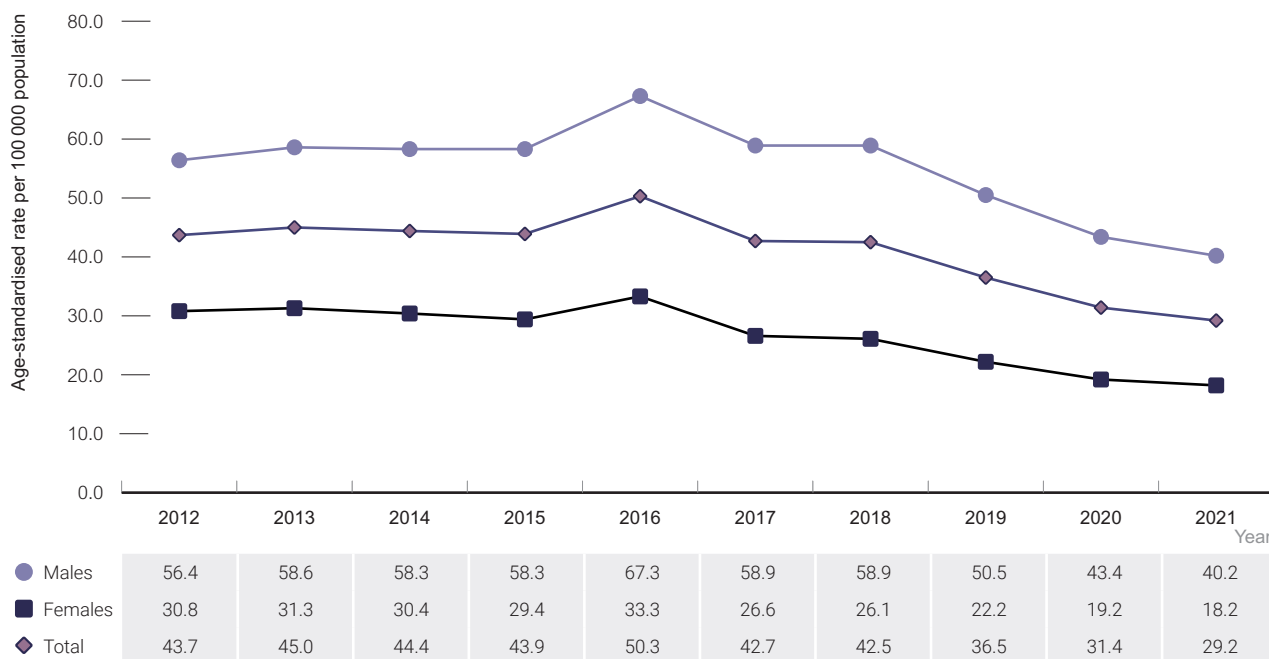
Table 1 Characteristics of new hepatitis C notifications, 2012–2021

Characteristic	Year of diagnosis									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total cases	9 899	10 480	10 310	10 351	12 081	10 422	10 529	9 186	7 998	7 487
Gender										
Male	6 396	6 844	6 749	6 839	8 026	7 120	7 216	6 306	5 489	5 094
Female	3 472	3 613	3 544	3 480	4 026	3 271	3 280	2 843	2 485	2 375
Missing	31	23	17	32	29	31	33	37	24	18
Age group										
0–14	37	34	44	43	34	33	42	48	64	34
15–19	243	305	217	215	202	179	160	181	152	107
20–24	906	994	885	927	897	890	793	856	747	627
25–29	1 269	1 220	1 180	1 193	1 259	1 176	1 125	1 062	972	910
30–34	1 456	1 553	1 469	1 447	1 514	1 316	1 211	1 094	970	906
35–39	1 273	1 315	1 331	1 326	1 612	1 360	1 363	1 150	974	892
40+	4 711	5 059	5 183	5 199	6 563	5 467	5 833	4 795	4 116	4 011
Missing	4	0	1	1	0	1	2	0	3	0
Aboriginal and Torres Strait Islander status										
Aboriginal and/or Torres Strait Islander	996	1 061	1 175	1 204	1 353	1 461	1 460	1 429	1 187	1 232
Non-Indigenous	4 595	4 796	4 524	4 532	5 253	4 936	5 515	4 713	3 722	3 615
Not reported	4 308	4 623	4 611	4 615	5 475	4 025	3 554	3 044	3 089	2 640
Area of residence										
Major cities	6 032	6 491	6 258	6 238	7 253	6 100	6 118	5 171	4 551	4 294
Regional	3 061	3 144	3 348	3 409	3 958	3 485	3 323	2 994	2 588	2 512
Remote	328	441	245	245	256	231	230	194	146	177
Missing	478	404	459	459	614	606	858	827	713	504
State/Territory										
ACT	145	183	175	189	184	138	140	124	132	92
NSW	3 146	3 372	3 339	3 326	4 513	3 931	4 571	3 344	2 905	2 505
NT	191	256	180	200	194	151	147	133	104	105
QLD	2 329	2 429	2 527	2 514	2 758	2 357	2 142	2 381	2 174	2 086
SA	576	608	564	532	544	480	430	352	289	238
TAS	263	229	230	263	257	232	189	171	136	176
VIC	2 124	2 134	2 160	2 195	2 406	1 933	1 902	1 697	1 336	1 274
WA	1 125	1 269	1 135	1 132	1 225	1 200	1 008	984	922	1 011

Source: Australian National Notifiable Disease Surveillance System.

There was a 33% decrease in the notification rate of hepatitis C, from 43.7 per 100 000 population in 2012, to 29.2 per 100 000 in 2021 (Figure 1). Notification rates have been gradually decreasing among both males and females since 2012 despite an increase in 2016. This increase likely reflected the increase in testing associated with government-funded interferon-free direct-acting antiviral treatments becoming available on the PBS in March 2016 ⁽³⁾. In 2016, there was a rapid uptake of treatment and cure among people living with hepatitis C, which coincides with a steady reduction in notification rates, with 2021 having the lowest notification rate in the last 10 years (Figure 1).

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

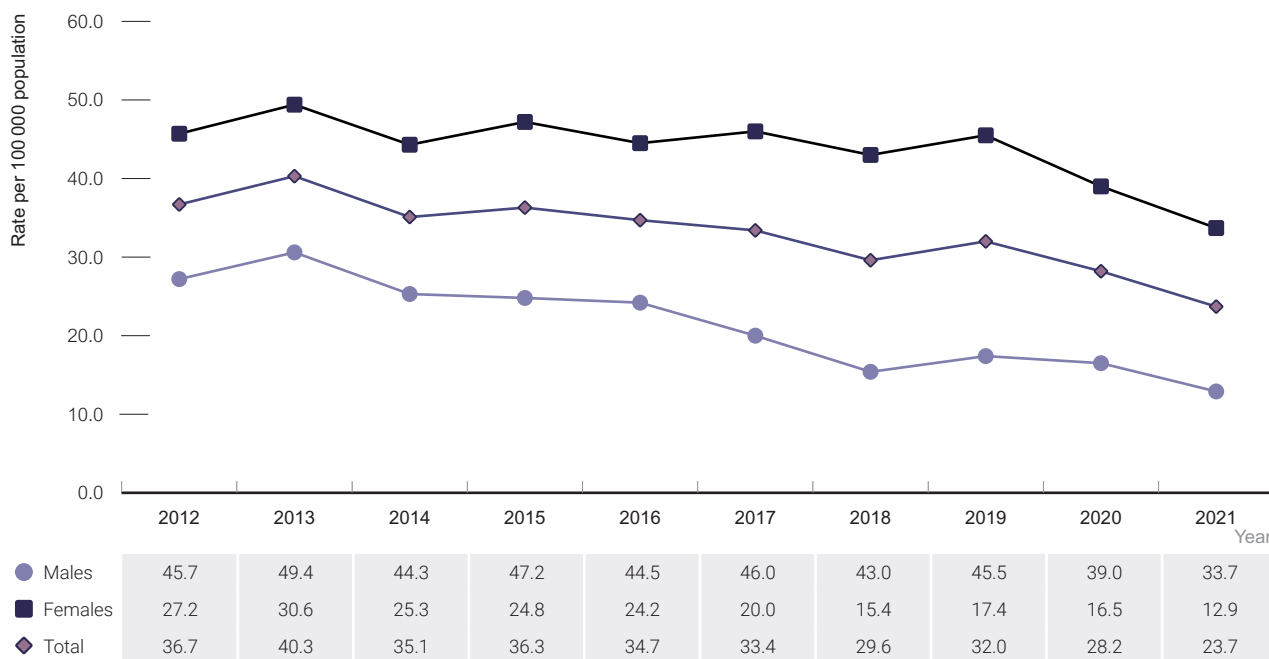


Source: Australian National Notifiable Disease Surveillance System.

Hepatitis C notification rates are highest among people aged 25 to 39 years, yet within the last 10 years (2012–2021), rates among this age group reduced by 41% from 81.8 per 100 000 population in 2012, to 48.4 per 100 000 in 2021. In the same period, rates among people aged 40 years and older had reduced by 27%, from 44.8 per 100 000 in 2012, to 32.8 per 100 000 in 2021. In 2016, there was an increase in rates among both age categories, likely reflecting an increase in testing associated with the introduction of direct acting-antiviral therapies. This trend was similar among both males and females. Rates among people aged 15–24 years reduced by 36% from 36.7 per 100 000 in 2012, to 23.7 per 100 000 in 2021, and were not obviously affected by the change in testing trends in 2016. For detailed breakdown of notification rates by age and gender, please see the [Kirby Institute data site](#).

Compared with older age-groups, most hepatitis C infections among those aged 15 to 24 years are recently acquired ⁽⁴⁾. Therefore, trends in the rate of notifications among those aged 15–24 years are used here as a proxy for the incidence of hepatitis C infection. There was a 36% decline in the notification rate among this group from 36.7 per 100 000 in 2012 to 23.7 per 100 000 in 2021. However, the overall reduction was largely due to a 53% reduction among females from 27.2 per 100 000 in 2012 to 12.9 per 100 000 in 2021. By comparison, the rate among males also declined, but to a lesser extent (26%), from 45.7 per 100 000 in 2012 to 33.7 per 100 000 in 2021 (Figure 2).

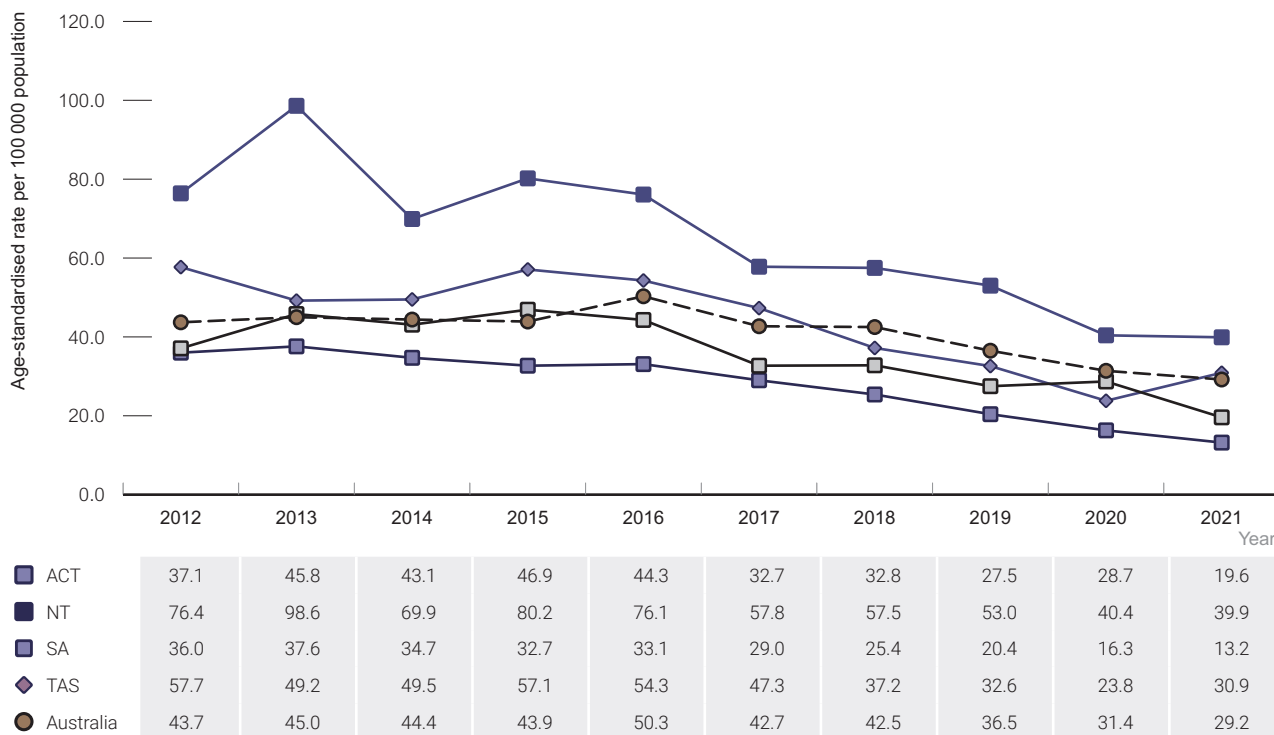
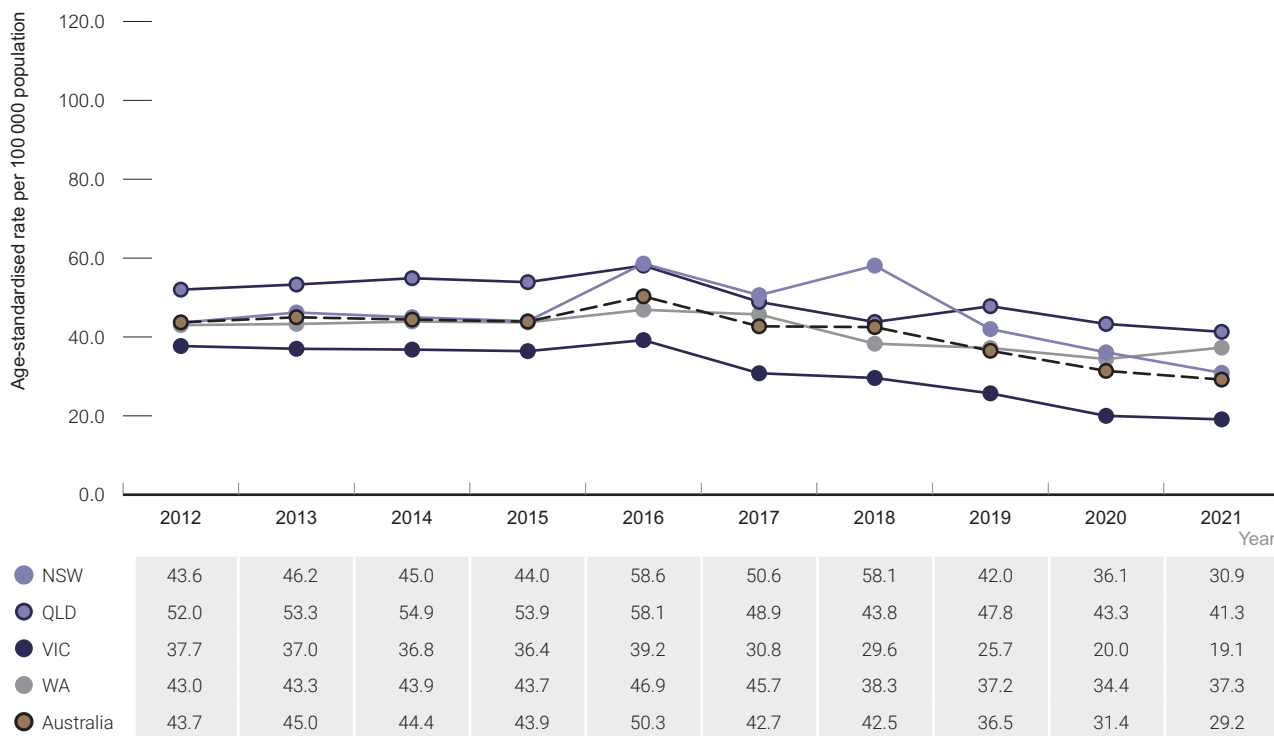
Figure 2 Hepatitis C notification rate per 100 000 population among people aged 15 to 24 years by gender, 2012–2021



Source: Australian National Notifiable Disease Surveillance System.

In 2021, hepatitis C notification rates were highest in Queensland at 41.3 per 100 000, followed by the Northern Territory at 39.9 per 100 000, then New South Wales and Tasmania at 30.9 per 100 000 each (Figure 3). South Australia had the lowest notification rate at 13.2 per 100 000. Since 2012, all states have seen a reduction in notification rates, ranging from a 38% reduction in Queensland, to a 11% reduction in New South Wales.

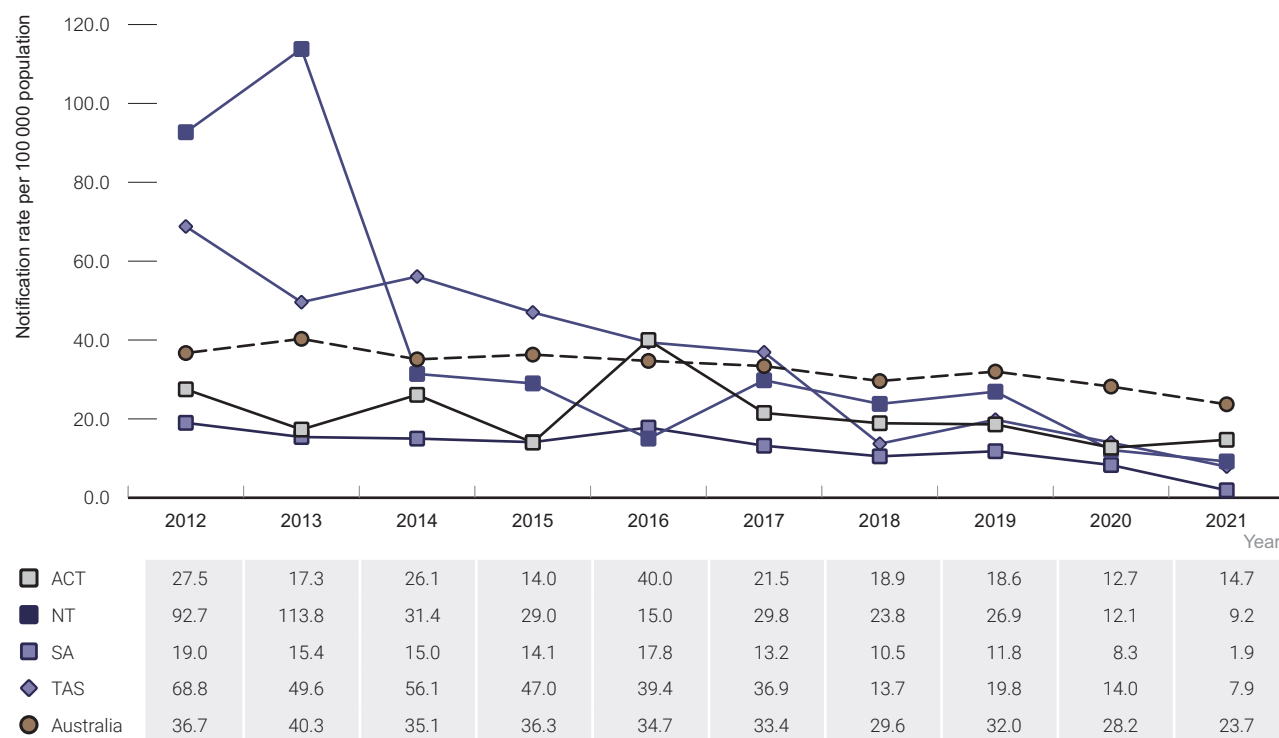
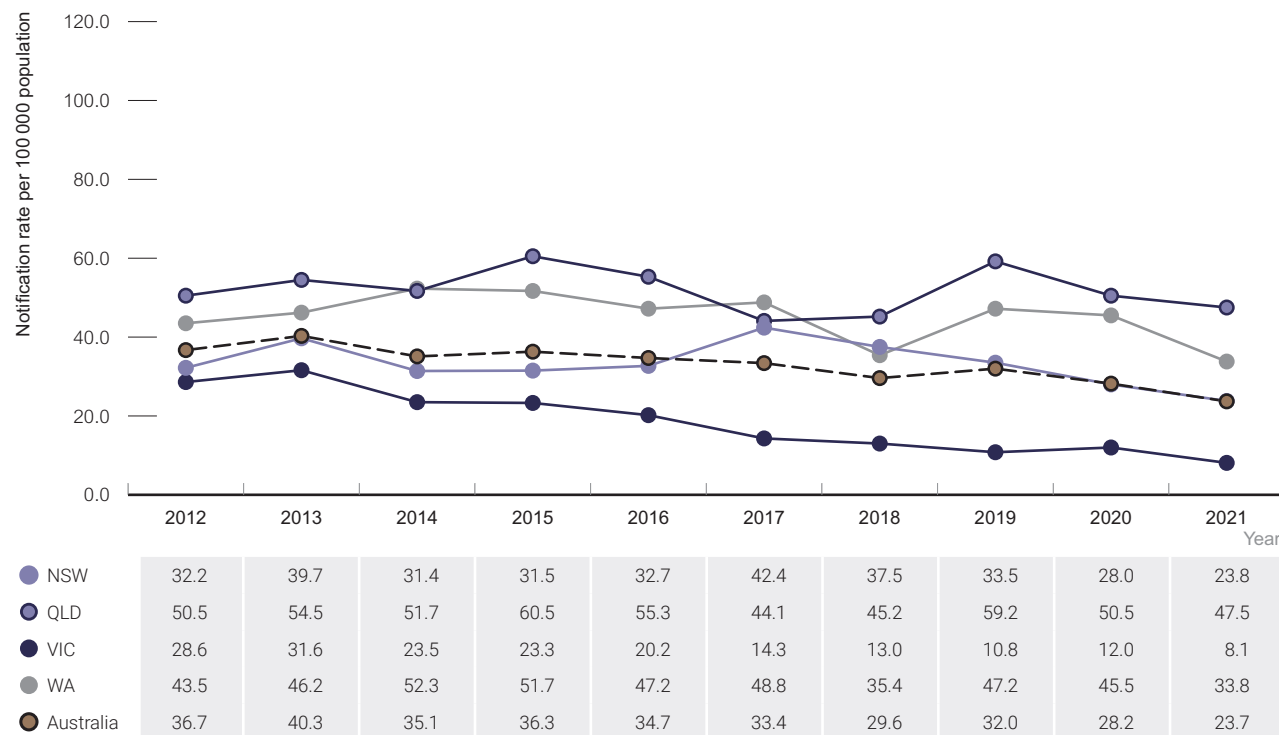
Figure 3 Hepatitis C notification rate per 100 000 population by state/territory, 2012–2021



Source: Australian National Notifiable Disease Surveillance System.

Hepatitis C notification rates among people aged 15 to 24 years declined in every state and territory between 2012 and 2021. In this period, the largest declines were seen in the Northern Territory and South Australia (90% each), Tasmania (88%), and Victoria (72%).

Figure 4 Hepatitis C notification rate per 100 000 population among people 15 to 24 years of age, by state/territory, 2012–2021



Source: Australian National Notifiable Disease Surveillance System.

Notification rates of hepatitis C have historically been higher in regional areas (41.3 per 100 000, in 2021) than in remote areas (38.7 per 100 000) and major cities (22.8 per 100 000). Rates for all three area classifications have declined to the lowest levels in more than 10 years. Since 2012, notification rates have declined by 39% in major cities, 24% in regional areas, and by 23% in remote areas (Figure 5).

Between 2012 and 2021, notification rates among males residing in remote areas reduced by 30% (from 63.5 to 44.6 per 100 000) while males residing in major cities reduced by 36% (from 46.7 to 30.1 per 100 000). In the same period, rates among males living in regional areas declined by 17%, from 71.3 to 59.2 per 100 000. Declines in notification rates were also seen among females residing in major cities and remote areas. Among females, there was a reduction of 45% in major cities (from 28.1 in 2012 to 15.6 per 100 000 in 2021) and 38% in regional areas (from 37.3 in 2012 to 23.3 per 100 000 in 2021). The hepatitis C notification rate among females in remote areas fluctuated between 2012 and 2021 and was 32.4 per 100 000 in 2021. Full breakdown of hepatitis C notification rates by remoteness classification and gender can be found at the [Kirby Institute data site](#).

Figure 5 Hepatitis C notification rate per 100 000 population by region of residence, 2012–2021



Source: Australian National Notifiable Disease Surveillance System.

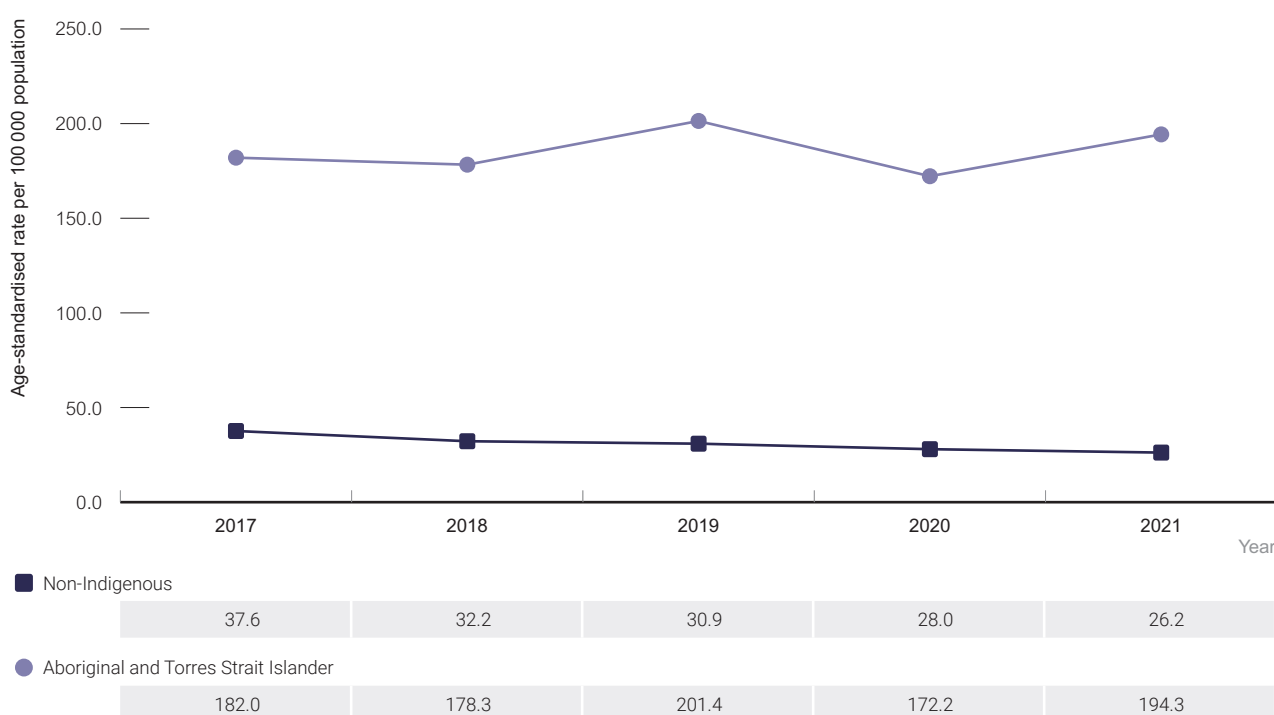
Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander notification rates for hepatitis C are based on data from six jurisdictions (the Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania, and Western Australia) where Aboriginal and Torres Strait Islander status was $\geq 50\%$ complete for all hepatitis C notifications for each of the five years (2017–2021). Almost two thirds (61%) of Aboriginal and Torres Strait Islander peoples reside in these jurisdictions so it is important to note that the notification rates are not necessarily nationally representative. Incomplete information on Aboriginal and Torres Strait Islander status can underestimate the true extent of these infections among Aboriginal and Torres Strait Islander peoples and notification rates may not reflect national trends.

Based on the data from these six jurisdictions, in 2021 the age-standardised notification rate of hepatitis C was more than seven times as high among Aboriginal and Torres Strait Islander peoples (194.3 per 100 000) compared with non-Indigenous people (26.2 per 100 000). Notification rates of hepatitis C among Aboriginal and Torres Strait Islander people fluctuated between 2017 and 2021 (Figure 6).

Between 2017 and 2021, among Aboriginal and Torres Strait Islander people aged 15 to 24 years, the hepatitis C notification rate fluctuated and was 194.5 per 100 000 in 2021. Conversely, in the same period, among non-Indigenous people aged 15 to 24 years, the notification rate declined by 22% from 25.3 per 100 000 in 2017 to 19.8 per 100 000 in 2021. The hepatitis notification rate among Aboriginal and Torres Strait Islander peoples aged 15 to 24 years was almost 10 times as high as among non-Indigenous people aged 15 to 24 years (194.5 vs 19.8 per 100 000) (Figure 7).

Figure 6 Hepatitis C notification rate per 100 000 population by Aboriginal and Torres Strait Islander status, 2017–2021



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

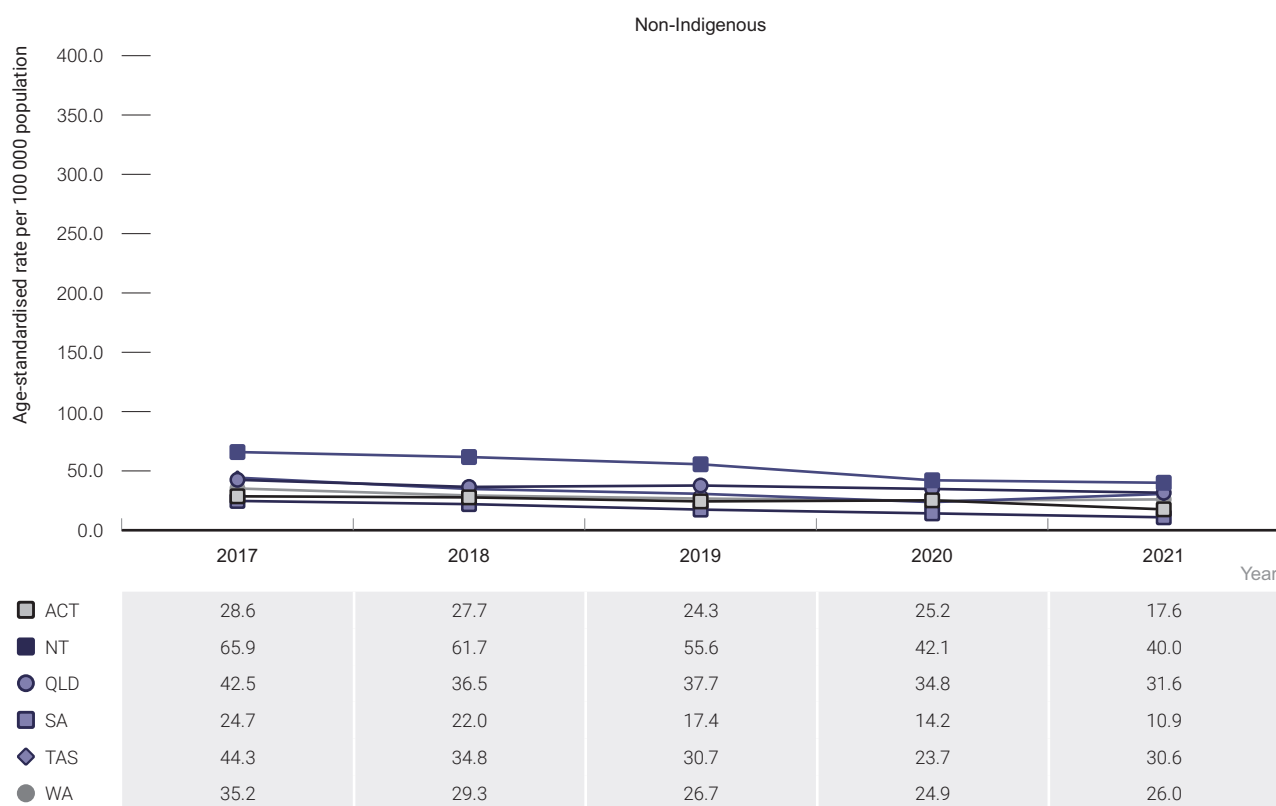
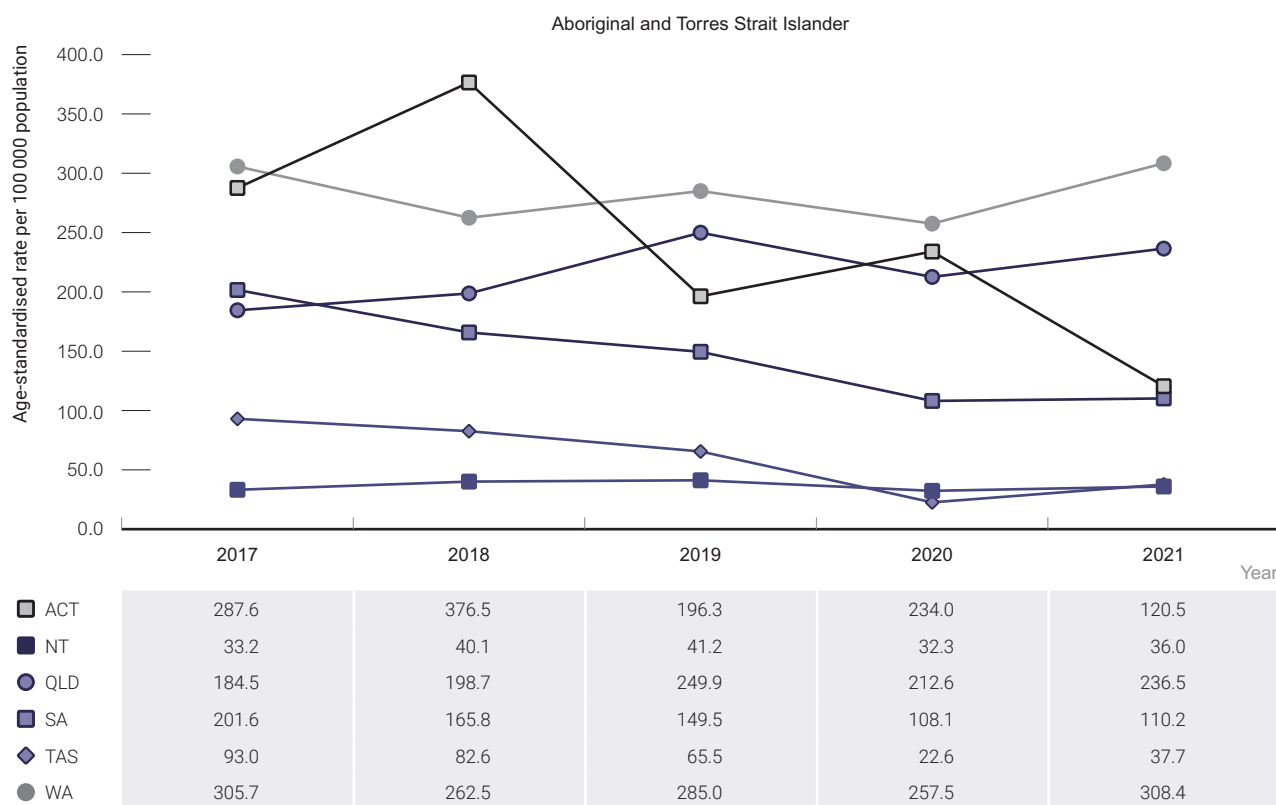
Figure 7 Hepatitis C notification rate among people aged 15 to 24 years by Aboriginal and Torres Strait Islander status per 100 000 population, 2017–2021



Source: Australian National Notifiable Disease Surveillance System. Includes jurisdictions in which Aboriginal and Torres Strait Islander status was reported for $\geq 50\%$ of notifications for each year (Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania and Western Australia).

In Western Australia, the hepatitis C notification rate in 2021 was 12 times as high among Aboriginal and Torres Strait Islander peoples than among non-Indigenous people (308.4 and 26.0 per 100,000, respectively). Also, in 2021, the hepatitis C notification rate in Queensland, South Australia and the Australian Capital Territory, was seven to 10 times as high among Aboriginal and Torres Strait Islander peoples as among non-Indigenous people. In South Australian and Tasmania, the hepatitis C notification rate declined between 2012 and 2021 among Aboriginal and Torres Strait Islander peoples. In the Australian Capital Territory, the Northern Territory, Queensland, and Western Australia, the hepatitis C notification rate among Aboriginal and Torres Strait Islander peoples fluctuated in the same period, compared with declines among non-Indigenous people in every reported state and territory (Figure 8). See *Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: annual surveillance report 2022* for further detail ⁽⁵⁾.

Figure 8 Hepatitis C notification rate per 100 000 people by Aboriginal and Torres Strait Islander status and state/territory, 2017–2021

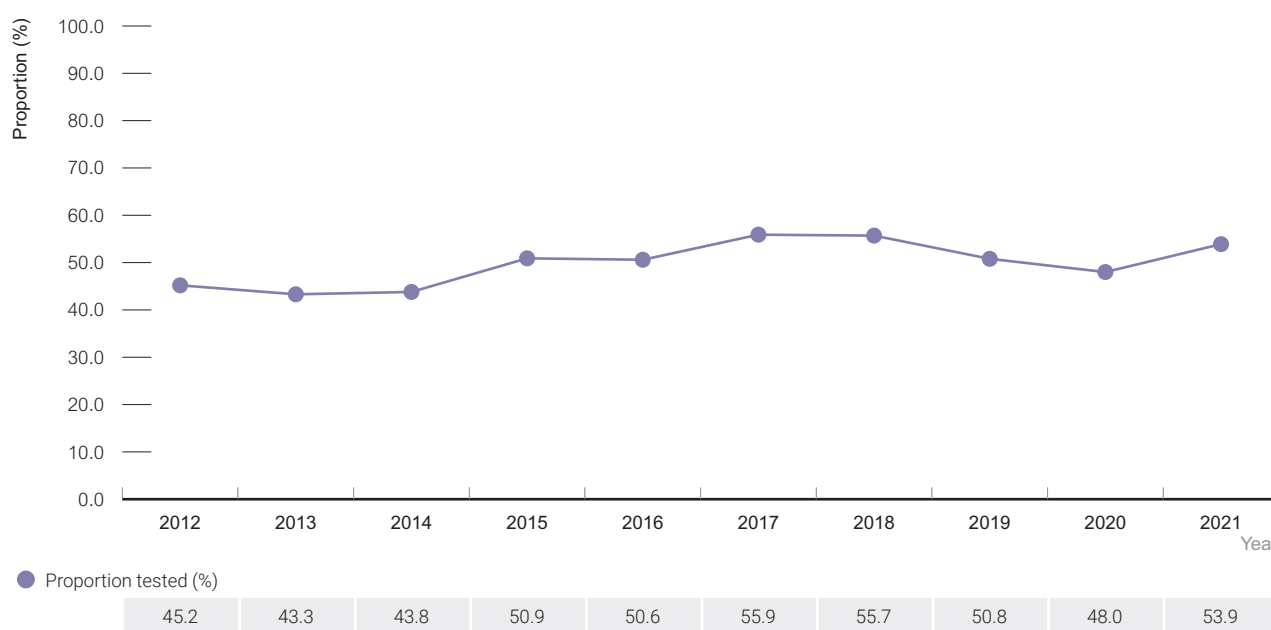


Source: Australian National Notifiable Disease Surveillance System. Includes jurisdictions in which Aboriginal and Torres Strait Islander status was reported for $\geq 50\%$ of notifications for each year (Australian Capital Territory, Northern Territory, Queensland, South Australia, Tasmania, and Western Australia).

4 Hepatitis C testing

Hepatitis C testing rates showed a decline between 2019 and 2021 as a consequence of the COVID-19 pandemic related restrictions ⁽¹⁾. Sentinel surveillance of hepatitis C testing is conducted by the Australian Collaboration for Coordinated Enhanced Sentinel Surveillance (ACCESS) network and includes 11 general primary care sites specialising in the health of people who inject drugs, 15 sexual health clinics, and ten primary care clinics specialising in the health of gay and bisexual men. Among people who inject drugs and attend one of the 15 sexual health clinics in the ACCESS network, the proportion who received a hepatitis C test in the past 12 months fluctuated between 2012 and 2021 and was 53.9% in 2021 (Figure 9). A decline in the number of ACCESS clinic attendees since the start of the pandemic may mean that these figures are less representative of the broader population and should be interpreted with caution (Data not shown).

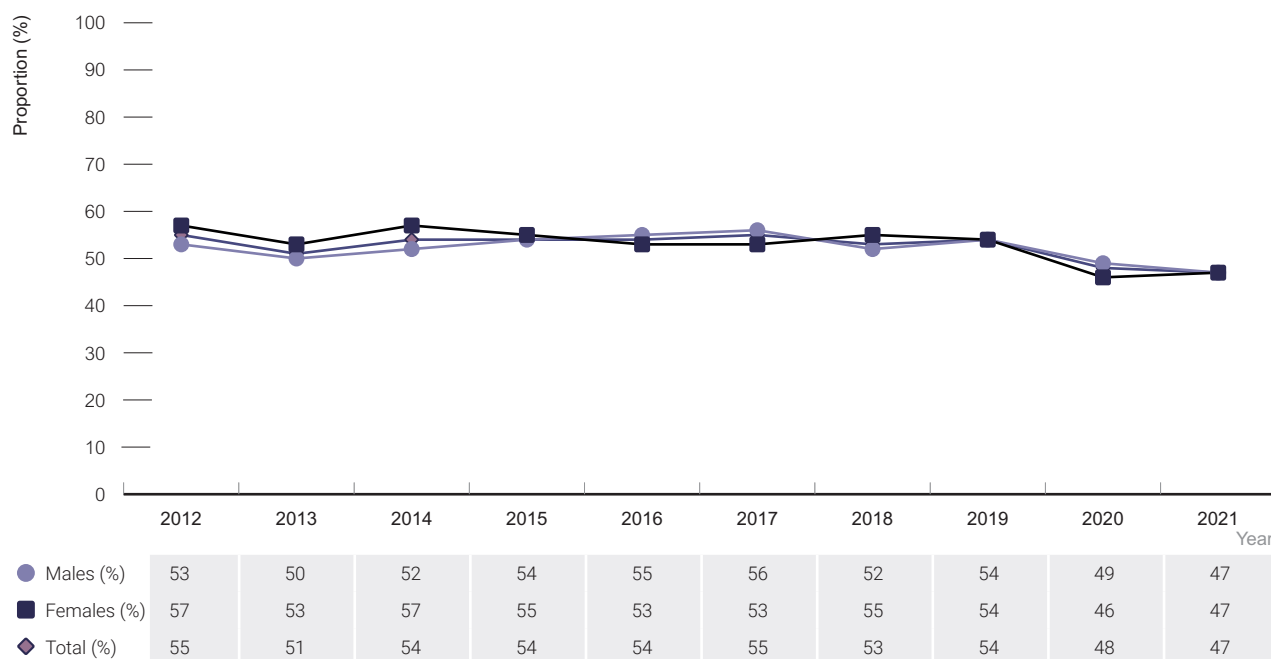
Figure 9 Proportion of people who inject drugs attending a clinic in the ACCESS network who had a hepatitis C test in the past 12 months, 2012–2021



Source: ACCESS; see [Methodology](#) for detail.

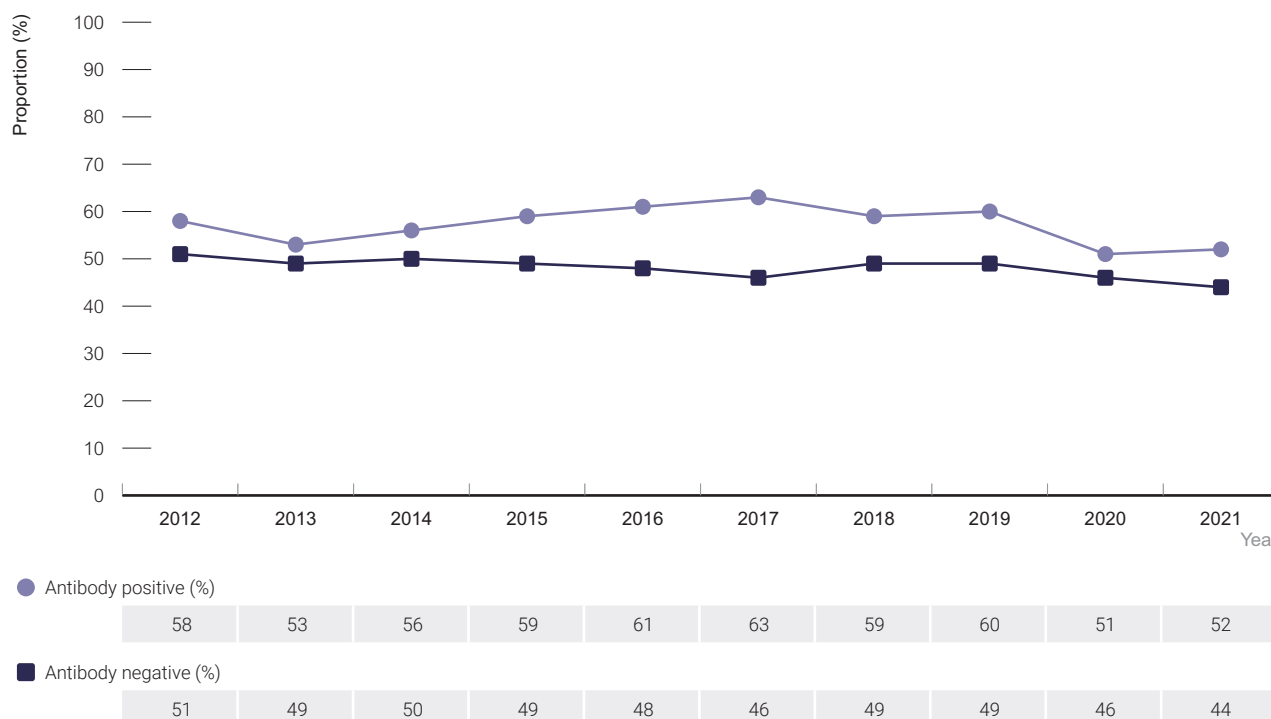
Data from the annual Australian Needle Syringe Program Surveys (ANSPS) provide insights into the demographic characteristics and risk behaviours of laboratory confirmed and self-reported bloodborne virus prevalence, including hepatitis C prevalence, among people who inject drugs attending needle and syringe programs throughout Australia. Between 2012 and 2019, the overall proportion of ANSPS respondents reporting hepatitis C testing in the past 12 months fluctuated between 51% and 55% followed by a decline between 2019 and 2021 to 47% (47% of men and 47% of women) (Figure 10). These proportions were the lowest in the reporting period, likely related to the ongoing COVID-19 pandemic. Self-reported hepatitis C testing levels have consistently been higher among survey respondents who were confirmed as hepatitis C antibody positive than in those who were antibody negative (52% vs 44% in 2021) (Figure 11).

Figure 10 Proportion of people who inject drugs attending needle and syringe programs who reported a hepatitis C antibody test in the past 12 months by gender, 2012–2021



Source: Australian Needle Syringe Program Survey; see [Methodology](#) for detail.

Figure 11 Proportion of people who inject drugs attending needle and syringe programs who reported a hepatitis C antibody test in the past 12 months by hepatitis C antibody status, 2012–2021



Source: Australian Needle Syringe Program Survey; see [Methodology](#) for detail.

5 Hepatitis C incidence

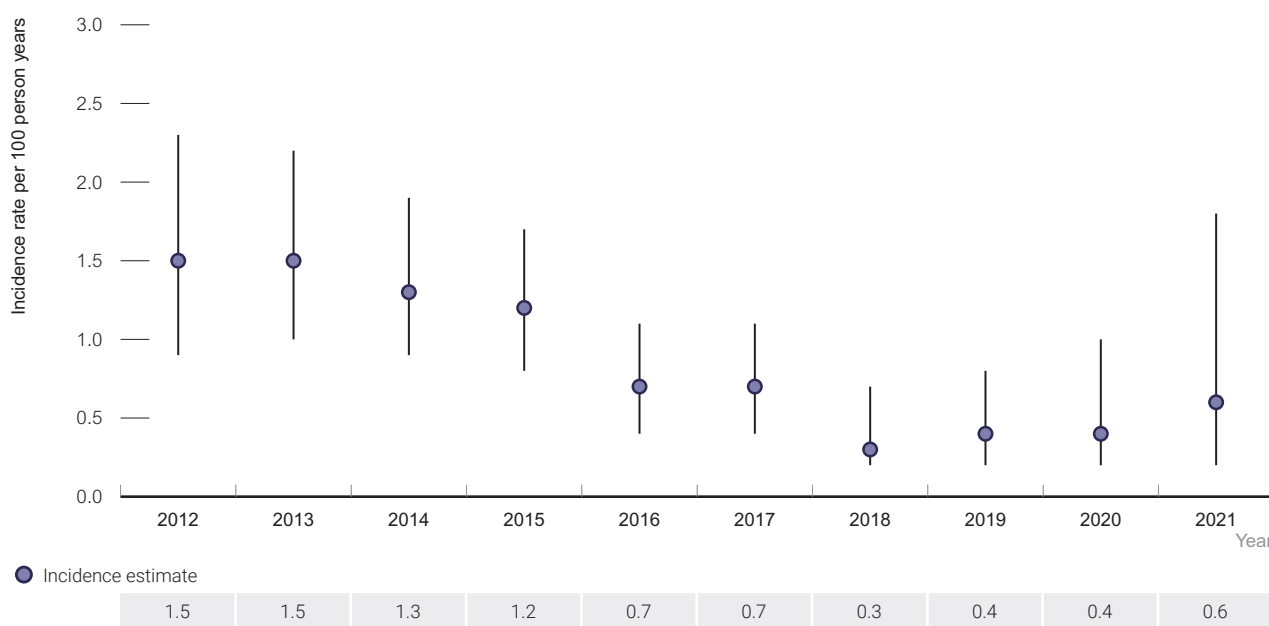
Hepatitis C incidence represents new transmissions and is an important indicator in monitoring the effectiveness of hepatitis C prevention programs and progress against national and global hepatitis C targets. Modelled national hepatitis C incidence estimates are in development and will be presented in future reporting. In lieu of these estimates, hepatitis C incidence estimates calculated using sentinel surveillance data from the ACCESS network are presented below.

For the years 2012–2021, among people attending one of the nine ACCESS primary care sites who had at least one repeat hepatitis C test, there were 166 seroconversions during 191 person-years at risk. Among this population, between 2015 and 2019, the hepatitis C incidence declined from 1.4 to 0.5 new infections per 100 person-years. Between 2019 and 2021 the hepatitis C incidence rate increased from 0.4 to 0.6 new infections per 100 person-years (Figure 12).

For the years 2012–2021, among gay and bisexual men attending one of the 18 ACCESS primary care sites or sexual health clinics who had at least one repeat hepatitis C test, there were 295 seroconversions during 387 person-years at risk. Among this population, between 2015 and 2019, the hepatitis C incidence declined from 1.3 to 0.5 new infections per 100 person-years. Between 2019 and 2021 the hepatitis C incidence rate declined from 0.5 to 0.4 new infections per 100 person-years (Figure 13).

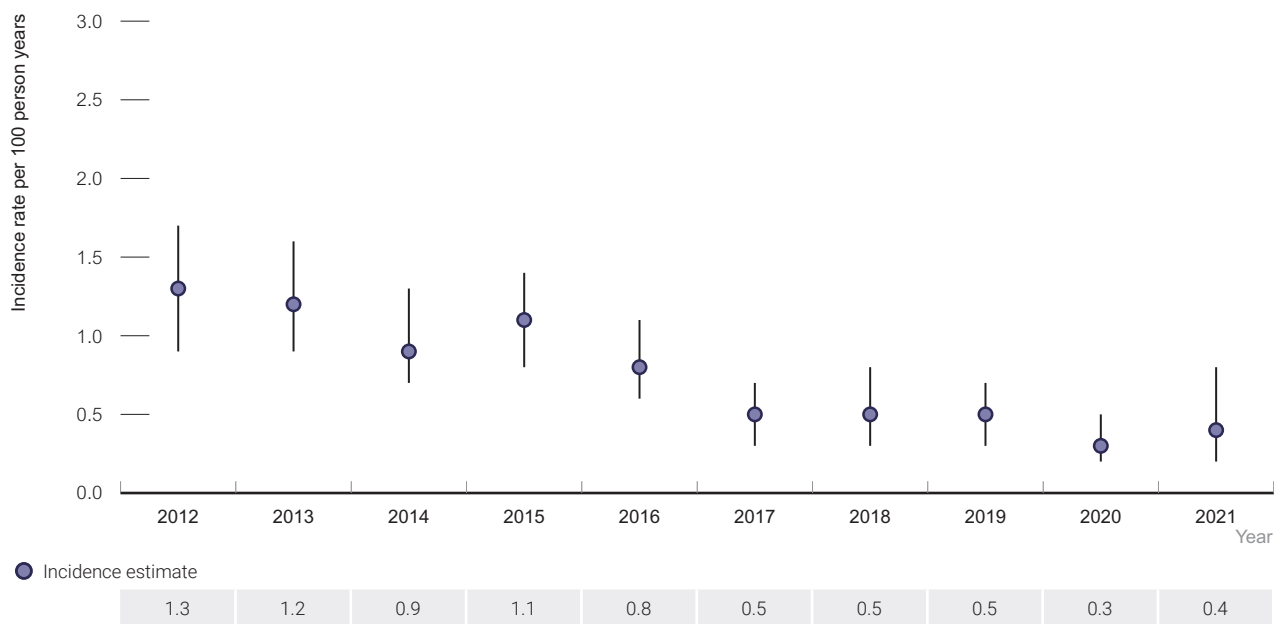
Overlapping confidence intervals between years mean that the differences in incidence rates are not statistically significant and trends should be interpreted with caution.

Figure 12 Incidence of hepatitis C infection at ACCESS primary care clinics, 2012–2021



Source: ACCESS; see [Methodology](#) for detail.

Figure 13 Incidence of hepatitis C infection among HIV-positive gay and bisexual men attending ACCESS sexual health and primary care clinics, 2012–2021



Source: ACCESS; see [Methodology](#) for detail.

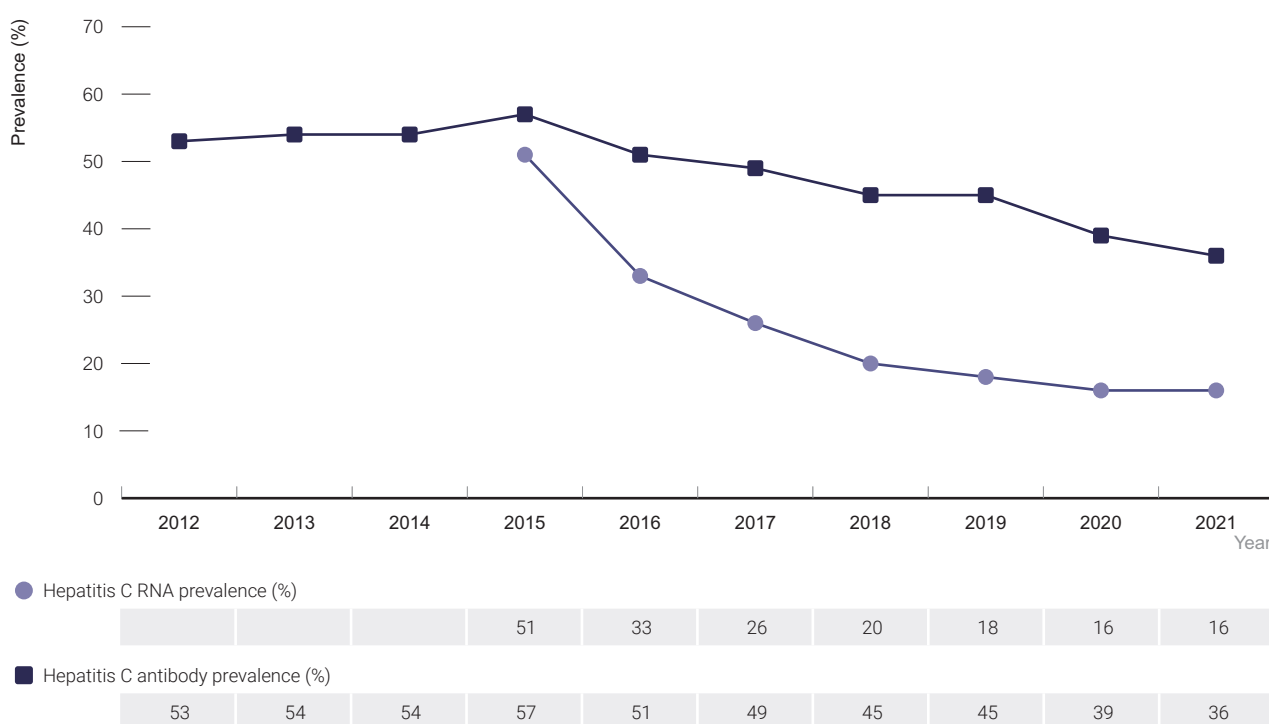
6 Hepatitis C prevalence

Australia's hepatitis C epidemic affects many people across differing age groups, ethnicities, and sociodemographic backgrounds. Key populations include people with a history of injecting drugs, people with a history of incarceration, and people from high-prevalence countries (where the prevalence of hepatitis C is higher than 3.5%).

Among ANSPS participants, hepatitis C antibody prevalence declined from 57% in 2015 to 36% in 2021 (Figure 14).

By comparison, greater declines have been seen in hepatitis C RNA prevalence, reflecting the reduced level of current infection among people with hepatitis C antibodies since the widespread availability of direct-acting antiviral (DAA) therapy. Hepatitis C RNA prevalence declined from 51% in 2015 to 16% in 2021 (Figure 14) ⁽⁶⁾.

Figure 14 Hepatitis C antibody and RNA prevalence among people attending needle and syringe programs, 2012–2021



Notes: RNA prevalence data are weighted for gender and HCV Ab status. RNA testing commenced as part of the ANSPS from 2015.

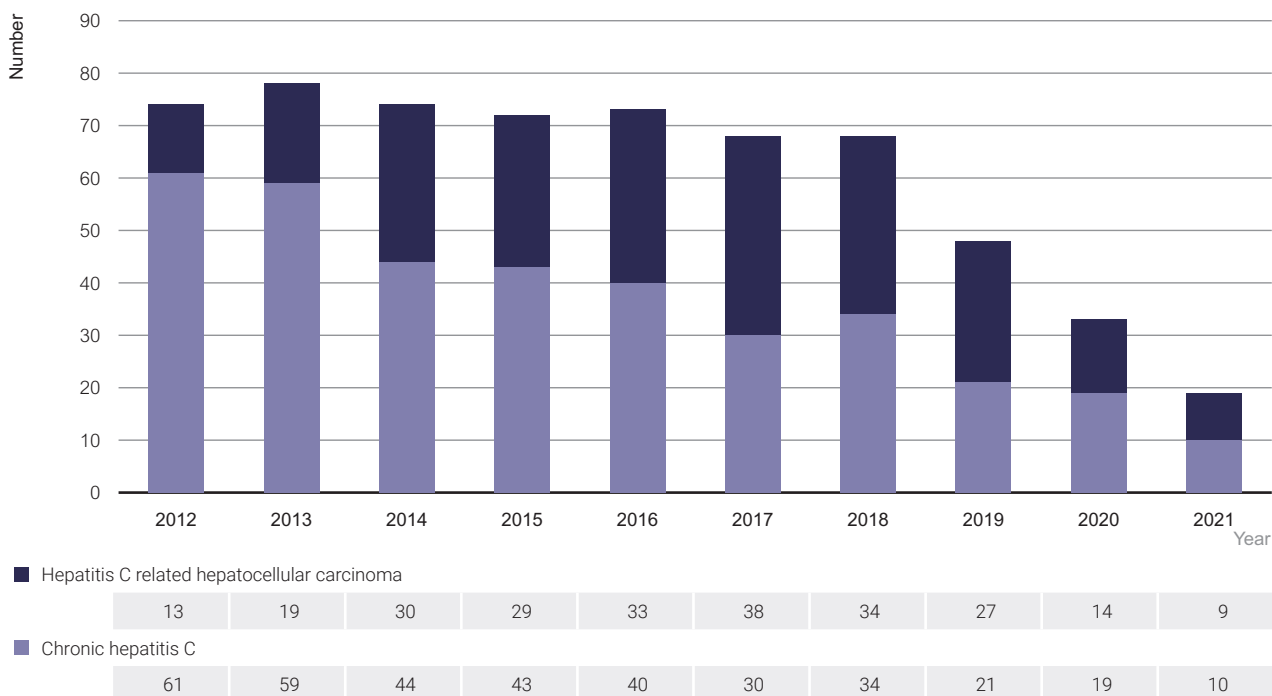
Source: Australian Needle Syringe Program Survey; see [Methodology](#) for detail.

7 Hepatitis C morbidity and mortality

There is no comprehensive registry of advanced illness related to hepatitis C in Australia. One indicator of the extent of illness caused by hepatitis C is the number of liver transplants due to chronic 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](#).

Of the 207 liver transplants in 2021, 19 (9%) were attributable to chronic hepatitis C infection or hepatitis C related hepatocellular carcinoma. The number of people having liver transplants in Australia due to chronic hepatitis C has reduced by 83% between 2015 and 2021 from 61 (34% of all liver transplants) to 10 (5% of all transplants). The number of hepatitis C-related transplants accounted for by hepatocellular carcinoma has reduced from 13 (7% of all liver transplants) in 2015 to 9 (4% of all liver transplants) in 2021 (Figure 15). 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.

Figure 15 Number of liver transplants due to chronic hepatitis C and hepatitis C related hepatocellular carcinoma, 2012–2021



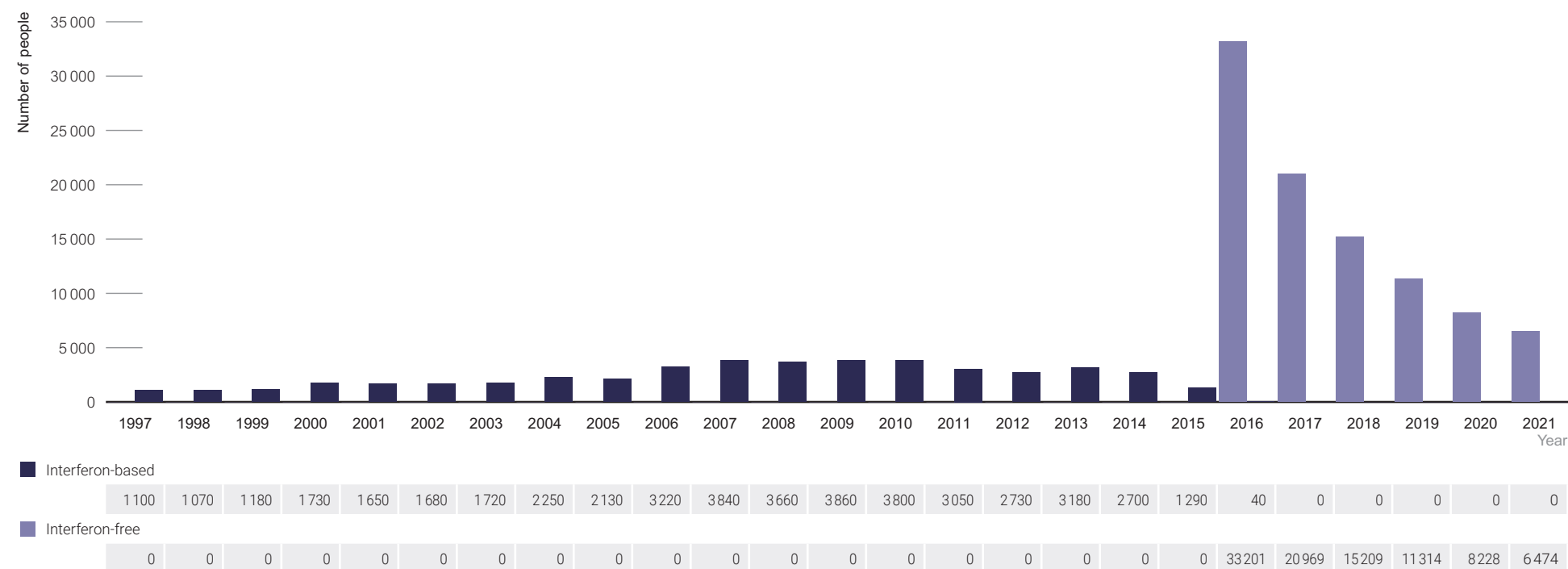
Note: Only includes people aged 16 years and over.

Source: Australian and New Zealand liver Transplant Registry; see [Methodology](#) for detail.

8 Hepatitis C treatment

Subsidised interferon-free DAA regimens became available in Australia from March 2016. Access to new highly effective hepatitis C treatments led to a 26-fold increase in the number of people receiving treatment between 2015 and 2016. The large initial DAA uptake in 2016 likely reflected a 'warehouse' effect, with many patients awaiting DAA treatment access after a hepatitis C diagnosis in previous years⁽³⁾. Since this time the DAA treatment initiations per year have declined from 33 201 in 2016 to 6 474 in 2021 (Figure 16). The state/territory breakdowns for 2021 and presented in Table 2.

Figure 16 The number of people living with hepatitis C who received treatment, 1997–2021



Source: Pharmaceutical Benefits Scheme.

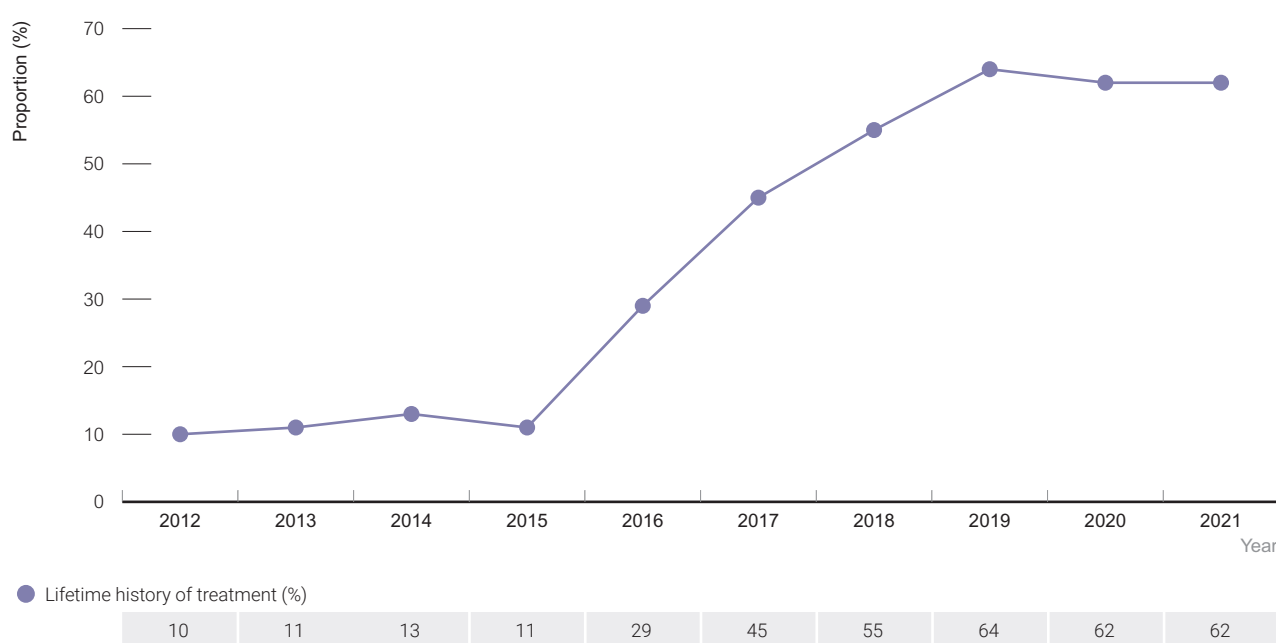
Table 2 Number of people with chronic hepatitis C infection initiating direct-acting antiviral therapy by state/territory, 2021

State/Territory	Number initiating direct-acting antiviral therapy in 2021
Australian Capital Territory	94
New South Wales	2001
Northern Territory	49
Queensland	1719
South Australia	363
Tasmania	172
Victoria	1262
Western Australia	814
Australia	6474

Source: Pharmaceutical Benefits Scheme

Data from the ANSPS indicate that among respondents with self-reported chronic hepatitis C in 2021, 62% reported ever having received hepatitis C treatment, an increase from 10% in 2012, and an increase from 11% in 2015 (Figure 17). This increase reflects improved access through subsidised interferon-free direct-acting antiviral regimens from March 2016⁽⁶⁾. Among Aboriginal and/or Torres Strait Islander ANSPS respondents, there was more than a five-fold increase, from 11% in 2015 to 56% in 2021 compared to an almost six-fold increase in non-Indigenous respondents from 11% to 65% over the same period. Please refer to the [Australian Needle Syringe Program Survey National Data Report 2017–2021: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees](#) for more information⁽⁴⁾.

Figure 17 Proportion of hepatitis C antibody positive people seen at needle and syringe programs with a lifetime history of hepatitis C treatment, 2012–2021



Note: Denominator for lifetime history of treatment is restricted to people with hepatitis C antibody positive serology and excludes people who self-reported spontaneous clearance; prior to 2012 commenced treatment in the last twelve months was 'current treatment'; excludes people who reported treatment induced clearance >12 months previously.

Source: Australian Needle Syringe Program Survey; see [Methodology](#) for detail.

9 Hepatitis C prevention

The reuse of needles and syringes that have been used by others (receptive syringe sharing) is a major risk factor for the transmission of hepatitis C and other bloodborne viruses among people who inject drugs. Harm reduction strategies, in community and prison settings, such as needle and syringe programs and opioid substitution therapy as well as safe injections, community education and peer interventions can reduce injecting risk behaviour ⁽⁷⁻⁹⁾. Opioid agonist therapy has been shown to reduce the incidence of hepatitis C and HIV among people who inject drugs ⁽¹⁰⁻¹²⁾. Health promotion is important to enhance the effectiveness of harm reduction strategies and to support people who inject drugs to implement safer practices. Mathematical modelling suggests achieving a high coverage of hepatitis C antiviral treatment can reduce the population prevalence of hepatitis C and therefore lead to reduced incidence (treatment as prevention) ⁽¹³⁾. Secondary prevention strategies to reduce the risk of liver disease morbidity and mortality include improving access to diagnosis and antiviral treatment and engagement in regular ongoing liver cancer monitoring for all people with cirrhosis even when cured of hepatitis C infection.

Injecting risk behaviour

Data from the Australian Needle Syringe Program Survey indicate that the prevalence of receptive syringe sharing has been generally stable over the past 10 years (2012–2021). In 2021, 18% of people who inject drugs attending needle and syringe programs report receptive syringe sharing in the last month (see HIV chapter, Figure 36 on page 46). The proportion of respondents reporting receptive syringe sharing was more than twice as high among Aboriginal and/or Torres Strait Islander survey participants (29%) compared with non-Indigenous participants (13%). Please refer to the [Australian Needle Syringe Program Survey National Data Report 2017–2021: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees](#) for further information ⁽⁴⁾.

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