
NSW Hepatitis B and Hepatitis C

Annual Data Report: 2021

November, 2022



Hepatitis C Data Summary

Hepatitis C

NSW is committed to reducing hepatitis C infections and improving the health outcomes of people living with hepatitis C. NSW Health has identified priority populations for reducing hepatitis C infections, including people who inject drugs, Aboriginal people and people from culturally and linguistically diverse communities. Key settings for focusing hepatitis C efforts include needle and syringe programs, alcohol and other drug services, general practice, mental health services and Aboriginal community-controlled health services.

The NSW Ministry of Health has a goal of hepatitis C elimination in NSW by 2028.

Key Data

Hepatitis C (testing, treatment, prevention)		
	2021	Change since 2020
Number of tests for hepatitis C antibody	540,884	1.09% decrease (546,826)
Progress towards elimination	46% of the estimated number of people with hepatitis C initiated treatment (at 31 December 2021)	3% increase (43% at 31 December 2020)
Number of units of injecting equipment distributed	14,073,143	7% decrease (15,215,379)
Number of people participating in the NSW Opioid Treatment Program	24, 340	6% increase (22,949)

Key Messages

Decreased hepatitis C testing and treatment in 2021

There was a 1% decrease in hepatitis C antibody tests in 2021 (540,884) compared to 2020 (546,826), however hepatitis C notifications decreased by 15% (2,386 notifications) compared to 2020 (2,806 notifications).

Increased efforts are needed to achieve hepatitis C elimination by 2028

In 2021, 2,079 people initiated hepatitis C treatment in NSW, however the number of people initiating hepatitis C treatment each quarter continues to decrease. Since hepatitis C curative treatments were introduced onto the PBS in March 2016, 46 per cent of people (32,831) estimated to be living with hepatitis C in NSW initiated treatment. This is below the NSW target of 55 per cent required to achieve hepatitis C elimination by 2028.

Delay in retrieving hepatitis C Aboriginal data

Due to the effects of the COVID-19 pandemic, there is a delay in retrieving hepatitis C Aboriginal data for NSW. As such, the NSW Hepatitis B and Hepatitis C Annual Data Report: 2021 does not report on hepatitis C Aboriginal data. Once the 2021 Aboriginal data becomes available, the report will be updated.

Hepatitis B Data Summary

Hepatitis B

NSW Health is committed to reducing hepatitis B infections and improving the health outcomes for people living with hepatitis B. Hepatitis B disproportionately impacts people born overseas in high prevalence countries and Aboriginal and Torres Strait Islander people. NSW has successfully prevented locally acquired infection through hepatitis B vaccination programs. However, vaccination programs alone cannot eliminate hepatitis B as a public health threat. Building on achievements and strengthening efforts across prevention, testing, treatment, linkage to care and community leadership are essential.

Key settings requiring action include antenatal services, Aboriginal community controlled health services, general practice and primary care, corrective services and drug and alcohol services.

Key Data

Hepatitis B (treatment, monitoring, and screening)				
			2021	Change since 2020
Number of tests for hepatitis B surface antigen			598,200	1.4% decrease (606,600)
Residents dispensed with hepatitis B treatment			11,055	4.6% increase (10,569)
Number of viral load tests			14,998	Retained (14,951)
Hepatitis B vaccines	Proportion of infants in NSW who have received 3 doses of hepatitis B vaccine	12 months	95.3%	0.1 percentage point decrease (95.4%)
		24 months	96.8%	0.3 percentage point increase (96.5%)
Proportion of women giving birth who are screened for hepatitis B			99.4% (January-March 2021)	No change since 2020

Key Messages

Ongoing efforts are required to support GPs to prescribe hepatitis B treatment and monitor patients

It is essential that primary care plays a greater role in testing, treating and monitoring in all LHDs, with a focus on the five districts with the highest prevalence. The number of viral load tests completed in 2021 (14,998 tests) remained almost the same compared to 2020 (14,951 tests). The number of residents dispensed hepatitis B treatment increased slightly in 2021 (11,055 residents) compared to 2020 (10,569 residents).

Hepatitis B primary prevention programs and community engagement are critical components

Primary prevention programs include universal hepatitis B childhood vaccination, pregnancy screening, immunoglobulin administration to neonates at high risk of infection, and vaccinations of adult at high-risk. The NSW Health Policy Directive [PD2017_036 Neonatal Hepatitis B Prevention and Vaccination Program](#) specifies the requirements for neonatal hepatitis B prevention and vaccination. For more information and data relating to the neonatal hepatitis B vaccination program, please refer to the Vaccination Coverage in NSW page on the NSW Health website at: [Vaccination coverage in NSW - Immunisation programs](#). Community leadership, workforce development and research are required to enhance hepatitis B activities in NSW.

Glossary of Terms

ADM	Automatic dispensing machine
HBV	Hepatitis B virus
HCV	Hepatitis C virus
LHD	Local Health District
MSIC	Medically Supervised Injecting Centre
NNEDC	NSW Needle and Syringe Program Enhanced Data Collection
NSP	Needle and Syringe Program
NUAA	New South Wales Users and AIDS Association
NSW	New South Wales
OTP	Opioid Treatment Program
PWID	People who inject drugs
RSS	Receptive syringe sharing
DBS	Dried Blood Spot
DAA	Direct Acting Antivirals
PBS	Pharmaceutical Benefits Scheme

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Hepatitis C

1. Hepatitis C notification data and hepatitis C infection

Hepatitis C notification data provides limited information that can be used for assessing the epidemiological patterns of hepatitis C infection. This is because many infections are asymptomatic, so people who are infected may never be tested, or only tested many years after infection, and laboratory reports do not distinguish between infections acquired recently, or years before. Also, variations in notifications may reflect differences in testing patterns rather than differences in incidence of infection.

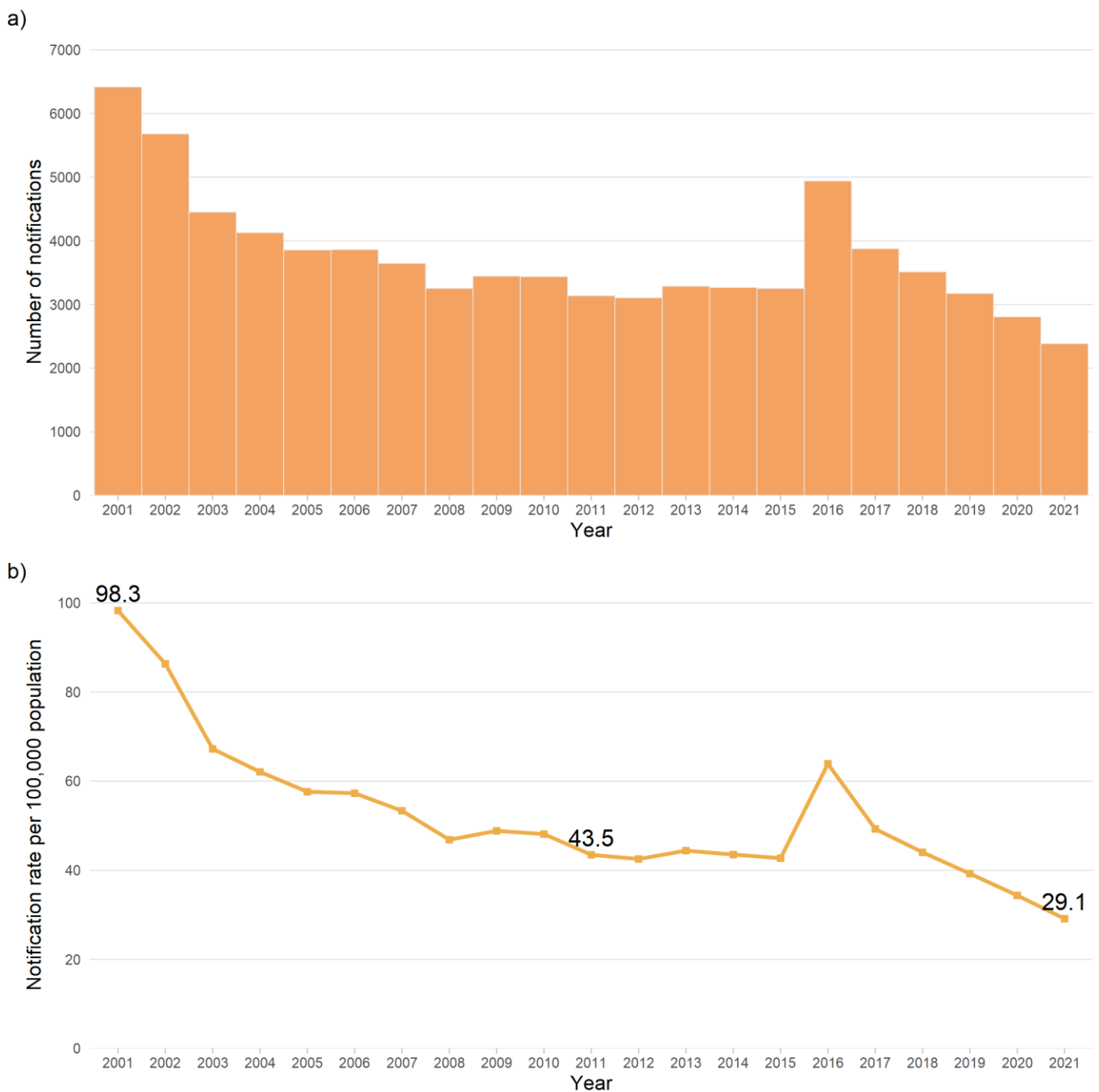
Hepatitis C RNA testing is recommended for all people who have a positive hepatitis C antibody test. Hepatitis C RNA is a marker of current infection. It is important to note that there may be multiple tests for each individual tested for hepatitis C. However, an individual with multiple positive hepatitis C tests will only generate one notification.

1.1 How many diagnoses of hepatitis C are notified?

Hepatitis C notification data changed in 2018/19 following two data activities:

- From 1 January 2016, laboratories have reported positive qualitative and quantitative HCV RNA test results. Two retrospective NCIMS HCV RNA data imports for the period 1 January 2016 to 31 December 2018 were conducted, one in 2018 and one in 2019. This had the effect of increasing hepatitis C notifications from 2016 to 2018.
- In 2019, a project was undertaken to identify and remove duplicates from the NSW notifiable conditions information management system (NCIMS). This had the effect of reducing the number of hepatitis C notifications in previous years.

Figure 1: Number and rate of hepatitis C notifications, NSW, 2001–2021



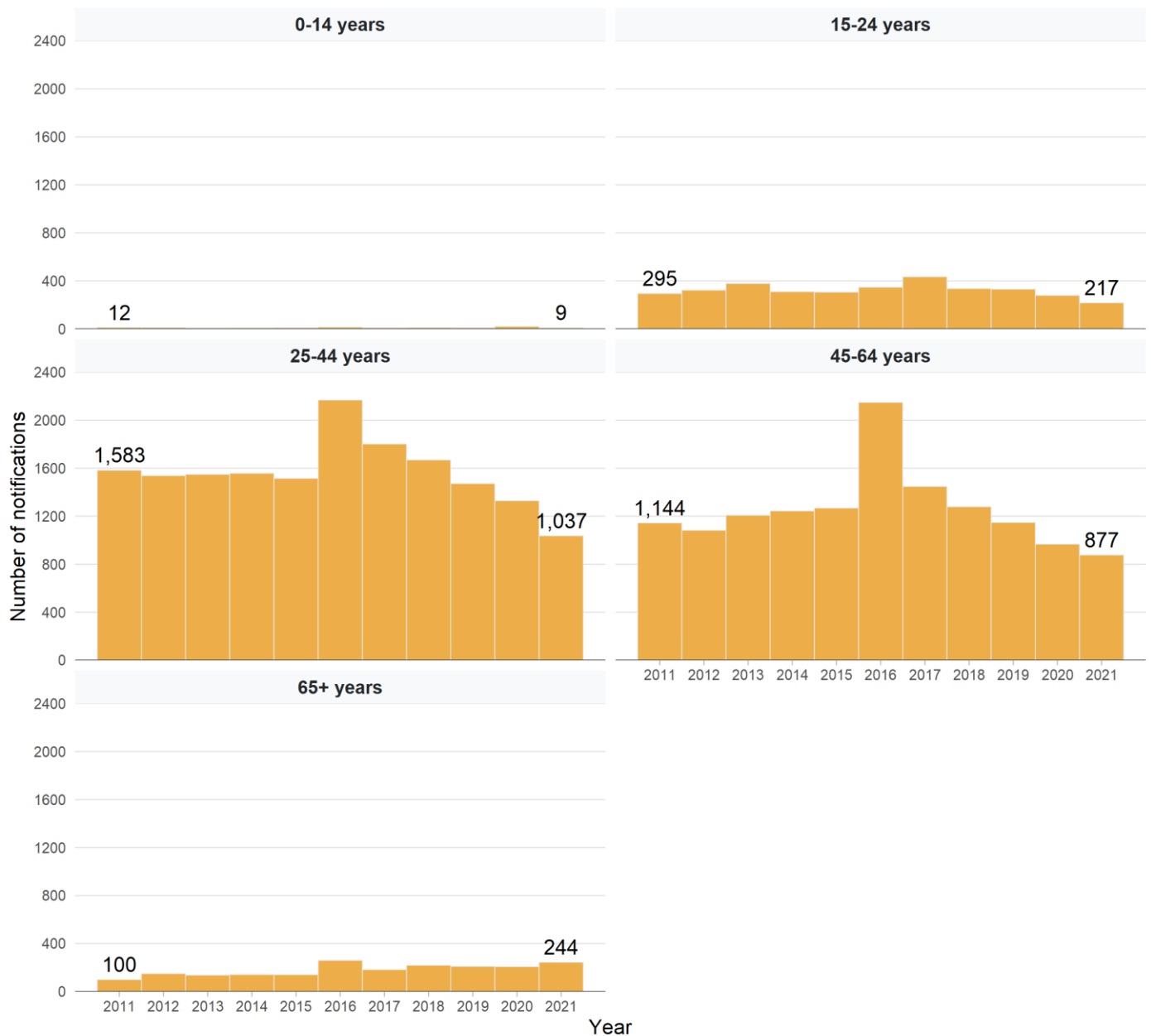
Data source: NCIMS and ABS population estimates (SAPHaRI), NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents. Year of notification is based on calculated onset date.

In 2021:

- There were 2,386 hepatitis C notifications in NSW residents.
- The hepatitis C notification rate was 29.1 notifications per 100,000 population, which represents a 15% decrease compared with 2020 when the rate was 34.4 notifications per 100,000 population and a 33% decrease from 2015.
- The notification rate has declined each year since the sharp increase in 2016 when hepatitis C direct acting antivirals (DAAs) became listed on the PBS in Australia.

1.2 Which groups are being notified?

Figure 2: Number of hepatitis C notifications by age group, NSW, 2011–2021

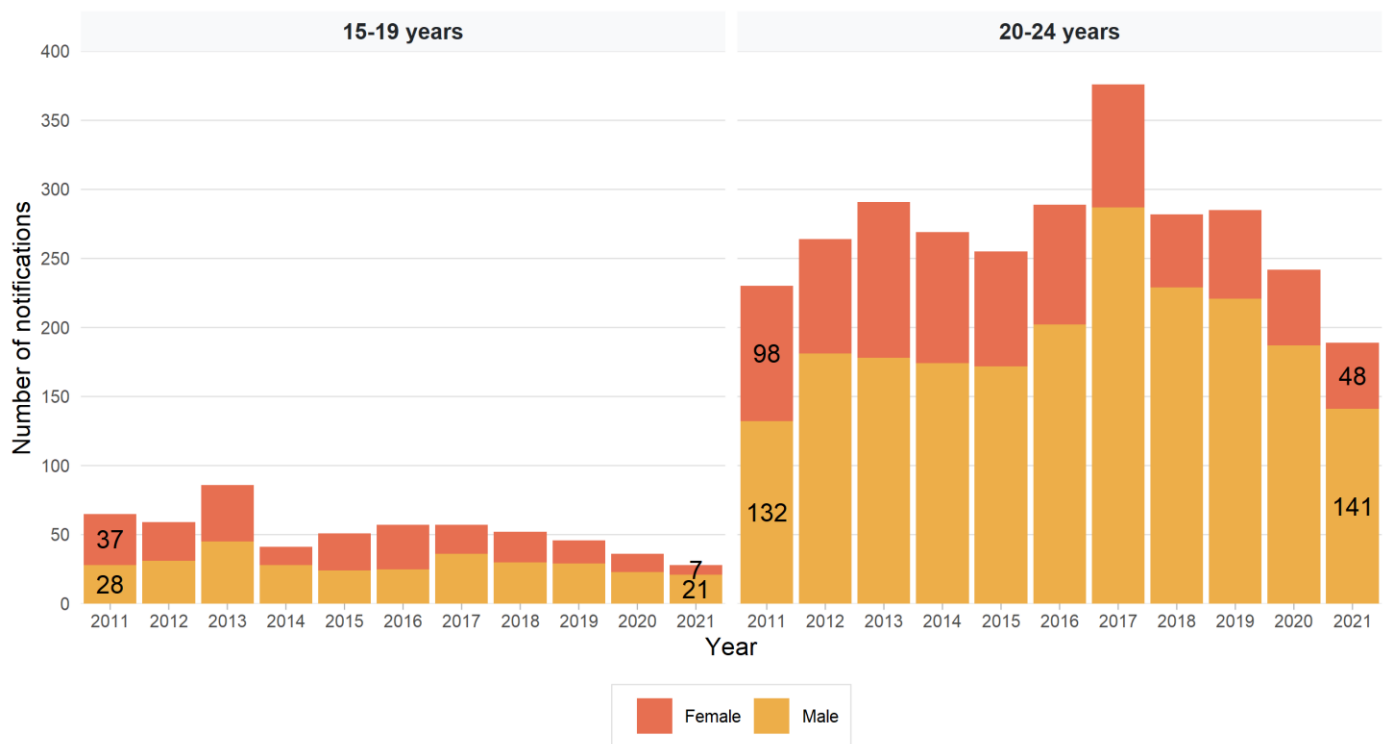


Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents and persons whose age is not stated. Year of notification is based on calculated onset date.

In 2021:

- The largest number of hepatitis C notifications continued to occur among people aged 25-44 years.
- The number of notifications in people aged 15 to 64 years continued to decline. The largest decreases compared to 2020, were in the 25-44-year and 15–24-year age groups, with a 22% and 21% reduction respectively. Since 2015, notifications of hepatitis C have decreased in all age groups within this age range, the most substantial decrease has similarly occurred in the 25-44-year and 15–24-year age groups.
- Hepatitis C notifications increased by 17% among people aged 65+ years and remained largely stable in people aged 0–14 years compared to 2020. Hepatitis C infections in children are usually acquired through mother-to-child transmission during pregnancy or birth.

Figure 3: Number of hepatitis C notifications in people aged between 15 and 24 years, by age group and gender, NSW, 2011–2021



Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents, transgender persons (due to small numbers), and persons whose age or sex is not stated. Year of notification is based on calculated onset date.

In 2021:

- The number of hepatitis C notifications continued to decline among males aged 20 to 24 years, with a 25% decrease compared with 2020. The number of hepatitis C notifications among females in the same age range decreased by 13%.
- Among males and females aged 15-19 years, the number of notifications remained small and declined by 9% and 46% respectively compared to 2020.

Note: The number of hepatitis C infections that are detected (and subsequently notified) is dependent on the number of people in this age group who are tested.

1.3 Where are notifications occurring?

Figure 4: Hepatitis C notification rate by Local Health District of residence, NSW, 2016–2021



Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents and persons whose place of residence in NSW was not stated. Year of notification is based on calculated onset date.

In 2021:

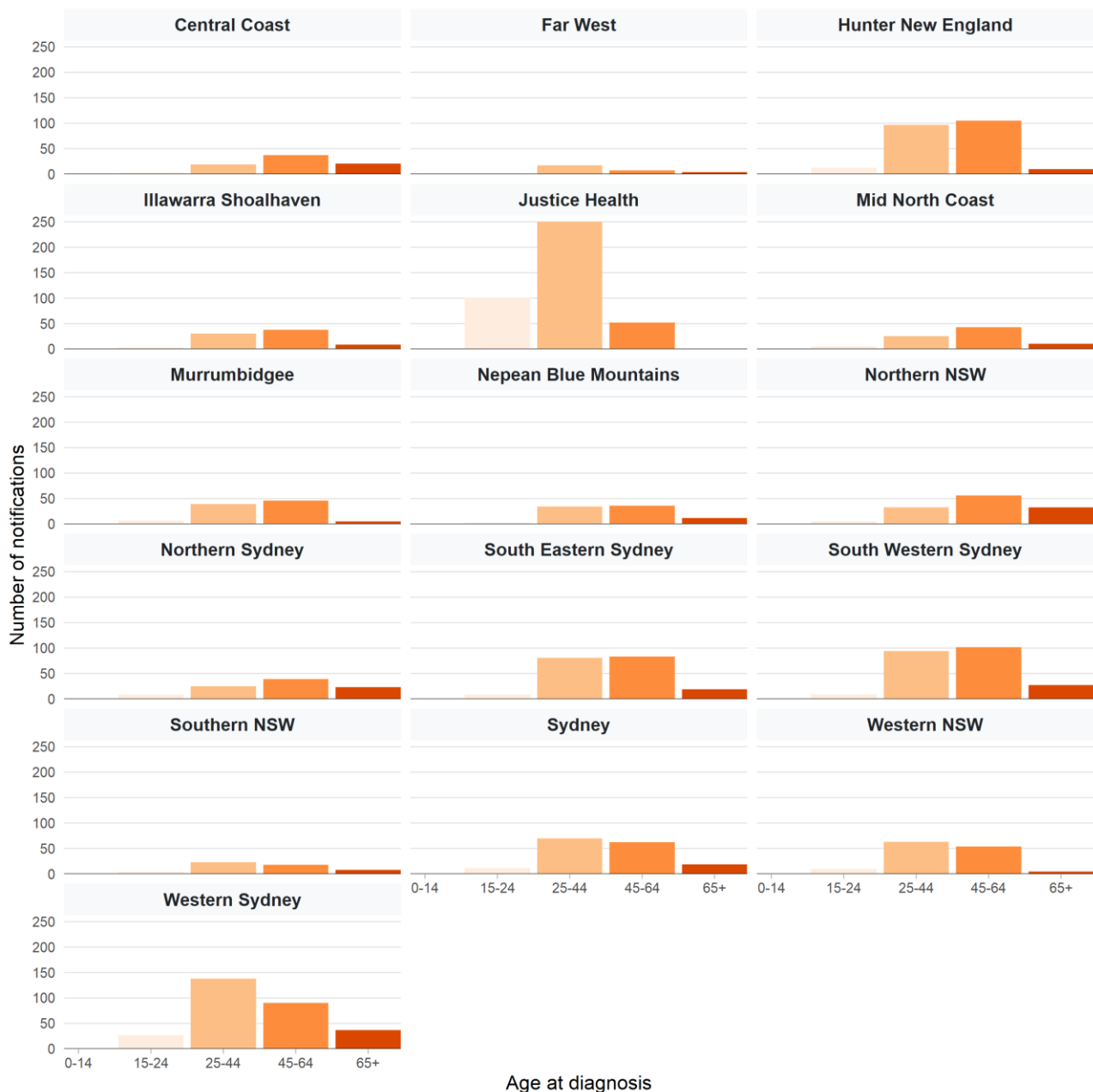
- Far West, Northern NSW, and Western NSW LHDs had the highest hepatitis C notification rates in NSW.
- Compared with 2020, hepatitis C notification rates decreased in most LHDs, with small increases between 5% and 6% observed in the Mid North Coast and Far West LHDs.

- Northern Sydney had an increase in hepatitis C notification of 14% with an increase from 84 cases in 2020, to 96 cases in 2021.
- Compared with 2020, the largest declines in hepatitis C notification rates occurred in the Illawarra Shoalhaven and the Nepean Blue Mountains LHDs, by 35% and 32% respectively.

Note: Local changes in notification rates can be difficult to interpret due to a range of factors. Because hepatitis C is often asymptomatic, people may be tested many years after infection and testing patterns vary across time and settings. Local health promotion campaigns and screening programs targeting at-risk populations can result in increased testing and better detection rates.

There is substantial variation in population size between the LHDs. For LHDs with a smaller population, such as Far West NSW, a small change in the number of notifications can have a large impact on the annual rate.

Notification rates have not been calculated for Justice Health as the population (the denominator) fluctuates considerably and data are available only for the annual number of incarcerations, not the number of people incarcerated.

Figure 5: Notifications of hepatitis C by age group and Local Health District of residence, NSW, 2021

Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents and persons whose place of residence in NSW was not stated. Year of notification is based on calculated onset date.

In 2021:

- As in previous years, the largest number and highest proportion of hepatitis C notifications among 15 to 24-year-olds were reported by Justice Health.
- Of the 219 hepatitis C notifications in people aged 15-24 years in 2021, 101 (47%) were from Justice Health.

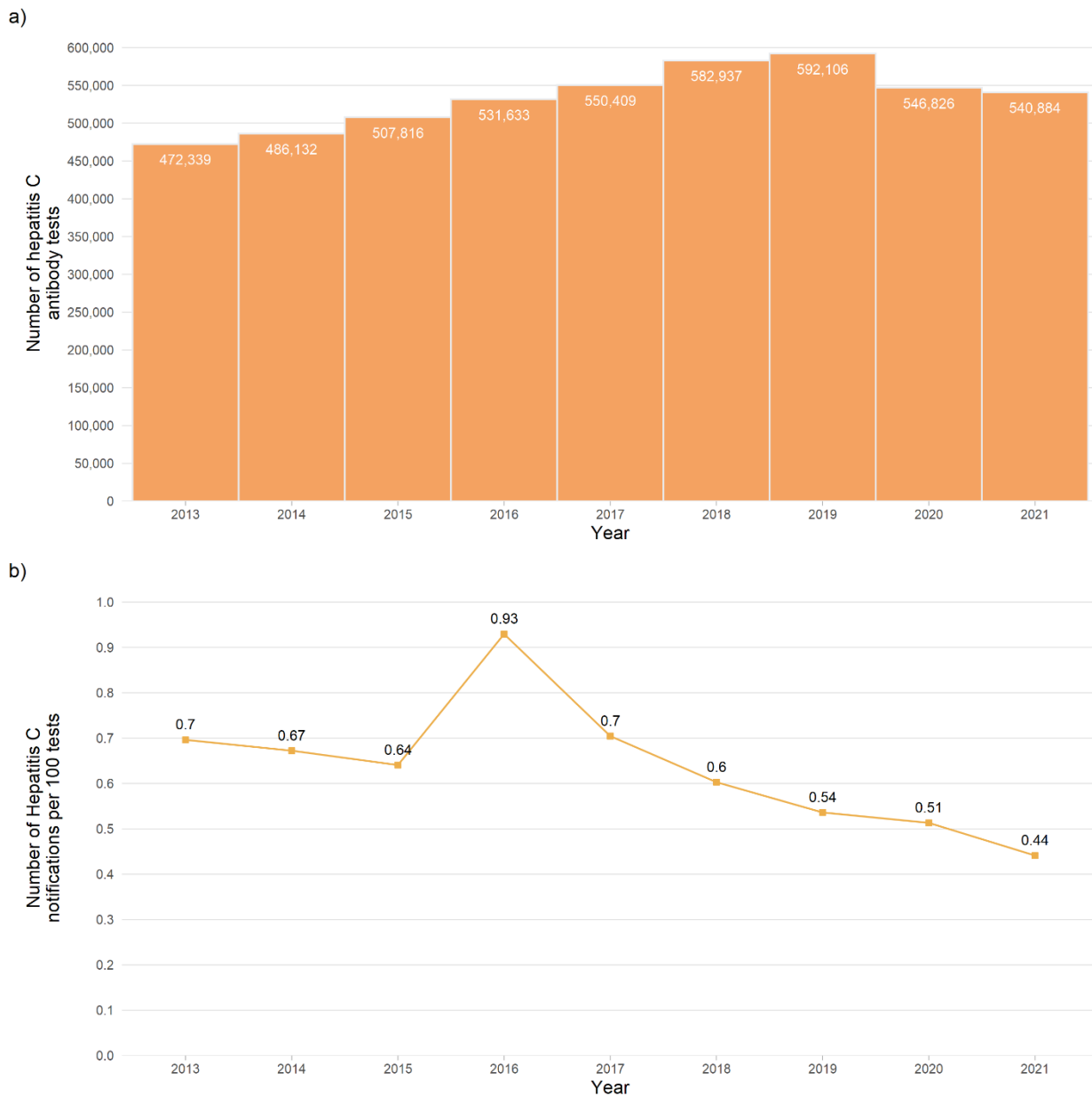
Note: High numbers of notifications in custodial settings may be partly due to a higher proportion of people with risk factors for hepatitis C infection in the population, targeted screening programs, and the inclusion of people who have been previously diagnosed interstate or overseas. Hepatitis C infections in children are usually acquired through mother-to-child transmission during pregnancy or birth.¹

¹ Benova L, Mohamoud YA, Calvert C et al (2014) Vertical transmission of hepatitis C virus: systematic review and meta-analysis. Clin Infect Dis 59(6): 765-73.

2. Testing for hepatitis C

2.1 Is hepatitis C testing increasing?

Figure 6: Number of tests for hepatitis C antibody and notification to test ratio², NSW, 2013–2021



Data sources: NSW denominator data project, NSW Health; data extracted 14 June 2022.

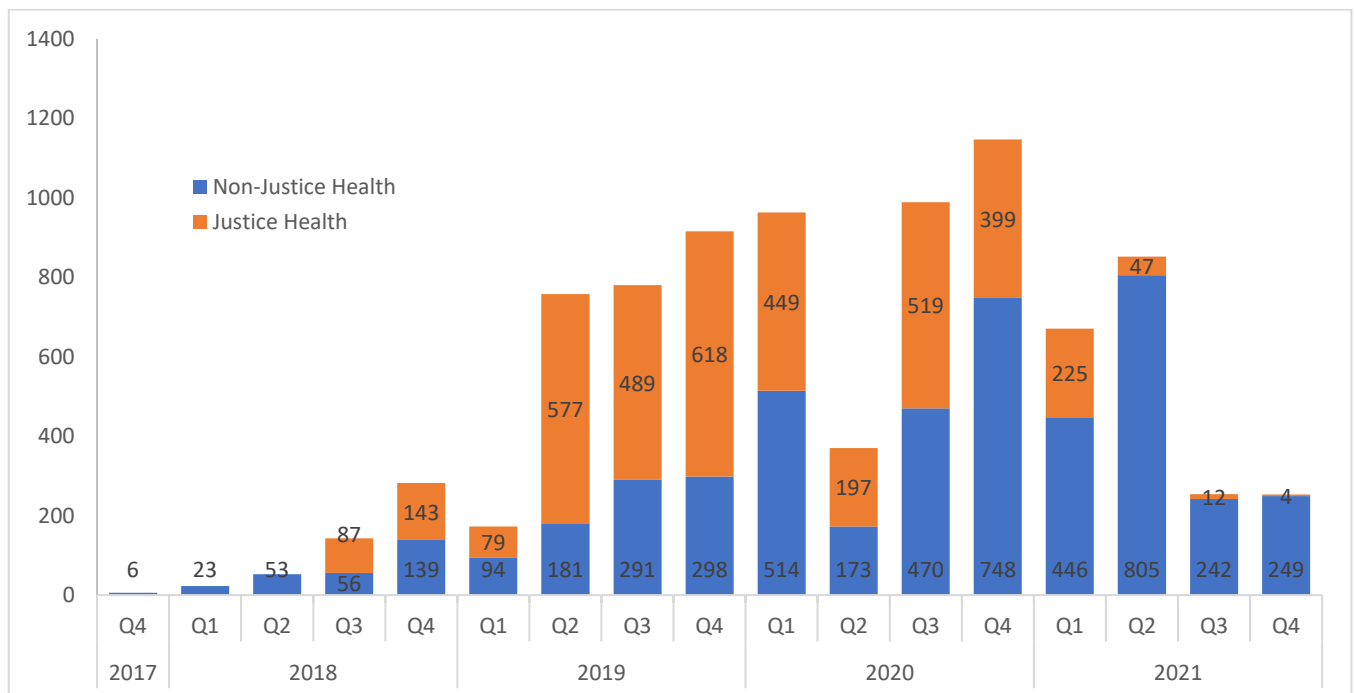
In 2021:

- In 2021, 540,884 tests for hepatitis C antibody were performed in 15 laboratories in NSW, a 1% decrease from 2020 (546,826 tests). However, testing remained at a higher level than any year prior to 2017.
- The decline in testing in 2021 was likely due to impacts of the COVID-19 pandemic. The notification to test ratio decreased to 0.44, which may suggest either that testing was less targeted throughout the year or a reduction in community prevalence.

Dried Blood Spot (DBS) was established in 2017 and is an innovative finger stick test for HIV and hepatitis C that is accessed by eligible people online or via a settings-based approach. The NSW DBS Self-Sampling Testing Pilot Program aims to increase testing among high-risk populations who experience barriers to testing through conventional services.

In September 2019, the pilot was expanded to improve access by at-risk populations. As part of the update, participants can be tested for hepatitis C without an HIV test. People eligible for a hepatitis C test can still opt-in for an HIV test.

Figure 7: Number of hepatitis C dried blood spot (DBS) tests completed in NSW in Justice Health settings and non-Justice Health settings³ between 1 October 2017 and December 2021



Data sources: Dried Blood Spot (DBS) Testing Pilot, NSW Health

In 2021:

- There were 1,742 hepatitis C DBS RNA tests completed in non-Justice Health settings and 288 tests completed in Justice Health settings.
- There was a decrease in the number of DBS tests completed in the last two quarters in 2021, which was likely due to COVID-19 restrictions.
- There were 227 DBS tests that were reactive for hepatitis C in 2021 (11% reactivity) and 1,103 DBS tests that were reactive for hepatitis C since October 2017 (13% reactivity).

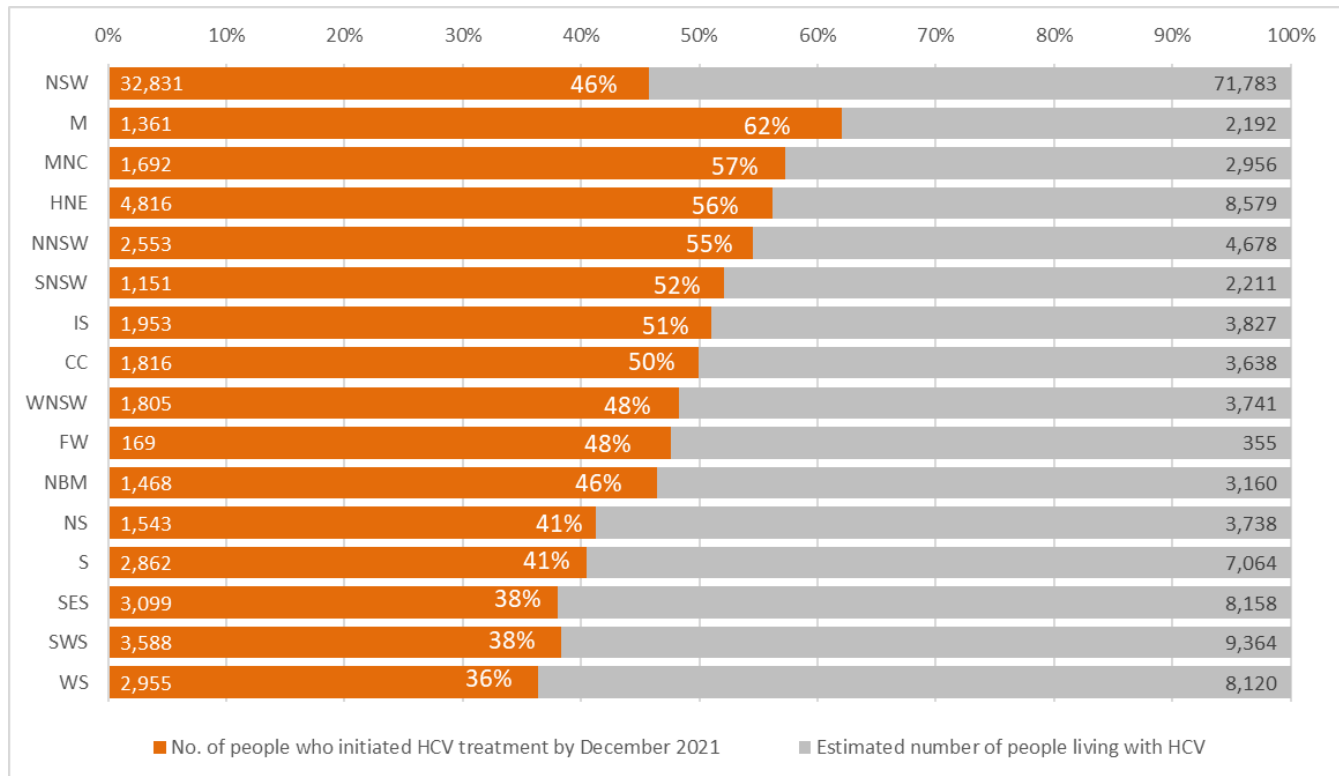
Note: The number of hepatitis C DBS tests completed in NSW between 2017 and 2021 is not included in Figure 6 due to the DBS test being in a pilot phase where results are not linked to the NSW denominator data project.

³ See **Appendix: Table 5** for more information

3. Hepatitis C treatment access

3.1 How many people are accessing hepatitis C treatment?

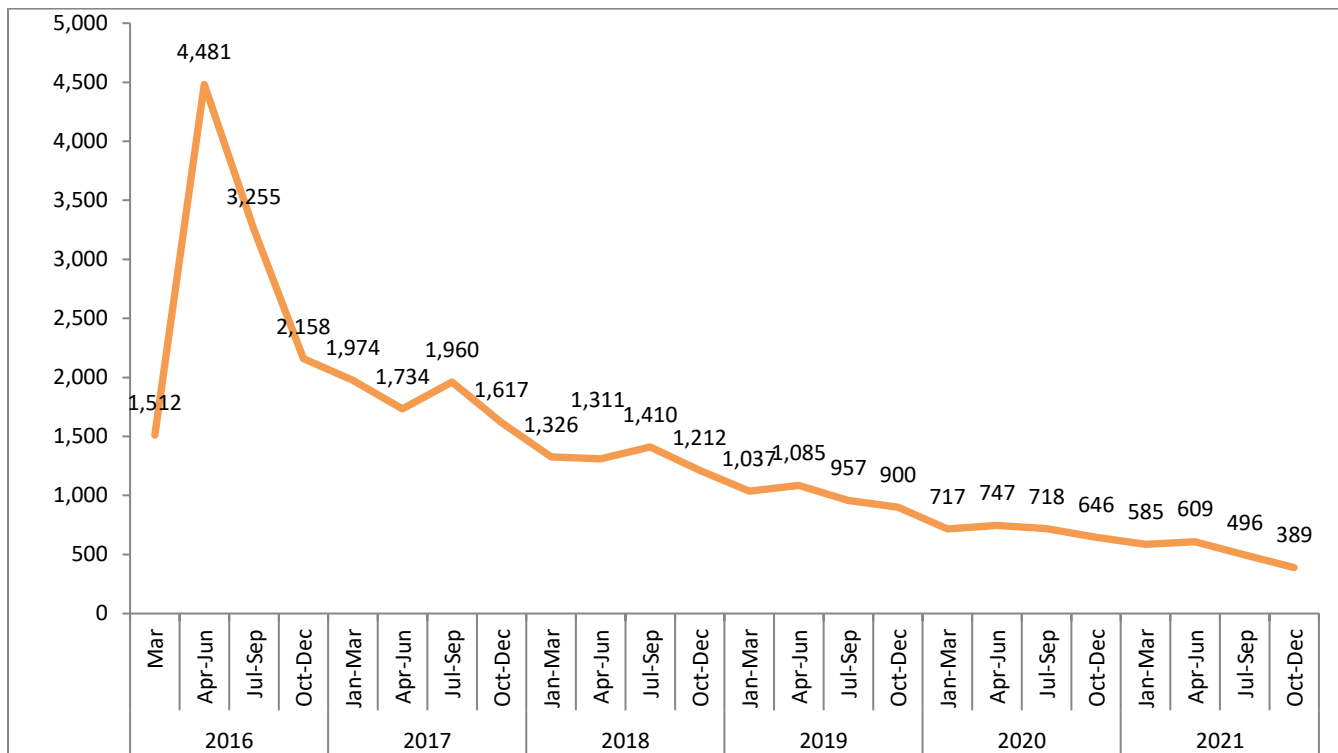
Figure 8: Number of residents initiating hepatitis C treatment in NSW between 1 March 2016 and 31 December 2021 by LHD of patient residence, compared to the estimated number of people living with hepatitis C in 2019



Data source: PBS data (treatment initiation); The Kirby Institute, 2020 Updated Estimates and Projections of the Hepatitis C virus Epidemic in NSW: Summary Report; Numbers include treatment initiated in Justice Health.

Between 1 January to 31 December 2021:

- 2,079 people initiated hepatitis C treatment in NSW. As of December 2021, 46 per cent (32,831) of the estimated 71,783 people in NSW living with hepatitis C have initiated treatment.

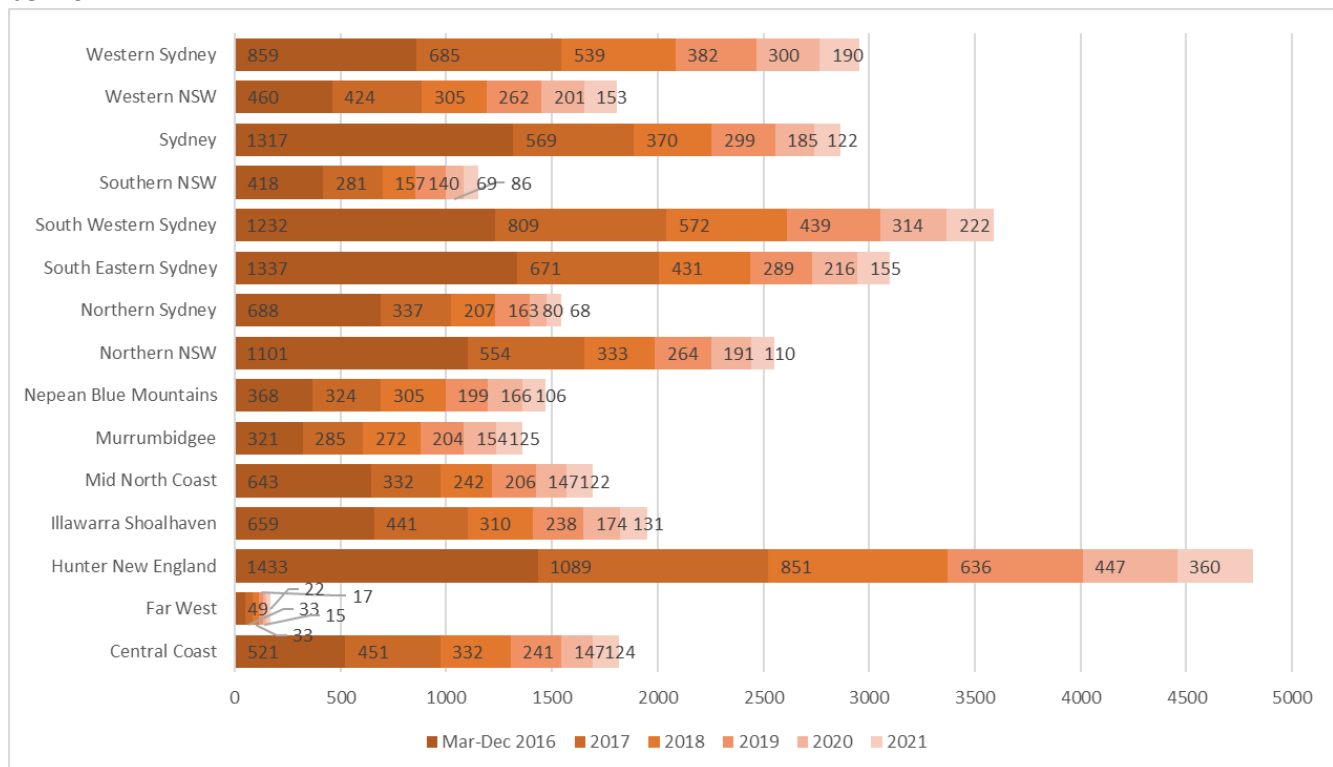
Figure 9: Number of residents initiating hepatitis C treatment in NSW by quarter, 1 March 2016 - 31 December 2021

Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data

From 1 March 2016 to 31 December 2021:

- The number of residents initiating hepatitis C treatment each quarter continues to decrease.
- Between October and December 2021, 389 people in NSW initiated hepatitis C treatment. The COVID-19 pandemic and restrictions may also have impacted hepatitis C treatment initiations in 2021.
- Further efforts are needed by all LHDs to actively find people with hepatitis C and link them to treatment.

Figure 10: Number of residents initiating hepatitis C treatment in NSW by LHD by year, 1 March 2016 - 31 December 2021

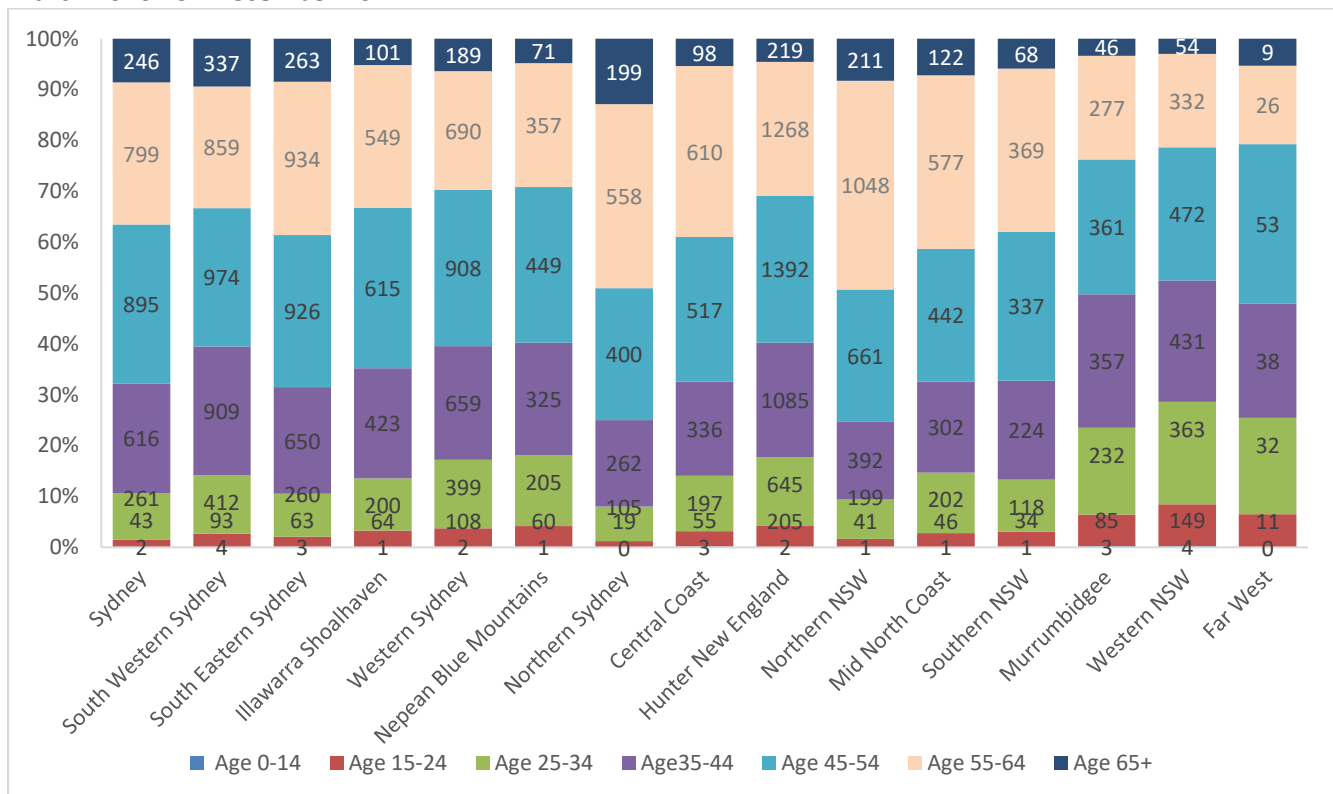


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data

Between 1 March 2016 and 31 December 2021:

- Since 2016, the number of residents initiating hepatitis C treatment has decreased across all LHDs annually.
- LHDs are implementing locally tailored strategies to increase testing and treatment, including in general practice.

Figure 11: Number of people in NSW initiated hepatitis C treatment by age group and LHD of patient residence, March 2016 - 31 December 2021

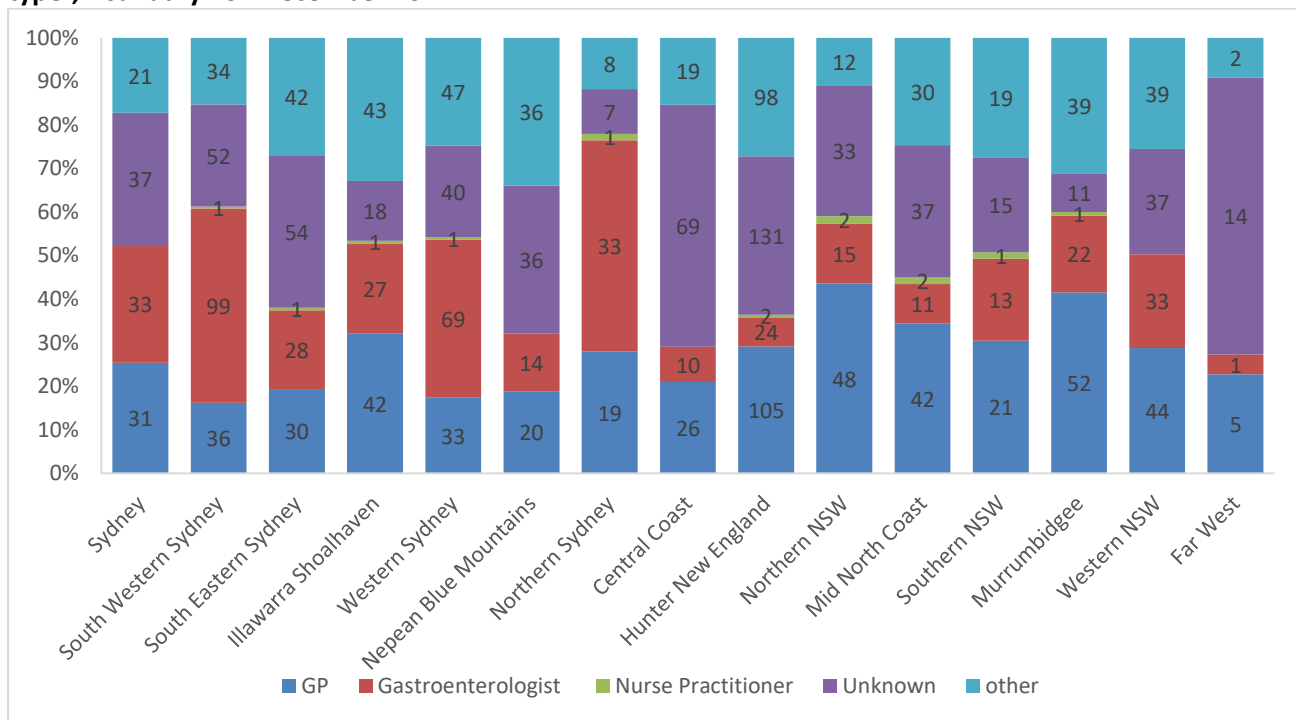


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data.

Between 1 March 2016 and 31 December 2021:

- Among those who initiated hepatitis C treatment in NSW, 69% (22,641) were male and 31% (10,188) were female.
- The larger number of residents initiating hepatitis C treatment were mainly from age groups 45 to 54 years followed by 55 to 64 years and 35 to 44 years.
- There were more people aged 65+ initiating treatment in Sydney, South Western Sydney, South Eastern Sydney, Northern NSW, Hunter New England and Northern Sydney LHDs.

Figure 12: Number of people in NSW initiated hepatitis C treatment by LHD of patient residence, by prescriber type⁴, 1 January - 31 December 2021



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data.

Note: The Figure identifies the number of NSW residents who initiated hepatitis C treatment by specialist or a GP by LHD of patient residence. *'Other' includes non-vocationally registered GPs and all prescriber speciality areas, except gastroenterologists. The number and proportion of people initiating treatment across LHDs exclude Justice Health Settings. NSW Health continues to work with the PBS to increase accuracy of prescriber type data.

From 1 January to 31 December 2021:

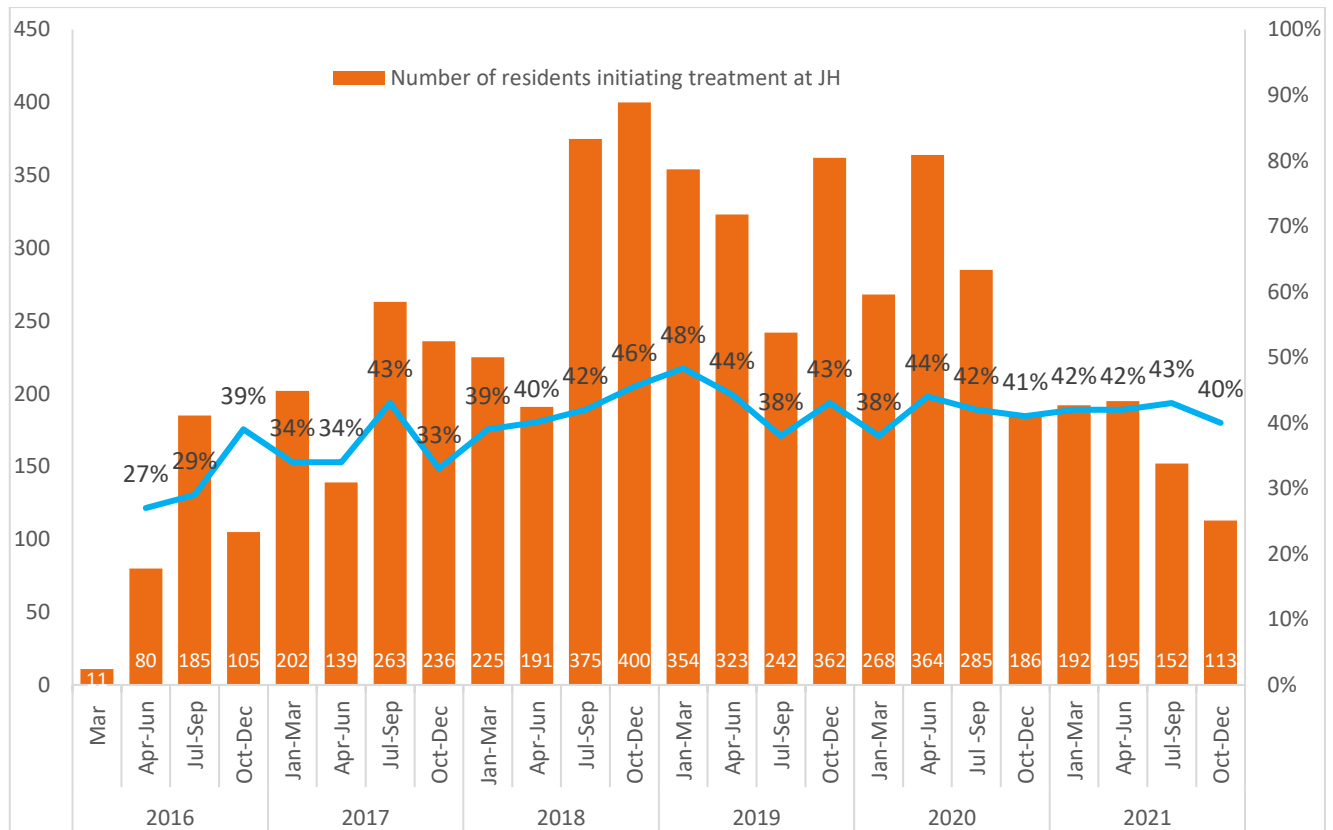
- The proportion of NSW residents initiating hepatitis C treatment by a general practitioner (GP) was 27 per cent.

⁴ The prescriber type is a derived field that indicates the specialty of the health professional providing the prescription. It is derived for each quarter based on the prescriber's registered specialties and the Medicare services they have provided that quarter. As a result, it may change over time and should be interpreted with this limitation noted. Other includes non-vocationally registered GP, pathology, immunology and allergy, public health medicine, surgery, psychiatry, respiratory and sleep medicine, dermatology, college trainee, paediatric medicine, medical oncology, ophthalmology, palliative medicine, nephrology, geriatric medicine, nurse practitioner, and haematology specialists.

People in custodial settings are a priority population in NSW

Those with a history of injecting drug use are often marginalised in the community and find it difficult to access treatment. Justice Health has a unique opportunity to access and treat people with hepatitis C in custody.

Figure 13: Number of people initiating treatment in Justice Health, including the number and proportion of people who identify as Aboriginal, 1 March 2016 - 31 December 2021



Data source: Data were from Pharmaceutical Benefits Schedule Highly Specialised Drugs Program data between 1 March 2016 and 31 December 2021 (number of people initiated on treatment) and NSW Health Hepatitis C Minimum Data Set (proportion of people initiated on treatment who are Aboriginal). From 1 July 2018 to 31 December 2021, data were reported by Justice Health.

Between 1 March 2016 and 31 December 2021:

- 5,448 NSW residents initiated hepatitis C treatment in Justice Health settings.
- In 2021, a total of 652 NSW residents initiated hepatitis C treatment through Justice Health; the proportion of those initiating treatment who are Aboriginal people remained stable at approximately 40%.
- Throughout 2017 to 2021, hepatitis C screening and treatment has been scaled up across all correctional centres state-wide.

4. Hepatitis C prevention investment

Needle and syringe programs (NSPs) are evidence based, cost-effective ways to prevent hepatitis C transmission. A harm reduction approach, combined with other complementary prevention strategies, is central to prevention efforts in NSW.

The NSP is flexible, targeted and ensures that sterile injecting equipment is readily available in the areas of highest need and accessible to those most at risk of infection.

4.1 Who is accessing the Needle and Syringe Program?

The proportion of priority populations accessing the NSW NSP has remained relatively stable between 2016 and 2021. Among people participating in the NSW Needle and Syringe Program Enhanced Data Collection (NNEDC) in 2021:

- 19 per cent identified as Aboriginal and/or Torres Strait Islander
- 22 per cent had experienced homelessness in the past year
- 10 per cent reported being imprisoned in the past year
- 22 per cent reported experiencing at least one mental health issue in the past year

Data source: NSW Needle and Syringe Program Enhanced Data Collection 2021 (NNEDC)

Note: The NNEDC provides an annual snapshot of NSW NSP client demographic and drug use behaviour. In 2021 all 15 LHDs participated across 48 sites. Please note this data does not provide an accurate reflection of the population across NSW or does it provide comparisons between LHDs. The survey is a snapshot only. The NSW NSP also includes automatic dispensing machines and pharmacies that are not captured as part of the survey. The type and number of NSP outlets by LHD is at **Appendix: Figure 32**.

4.2 What proportion of people use other people's used needles and syringes (receptive syringe sharing)?

Among respondents in the 2021 NNEDC, prevalence of receptive syringe sharing (RSS) in the previous month was 18% (compared to 16% in the previous year). Factors associated with an increased risk of RSS included recent homelessness, imprisonment in the previous 12 months and daily or more frequent injection. One in five respondents (24 per cent) reported currently being prescribed opioid agonist treatment (OAT), however this was not associated with decreased RSS.

4.3 How many units of injecting equipment are distributed by the Needle and Syringe Program?

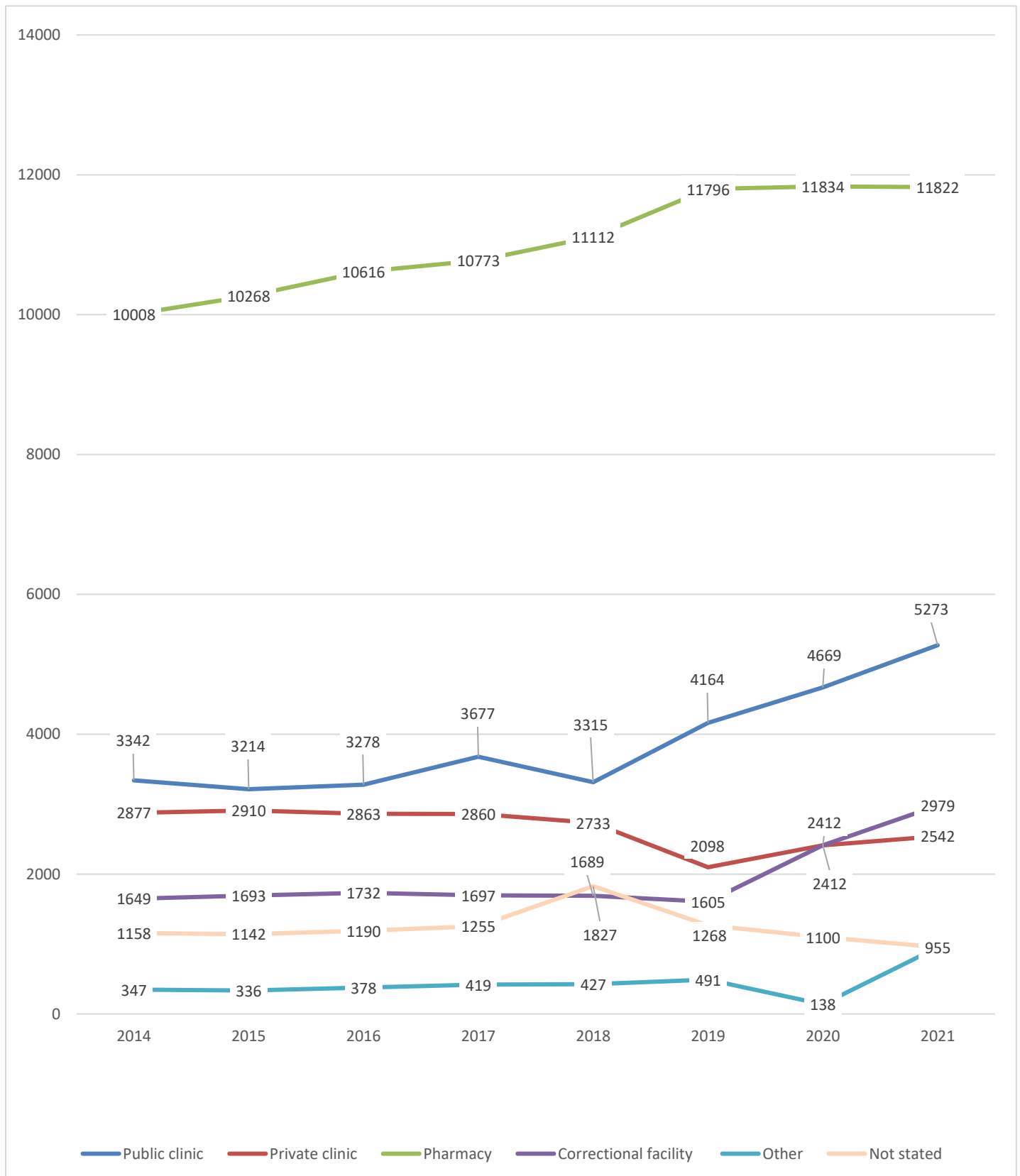
- As of June 2021, there were 29 primary outlets, 254 secondary outlets, and 274 Automatic Dispensing Machines (ADMs) in NSW.
- The number of units of injecting equipment distributed in NSW reduced (-7%) from 15,215,379 in 2020 to 14,073,143 in 2021.
- Units dispensed in 2021 included:
 - 12,717,209 units dispensed at public outlets
 - 1,355,934 units dispensed at NSW pharmacies

Note: The total includes additional units ordered from The Pharmacy Guild of Australia (NSW Branch) by individual pharmacies, but not allocated to an LHD. The number of units of injecting equipment distributed by LHD is at **Appendix: Table 6**.

4.4 How many people in NSW are receiving opioid pharmacotherapy treatment?

It is essential that the NSP is complemented by other initiatives such as drug and alcohol treatment programs that reduce injecting risk behaviour. Refer to Figure 14 below.

Figure 14 Number of people participating in the NSW Opioid Treatment Program, by dosing point, at 30 June 2014 – 2021

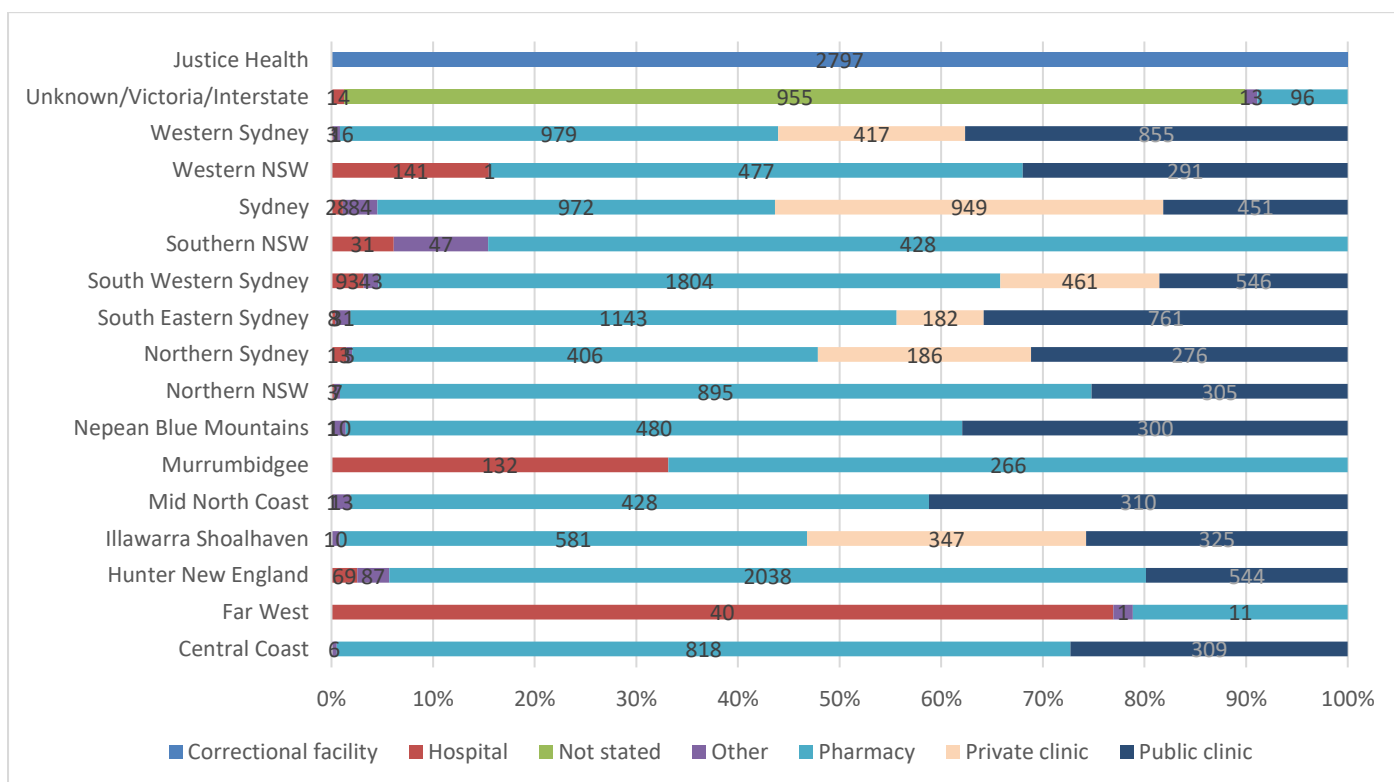


Data source: National Opioid Pharmacotherapy Statistics Annual Data 2014-2021.

- In 2021, on a snapshot day of the program, 24,340 clients had active authorities for opioid pharmacotherapy treatment in various dosing settings (NOPSAD 2021).
- Between 30 June 2014 and 30 June 2021, community pharmacy dosing was consistently the most common dosing point in each time period. In 2021, over 48 per cent of clients (11,822) received treatment at a community pharmacy; 22 per cent of clients (5,273) received treatment at a public clinic; and 10 per cent of clients (2,542) received treatment at a private clinic. “Other” (951) accounts for clients dosed in hospital and community health settings, and “Not Stated” (955) accounts for clients that may have moved dosing point, but the data has not been updated with the Pharmaceutical Regulatory Unit.

Note: A new formulation of buprenorphine was introduced in NSW in 2019 known as depot buprenorphine. It is administered as a long-acting subcutaneous injection, either weekly or monthly depending on the medication dosage. To date, depot buprenorphine has been administered from specialist opioid treatment clinics, but it is now also available from general practitioners. It is anticipated that there will be increasing take-up of the new formulation over time.

Figure 15: Number of people participating in the NSW Opioid Treatment Program, by dosing point, by LHD, at 30 June 2021



Data source: Pharmaceutical Drugs and Addiction System (PHDAS), NSW Health up to June 2021; Electronic Recording and Reporting Controlled Drug System (ERRCD), NSW Health from Oct 2021.

- The highest number of people participating in the OTP was in South Western Sydney, Justice Health, Hunter New England, Sydney, Western Sydney and South Eastern Sydney LHDs.
- The highest number of people participating in the OTP through public clinics occurred in Western Sydney, South Eastern Sydney, South Western Sydney, Hunter New England and Sydney LHDs.
- The highest number of people participating in the OTP through private clinics occurred in Sydney, South Western Sydney and Western Sydney LHDs.

-
- The highest number of people participating in the OTP through community pharmacies occurred in Hunter New England, South Western Sydney, South Eastern Sydney, Western Sydney and Sydney.
 - Hospital dosing is usually provided as either an inpatient or outpatient service. In regional and remote LHDs like Far West, Western and Murrumbidgee, hospital dosing may be provided where no viable alternative for supervised administration is available.
 - The large proportion of Not Stated dosing points for clients is due to delays in records not being updated with the Pharmaceutical Regulatory Unit, usually because prescribers do not always notify the Pharmaceutical Regulatory Unit when they change the supervised administration location of their clients.

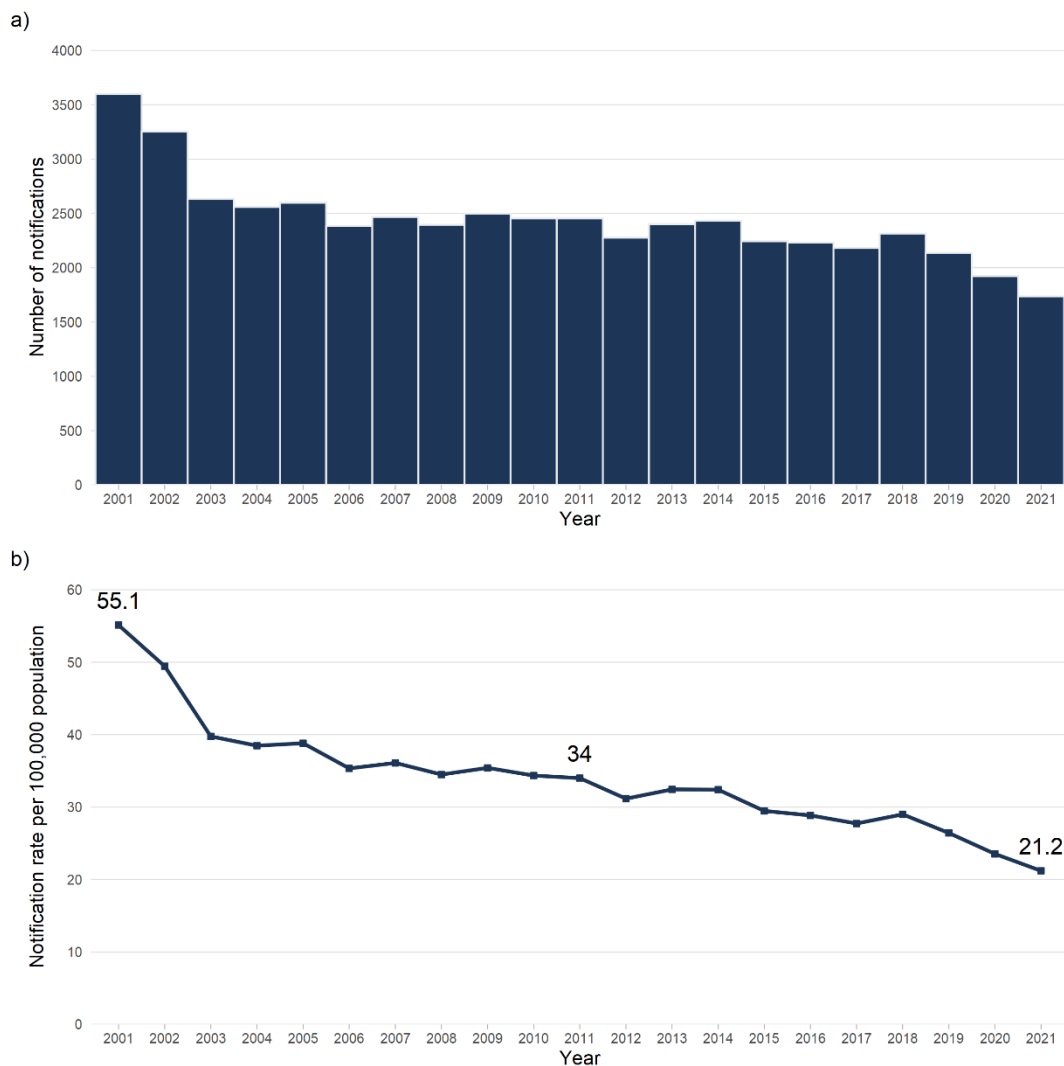
Hepatitis B

5. Hepatitis B notification data and hepatitis B infections

Hepatitis B notification data provide limited information about the epidemiology of hepatitis B infection. This is because many infections are asymptomatic. As a result, people who are infected may never be tested, or only tested many years after infection. Laboratory reports do not distinguish between infections acquired recently and those acquired many years ago. Furthermore, variations in the number of notification number may reflect differences in testing patterns over time rather than changes in the incidence of infection.

5.1 How many diagnoses of hepatitis B are notified?

Figure 16: Number and rate of hepatitis B notifications, NSW, 2001–2021



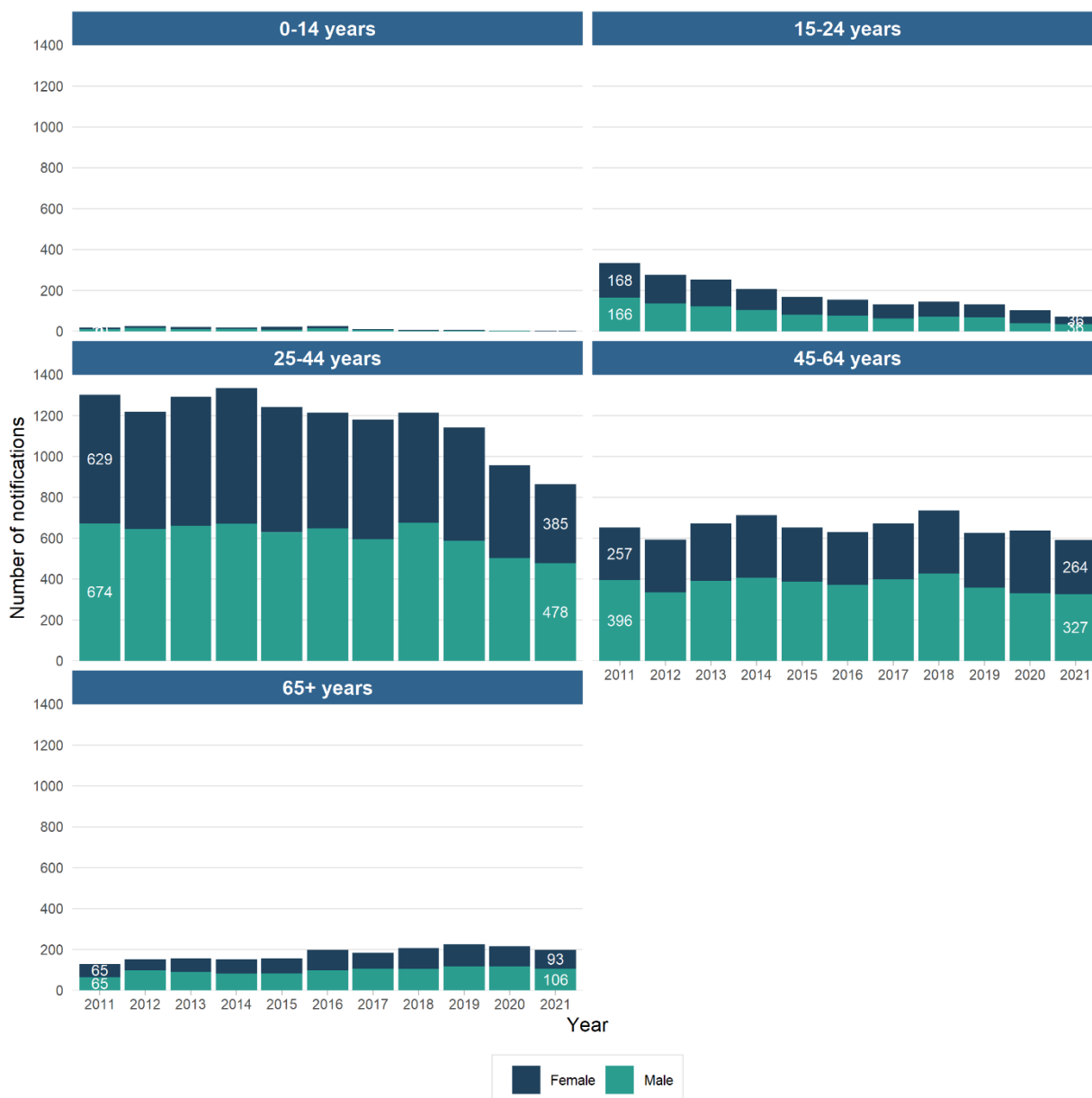
Data source: NCIMS and ABS population estimates (SAPHARI), NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents. Year of notification is based on calculated onset date.

In 2021:

- There were 1,736 hepatitis B notifications in NSW residents.
- The hepatitis B notification rate has declined in NSW since 2001. In 2021, there was a 10% decrease compared to the previous year, with 21.2 notifications per 100,000 population compared to 23.5 notifications per 100,000 population in 2020.

5.2 Which groups are being notified?

Figure 17: Hepatitis B notifications in NSW by age group and year of diagnosis, 2011-2021



Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents and persons whose age is not stated. Year of notification is based on calculated onset date.

In 2021:

- The largest number of hepatitis B notifications continued to occur among people aged 25–44 years. Compared to 2020, the overall number of notifications in this age group declined by 10%. This was primarily driven by a 14% reduction in notifications among females in this age group.
- The number of hepatitis B notifications also declined in the 15–24 years age group, with a 29% reduction compared to 2020. The continued downward trend in the younger age group may be related to the catch-up immunisation program for adolescents, which was introduced as a school-based program in 2004, and as well as universal routine immunisation of infants which commenced in NSW in May 2000.
- Hepatitis B notifications decreased by 7% among people aged 45–64 years.
- A very small number of hepatitis B notifications continued to occur among people aged 0–14 years with three notifications received in 2021, two less than in 2020.

5.3 Where are notifications occurring?

Figure 18: Hepatitis B notification rate, by Local Health District of residence, NSW, 2016-2021



Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Excludes non-NSW residents and persons whose place of residence in NSW was not stated. Year of notification is based on calculated onset date.

In 2021:

- Sydney, South Western Sydney and Western Sydney LHDs reported the highest notification rates of hepatitis B in NSW in 2021 at 37.21, 34.6 and 32.1 notifications per 100,000 population respectively. Northern Sydney, and South Eastern Sydney LHDs also had high notification rates of hepatitis B compared to regional and remote LHDs. These rates likely reflect migrant settlement patterns among people who acquired their infection at birth overseas and targeted testing in these areas.

- Among non-metropolitan LHDs, small numbers of notifications mean that rates may vary considerably year to year and changes should be interpreted with caution. In 2021, Far West had the highest notification rate among non-metropolitan LHDs with 27.9 notifications per 100,000 population; however, this only reflects a total of eight notifications received in 2021.
- The largest decreases in notification rates occurred in Illawarra Shoalhaven (29% decrease), Western Sydney (25% decrease) and South Eastern Sydney (22% decrease) LHDs.

Note: Local changes in the notification rate can be difficult to interpret due to a range of factors, particularly changes in migrant settlement patterns of people who acquired infection at birth overseas. Because hepatitis B is often asymptomatic, people may be tested many years after infection and testing patterns vary across time and settings. Local health promotion campaigns and screening programs targeting at-risk populations can result in increased testing and better detection rates.

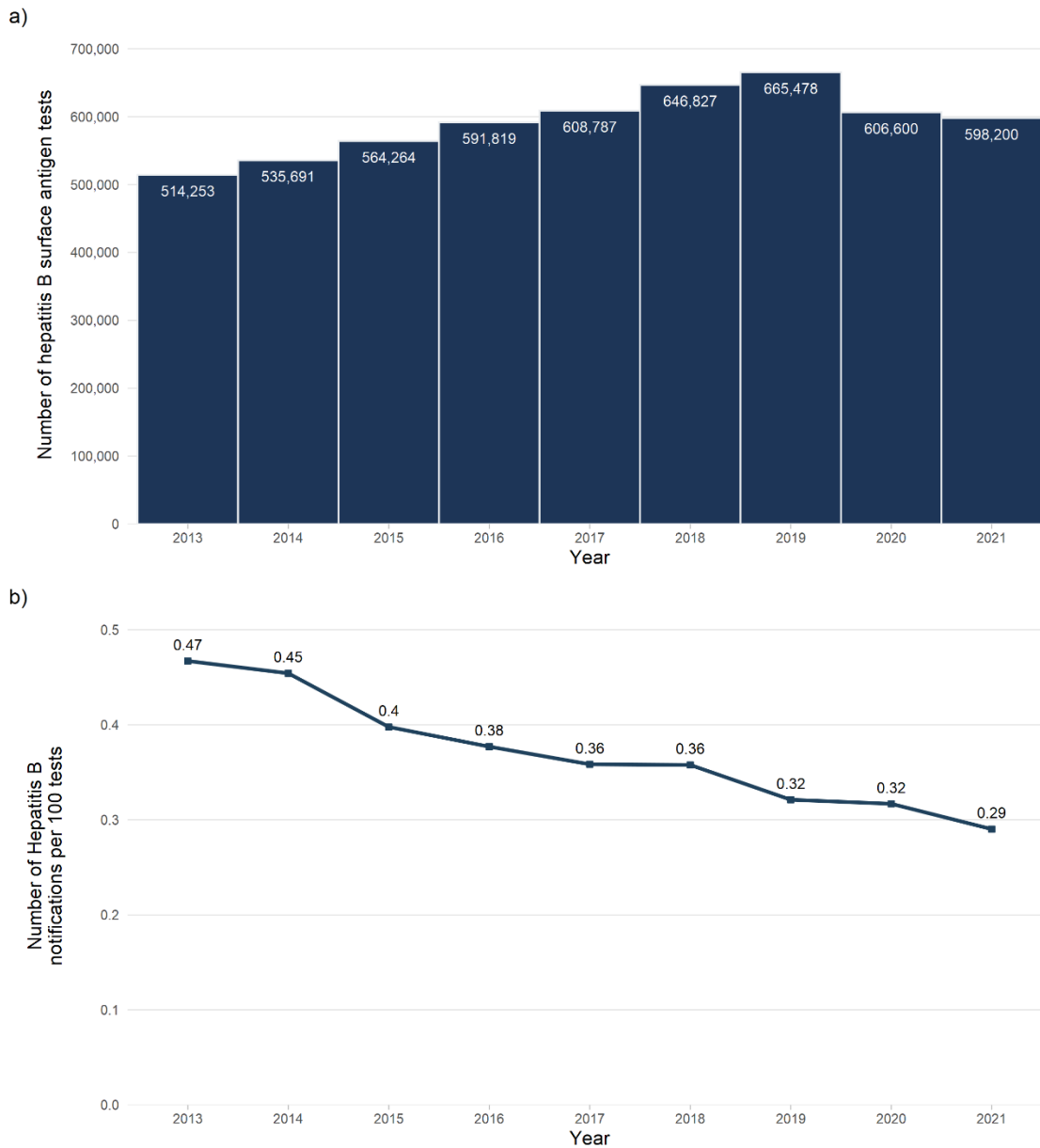
There is substantial variation in population size between the LHDs. For LHDs with a smaller population, such as Far West NSW, a small change in the number of notifications can have a large impact on the annual rate.

A notification rate has not been calculated for Justice Health as the population (the denominator) fluctuates considerably and data are available only for the annual number of incarcerations, not the number of people incarcerated.

6. Testing for hepatitis B

6.1 Is hepatitis B testing increasing?

Figure 19: Number of tests for hepatitis B surface antigen and notification to test ratio⁵, 2013-2021



Data source: NSW denominator data project, Health Protection NSW, NSW Health, data extracted 14 June 2022.

In 2021:

- The number of hepatitis B tests performed in NSW decrease slightly further from its peak in 2019, however remained above pre-2017 levels. In 2021, 598,200 hepatitis B surface antigen tests were performed in 15 laboratories in NSW, a 1.4% decrease from 2020 (606,600 tests).
- The hepatitis B notification to test ratio decreased from 0.32 in 2020 to 0.29 notifications per 100 tests in 2021. At this stage it is not possible to determine whether this is due to the challenges faced by screening programs targeted at those at high risk of infection, or due to decreasing prevalence in younger age groups.

⁵ See **Appendix: Table 2** for more details about methodology

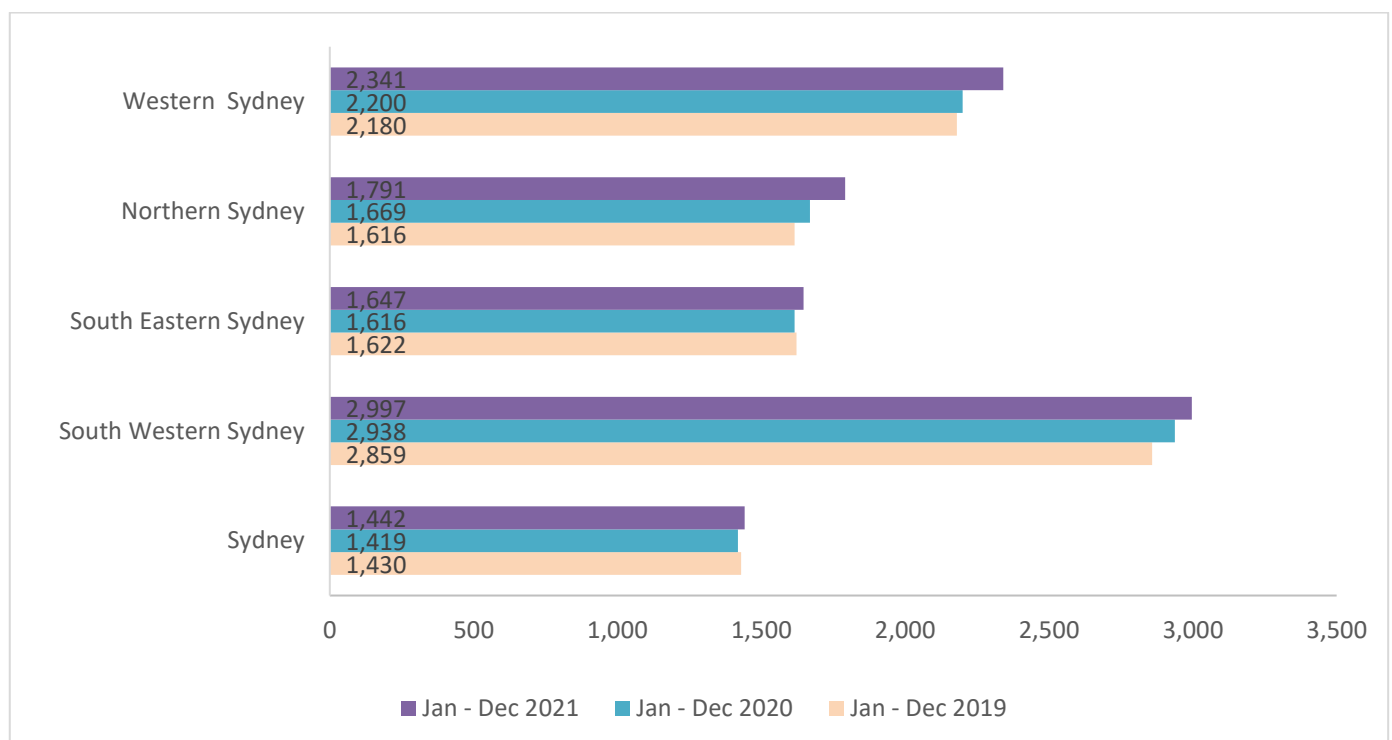
7. Hepatitis B treatment access

In 2020 there were an estimated 79,522 people living with chronic hepatitis B (CHB) in NSW⁶.

Effective treatment of hepatitis B infection is achieved through continued viral suppression. The Third National Hepatitis B Strategy 2018–2022 has a target to increase the proportion of people living with CHB who receive antiviral treatment to 20%. Currently, NSW tracks below the 2022 national treatment target at 12.9%. NSW is however estimated to have the highest proportion of people living with hepatitis B receiving treatment when compared to other Australian Jurisdictions⁵.

7.1 How many people in NSW are accessing hepatitis B treatment?

Figure 20: Number of NSW residents⁷ dispensed hepatitis B treatment in the five LHDs with the highest prevalence of hepatitis B, 1 January 2019 - 31 December 2021



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Program data, 1 January to 31 December 2021

Note: Figure 20 incorporates residents who were dispensed treatment in Justice Health settings. Data for all other LHDs is at **Appendix: Figure 29**

Between 1 January 2019 to 31 December 2021:

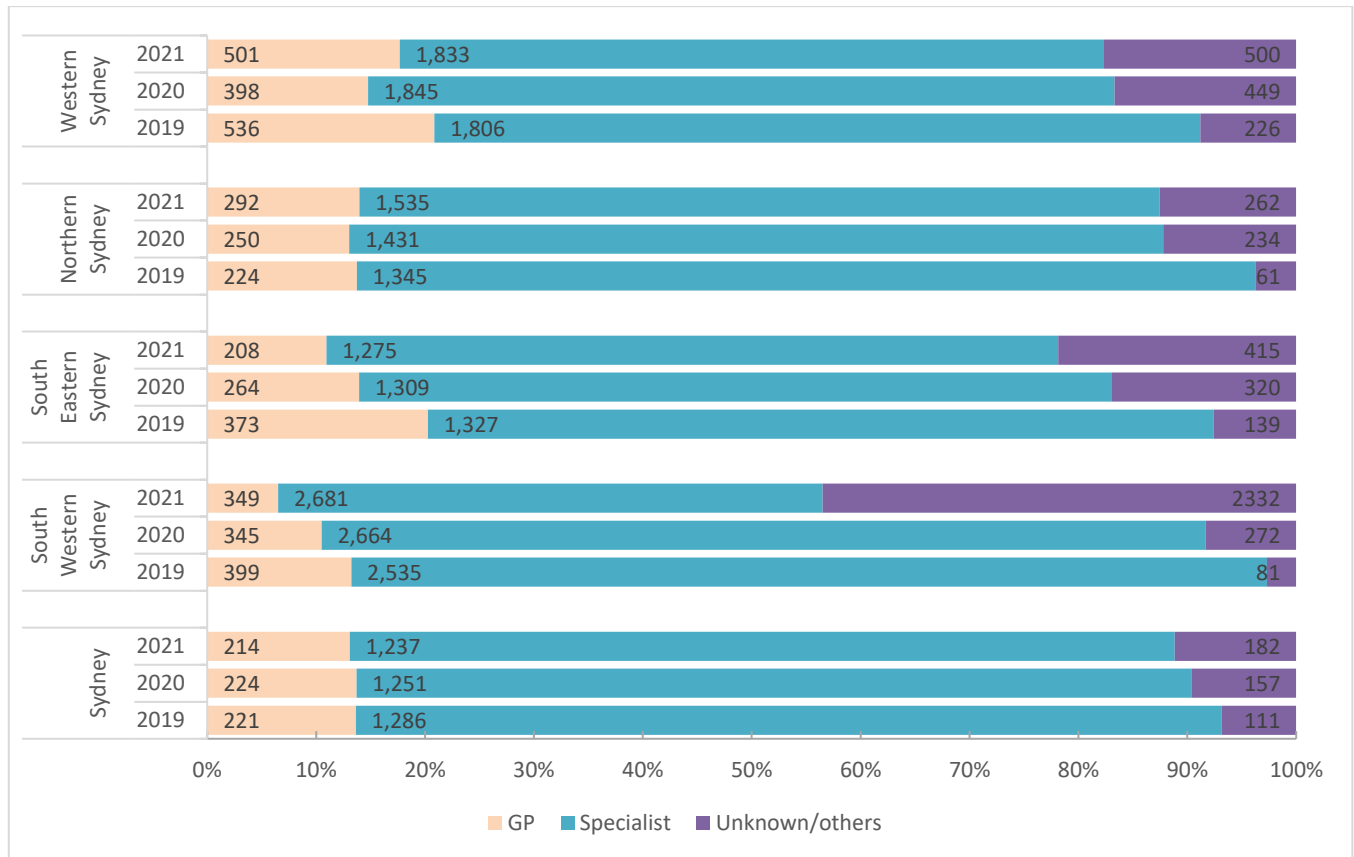
- A total of 10,218 NSW residents in the five LHDs with the highest prevalence of hepatitis B were dispensed treatment. This accounted for 90% of the total number of residents dispensed treatment across NSW. This is an increase of 3.8% compared to the same period between January and December 2020 (9,842) and a 5.3% increase between January and December 2019 (9,707).
- A total of 19 NSW residents were dispensed hepatitis B treatment in Justice Health settings compared to 9 in the same period in 2020 and 24 in 2019.
- A total of 11,055 NSW residents (unique number) were dispensed hepatitis B treatment, which is 14% of the estimated number of people living in NSW with CHB in 2020 (79,522).

⁶ National Surveillance for Hepatitis B Indicators, 2020.

⁷ Figure 20 includes residents who were dispensed treatment in Justice Health settings.

7.2 What percentage of people with chronic hepatitis B are receiving treatment in primary care?

Figure 21: Number of NSW residents dispensed hepatitis B treatment in the five LHDs with the highest prevalence of hepatitis B, by prescriber type, 1 January 2019 - 31 December 2021



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Program data, 1 January 2019 to 31 December 2021

Note: Figure 21 incorporates residents who were dispensed treatment in Justice Health settings. Data for all other LHDs is at **Appendix: Figure 30**.

Between 1 January to 31 December 2021:

- 11% of NSW residents in the five LHDs with the highest prevalence of hepatitis B were prescribed treatment by a GP indicating a decrease compared to the same period in 2020 (13%) and 2019 (16%).

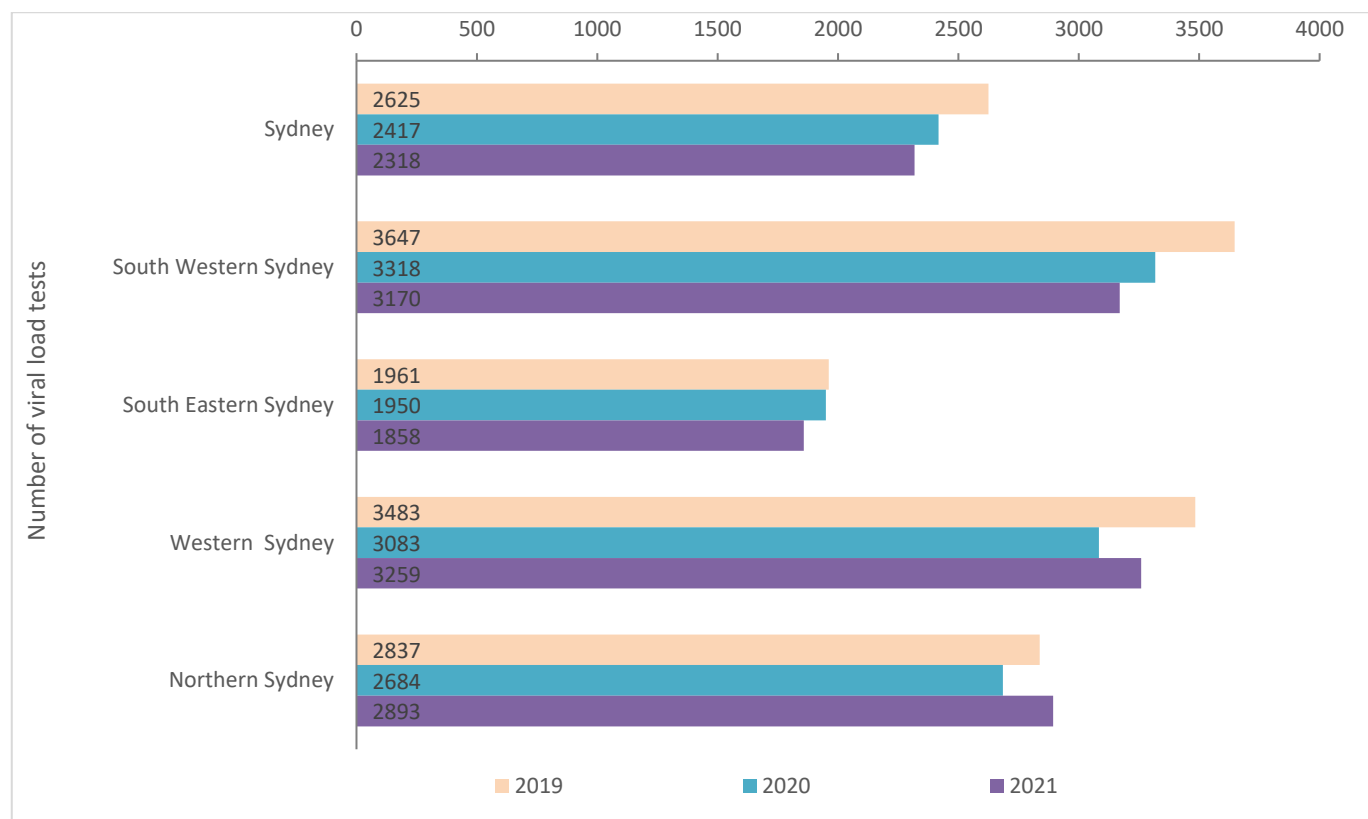
8. Management of hepatitis B

8.1 How many people in NSW with chronic hepatitis B are having their condition monitored?

Chronic hepatitis B requires lifelong management and monitoring. Six to twelve monthly clinical assessments (including viral load and liver function tests) are required⁸.

The frequency of monitoring varies according to the phase of infection, the extent of liver damage present, and the presence of other complicating factors such as co-infections, immunosuppression and other causes of liver disease.

Figure 22: Number of people in the five high prevalence LHDs with CHB and not receiving treatment who had a viral load test via Medicare, 1 January 2019 – 31 December 2021



Data source: Medicare Benefits Schedule, Department of Services Australia

Note: Data from MBS is only available to 31 December 2021. Data is based on patient enrolment postcode and date of service (DOP). An annual hepatitis B viral load test (MBS item 69482) for people not on treatment is covered under Medicare, so this data indicates the number of people tested. This data excludes tests not ordered under Medicare and therefore is an underestimate of the number of people being monitored. It does not include services provided by hospital doctors to public patients in public hospitals and services that qualify for a benefit under the Department of Veterans' Affairs National Treatment Account. The number of people in care is probably further underestimated using this indicator, as not all doctors who are monitoring people with chronic hepatitis B order an annual viral load test. Data for the other LHDs is at **Appendix: Figure 31**

Between 1 January 2019 and 31 December 2021:

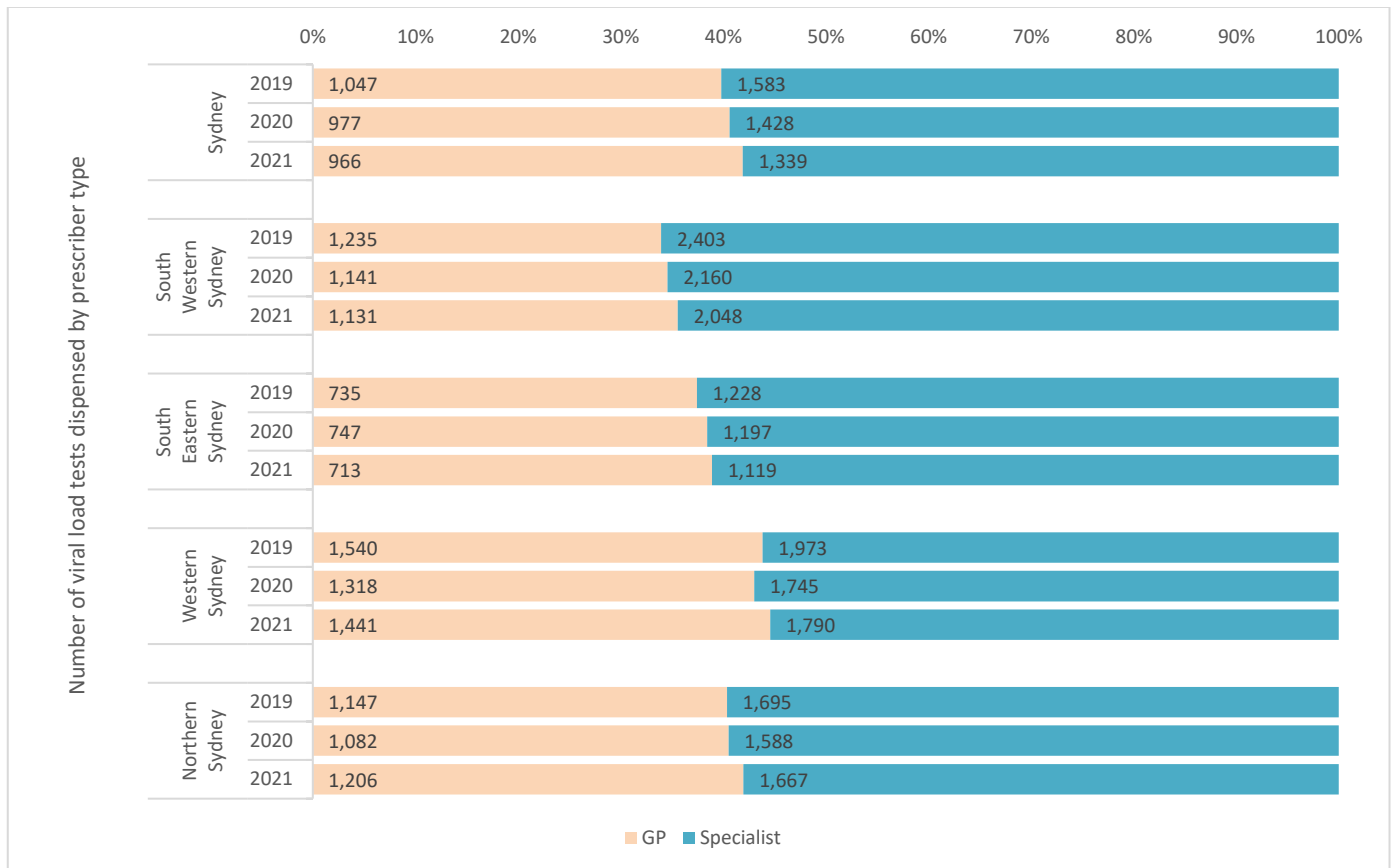
- In the five LHDs with the highest prevalence of hepatitis B, a total of 13,498 people with CHB not receiving treatment had an annual MBS viral load test. This remained stable compared to the same period in 2020 (13,452) but reflected a 7% decrease compared to the same period in 2019 (14,553).

⁸ Hepatitis B viral load testing under the Medicare Benefits Schedule (MBS) is used as a surrogate for guideline-based monitoring of people living with CHB who are not receiving treatment. Annual viral load testing is covered under MBS (item 69482) in line with the recommended guidelines. Those who are receiving antiviral therapy are monitored via a different MBS item (69483) for their viral load tests.

- Overall in NSW, a total of 14,998 people with CHB not receiving treatment had an annual MBS viral load test. This was stable compared to the same period in 2020 (14,950) but reflected a 7% decrease between January and December 2019 (16,085).

8.2 How are people in NSW with chronic hepatitis B having their condition monitored?

Figure 23: Number of people with hepatitis B not receiving treatment in the five high prevalence LHDs who had an annual MBS viral load test (item 69482) by type of practitioner ordering the test, 1 January 2019 – 31 December 2021



Data source: Medicare Benefits Schedule, Department of Services Australia; Note: Data from MBS is only available to 31 December 2021. Data is based on patient enrolment postcode and date of service (DOS). An annual hepatitis B viral load test (MBS item 69482) for people not on treatment is covered under Medicare, so this data indicates the number of people tested. This data excludes tests not ordered under Medicare and therefore is an underestimate of the number of people being monitored. It does not include services provided by hospital doctors to public patients in public hospitals and services that qualify for a benefit under the Department of Veterans’ Affairs National Treatment Account.

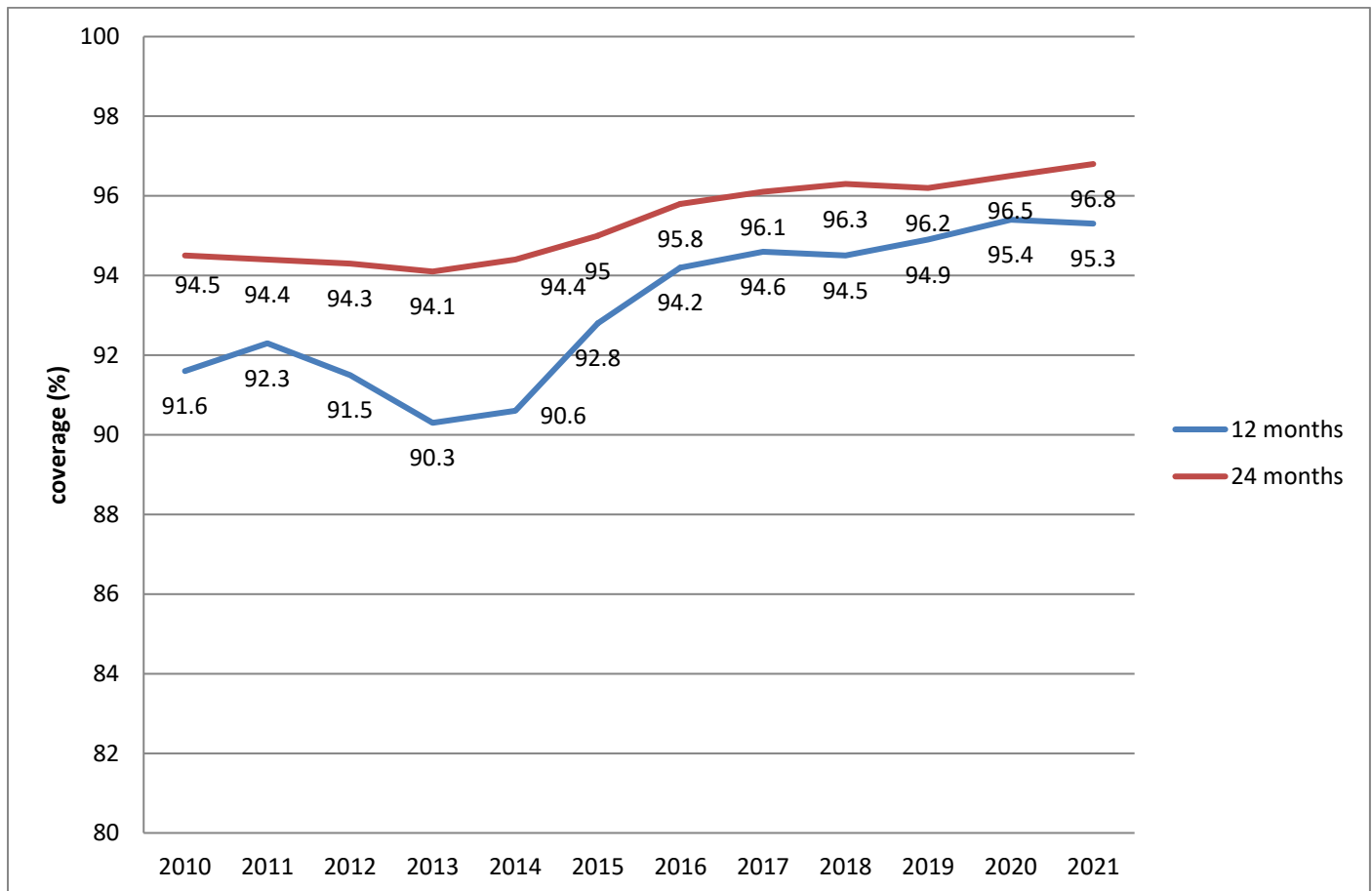
Between 1 January and 31 December 2021:

- 41% (5,457) of people with CHB not on treatment who received an MBS viral load test had their test requested by a GP, and 59% (7,963) had their test requested by a specialist.
- The proportion of viral load tests requested by a GP between 1 January and 31 December 2021 represented a two percent increase compared to the same period in 2020 (39%) and 2019 (39%), respectively.

9. Hepatitis B prevention investment

9.1 What proportion of infants in NSW are vaccinated for hepatitis B?

Figure 24: Proportion of infants in NSW who have received 3 doses of hepatitis B vaccine (measured at 12 and 24 months of age) 2010-2021



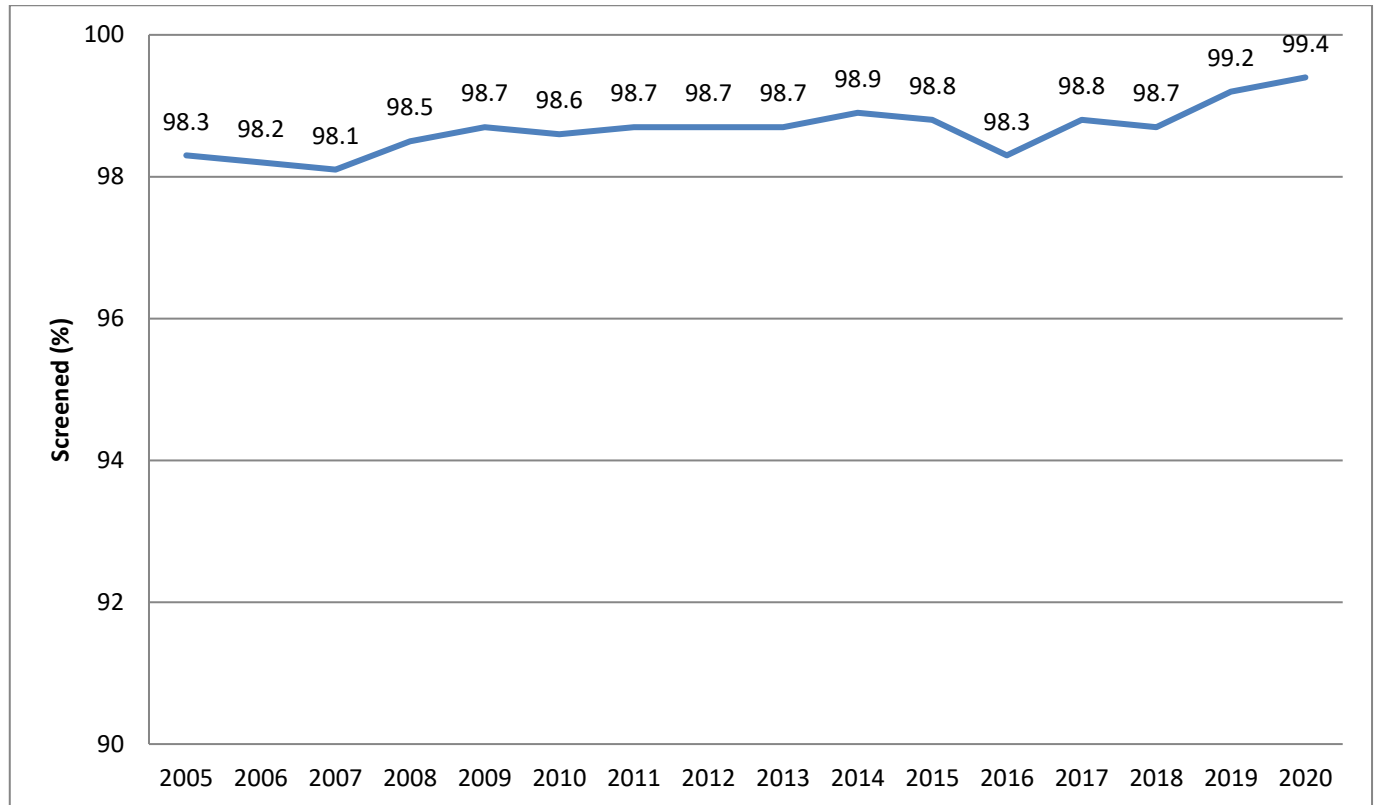
Data source: Australian Immunisation Register, Services Australia

- Hepatitis B vaccine is given at birth, 6 weeks, 4 months and 6 months of age. Children fully vaccinated with at least three doses measured at 12 months of age in 2021 was 95.3 per cent, compared to 95.4 per cent in 2020.
- In 2021, 96.8 per cent of all children in NSW were fully vaccinated against hepatitis B by 24 months of age. These rates are higher than at 12 months of age, indicating that delayed vaccination as well as underreporting⁹ influence reported vaccination rates.
- Hepatitis B vaccination coverage at 12 months and 24 months of age has been steadily increasing since 2014.

⁹ Children overdue for immunisation: a question of coverage or reporting? An audit of the Australian Immunisation Register. *Aust NZ J Public Health* 2019; 43:214-20

9.2 What proportion of women giving birth in NSW are screened for hepatitis B?

Figure 25: Proportion of women giving birth in a public or private hospital in NSW who are screened for hepatitis B January 2005 – December 2020

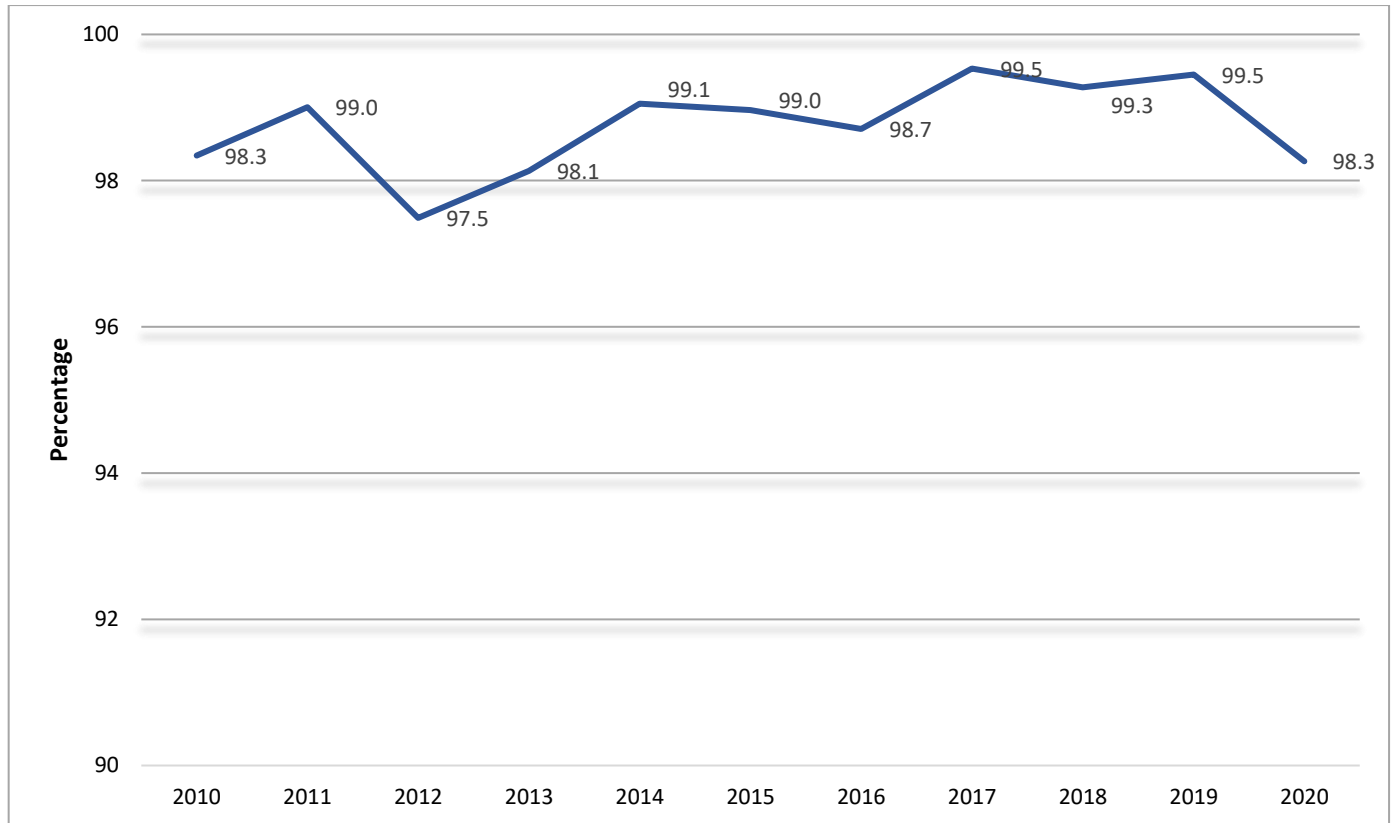


Data source: Neonatal Hepatitis B Vaccination Program Database, NSW Health

- The proportion of mothers giving birth in a public or private hospital in NSW screened for hepatitis B between January and March 2021 (the latest period for which data are available) was 99.4%, the same proportion reported in the year 2020.
- Screening rates may be underestimated due to missing data as pathology results that become available only after the time of antenatal booking are not always entered into e-Maternity.

9.3 What proportion of neonates in NSW born to hepatitis B positive mothers receive hepatitis B immunoglobulin within 12 hours of birth?

Figure 26: Proportion of neonates in NSW born to hepatitis B positive mothers who received hepatitis B immunoglobulin within 12 hours of birth, January 2010 – December 2020



Data source: Neonatal Hepatitis B Vaccination Program Database, NSW Health

Table 1: Neonatal hepatitis B immunoglobulin administration (January 2014 – March 2021)

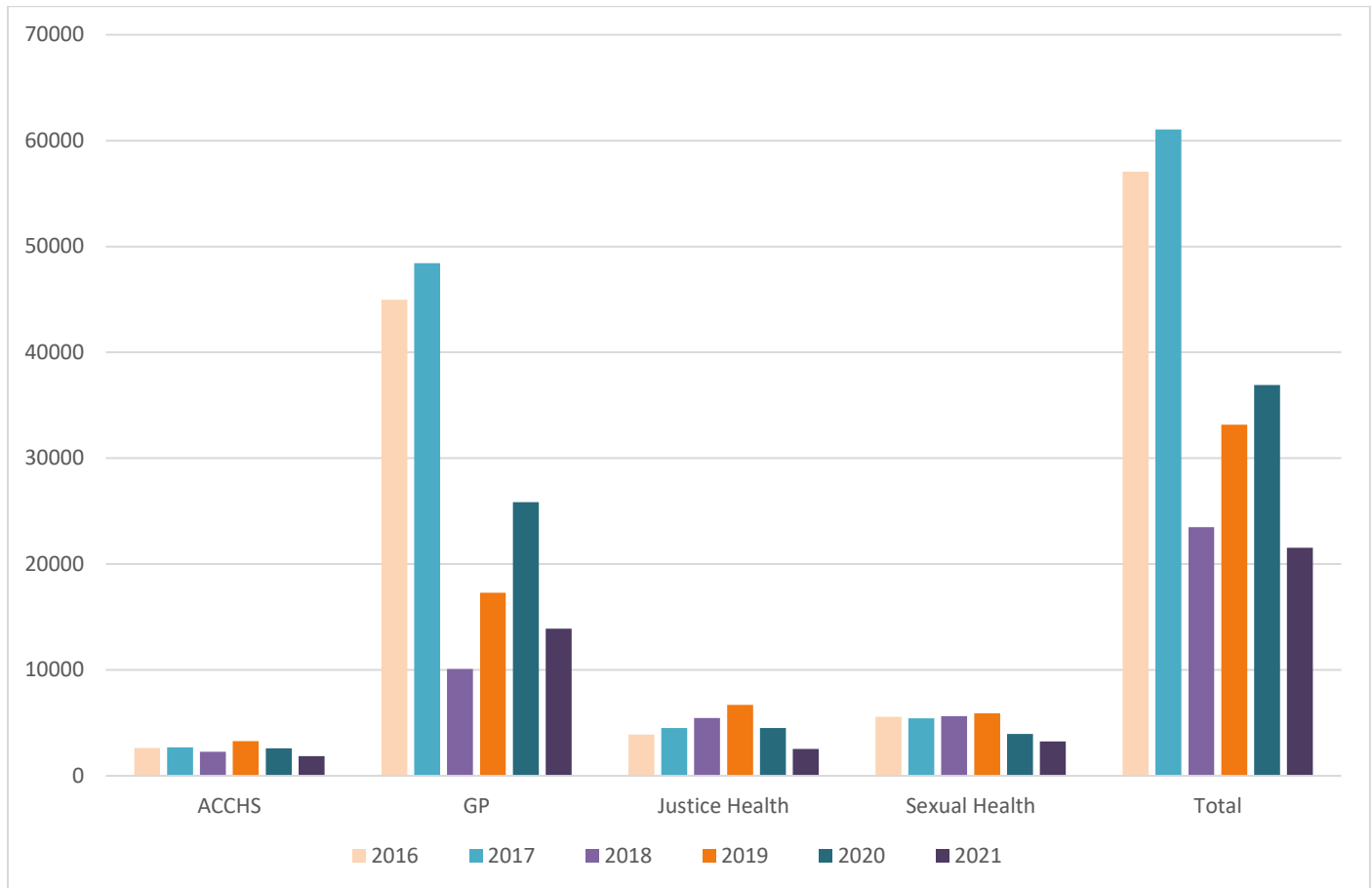
Year	No. neonates born to HbsAg+ mothers	No. neonates born to HbsAg+ mothers who received HBIG	No. neonates born to HbsAg+ mothers who received HBIG within 12 hours of birth (%)
2014	739	737	732 (99.1%)
2015	677	673	670 (99.0%)
2016	696	689	687 (98.7%)
2017	642	642	639 (99.5%)
2018	551	551	547 (99.3%)
2019	547	547	544 (99.5%)
2020	461	457	453 (98.3%)
Jan-March 2021	124	124	124 (100%)

Data source: NSW neonatal hepatitis B vaccination data collection (NSW hospitals and public health units)

- The proportion of babies born to mothers living with hepatitis B who received hepatitis B immunoglobulin (HBIG) within 12 hours of birth was 98.3% in 2020 and 100% in the period January-March 2021 (the latest period for which data are available). Any incidents of neonates born to HBsAg+ mothers who do not receive HBIG within 12 hours of birth are reported and managed in the incident management system (IMS).

9.4 How many doses of hepatitis B vaccine are distributed to GPs, Aboriginal Community Controlled Health Services, Sexual Health Clinics and Justice Health?

Figure 27: Number of adult doses of hepatitis B vaccine distributed to health care providers through the NSW Vaccine Centre 2016-2021



Data source: NSW Vaccine Centre Database

- NSW Health purchases adult formulation hepatitis B vaccine for vaccination of at-risk groups.
- The total number of doses of adult hepatitis B vaccine purchased by NSW Health and distributed to health care providers in NSW for at-risk groups declined from 36,902 doses in 2020 to 21,536 doses in 2021.
- This decline is possibly related to a decrease in face-to-face consultations in primary care associated with COVID-19 stay at home orders and was seen across all provider types, with the distribution of hepatitis B vaccine to Justice Health decreasing from 4,518 doses in 2020 to 2,536 doses in 2021.

Appendix

Table 2: Number of hepatitis B and hepatitis C notifications by gender and age group, NSW, 2021

Age Group (years)	Hepatitis B				Hepatitis C (excluding Justice Health)				Hepatitis C (Justice Health only)			
	Male	Female	Other/Not stated	Total	Male	Female	Other/Not stated	Total	Male	Female	Other/Not stated	Total
00-04	0	0	0	0	1	5	0	6	0	0	0	0
05-09	0	2	0	2	0	1	0	1	0	0	0	0
10-14	0	1	0	1	0	2	0	2	0	0	0	0
15-19	5	7	0	12	9	6	0	15	12	1	0	13
20-24	31	29	0	60	58	43	0	101	83	5	0	88
25-29	68	60	1	129	111	63	0	174	66	5	0	71
30-34	144	125	0	269	112	75	2	189	77	9	0	86
35-39	133	108	1	242	113	85	0	198	56	7	0	63
40-44	133	92	0	225	144	82	0	226	28	2	0	30
45-49	96	76	0	172	138	58	1	197	24	4	0	28
50-54	74	69	0	143	126	75	0	201	16	0	0	16
55-59	95	64	0	159	156	75	1	232	5	2	0	7
60-64	62	55	0	117	116	78	1	195	1	0	0	1
65-69	45	39	0	84	86	50	0	136	0	0	0	0
70-74	35	32	0	67	36	21	0	57	0	0	0	0
75-79	14	13	0	27	12	7	0	19	0	0	0	0
80-84	7	5	0	12	9	11	0	20	0	0	0	0
85+	5	4	0	9	3	9	0	12	0	0	0	0
Not stated	0	0	6	6	0	1	0	1	0	0	1	1
Total	947	781	8	1,736	1,230	747	5	1,982	368	35	1	404

Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Data are provisional and subject to change.

Table 3: Number of hepatitis B and hepatitis C notifications by LHD of residence, NSW, 2017-2021

Local Health District	Hepatitis B					Hepatitis C				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Central Coast	33	28	33	23	24	166	126	112	84	80
Far West	6	4	5	7	8	38	27	20	28	29
Hunter New England	74	74	60	60	65	435	383	261	229	223
Illawarra Shoalhaven	41	43	36	39	28	162	146	115	120	79
Justice Health	21	42	51	36	23	501	579	665	622	404
Mid North Coast	25	17	15	15	20	126	125	114	78	83
Murrumbidgee	19	31	31	26	31	154	160	149	127	98
Nepean Blue Mountains	46	55	50	40	44	210	209	113	120	82
Northern NSW	22	22	14	18	18	243	182	195	130	127
Northern Sydney	280	293	343	270	244	134	133	132	84	96
NSW not otherwise specified	9	3	1	5	4	33	31	11	16	17
South Eastern Sydney	345	351	299	285	218	333	269	260	211	195
South Western Sydney	413	408	369	330	363	350	341	298	266	234
Southern NSW	15	15	18	20	24	131	71	70	72	53
Sydney	321	340	304	278	259	294	237	225	194	163
Western NSW	27	38	26	23	28	222	193	143	132	132
Western Sydney	485	550	482	447	335	345	302	291	293	291
Total	2,182	2,314	2,137	1,922	1,736	3,877	3,514	3,174	2,806	2,386

Data source: NCIMS, NSW Health; data extracted 14 June 2022. Note: Data are provisional and subject to change.

Table 4: Number of hepatitis C DBS registrations by LHD and quarter from 1 January to 31 December 2021

Local Health District	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Total
Central Coast	6	3	4	17	30
Far West	1	7	4	1	13
Hunter New England	16	9	11	10	46
Illawarra Shoalhaven	10	15	7	11	43
Justice Health	201	38	12	5	256
Mid North Coast	33	40	26	52	151
Murrumbidgee	2	3	1	6	12
Nepean Blue Mountains	23	54	12	13	102
Northern NSW	10	22	1	11	44
Northern Sydney	31	21	18	31	101
South Eastern Sydney*	114	263	56	83	516
South Western Sydney	81	121	11	48	261
Southern NSW	6	2	1	2	11
Sydney	83	126	43	24	276
Western NSW	18	58	16	3	95
Western Sydney	64	96	13	14	187

* South Eastern Sydney LHD results may include some data generated by the St Vincent's Health Network.

Table 5: Number of hepatitis C DBS tests by LHD and quarter from 1 January to 31 December 2021

Local Health District	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Total
Central Coast	6	1	3	18	28
Far West	0	8	4	0	12
Hunter New England	14	6	8	3	31
Illawarra Shoalhaven	12	11	9	7	39
Justice Health	225	47	12	4	288
Mid North Coast	31	45	26	50	152
Murrumbidgee	1	2	3	3	9
Nepean Blue Mountains	26	56	9	12	103
Northern NSW	8	24	3	8	43
Northern Sydney	21	21	17	26	85
South Eastern Sydney	99	257	59	69	484
South Western Sydney	84	117	12	23	236
Southern NSW	5	1	0	2	8
Sydney	77	120	37	17	251
Western NSW	16	35	39	2	92
Western Sydney	46	101	13	9	169

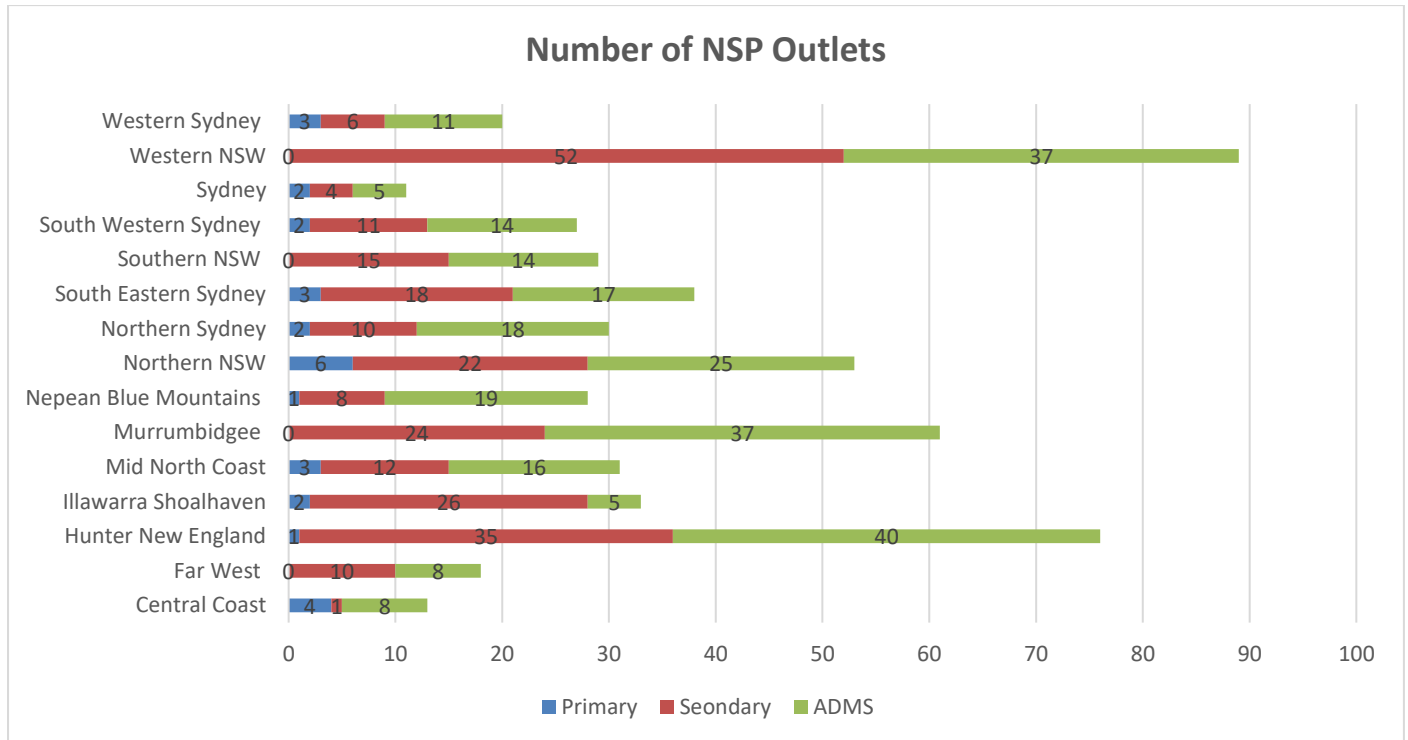
* South Eastern Sydney LHD results may include some data generated by the St Vincent's Health Network.

Table 6: Number of units of injecting equipment distributed by LHD in 1 January – 31 December 2021

Local Health District	Public	Pharmacy
Hunter New England	2,139,140	346,558
Sydney	1,408,690	245,465
South Western Sydney	1,106,592	385,556
Western Sydney	966,140	83,409
South Eastern Sydney	1,048,764	123,982
Western NSW	860,100	1,452
Illawarra Shoalhaven	735,010	41,925
Central Coast	717,990	18,111
Nepean Blue Mountains	610,793	25,243
Northern NSW	568,698	410
Murrumbidgee	494,524	9,895
Mid North Coast	472,225	27,716
Northern Sydney	443,365	33,153
Southern NSW	182,839	13,059
Far West	151,666	0
Total	11,906,536	1,355,934
Number of units of injecting equipment distributed by NGOs 1 January – 31 December 2021		
NUAA	560,312	-
ACON	250,361	-
Uniting MSIC	30,764	-
Total	841, 437	-

Data source: Public NSP - NSW Health NSP Minimum Data Set

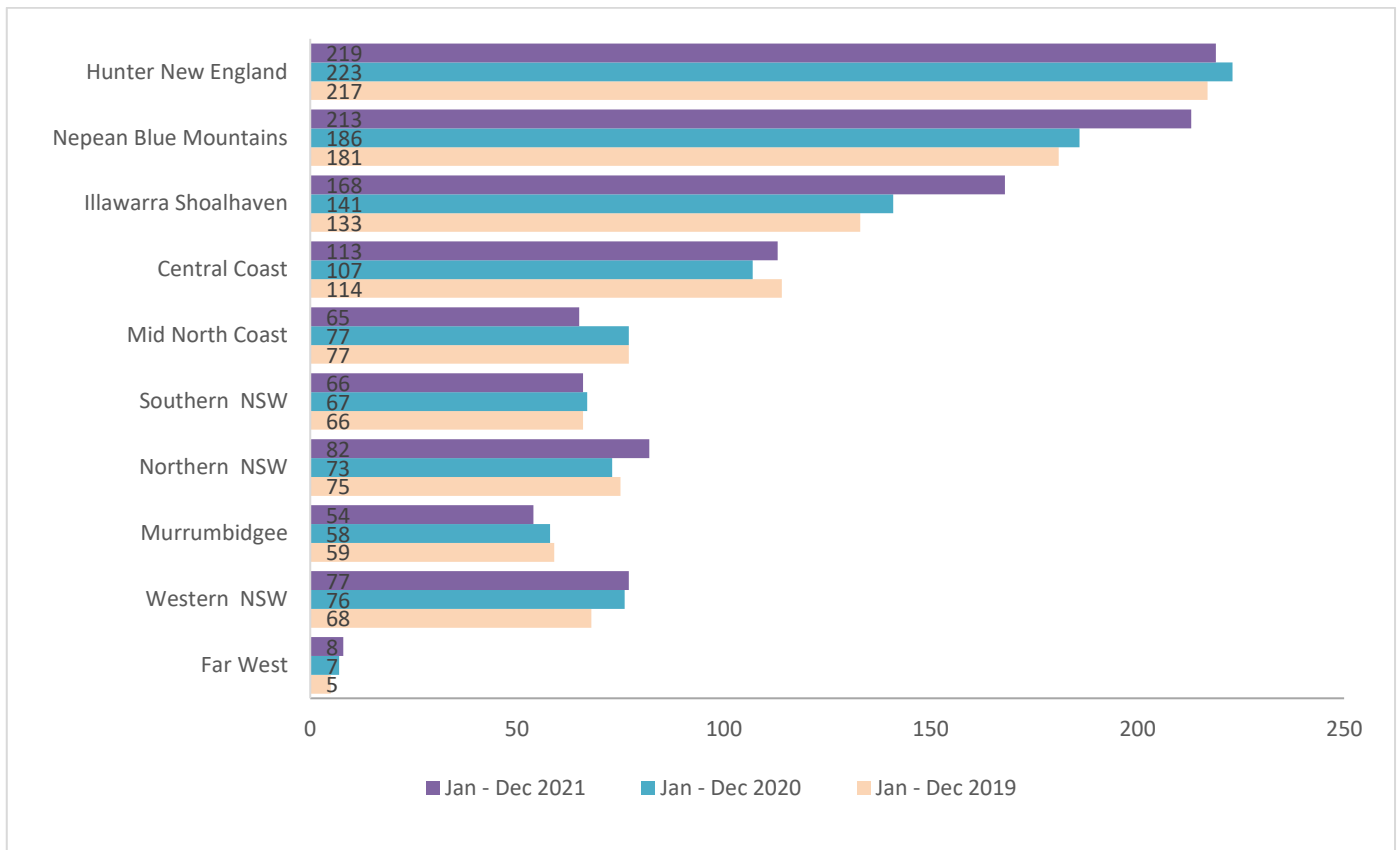
Figure 28: Number and proportion of public NSW NSP outlets by type, by LHD, 31 June 2021



Data source: LHD NSP Services. Data extracted 31 June 2021.

- As of June 2021, there are 29 primary outlets, 254 secondary outlets, and 274 ADMs in NSW.

Figure 29: Number of NSW residents dispensed hepatitis B treatment in the ten LHDs with lower hepatitis B prevalence, 1 January 2019 - 31 December 2021



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Program data, 1 January 2019 to 31 December 2021

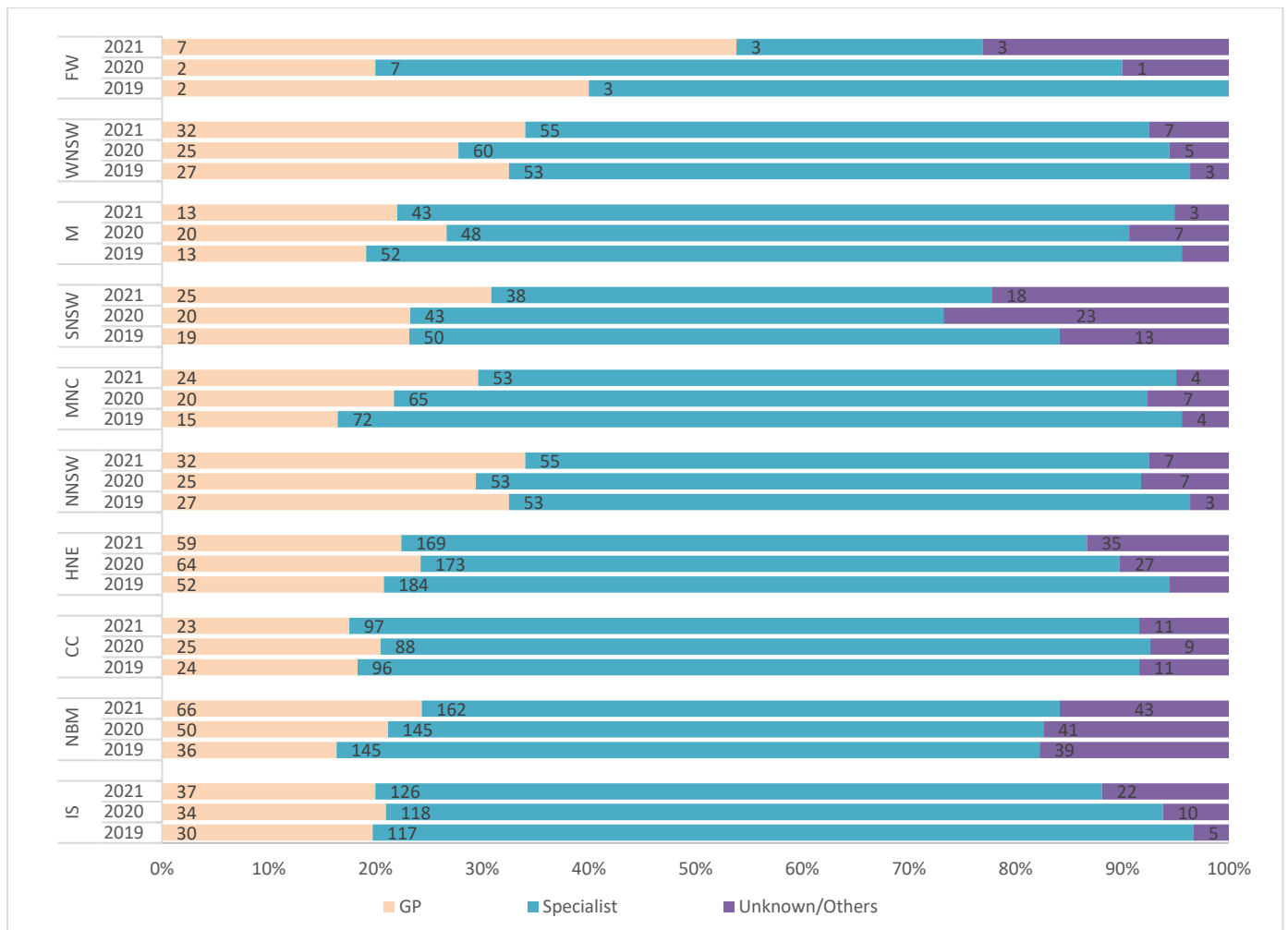
Note: Figure 29 includes residents who were dispensed treatment in Justice Health settings.

Between 1 January 2019 and 31 December 2021:

- A total of 1,065 NSW residents in the ten LHDs with the lowest prevalence of hepatitis B were dispensed treatment. This accounted for 9.6% of the total number of residents dispensed treatment across NSW¹⁰. This is an increase of 5% compared to the same period in 2020 (1,015) and a 7% increase compared to the same period in 2019 (995).
- A total of 13 NSW residents were dispensed hepatitis B treatment in Justice Health settings compared to 17 in the same period in 2020 and 24 in 2019.

¹⁰ Overall, 11,055 NSW residents (unique number) were dispensed treatment between 1 January and 31 December 2021.

Figure 30: Number of NSW residents dispensed hepatitis B treatment in the ten LHDs with the lowest prevalence of hepatitis B, by prescriber type, 1 January – 31 December 2021



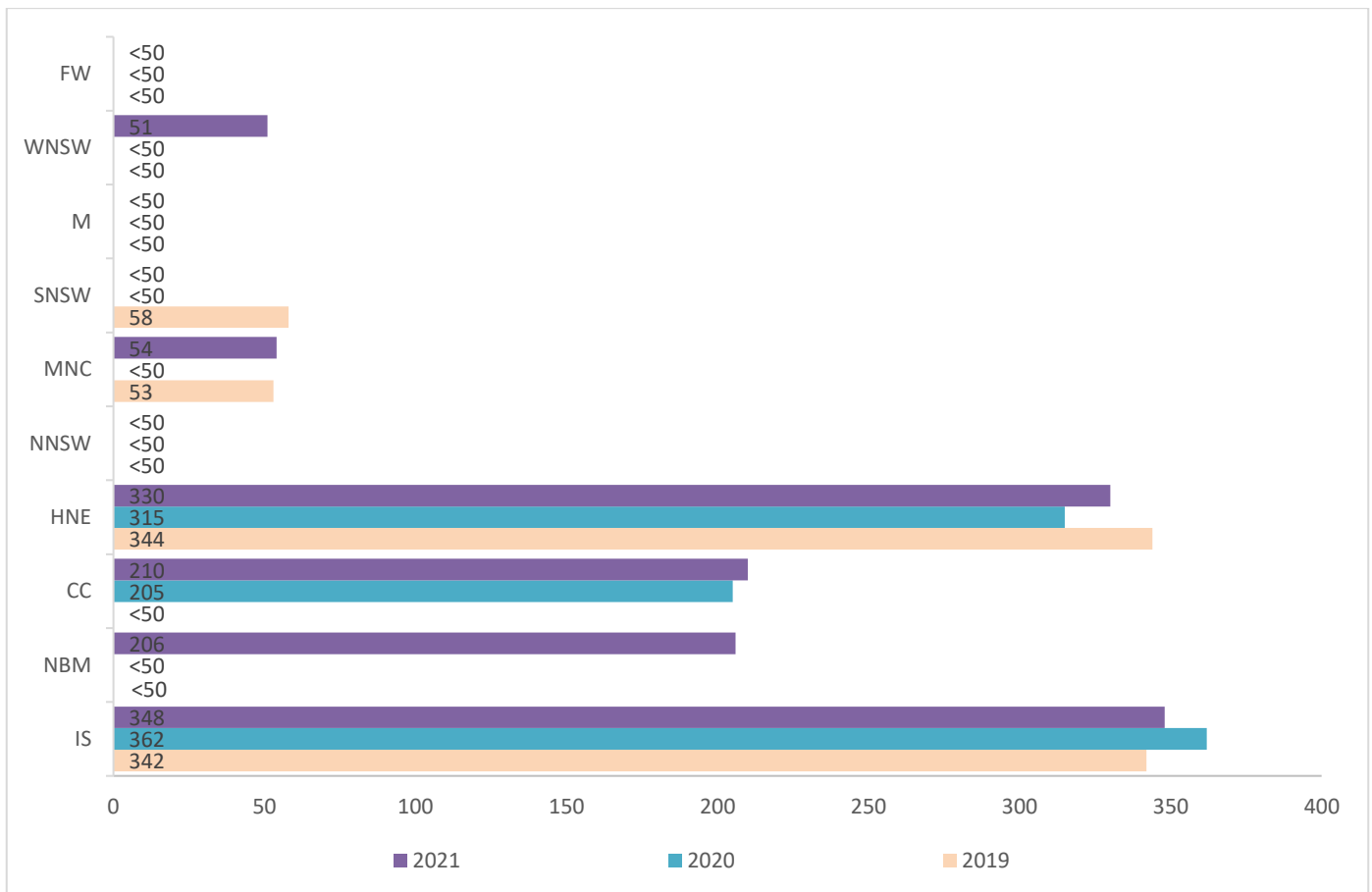
Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Program data, 1 January 2019 - 31 December 2021.

Note: Figure 30 incorporates residents who were dispensed treatment in Justice Health settings.

Between 1 January 2019 and 31 December 2021:

- 25% of NSW residents in the ten LHDs with the lowest prevalence of hepatitis B were prescribed treatment by a GP. This is a two-percentage point increase compared to the same period in 2020 (23%) and a four-percentage point increase compared to the same period in 2019 (21%).

Figure 31: Number of people in the ten lowest prevalence LHDs with CHB and not receiving treatment who had a viral load test via Medicare, 1 January 2019 – 31 December 2021



Data source: Medicare Benefits Schedule, Department of Services Australia

Note: Data from MBS is only available to 31 December 2021. Data is based on patient enrolment postcode and date of processing (DOP). An annual hepatitis B viral load test (MBS item 69482) for people not on treatment is covered under Medicare, so this data indicates the number of people tested. This data excludes tests not ordered under Medicare and therefore is an underestimate of the number of people being monitored. It does not include services provided by hospital doctors to public patients in public hospitals and services that qualify for a benefit under the Department of Veterans' Affairs National Treatment Account. The number of people in care is probably further underestimated using this indicator, as not all doctors who are monitoring people with chronic hepatitis B order an annual viral load test.

Between 1 January 2019 and 31 December 2021:

- Where the total number of people tested was less than 50 people, the exact testing number is not available
- In the LHDs where data is available, a total of 1,199 people with CHB not receiving treatment had an MBS viral load test. This is 8% of the total tests (14,998) completed in NSW.

Table 7: Data Sources

Name	Custodian	Description
NSW Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	<p>NCIMS contains records of all people notified to NSW Health with a notifiable condition under the NSW <i>Public Health Act 2010</i>. Notification data may not reflect the true incidence of hepatitis B and C infections as they only represent a proportion of notifiable diseases in the population, however they are useful for monitoring trends over time.</p> <p>Notifications are for individual people with hepatitis C or B and subsequent notifications (in the one year or in later years) for the same infection in the same individual are not counted.</p>
Communicable Diseases Register (CDR)	Health Protection NSW, NSW Health	<p>The CDR contains de-identified records from NCIMS, linked to emergency department, hospitalisation and deaths data, and includes the Enhanced Reporting of Aboriginality (ERA) variable. Record linkage was carried out by the Centre for Health Record Linkage (www.cherel.org.au), NSW Ministry of Health. Data are currently available to the end of 2018.</p>
NSW Health denominator data project	Health Protection NSW, NSW Health	<p>Monthly aggregated testing data for selected notifiable conditions from 15 NSW public and private laboratories. These laboratories account for more than 90% of the total notifications for the selected conditions in NSW. Information from laboratories does not provide any indication on whether there are repeat tests for the same individual.</p> <p>The notification to test ratio has been calculated by dividing the number of notifications to NSW Health by the total number of tests performed by the participating laboratories, and multiplying by 100. Notifications are for individual people with hepatitis C/B reported from all laboratories and subsequent notifications (in the one year or in later years) for the same infection in the same individual are not counted. However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the notification to test ratio may be an underestimate of the percentage of people tested who were positive for the condition.</p>