

NSW HEPATITIS B AND C STRATEGIES 2014-2020

2015 ANNUAL DATA REPORT



Health

Overview

The *NSW Hepatitis C Strategy 2014-2020* and the *NSW Hepatitis B Strategy 2014-2020* were launched in September 2014. These strategies describe how the NSW public health system will work with general practitioners, non-government organisations, community organisations, researchers and affected communities to form a coordinated response to hepatitis C and hepatitis B.

Both *Strategies* have an equity focus. This emphasis will require the health system to prioritise work with population groups in greatest need and in those settings and geographical locations where infections are most prevalent.

To reduce hepatitis C infections in NSW and improve the health outcomes of people living with hepatitis C in NSW, the *NSW Hepatitis C Strategy 2014-2020* outlines two targets to be achieved by 2020:

1. reduce sharing of injecting equipment among people who inject drugs by 25%; and
2. increase the number of people accessing hepatitis C treatment in NSW by 100%.

To achieve these targets the Hepatitis C Strategy identifies these key actions:

- building on established hepatitis C prevention efforts;
- improving management of chronic hepatitis C; and
- improving access to hepatitis C treatment.

To reduce hepatitis B infections in NSW and improve the health outcomes of people living with hepatitis B in NSW, the *NSW Hepatitis B Strategy 2014-2020* outlines five targets to be achieved by 2020:

1. achieve hepatitis B childhood vaccination coverage of 95%;
2. ensure all pregnant women are screened for hepatitis B;
3. ensure all babies born to hepatitis B positive mothers receive hepatitis B immunoglobulin within 12 hours of birth;
4. reduce sharing of injecting equipment among people who inject drugs by 25%; and
5. increase the number of people living with hepatitis B receiving antiviral treatment (when clinically indicated) by 300%.

To achieve these targets the Hepatitis B Strategy identifies these key actions:

- building on established hepatitis B prevention efforts;
- Increasing hepatitis B testing and diagnosis
- Improving monitoring, care and treatment for people living with hepatitis B

The Data Report has been developed to monitor progress against the targets outlined in the *NSW Hepatitis C Strategy 2014-2020* and the *NSW Hepatitis B Strategy 2014-2020*. This is the 2015 Annual Data Report, which provides data for the period between 1 January to 31 December 2015. The Data Reports will be published on a 6-monthly basis.

The Data report provides an overview of the epidemiology of hepatitis C and hepatitis B and describes progress and achievements in meeting targets and priority actions of both strategies. To monitor this progress, a range of data sources have been identified for ongoing analysis and reporting purposes.

Over the lifetime of both strategies, the Ministry will work with key stakeholders to improve and enhance data systems in order to better capture activity relating to hepatitis C and hepatitis B prevention, assessment, management, and treatment.

Current progress against the targets in the *NSW Hepatitis C Strategy 2014-2020* and the *NSW Hepatitis B Strategy 2014-2020* is summarised below:

- In 2015, the hepatitis B childhood vaccination coverage measured at 12 months was 93% as at 31 December. Coverage at 24 months was 95%.
- In 2014, the proportion of women giving birth in a public or private hospital in NSW screened for hepatitis B was 99%.
- In 2014, the proportion of babies born to mothers living with hepatitis B who receive hepatitis B immunoglobulin (HBIG) within 12 hours of birth is generally high, at 99%.
- In 2015, 16% of respondents to the NSW NSP Enhanced Data Collection survey reported receptive sharing of needles and syringes (receptive syringe sharing) in the past month, which is stable compared with 14% in 2014.
- In 2015, 4,532 people with chronic hepatitis C were assessed for treatment in publicly funded health services in NSW, compared with 3,975 in 2014 (14% increase)¹.
- In 2015, 1,218 people with chronic hepatitis C commenced treatment in publicly funded health services in NSW, compared with 1,037 in 2014 (17% increase)².
- In 2013, 5,871 people (unique patients) with chronic hepatitis B were dispensed antiviral therapy in public hospital, private hospital and community pharmacies in NSW^{3,4}.
- In 2015, 2,818 people (unique patients) with chronic hepatitis B were dispensed antiviral therapy in public hospital pharmacies compared with 2,519 in 2014 (12% increase)⁵.

¹ These figures capture hepatitis C treatment assessment in NSW liver clinics; drug and alcohol services; and Justice Health custodial settings. It excludes activity in the private sector (including private liver clinics and GPs).

² These figures capture hepatitis C treatment initiation in NSW liver clinics; drug and alcohol services; Justice Health custodial settings; as well as patients on clinical trials. It excludes activity in the private sector (including private liver clinics and GPs). Note the total for SES was revised on 27 June 2016; the total for NSW was also updated.

³ Hepatitis B Mapping Project: Estimates of chronic hepatitis B diagnosis, monitoring and treatment by Medicare Local, 2012/13 – National Report. Published by the Australasian Society for HIV Medicine (ASHM).

⁴ This figure captures the number of people prescribed hepatitis B antiviral therapy through the Pharmaceutical Benefits Scheme (PBS) in NSW in the public and private sector in 2013. This includes people dispensed therapy in public hospital, private hospital and community pharmacies in NSW.

⁵ This figure captures the number of people dispensed hepatitis B antiviral therapy in NSW public hospital pharmacies. It excludes people dispensed therapy in private hospital pharmacies and community pharmacies. Note that the total number of people dispensed hepatitis B therapy in 2014 excludes data from Hunter New England LHD which was not available at the time of the report. The hepatitis B dispensing data was revised on 15 May 2016 to correct a duplication error in the analysis of the NSW iPharmacy data.

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Glossary of Terms

AMS	Aboriginal Medical Service
ADM	Automatic dispensing machine
IDC	Internal dispensing chute
HBV	Hepatitis B
HCV	Hepatitis C
LHD	Local Health District
NSP	Needle and Syringe Program
NUAA	New South Wales Users and AIDS Association
NSW	New South Wales
OST	Opioid substitution treatment
OTP	Opioid Treatment Program
PFSHC	Publicly funded Sexual Health Clinic
PWID	People who inject drugs

1. GOALS

1.1 Improve health outcomes of people living with hepatitis B

1.1.1 Burden of disease of hepatitis B

In Australia it is estimated that 213,300 people are living with chronic hepatitis B¹, with approximately 77,000 from NSW. Living with hepatitis B is associated with increased morbidity, mortality and health-related costs. Chronic viral hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation. A significant proportion of people living with hepatitis B are not aware of their infection.

Over 9% of people living with chronic hepatitis B in Australia are Aboriginal and Torres Strait Islander people (19,837). Aboriginal and Torres Strait Islander people represent 3% of the Australian population. People born in the Asia-Pacific account for an estimated 38% of those living with chronic hepatitis B in Australia (81,267). People from Sub-Saharan Africa account for an estimated 4% of people living with chronic hepatitis B in Australia (9,172).²

In NSW, hepatitis B infection is not evenly distributed, with higher notification rates in some areas including Western Sydney, South Western Sydney, South Eastern Sydney, Sydney and Northern Sydney.

Evidence shows that vaccination programs for hepatitis B are starting to have a benefit with declining rates of new infection in NSW, particularly in younger age groups.

The Ministry of Health is currently developing updated incidence and prevalence modelling of infection and disease burden for hepatitis B under the BRISE³ Research Program.

¹ The Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report 2015. The Kirby Institute, UNSW Australia, Sydney NSW 2052

² The Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report 2015. The Kirby Institute, UNSW Australia, Sydney NSW 2052

³ BBV & STI Research, Intervention and Strategic Evaluation (BRISE), 2014-2019 – University of NSW

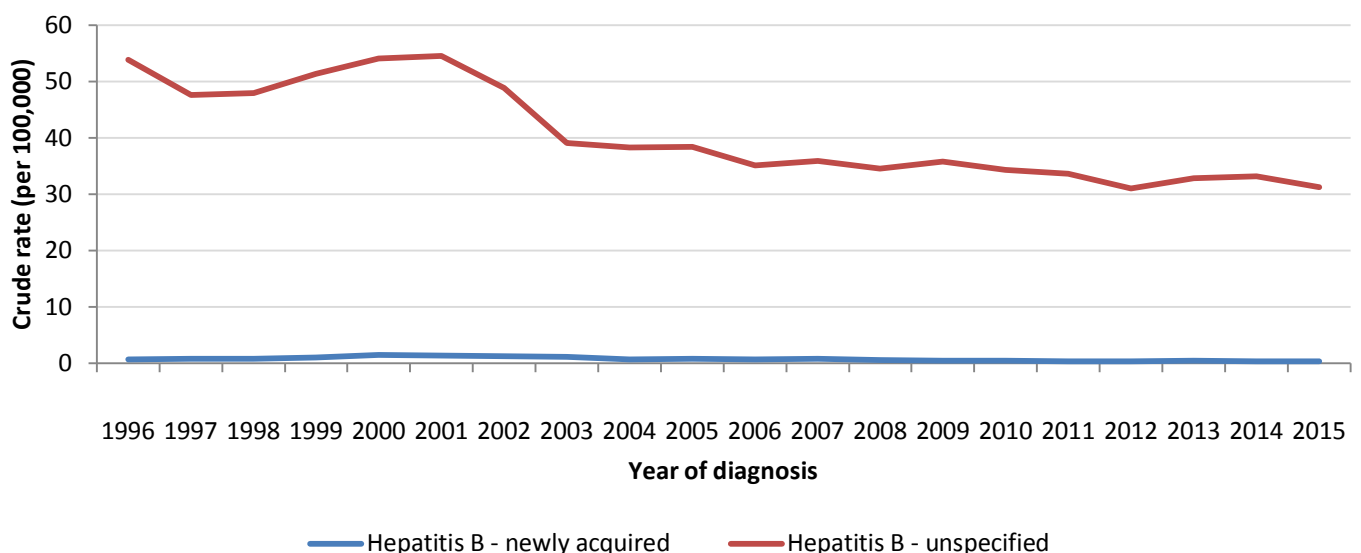
1.2 Reduce hepatitis B infections in NSW

Hepatitis B is a notifiable condition under the *Public Health Act 2010*, and is notified to NSW Health by laboratories⁴. Hospitals and doctors are also required to notify acute viral hepatitis. Notifications data provide limited information that can be used for assessing the epidemiological patterns of hepatitis B infections. This is because many infections are asymptomatic, and so people who are infected may never be tested, or only tested many years after infection, and laboratory reports do not distinguish between infection acquired recently, or years before. Furthermore, variations in notifications may reflect differences in testing patterns rather than differences in incidence of infection.

Hepatitis B is recorded as 'unspecified' when the time of infection is unknown (most notifications) or is known to be longer than two years prior to diagnosis. Hepatitis B is notified as 'newly acquired' when there is evidence that the infection was acquired within two years of diagnosis, either from serology or previous negative testing⁵. Apart from the small number of people who have evidence of a recent negative test or who are symptomatic, it is difficult to identify acute infections.

1.2.1 How many diagnoses of hepatitis B are notified?

Figure 1: Notification rates of unspecified and newly acquired hepatitis B, NSW, 1996-2015



Data source: Notifiable Conditions Information Management System (NCIMS), NSW Health; data extracted 4 Feb 2016

Comment

There has been a very gradual decline in the number of hepatitis B notifications over the last ten years in NSW. From 2006 to 2010, there was an average of 2,517 notifications per year, whereas from 2011 to 2015, there was an average of 2,449 per year.

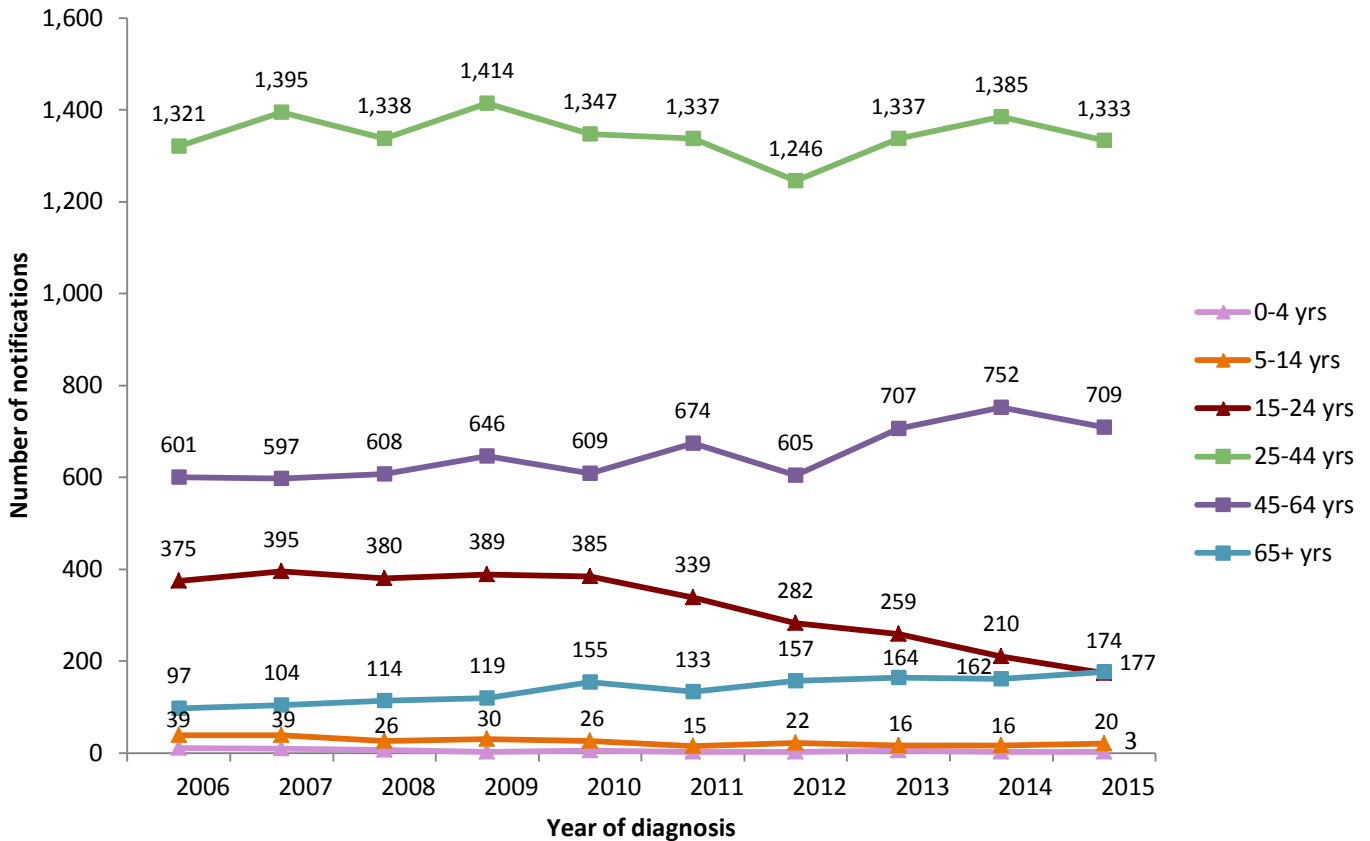
In 2015, there were 2,416 hepatitis B notifications in NSW. Of these, 2,390 (99%) were classified as 'unspecified' and 26 (1%) were classified as 'newly acquired'. The notification rate of hepatitis B (unspecified) decreased from 33.2 notifications per 100,000 population in 2014 to 31.2 per 100,000 in 2015. The notification rate of newly acquired hepatitis B was 0.34 per 100,000 in 2015, which is stable compared to 2014 (0.35 per 100,000).

⁴ NSW Health. Disease notification [webpage]. <http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx>

⁵ NSW Health. Control guideline for Public Health Units: Hepatitis B. <http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/hepb.aspx>

1.2.2 Which groups are being notified?

Figure 2: Notifications of hepatitis B in NSW, by age group, 2006-2015



Data source: NCIMS, NSW Health; data extracted 4 Feb 2016

Note: Excludes persons whose age is unknown or not stated; data labels for 0-4 yrs age group not shown except for year 2015

Comment

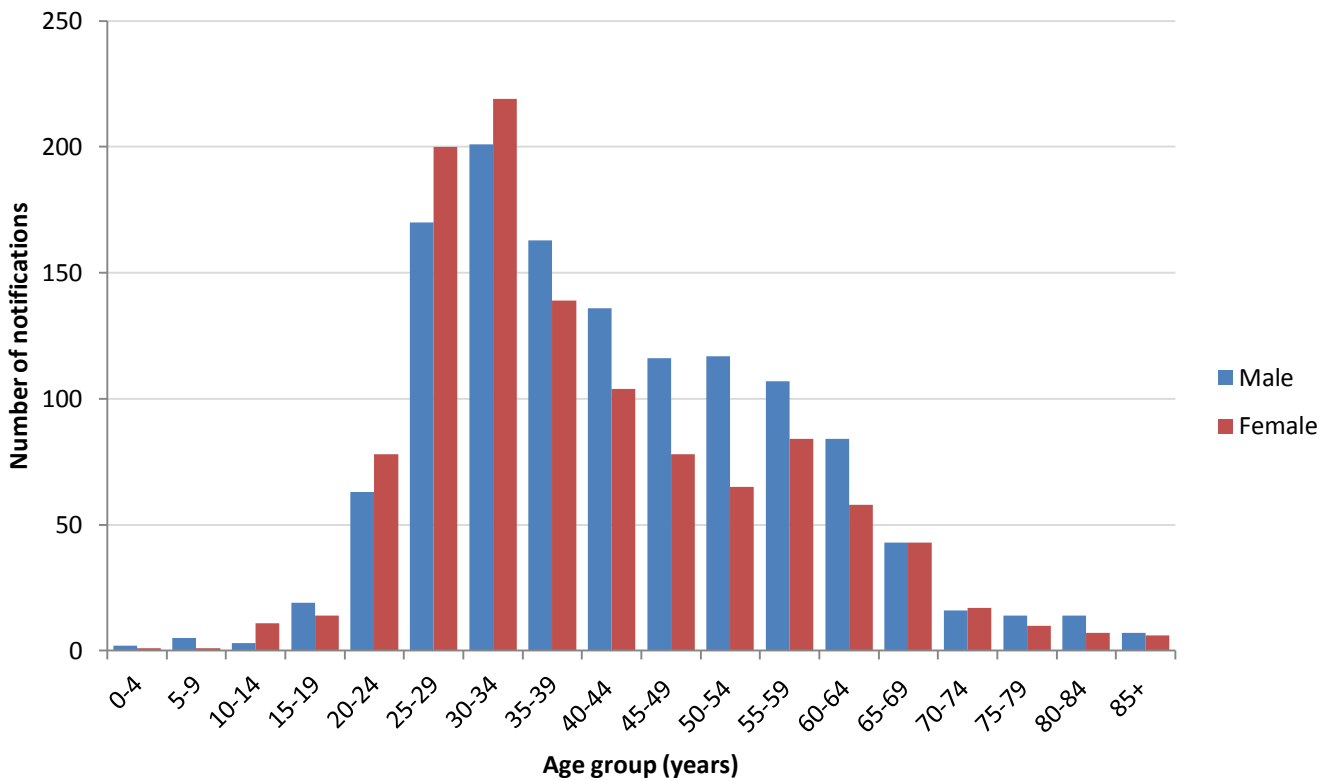
Of those people newly diagnosed with hepatitis B in 2015, 3 (<1%) were 0-4 years, 20 (1%) were 5-14 years, 174 (7%) were 15-24 years, 1,333 (55%) were 25-44 years, 3,709 (29%) were 45-64 years and 177 (7%) were 65 years and over.

Notifications of hepatitis B in young people aged 15 – 24 years have continued to decline, which may be related to universal routine immunisation of infants in NSW since 2000 and the catch-up program for adolescents, which ran from 2004 until 2013.

Notifications in older adults (45-64 years, and 65+ years) have increased over the last decade, possibly reflecting increased testing of people who acquired infection at birth overseas.

Notifications in the 25-44 years age group have, despite yearly fluctuations, remained steady.

Figure 3: Notifications of hepatitis B in NSW, by age group and gender, 2015



Data source: NCIMS, NSW Health; data extracted 4 Feb 2016

Note: Excludes persons whose age or sex is unknown or not stated; excludes transgender persons

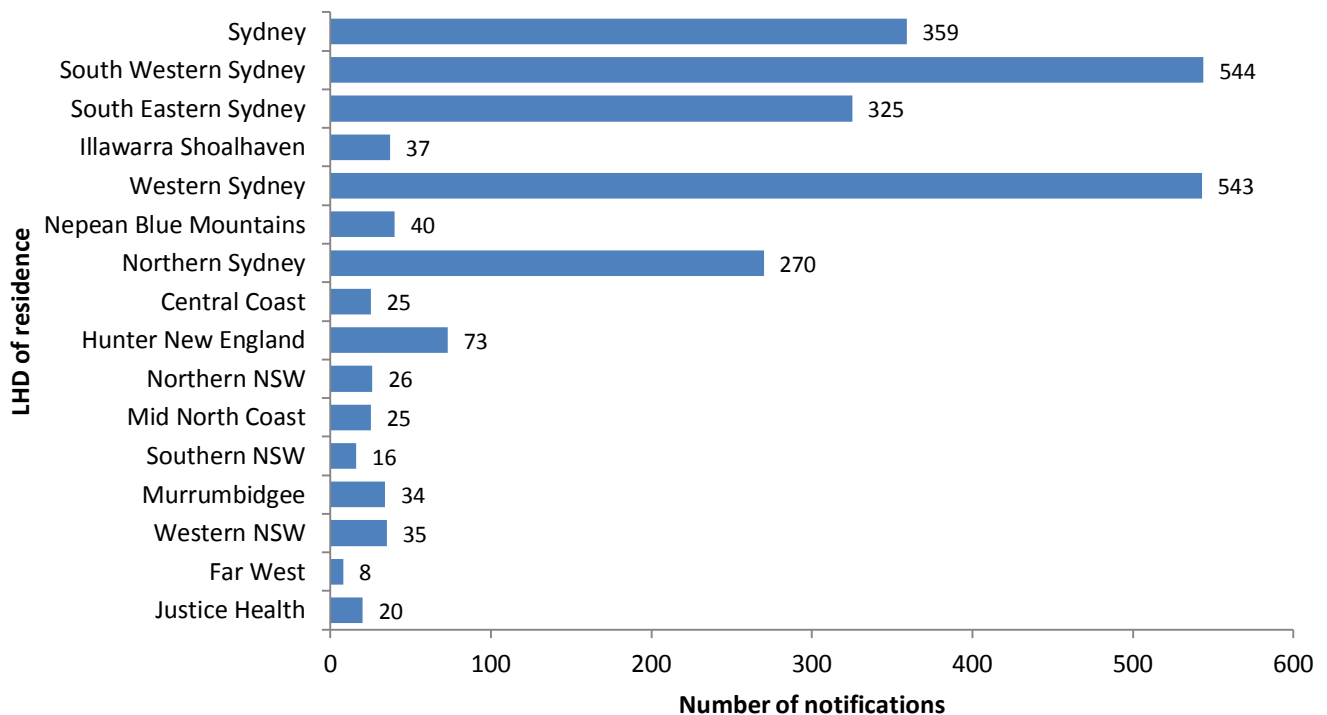
Comment

Of the 2,416 hepatitis B notifications in 2015, 1,280 (53.0%) were in males, 1,135 (47.0%) were in females, and 1 (<1%) was in a transgender person or person of unknown gender. The number of notifications increased with age up to 30-34 years, and then declined. This age and sex distribution is similar to that seen in 2014.

For both males and females, hepatitis B infection was most commonly diagnosed in those aged 30-34 years and 25-29 years. Females had a higher number of hepatitis B notifications than males in both of these age groups, which may be due to routine antenatal screening resulting in higher detection rates amongst pregnant women.

1.2.3 Where are notifications occurring?

Figure 4: Notifications of hepatitis B, by LHD of residence, NSW, 2015



Data source: NCIMS, NSW Health; data extracted 4 Feb 2016

Note: Excludes persons whose place of residence in NSW was not known

Comment

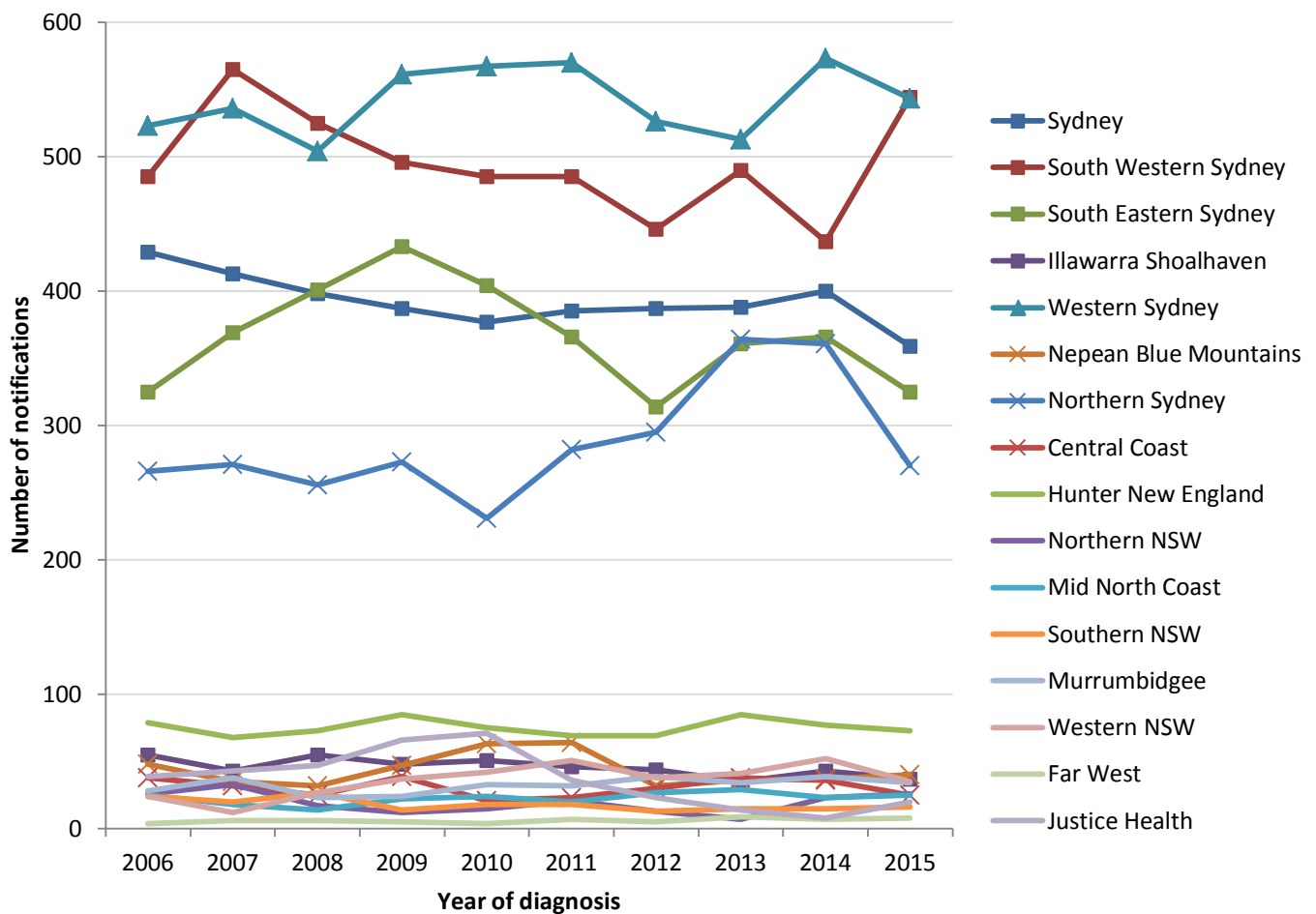
In 2015, South Western Sydney LHD and Western Sydney LHD reported the highest number of hepatitis B notifications (544 and 543 respectively), while Far West LHD reported the fewest (8). Eighty four per cent of hepatitis B notifications in NSW in 2015 were in people living in five Sydney metropolitan LHDs.

In NSW, an estimated 60% of people living with hepatitis B were born overseas⁶. In general, the proportion of people living with chronic hepatitis B reflects the proportion of the population born in a country with high prevalence of hepatitis B. The number of hepatitis B notifications in an LHD is most likely a reflection of migrant settlement patterns of people who acquired infection at birth overseas and targeted testing in these areas.

To account for the substantial variation in population size between the LHDs, notification rates have been shown in Figure 7.

⁶ MacLachlan J, Cowie B. Hepatitis B Mapping Project: Estimates of chronic hepatitis B prevalence and cultural and linguistic diversity by Medicare Local, 2011 – National Report. Australasian Society for HIV Medicine. 2013

Figure 5: Notifications of hepatitis B, by LHD of residence, NSW, 2006-2015



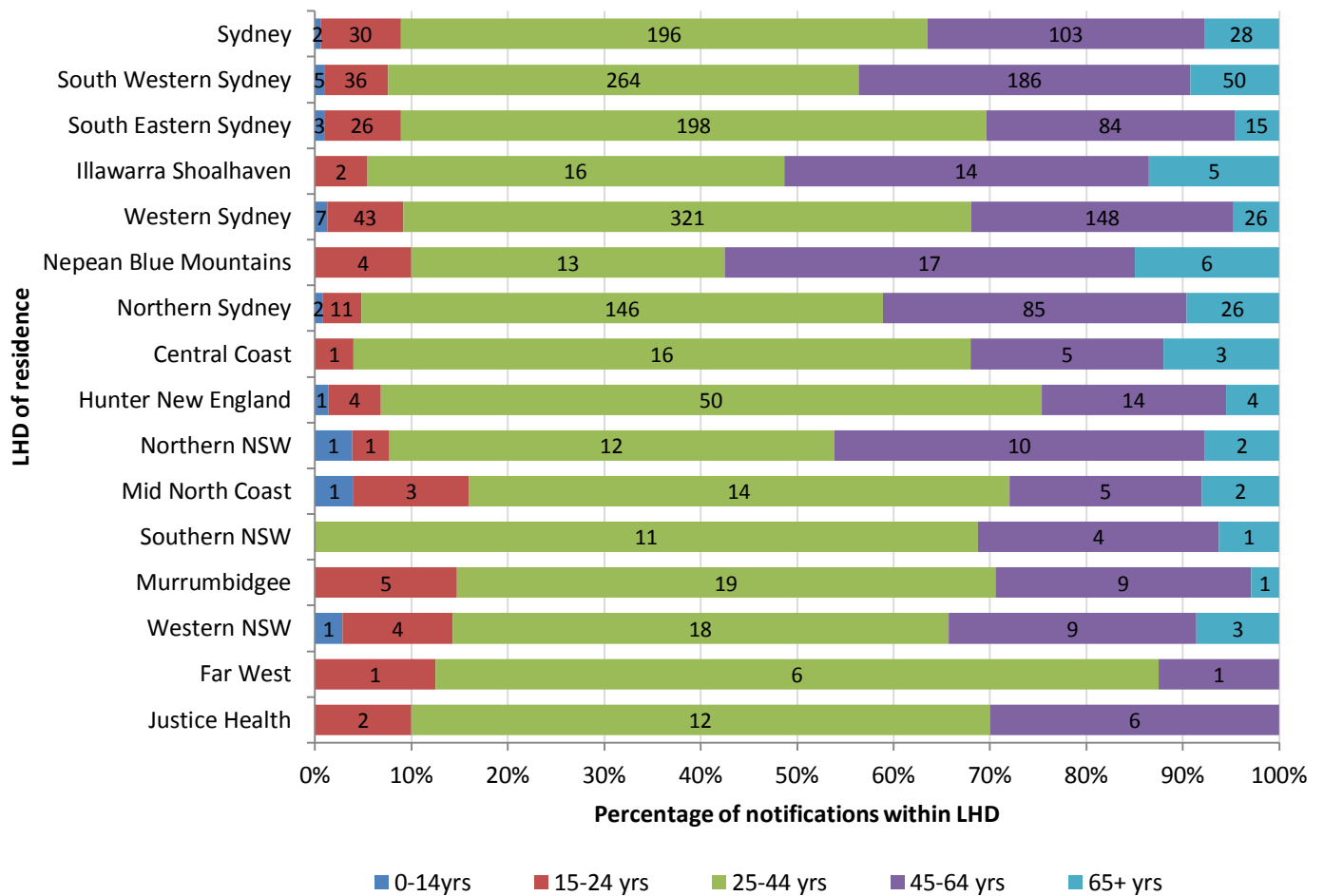
Data source: NCIMS, NSW Health; data extracted 4 Feb 2016

Note: Excludes persons whose place of residence in NSW was not known

Comment

Local changes in the number of notifications 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.

In contrast to other Sydney metropolitan LHDs which had a decrease in hepatitis B notifications in 2015 compared to 2014, South Western Sydney (SWS) LHD had a marked increase in hepatitis B notifications. A spike in notifications in SWS LHD was seen following the launch of a local hepatitis B awareness campaign for World Hepatitis Day in July 2015. The campaign, 'Hepatitis B & liver cancer: breaking the cycle with Vietnamese men in South Western Sydney', aimed to encourage people to go to their GP for testing.

Figure 6: Notifications of hepatitis B, by LHD and age group, NSW, 2015

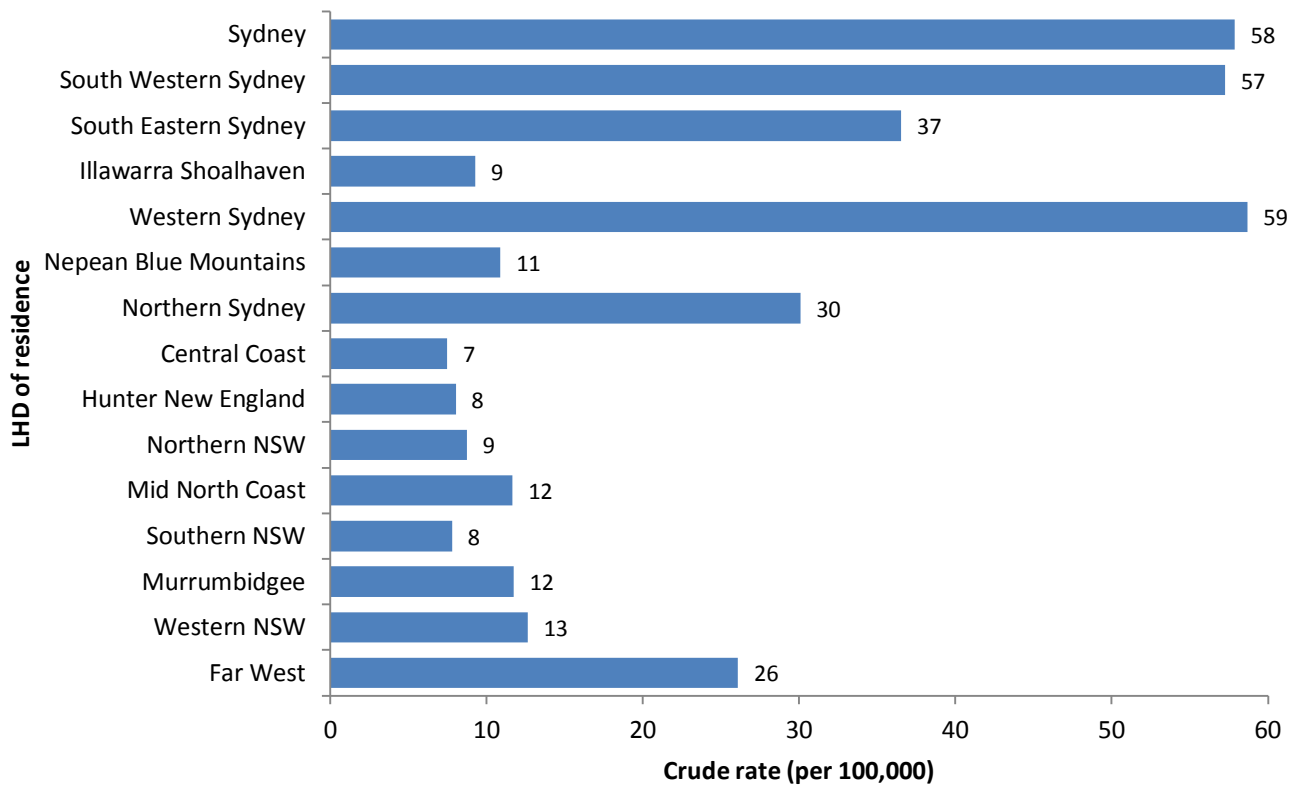
Data source: NCIMS, NSW Health; data extracted 11 Feb 2016

Note: Excludes non-NSW residents and persons whose age and/or place of residence in NSW was not known or not stated; data labels show number of notifications in age group for LHD; Justice Health data includes notifications from juvenile correctional centres

Comment

The age distribution of hepatitis B notifications by LHD can be difficult to interpret for several reasons. Differences in the number of hepatitis B notifications between LHDs is most likely a reflection of migrant settlement patterns of people who acquired infection at birth overseas and targeted testing in these areas. Due to the small number of notifications in many of the LHDs, particularly in regional and remote areas, the data may not represent ongoing local trends.

The statewide trend of hepatitis B notifications by age group is shown in Figure 2.

Figure 7: Notification rate of hepatitis B in NSW, by LHD of residence, 2015

Data source: NCIMS, NSW Health; data extracted 11 Feb 2016

Note: Excludes persons whose place of residence in NSW was not known; notifications from Justice Health excluded

Comment

Western Sydney, Sydney and South Western Sydney Local Health Districts (LHDs) recorded the highest rates of hepatitis B notification in NSW in 2015 (59, 58 and 57 per 100,000 respectively). South Eastern Sydney and Northern Sydney LHDs also had high rates of hepatitis B notification compared to most regional and remote LHDs. These rates are most likely a reflection of migrant settlement patterns of people who acquired infection at birth overseas and targeted testing in these areas.

A notification rate has not been calculated for Justice Health as the population (the denominator) fluctuates.

1.3 Improve health outcomes of people living with hepatitis C

1.3.1 Burden of disease of hepatitis C

In Australia, it is estimated that 230,470 people are living with chronic hepatitis C, with approximately 81,900 people from NSW⁷. The rate of hepatitis C diagnosis among Aboriginal and Torres Strait Islander people in Australia is almost five times higher than the rate in the non-Indigenous population⁸.

Living with hepatitis C is associated with increased morbidity, mortality and health-related costs. Chronic viral hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation.

Currently treatment uptake is low, with approximately 2% of people living with hepatitis C commencing treatment each year⁹. However, the availability of new direct acting antiviral therapy through the Pharmaceutical Benefits Scheme (PBS) means that safer and highly effective hepatitis C treatment is available from 1 March 2016. The new treatments have a cure rate of greater than 90%.

It is expected that the introduction of these new treatment regimens will lead to substantial increases in the number of people accessing hepatitis C treatment over the lifetime of the *NSW Hepatitis C Strategy 2014-2020*.

The Ministry of Health is currently developing updated incidence and prevalence modelling of infection and disease burden for hepatitis C under the BRISE¹⁰ Research Program.

⁷ The Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report 2015. The Kirby Institute, UNSW Australia, Sydney NSW 2052

⁸ The Kirby Institute. Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: Surveillance and Evaluation Report 2015. The Kirby Institute, UNSW Australia Sydney NSW 2052

⁹ Dore G. The changing therapeutic landscape for hepatitis C. *Medical Journal of Australia*. 2012;196(10):629-632.

¹⁰ BBV & STI Research, Intervention and Strategic Evaluation (BRISE) 2014-2019 – University of NSW

1.4 Reduce hepatitis C infections in NSW

How often hepatitis C infection occurs (the incidence) is best obtained through observational studies. Evidence from two such studies^{11,12} suggests that the incidence of hepatitis C infection among people who inject drugs (PWID) in Sydney has declined over the past decade. These findings are consistent with other data sources indicating that the epidemiology of hepatitis C infection among PWID is changing.

Hepatitis C is a notifiable condition under the *Public Health Act 2010*, and is notified to NSW Health by laboratories¹³. Hospitals and doctors are also required to notify acute viral hepatitis. Notifications data provide limited information that can be used for assessing the epidemiological patterns of hepatitis C infections. This is because many infections are asymptomatic, and 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. Furthermore, variations in notifications may reflect differences in testing patterns rather than differences in incidence of infection.

Hepatitis C notifications are classified as 'unspecified' when the time of infection is unknown (most notifications) or is known to be longer than two years prior to diagnosis. Hepatitis C is classified as 'newly acquired' when there is evidence that the infection was acquired within two years of diagnosis, either from an acute hepatitis illness or previous negative testing¹⁴. Apart from the small number of people who have evidence of a recent negative test or who are symptomatic, it is difficult to identify acute infections.

¹¹ White B, Dore G, Lloyd A, Rawlinson W, Maher L. Opioid substitution therapy protects against hepatitis C virus acquisition in people who inject drugs: the HITS-c study. *MJA* 2014;201(6):326-329

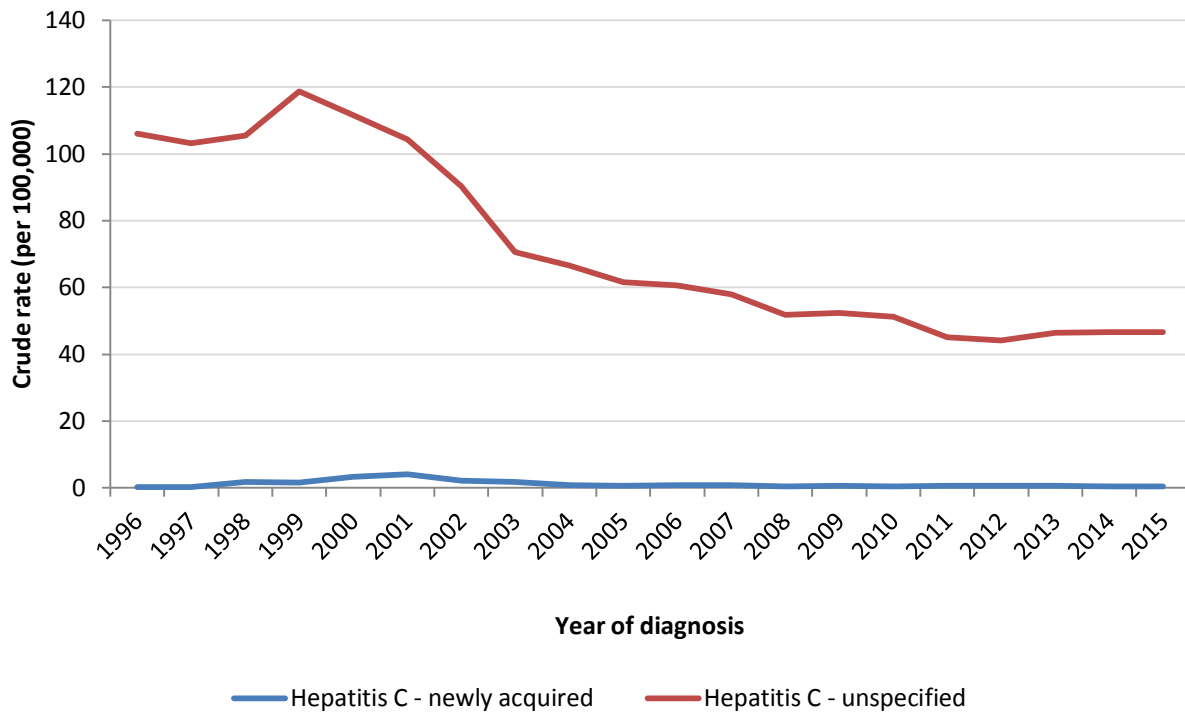
¹² Maher L, Jalaludin B, Chant K, Jayasuriya R, Sladden T, Kaldor J, Sargent P. Incidence and risk factors for hepatitis C seroconversion in injecting drug users in Australia. *Addiction* 2006;101(10):1499-1508

¹³ NSW Health. Disease notification [webpage] <http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx>

¹⁴ NSW Health. Control guideline for Public Health Units: Hepatitis C. http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/hep_c_protoco.aspx#2

1.4.1 How many diagnoses of hepatitis C are notified?

Figure 8: Notification rates of newly acquired and unspecified hepatitis C, NSW, 1996-2015



Data source: NCIMS, NSW Health; data extracted 5 Feb 2016

Comment

There has been a very gradual decline in the number of hepatitis C notifications over the last ten years in NSW. From 2006 to 2010, there was an average of 3,873 notifications per year, whereas from 2011 to 2015, there was an average of 3,452 per year.

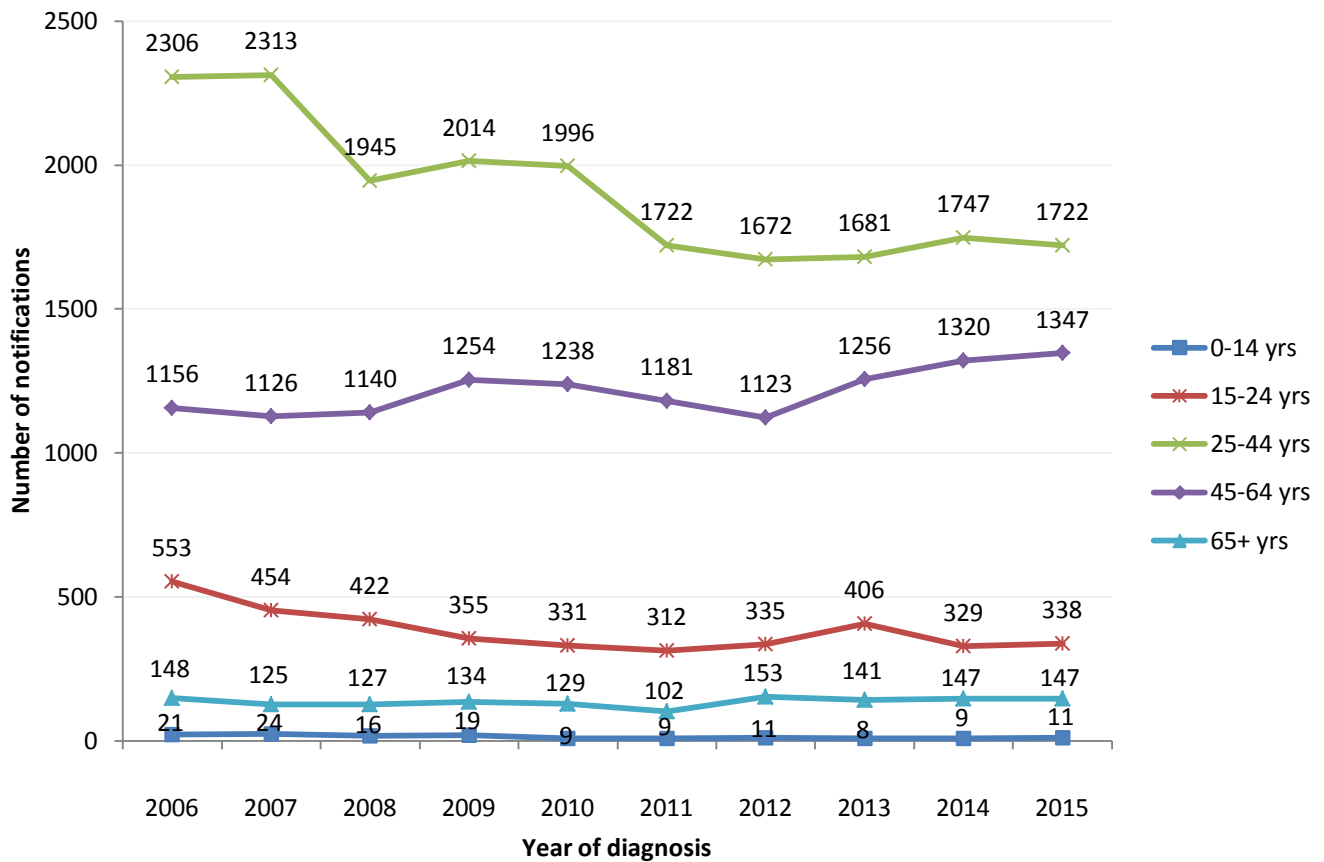
In 2015, there were 3,581 hepatitis C notifications in NSW. Of these, 3553 (99%) were classified as 'unspecified' and 28 (1%) were classified as 'newly acquired'. The notification rate of hepatitis C (unspecified) has remained stable in recent years; there were 46.6 notifications per 100,000 population in 2015 compared 46.7 per 100,000 in 2014. The notification rate of newly acquired hepatitis C has continued to decrease in recent years, from 0.44 per 100,000 in 2014 to 0.37 per 100,000 in 2015.

Notifications of newly acquired hepatitis C peaked in 2001, largely as a result of active case-finding conducted during a prospective cohort study¹⁵. The study recruited HCV negative injecting drug users in NSW between 1999 and 2002, and participants were followed up and tested for HCV every 3-6 months until seroconversion or study completion.

¹⁵ Maher L, Jalaludin B, Chant K, Jayasuriya R, Sladden T, Kaldor J, Sargent P. Incidence and risk factors for hepatitis C seroconversion in injecting drug users in Australia. *Addiction* 2006;101(10):1499-1508

1.4.2 Which groups are being notified?

Figure 9: Notifications of hepatitis C in NSW, by age group, 2006-2015



Data source: NCIMS, NSW Health; data extracted 8 Feb 2016

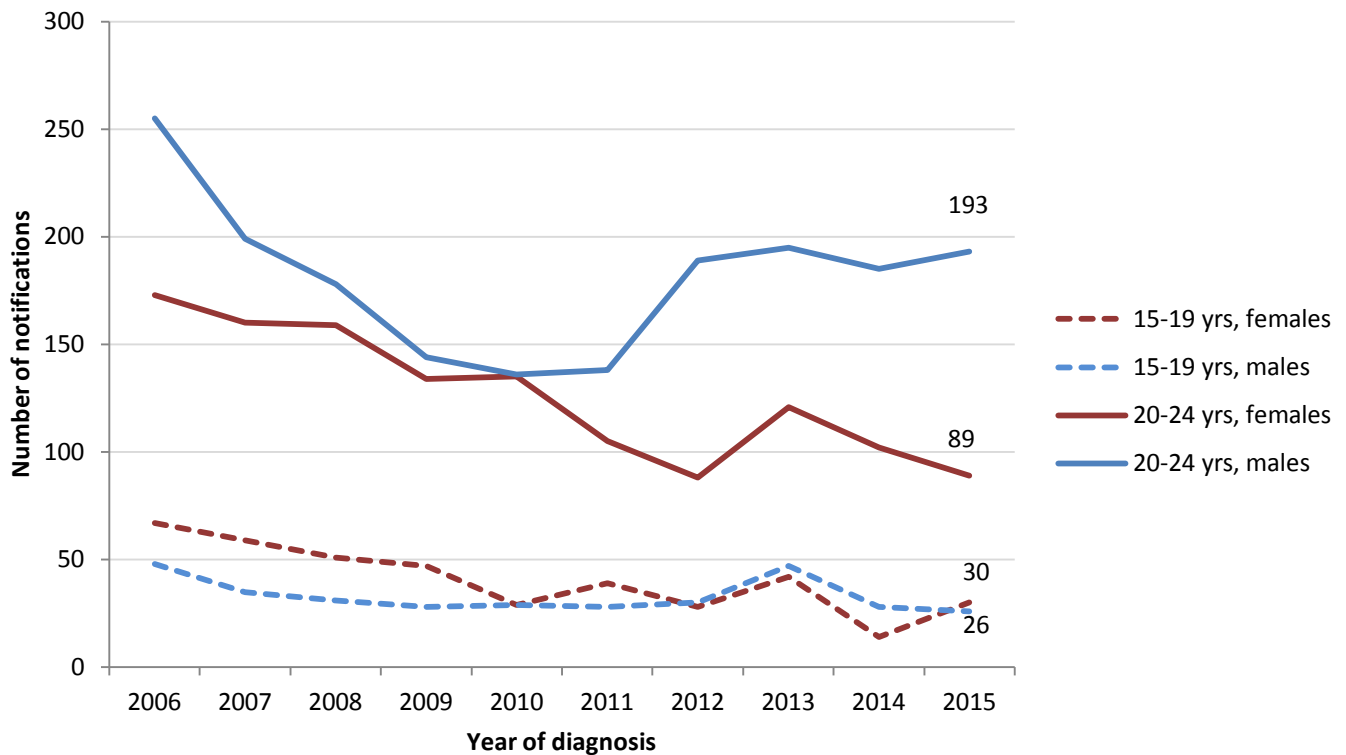
Note: Excludes persons whose age is unknown or not stated

Comment

Of those people newly diagnosed with hepatitis C in 2015, 11 (<1%) were 0-14 years, 338 (9%) were 15-24 years, 1722 (48%) were 25-44 years, 1347 (38%) were 45-64 years and 147 (4%) were 65 years and over. This age distribution is similar to 2014.

Notifications of hepatitis C infection in people aged 45-64 years have increased since 2012, whereas the other age groups have been reasonably steady.

Figure 10: Notifications of hepatitis C in people aged between 15 and 24 years, by age group and gender, NSW, 2005-2015



Data source: NCIMS, NSW Health; data extracted 8 Feb 2016

Note: Excludes transgender persons and persons whose gender is not stated/unknown

Comment

In 2015, there were 56 notifications of hepatitis C (unspecified and newly acquired) in people aged 15-19 years and 282 in those aged 20-24 years.

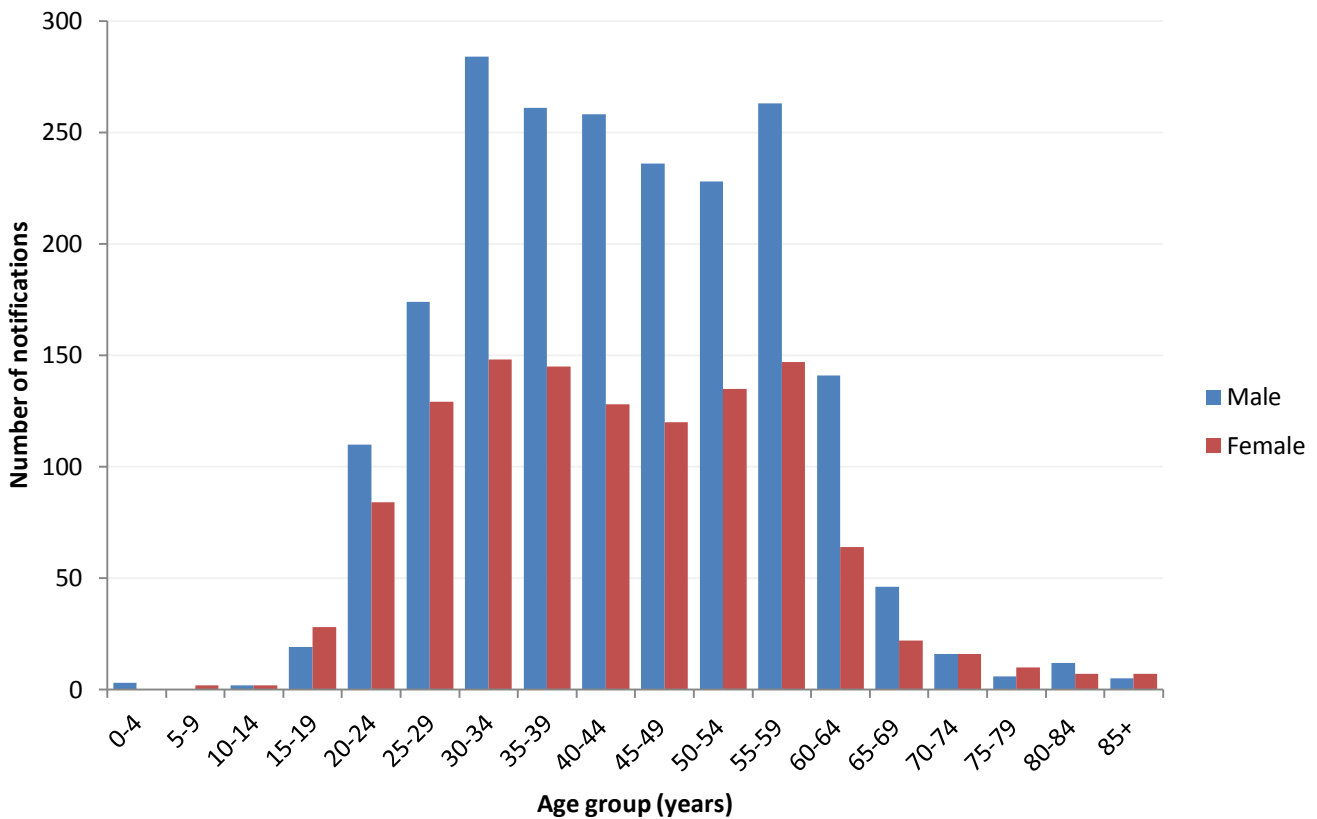
Younger age has been associated with hepatitis C incident infection in several studies conducted in NSW.^{16,17} An observational study conducted in NSW between 1999 and 2002 found that in people who inject drugs, the mean time from age of first injection to HCV seroconversion was 4.4 years¹⁸.

Notifications of hepatitis C in young people may be an indicator of recently acquired infections as these are the ages when injecting drug behaviours often commence, and hepatitis C infection is more likely to be acquired soon after initiation. However, 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.

¹⁶ Van Beek I, Dwyer R, Dore G, Luo K, Kaldor J. Infection with HIV and hepatitis C virus among injecting drug users in a prevention setting: retrospective cohort study. *BMJ* 1998; 317:433

¹⁷ White B, Dore G, Lloyd A, Rawlinson W, Maher L. Opioid substitution therapy protects against hepatitis C virus acquisition in people who inject drugs: the HITS-c study. *MJA* 2014;201(6):326-329

¹⁸ Maher L, Jalaludin B, Chant K, Jayasuriya R, Sladden T, Kaldor J, Sargent P. Incidence and risk factors for hepatitis C seroconversion in injecting drug users in Australia. *Addiction* 2006;101(10):1499-1508

Figure 11: Notifications of hepatitis C in NSW (excluding Justice Health), by age group and gender, 2015

Data source: NCIMS, NSW Health; data extracted 8 March 2016

Note: Excludes persons whose age or sex is unknown or not stated; excludes transgender persons

Comment

Of the 3,273 hepatitis C notifications in NSW (excluding Justice Health) in 2015, 2,072 (63.3%) were in males, 1,197 (36.6%) were in females, and 4 (0.1%) were in transgender persons or persons of unknown gender.

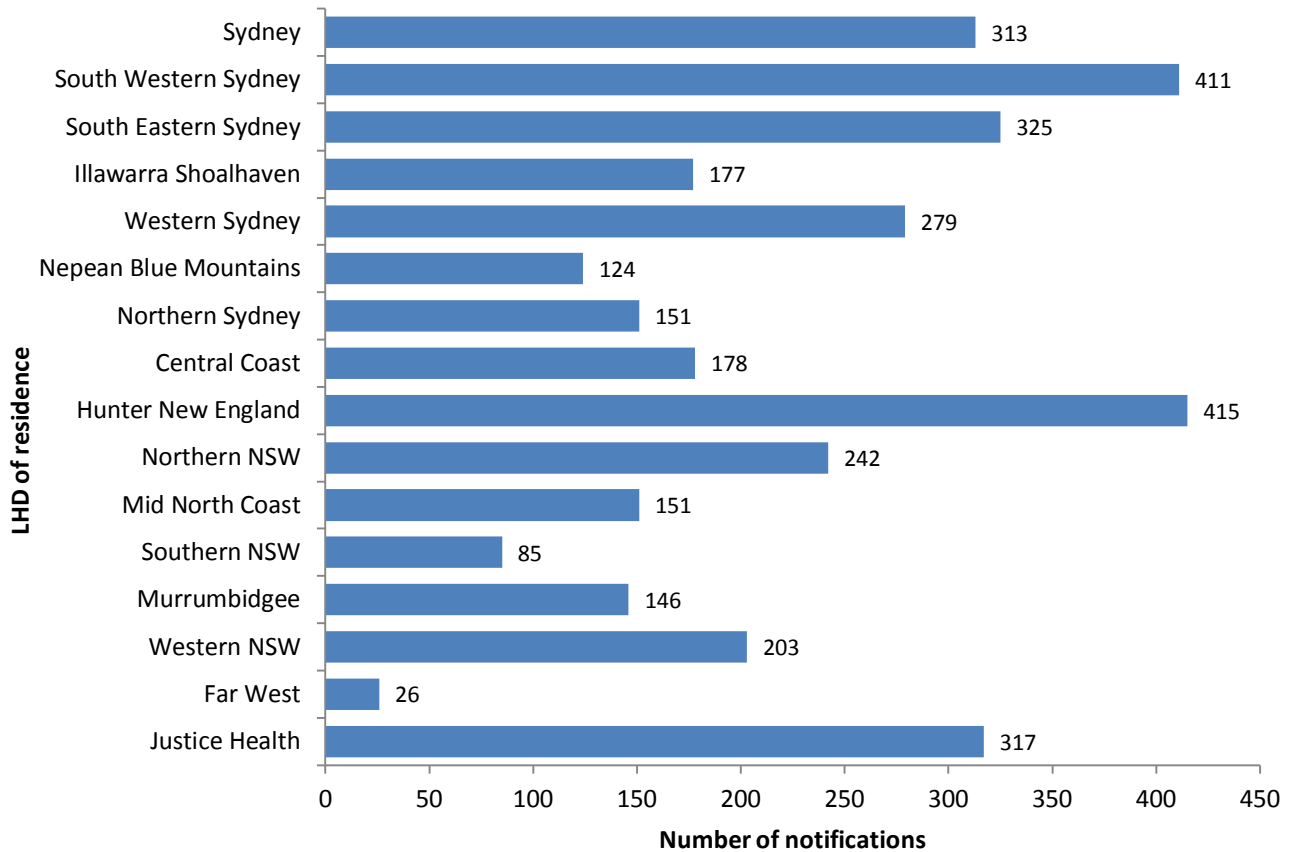
For both males and females, hepatitis C infection was most commonly diagnosed in those aged 30-34 years, followed by 55-59 years. Males had a higher number of hepatitis C notifications than females in almost all age groups. These patterns may reflect risk behaviours in males and females. Approximately two thirds of NSW respondents in the Australian NSP Survey (ANSPS) were male in all survey years over the period 1995 to 2014.¹⁹

Notifications from Justice Health are provided by age group and gender in Figure 17.

¹⁹ Iversen J, and Maher L. Australian Needle and Syringe Program Survey National Data Report 1995-2014. The Kirby Institute, UNSW Australia, 2015.

1.4.3 Where are notifications occurring?

Figure 12: Notifications of hepatitis C, by LHD of residence, NSW, 2015



Data source: NCIMS, NSW Health; data extracted 9 Feb 2016

Note: Excludes persons whose place of residence in NSW was not known

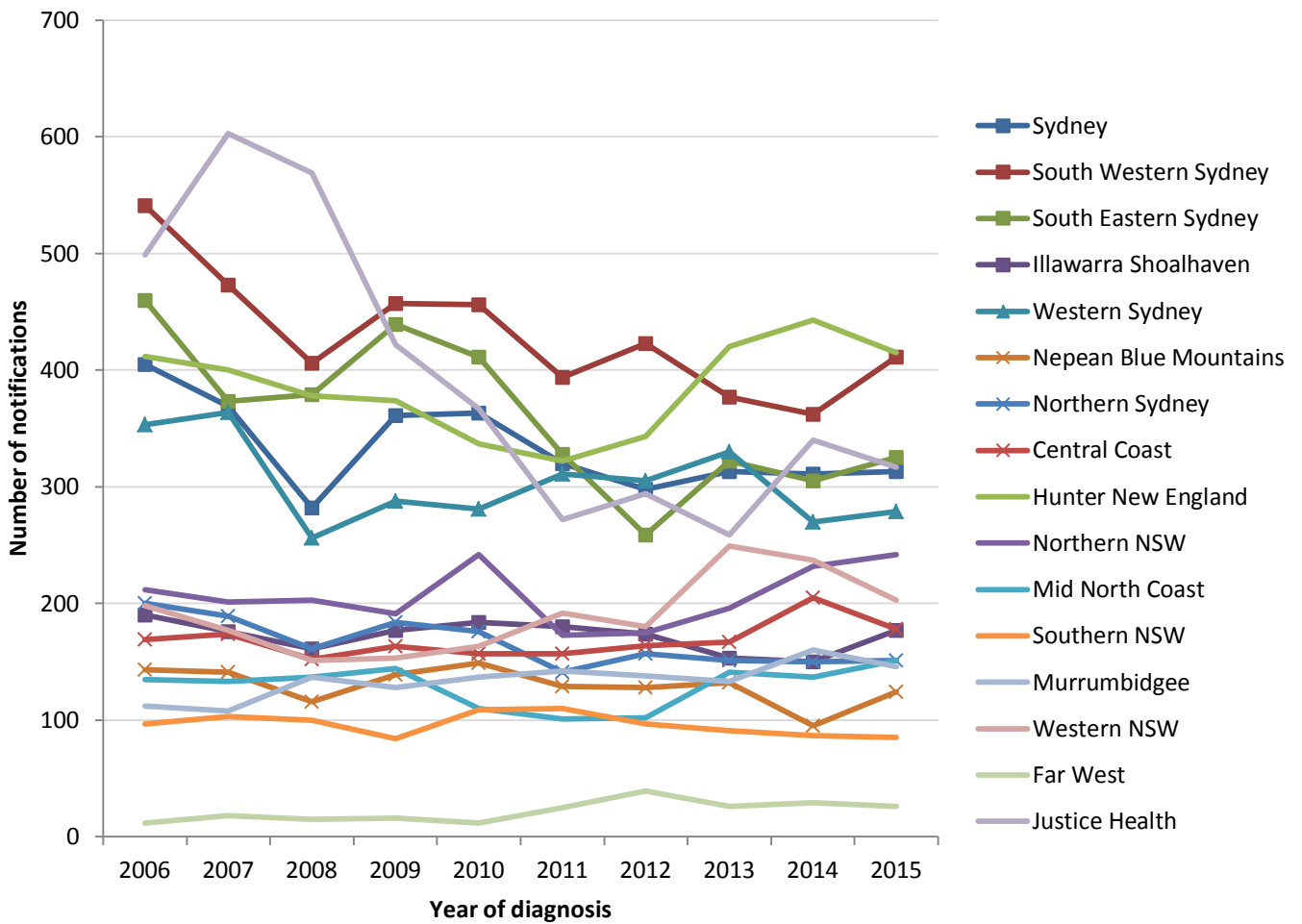
Comment

In 2015, Hunter New England LHD reported the highest number of hepatitis C notifications (415), followed by South Western Sydney LHD (411) and Justice Health (317), while Far West LHD reported the fewest (26).

Supporting better management of hepatitis C and increasing access to hepatitis C treatment is a priority under the NSW Hepatitis C Strategy 2015-2020, which is important in areas with high notifications.

To account for the substantial variation in population size between the LHDs, notification rates have been shown in Figure 15.

Figure 13: Notifications of hepatitis C, by LHD of residence, NSW, 2006-2015

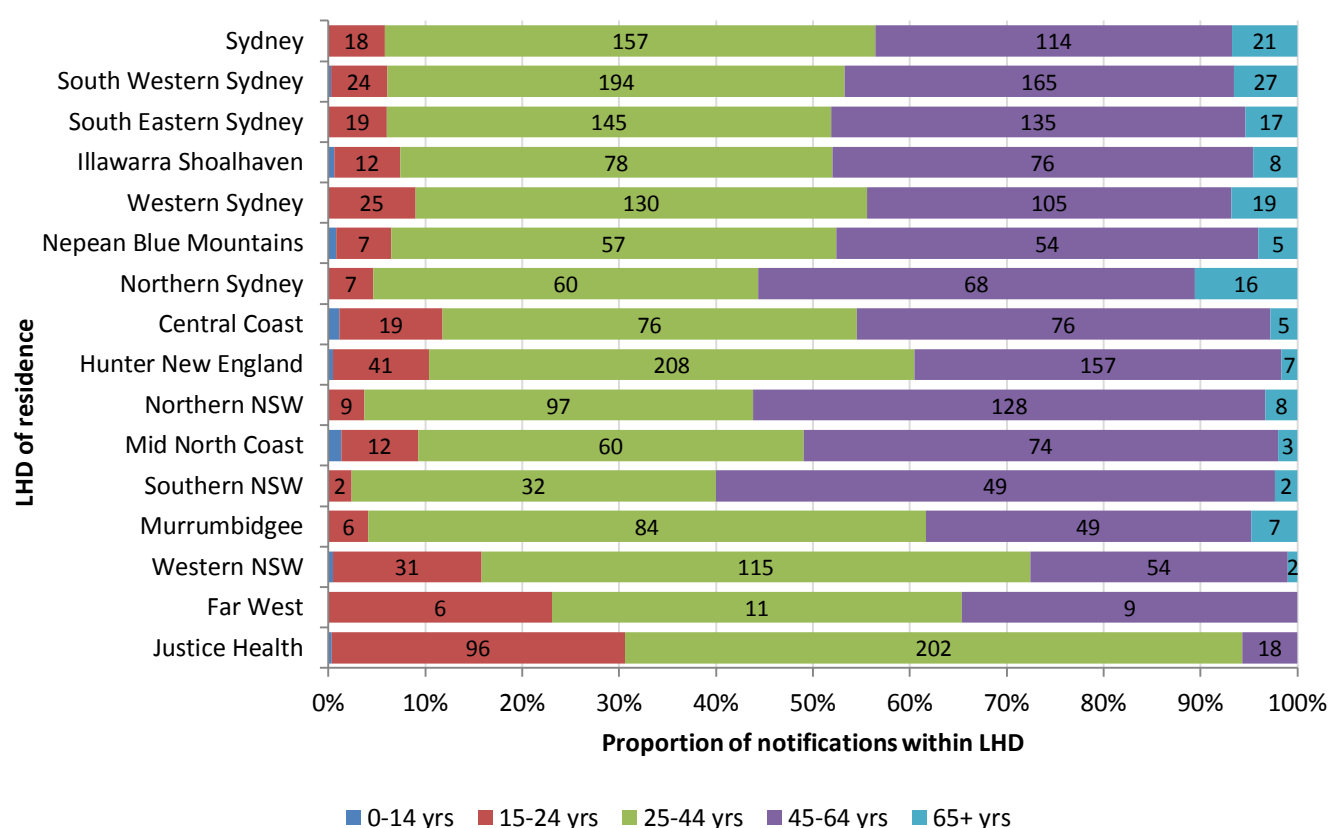


Data source: NCIMS, NSW Health; data extracted 9 Feb 2016
 Note: Excludes persons whose place of residence in NSW was not known

Comment

Local changes in the number of notifications 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.

Figure 14: Notifications of hepatitis C, by LHD and age group, NSW, 2015



Data source: NCIMS, NSW Health; data extracted 9 Feb 2016

Note: Excludes persons whose age and/or place of residence in NSW was not known or not stated; data labels show number of notifications in age group for LHD

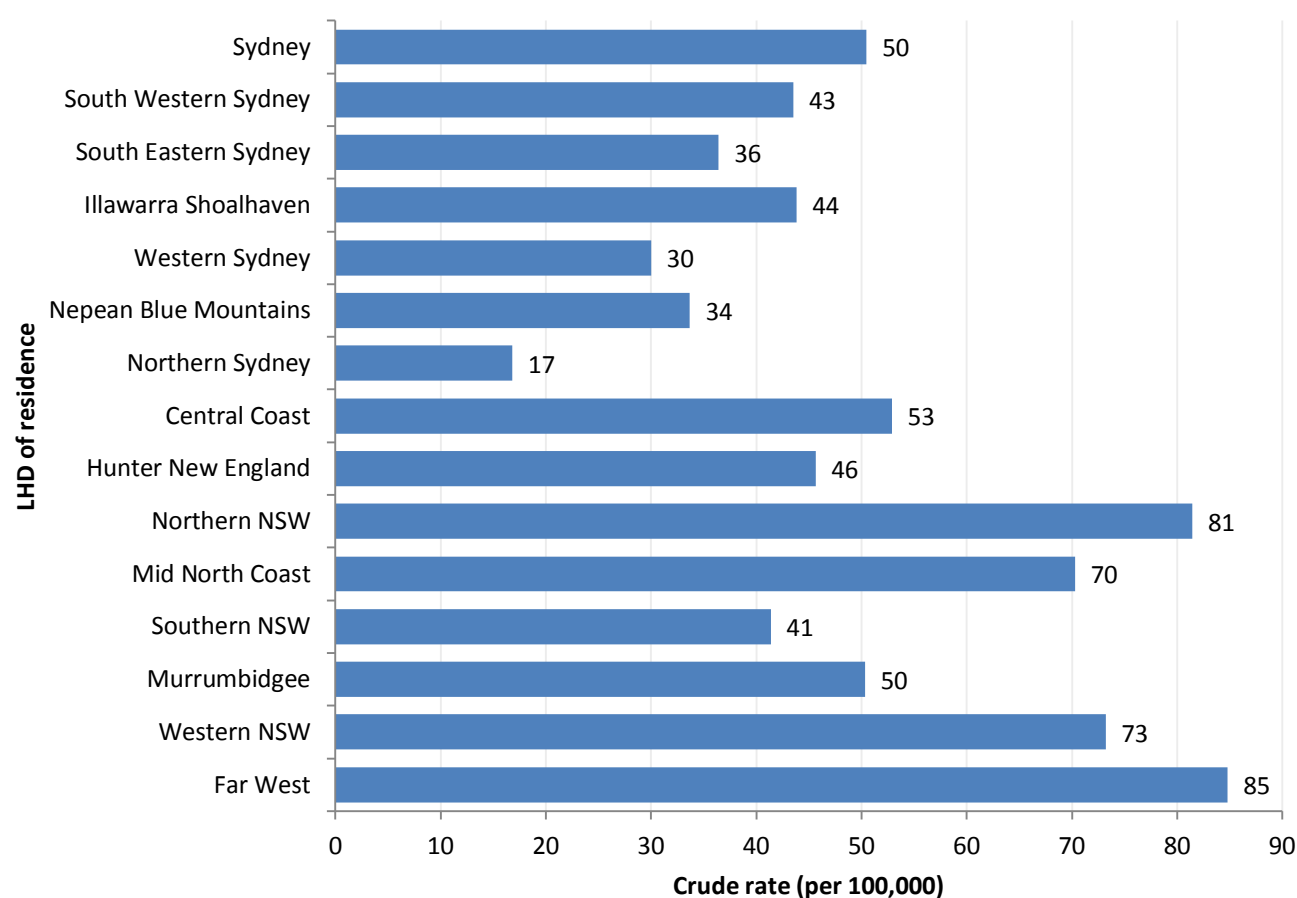
Comment

In 2015, Justice Health reported both the highest number (96) and the highest proportion (30%) of hepatitis C notifications in 15-24 year olds. Hunter New England LHD had the second highest number of notifications (41) in 15-24 year olds, while Far West had the second highest proportion (23%) of hepatitis C notifications in the same age group.

Notifications of hepatitis C in young people may be an indicator of recently acquired infections as these are the ages when injecting drug behaviours often commence, and hepatitis C infection is more likely to be acquired soon after initiation. However, 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.

Due to the small number of notifications in many of the LHDs, particularly in regional and remote areas, the data may not represent ongoing local trends.

High numbers of notifications in Justice Health settings are partly due to targeted screening programs. Justice Health provides health assessments to all people commencing full-time custody, including those remanded into custody. Screening for blood-borne and sexually transmissible infections is offered to those who report risk factors. Patients may also be tested through other health services while in custody.

Figure 15: Notification rate of hepatitis C in NSW, by LHD of residence, 2015

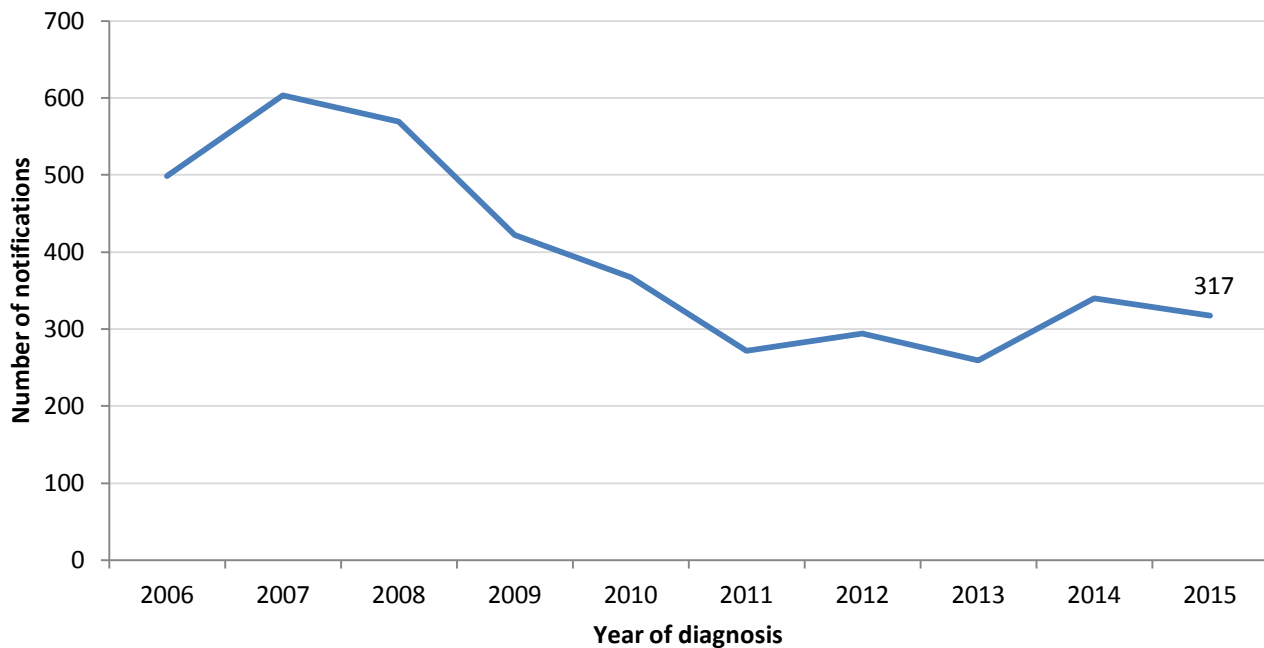
Data source: NCIMS, NSW Health; data extracted 12 Feb 2016

Note: Excludes persons whose place of residence in NSW was not known; notifications from Justice Health excluded

Comment

Far West and Northern NSW Local Health Districts (LHDs) recorded the highest rates of hepatitis C notification in NSW in 2015 (85 and 81 notifications per 100,000 respectively). Western NSW and Mid North Coast LHDs also had high rates of hepatitis C notification (73 and 70 per 100,000 respectively) compared to metropolitan Sydney LHDs.

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.

Figure 16: Notifications of hepatitis C in Justice Health, NSW, 2006-2015

Data source: NCIMS, NSW Health; data extracted 9 Feb 2016

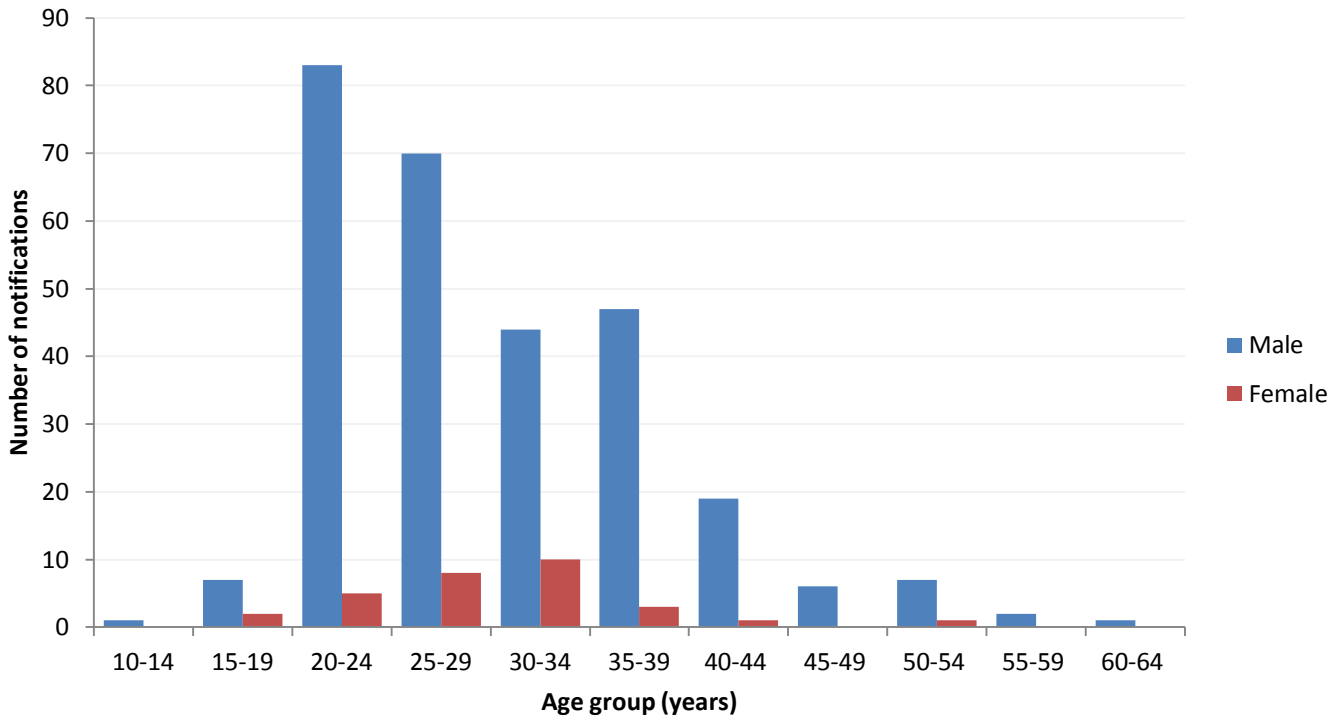
Comment

There were 317 notifications of hepatitis C in Justice Health (custodial) settings in 2015, accounting for 9% of hepatitis C notifications in NSW, and a decrease of 6.8% compared to the number in Justice Health in 2014 (340 notifications).

Aboriginal and Torres Strait Islander peoples comprised 24% of the NSW adult prisoner population in 2014²⁰ and accounted for 41% of the hepatitis C notifications amongst prisoners in the same year. Of the 317 hepatitis C cases notified by Justice Health in 2014, 131 (41%) were Aboriginal and/or Torres Strait Islander people and 128 (40%) were non-Aboriginal; Aboriginal status was unknown, not stated or missing for the remaining 58 (18%).

High numbers of notifications in Justice Health settings are partly due to targeted screening programs. Justice Health provides health assessments to all people commencing full-time custody, including those remanded into custody. Screening for blood-borne and sexually transmissible infections is offered to those who report risk factors. Patients may also be tested through other health services while in custody.

²⁰ Australian Bureau of Statistics. Catalogue 4517.0 Prisoners in Australia, 2014. New South Wales profile. [Available at <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4517.0~2014~Main%20Features~New%20South%20Wales~10015>; accessed 1 March 2016]

Figure 17: Notifications of hepatitis C, Justice Health, NSW, by age group and gender, 2015

Data source: NCIMS, NSW Health; data extracted 8 March 2016

Comment

Of the 317 hepatitis C notifications in Justice Health in 2015, 287 (90.5%) were in males and 30 (9.5%) were in females. Amongst males in custody, hepatitis C infection was most commonly diagnosed in those aged 20-24 years; however, amongst females in custody, hepatitis C was most commonly diagnosed in those aged 30-34 years.

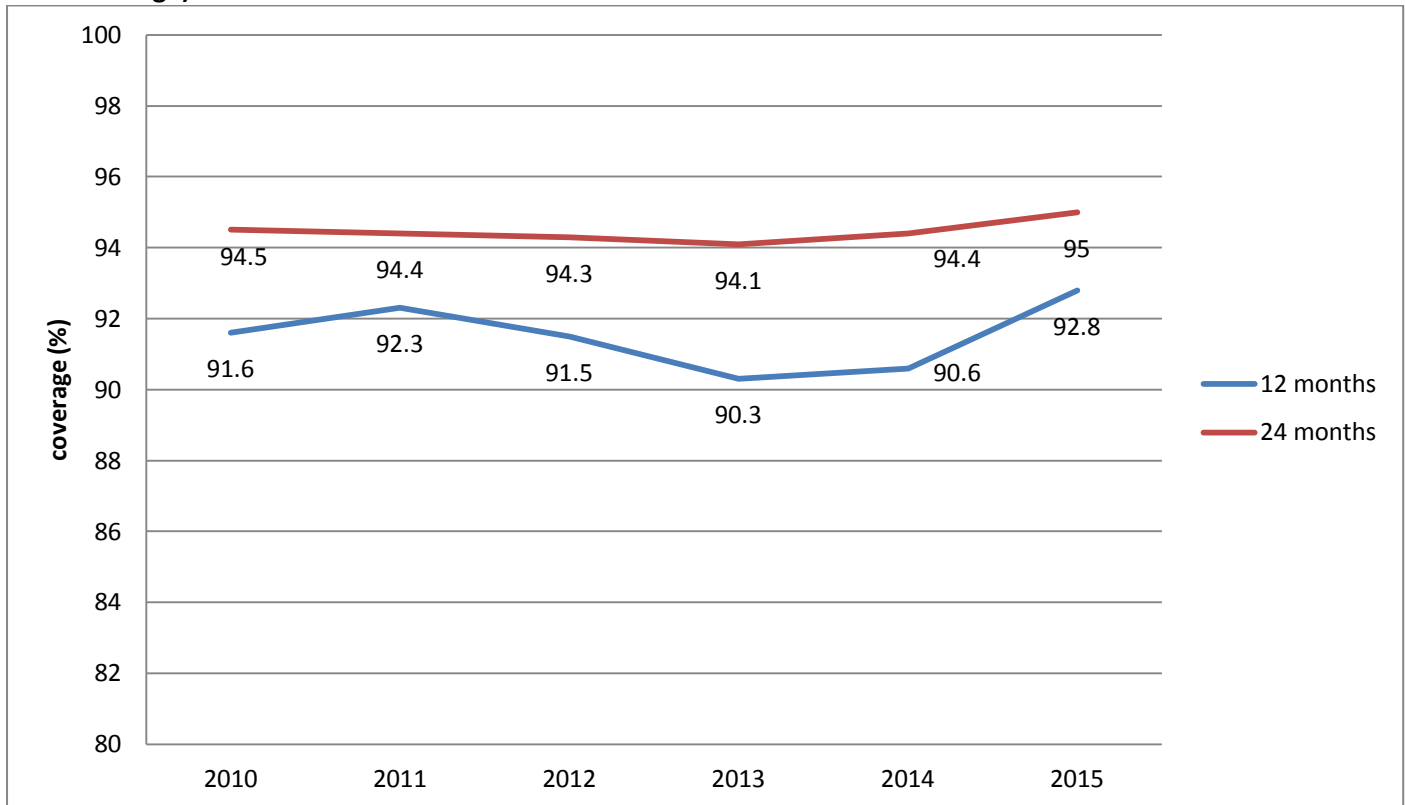
High numbers of notifications in Justice Health settings are partly due to targeted screening programs. Justice Health provides health assessments to all people commencing full-time custody, including those remanded into custody. Screening for blood-borne and sexually transmissible infections is offered to those who report risk factors. Patients may also be tested through other health services while in custody.

2. PREVENT – Build on established prevention efforts

2.1 Increase childhood vaccination coverage for hepatitis B

2.1.1 What proportion of children in NSW are vaccinated for hepatitis B?

Figure 18: Proportion of infants in NSW who have received 3 doses of hepatitis B vaccine (measured at 12 and 24 months of age)



Data source: Australian Childhood Immunisation Register, Australian Government Department of Human Services

Comment

Hepatitis B vaccine is due at birth, 6 weeks, 4 months and 6 months of age.

As reported by Local Health Districts through the neonatal hepatitis B program, coverage for the birth dose, given in hospital, was 95.4% in 2014 (the latest year for which data is available) (Table 1)

As reported by the Australian Childhood Immunisation Register (ACIR), coverage for the 6-week, 4-month and 6-month doses measured at 12 months of age in 2015 was 92.8%. Coverage for Aboriginal children was 91.3%.

As reported by ACIR, coverage at 24 months in 2015 was 95%, and for Aboriginal children was 96.6%. These rates are higher than at 12 months, indicating that delayed vaccination as well as under-vaccination and underreporting influence vaccination rates. (Figure 18)

Recurrent funding has been provided to all LHDs for the employment of Aboriginal Immunisation Health Workers to improve the timeliness of immunisation of Aboriginal children.

Table 1: Proportion of infants in NSW who have received a birth dose of hepatitis B

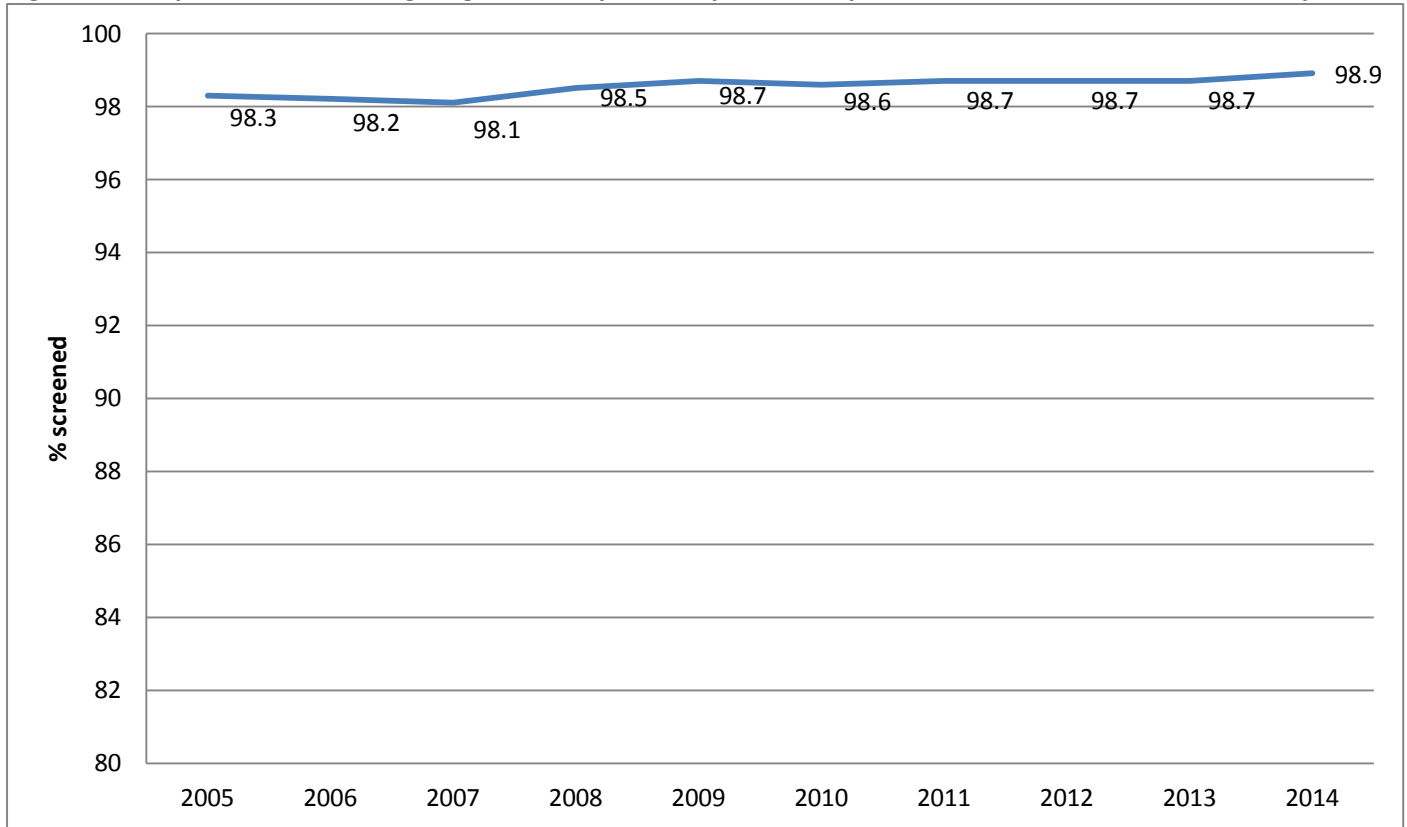
	2010	2011	2012	2013	2014
%	94.5	94.4	95.2	95	95.4

Data source: Neonatal Hepatitis B Vaccination Program Database, NSW Health. Data for 2015 will be available in September 2016.

2.2 Immunisation in babies born to mothers living with hepatitis B

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

Figure 19: Proportion of women giving birth in a public or private hospital in NSW who are screened for hepatitis B



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

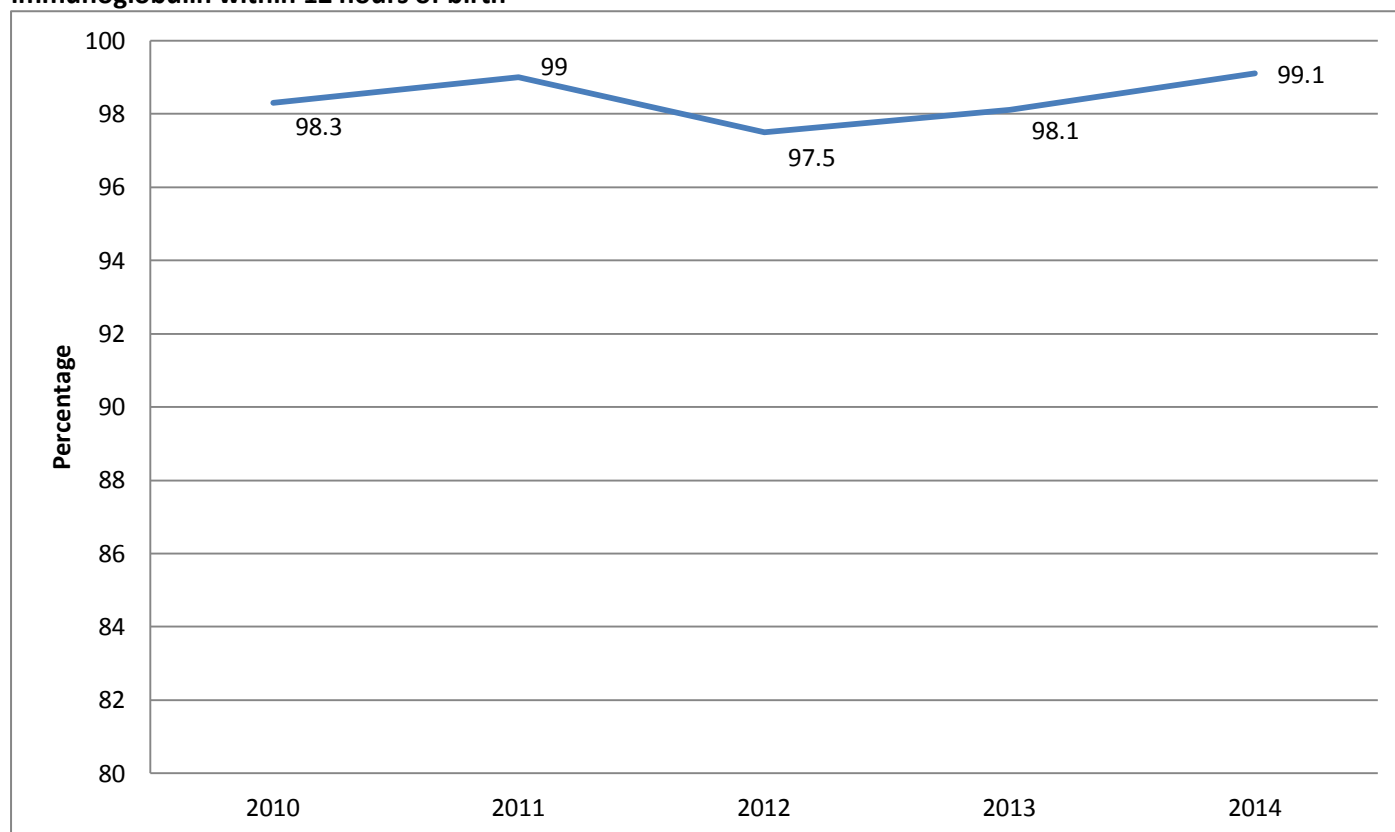
Comment

The proportion of women giving birth in a public or private hospital in NSW screened for hepatitis B was 98.9% in 2014 (the latest year for which annual data is available).

(Figure 19)

2.2.2 What proportion of babies born to mothers living with hepatitis B who receive hepatitis B immunoglobulin in NSW?

Figure 20: Proportion of babies born in NSW to mothers living with hepatitis B who received hepatitis B immunoglobulin within 12 hours of birth



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

Comment

The proportion of babies born to mothers living with hepatitis B who receive hepatitis B immunoglobulin (HBIG) within 12 hours of birth is generally high, at 99.1% in 2014. (Figure 20 and Table 2)

Figure 20 and Table 2 provide the most current data available at the time of this report. Data for 2015 will be available in September 2016.

Table 2: Neonatal hepatitis B immunoglobulin administration (2009 - June 2014)

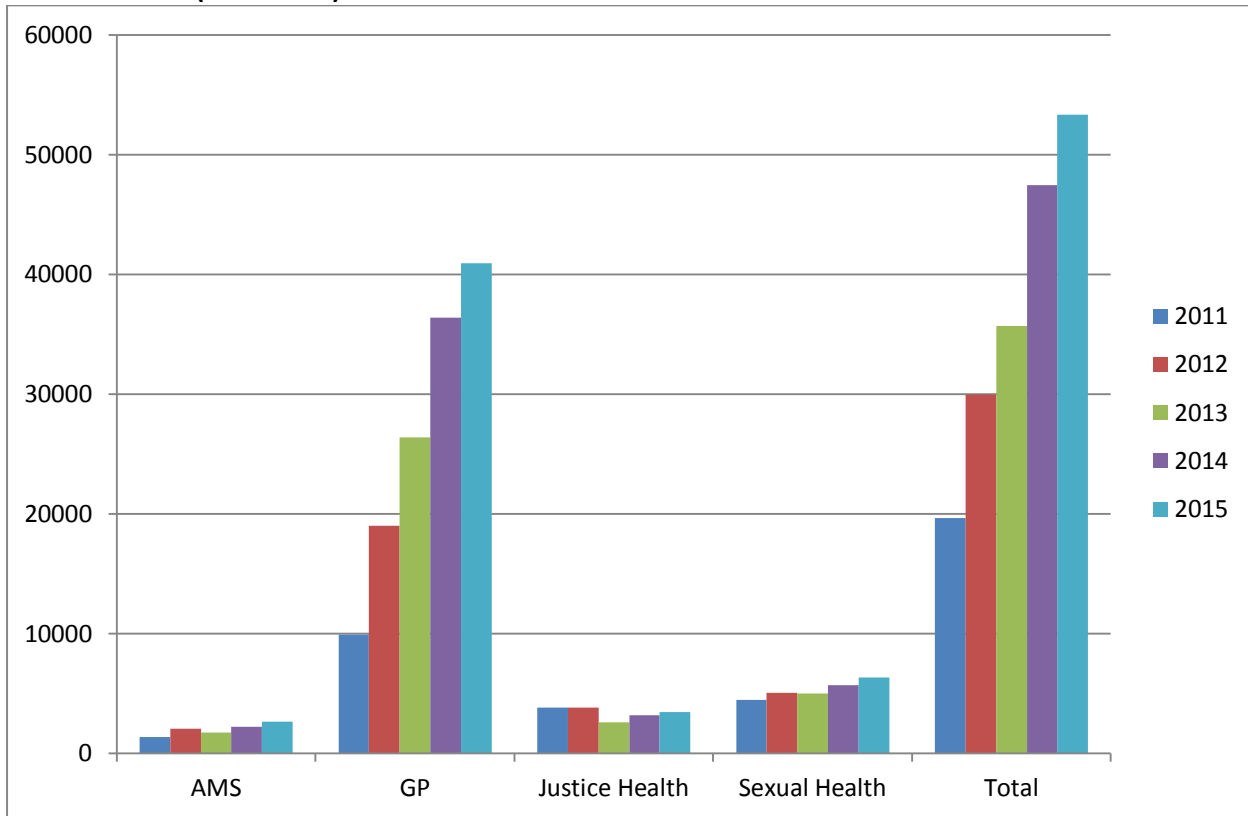
Year	No. neonates born to HBsAg+ mothers	No. neonates born to HBsAg+ mothers who received HBIG	No. neonates born to HBsAg+ mothers who received HBIG within 12 hours of birth (%)
2009	736	731	725 (98.5%)
2010	664	660	653 (98.3%)
2011	702	699	695 (99.0%)
2012	757	744	735 (97.1%)
2013	696	690	683 (98.1%)
2014	739	737	732 (99.1%)

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

2.3 Vaccinate groups at elevated risk of hepatitis B infection

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

Figure 21: Number of adult doses of hepatitis B vaccine distributed to health care providers through the NSW Vaccine Centre (2011-2015)



Data source: NSW Vaccine Centre Database

Comment

The total number of doses of adult hepatitis B vaccine distributed to health care providers in NSW has increased steadily over the last three years, more than doubling between 2011 and 2015.

A significant annual increase is occurring in one setting, through the distribution of hepatitis B vaccine to GPs. The overall trend in distribution of hepatitis B vaccine also increased between 2011 and 2015 to high-risk groups at Aboriginal Medical Services and Sexual Health Clinics; and remained steady to Justice Health. (Figure 21)

These data show the distribution of vaccine to providers, rather than administration of vaccines or whether the course of vaccines is completed. While much of the vaccine is expected to be administered to people recommended to be vaccinated,²¹ some vaccine may be administered to other people.

²¹ National Health and Medical Research Council (NHMRC) The Australian Immunization Handbook 10th Edition, The Australian Government 2015 <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>

2.4 Maintain safe behaviour for hepatitis B and hepatitis C

The NSW Needle and Syringe Program (NSP) is an evidence-based public health program that aims to prevent the transmission of blood-borne viruses among people who inject drugs and the broader community. NSPs have been part of the National HIV/AIDS Strategy since 1989, part of the National Drug Strategy since 1993, and part of the National Hepatitis C Strategy since 1999. As a result, Australia has one of the lowest prevalence of HIV among people who inject drugs globally: between 1 and 2%, compared to approximately 16% in the USA.

Studies show the effectiveness and cost-effectiveness of needle and syringe programs for HIV and hepatitis C prevention. In the decade from 2000 to 2009, needle and syringe programs directly prevented 32,000 HIV infections and over 96,000 hepatitis C infections in Australia, saving more than \$5.8 billion in health care and other costs. For every one dollar invested in NSPs, more than four dollars were returned in healthcare cost-savings.²²

NSPs also provide other important services, including primary healthcare, education, referrals to other services including treatment and the safe disposal of injecting equipment. The *NSW Needle and Syringe Program Guidelines 2013* provide the framework for the delivery of the NSP in New South Wales.

2.4.1 What proportion of people reuse other people's needles and syringes (receptive syringe sharing) in NSW?

Among respondents in the NSW NSP Enhanced Data Collection (NNEDC), reports of receptive syringe sharing (RSS) in the previous month declined from 22% in 2013 to 14% in 2014²³. In 2015, the proportion who reported receptive sharing of needles and syringes was 16%, which is stable compared with 2014 ($p=0.067$).^{24 25}

These results are broadly comparable to NSW results from the Australian NSP Survey (ANSPS). In the ANSPS, which is conducted at selected NSW NSP services, the proportion of NSW respondents who reported receptive sharing of needles and syringes in the previous month was 13% in 2013 and 16% in 2014.²⁶

Further information regarding RSS in the NNEDC and the ANSPS is shown in **Appendix 1**, including sample sizes and confidence intervals.

RSS was examined in more depth in the 2015 NNEDC report to investigate factors that may help to account for the observed decline in the prevalence of RSS over time. Data collection methodology and participating sites remained relatively consistent across all three survey years.

²² The National Centre in HIV Epidemiology and Clinical Research, *Return on investment 2: Evaluating the cost-effectiveness of needle and syringe programs in Australia*, University of NSW, 2009

²³ In 2013, the first of three consecutive annual NNEDC was conducted. The purpose of the data collection is to report NSP client demographic, behavioural and drug use data on an annual basis to strengthen the state-wide prevention approach, and also inform LHDs in planning for NSP service delivery at the local level. Methodology: Clients are surveyed over a 2 week period in February. A total of 2938 individual NSW NSP clients were surveyed in 2013; 3029 people were surveyed in 2014; and 2,453 in 2015. The majority of NSPs (n=50 NSPs) participated in the study in both 2013 and 2014; and 49 NSPs participated in 2015. Refer to Appendix 1, Table 1.

²⁴ Geddes, L, Iversen J, Maher L NSW Needle and Syringe Program Enhanced Data Collection 2015. A report for the Ministry of Health by the Kirby Institute, UNSW Australia, 2015.

²⁵ Note 2013 and 2014 RSS in this Data Report has been calculated using a revised methodology compared with the NSW HIV Strategy 2012-2015 Data Report (<http://www.health.nsw.gov.au/endinghiv/Pages/tools-and-data.aspx>). The 2013 and 2014 HIV Data reports present RSS as a proportion of all NSP survey respondents. The revised methodology used in this Data Report for Hepatitis C and B presents RSS as a proportion of PWID respondents who reported injection in the last month (see Appendix 1). The revised methodology is consistent with the ANSPS, and enables the results of the surveys to be compared.

²⁶ Iversen J, and Maher L. Australian Needle and Syringe Program Survey National Data Report 1995-2014. The Kirby Institute, UNSW Australia, 2015. In 2014, 646 people in NSW were surveyed in 19 primary NSPs. Refer to Appendix 1, Table 2.

Between 2013 and 2015, there was a reduction in the NNEDC response rate, from 79% in 2013 to 69% in 2014 and 63% in 2015. The decline in response rate has the potential for non-participation to compromise the representativeness of the NNEDC sample and the ability to generalise findings to the broader NSP client population.

The potential of selection bias arising from changes in client participation or response rates remains an important issue to consider in future reports. It will also be valuable to include a measure of potential social desirability (i.e. reluctance to disclose risk behaviour) bias in future versions of the NNEDC, by including a measure of whether the NNEDC is self-completed or if assistance is provided by NSP staff.

Associations between RSS and demographic and drug use characteristics

The 2015 NNEDC²⁷ investigated potential associations between RSS and demographic and drug use characteristics.

Respondents who injected daily in 2015 were more likely to report RSS than respondents who injected less than daily ($p < 0.001$).

No associations were observed between RSS and the type of drug last injected or between RSS and the distance or time travelled to the NSP.

Respondents who identified as bisexual were also significantly more likely to report RSS than their heterosexual counterparts, with 22% of bisexual respondents reporting RSS in 2015 compared to 15% of heterosexual respondents ($p = 0.014$).

RSS across priority populations was also examined. In all years, 2013-2015, respondents who reported incarceration in the previous month were significantly more likely to report RSS than respondents who had not been recently incarcerated. Among those reporting recent imprisonment in the 2015 NNEDC, 31% reported RSS in the previous month. This result was stable over the three years, 2013 to 2015 ($p \text{ trend} = 0.322$). It is unknown whether any of the respondents who were incarcerated and reported RSS in the last month ($n = 32$ in 2015) engaged in RSS within a correctional setting, where access to sterile injecting equipment remains limited.

Respondents who identified as bisexual were also significantly more likely to report RSS than heterosexual respondents ($p = 0.014$).

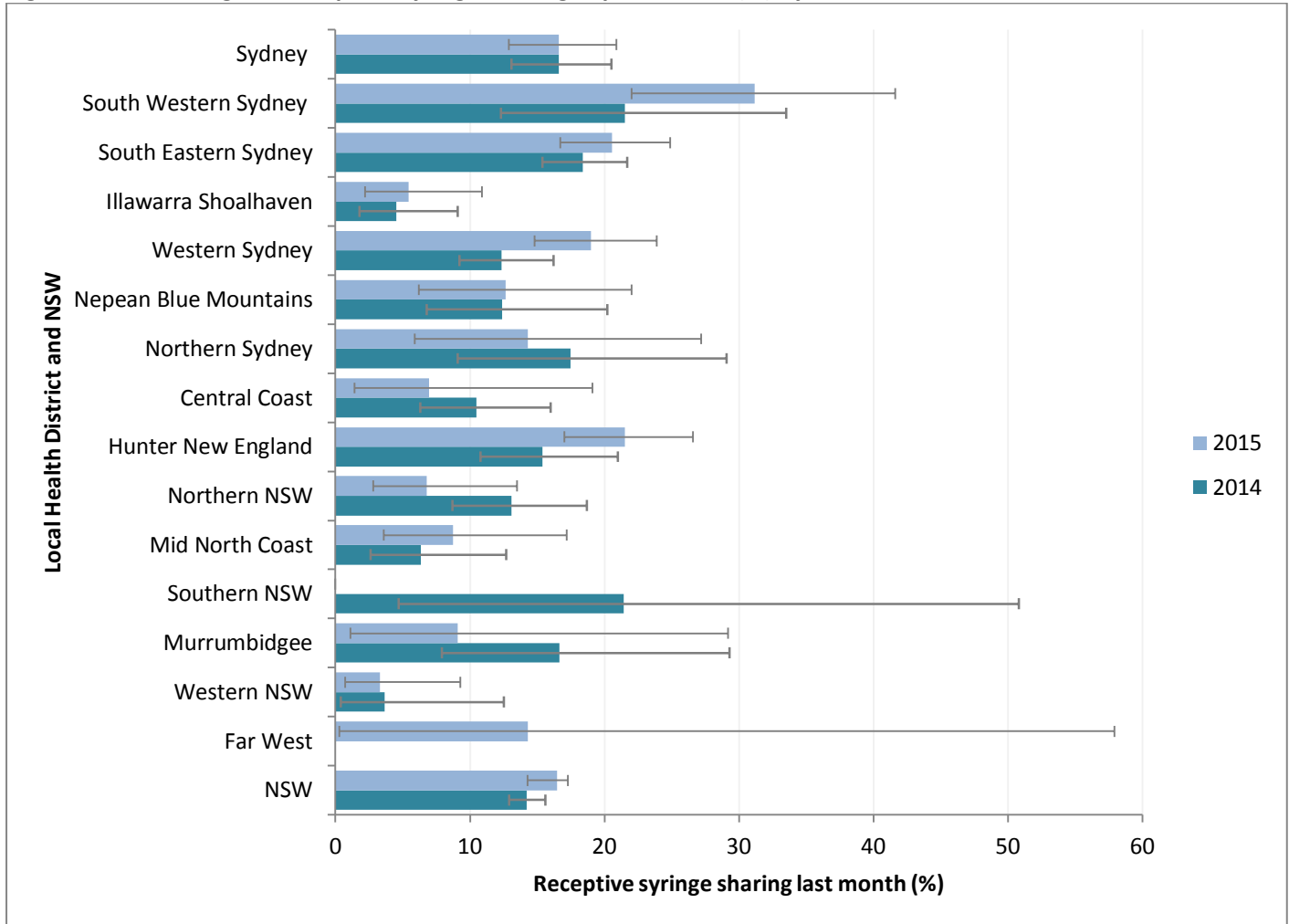
Main reason for RSS

Of the 339 respondents who reported RSS in the previous month in the 2015 NNEDC²⁸, being aware of one's injecting partner's hepatitis C status was the most commonly reported reason for using a needle and syringe that had been previously used by someone else (20%, $n = 68$).

Barriers to obtaining injecting equipment was reported as the main reason for RSS by 16% ($n = 55$) of respondents. Barriers to accessing injecting equipment included a lack of transport (4%, $n = 12$), inconvenient location or opening hours of NSP/Pharmacy (3%, $n = 11$) and a lack of money to pay for injecting equipment (3%, $n = 10$). Being in a hurry to inject was also commonly reported as the main reason for engaging in RSS, with this reason reported by one in six respondents who had receptively shared syringes in the last month (15%, $n = 51$). It should be noted that one quarter (25%, $n = 86$) of respondents who reported RSS did not report the main reason for receptive syringe sharing.

²⁷ Geddes, L, Iversen J, Maher L NSW Needle and Syringe Program Enhanced Data Collection 2015. A report for the Ministry of Health by the Kirby Institute, UNSW Australia, 2015.

²⁸ Ibid.

Figure 22: Percentage of Receptive Syringe Sharing in past month (%) by LHD, 2014 and 2015

Data source: NSW Needle and Syringe Program Enhanced Data Collection 2015. A report for the Ministry of Health by the Kirby Institute, UNSW Australia, 2015

Note: Receptive Syringe Sharing (RSS) is calculated among respondents who reported injection in previous month. **Appendix 1**, Table 5 identifies LHD sample sizes and confidence intervals of RSS in the NSW NSP Enhanced Data Collection.

Note: Data is not available for Far West NSW in 2014 due to small sample size participating in the survey.

Note: Data is not available for Southern NSW in 2015 due to small sample size participating in the survey.

Comment

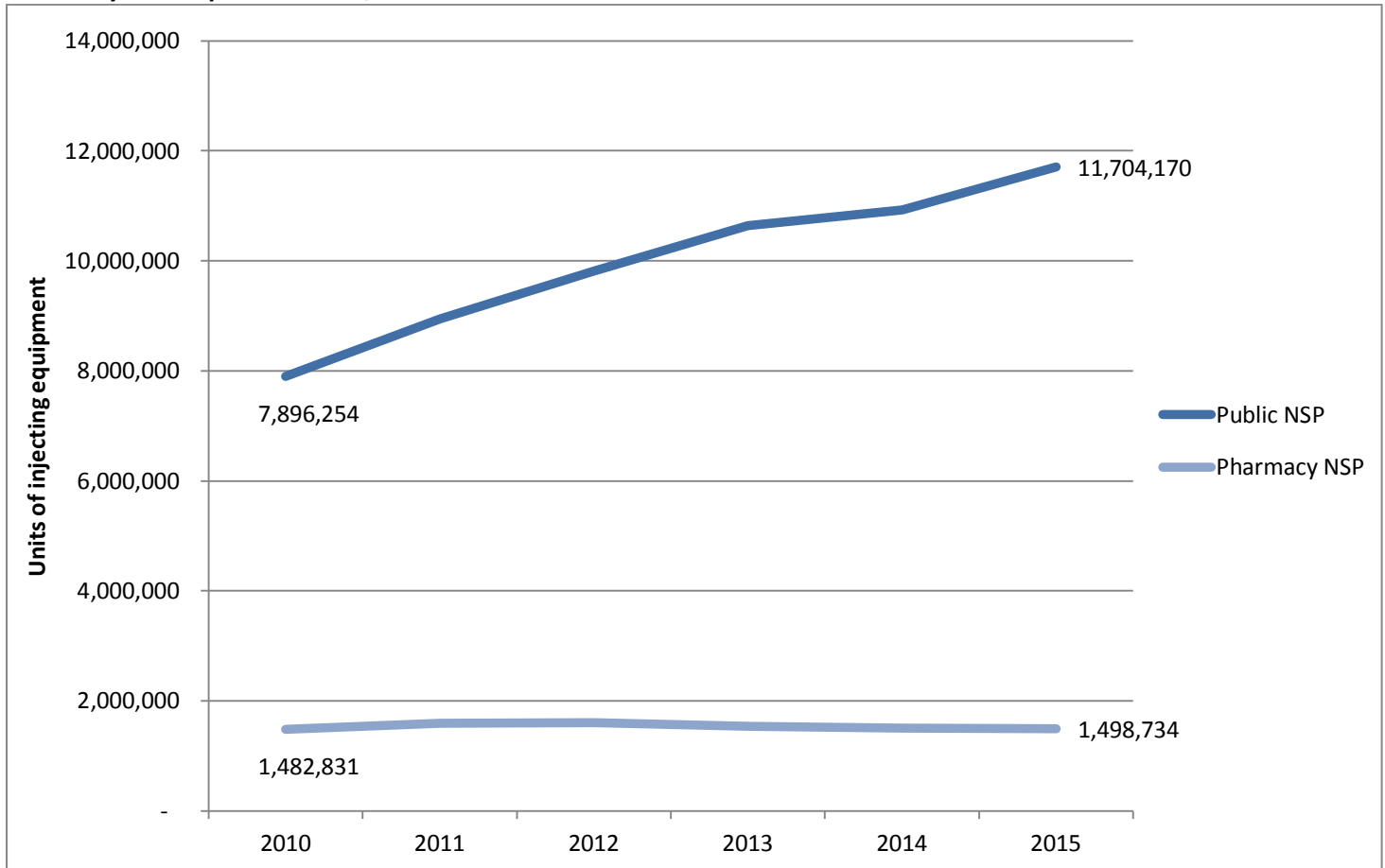
The proportion of respondents who reported RSS in the previous month in the NNEDC by LHD in 2014 and 2015 is illustrated above (Figure 21). These estimates have some degree of uncertainty (thin lines represent 95% confidence intervals), with higher uncertainty among LHDs with fewer respondents. For example, in NSW the estimate for RSS in 2015 was 16% and it is 95% certain that RSS was between 14% and 17% (the 95% confidence intervals).

Estimates and 95% confidence intervals for RSS by LHD are included in **Appendix 1**.

It is important to view Figure 22 alongside Figure 24 and Figure 25, in order to reflect on RSS in each LHD alongside the total number of units of injecting equipment distributed via the NSW NSP.

2.4.2 How accessible is the Needle and Syringe Program in NSW?

Figure 23: The total number of units of injecting equipment distributed in NSW by the public NSP and the Pharmacy NSP Fitpack[®] scheme, 2010-2015



Data sources:

- Public NSP - NSW Health NSP Minimum Data Set
- Pharmacy NSP - NSW Health Pharmacy Data (Pharmacy NSP Fitpack[®] scheme). The total includes additional units ordered from The Pharmacy Guild of Australia (NSW Branch) by individual pharmacies (45,800 units in 2014; 70,700 units in 2015)
- Note: The Public NSP includes the units of injecting equipment distributed by the following services: The NSW Users and AIDS Association (NUAA); AIDS Council of NSW (ACON); and secondary outlets in Aboriginal Community Controlled Health Services (ACCHS)

Comment

In the year ending 31 December 2015, a total of 13,202,904 units of injecting equipment were distributed in NSW. This figure includes injecting equipment distributed by pharmacies participating in the Pharmacy NSP Fitpack[®] scheme and by the Public NSP. This represents an increase of 770,022 additional units (6.2%) compared with the previous 12 months (NSW Health NSP Minimum Data Set).

During the same period to 31 December 2015, the number of units of injecting equipment distributed by the Public NSP increased by 777,252 units (7.1%), while the number of units of injecting equipment distributed by the Pharmacy NSP Fitpack[®] scheme remained stable, with a decrease of 7,230 units (0.5% decrease). (NSW Health NSP Minimum Data Set)

2.4.2 How accessible is the Needle and Syringe Program in NSW?

Figure 24: Number of units of injecting equipment distributed in NSW by LHD in 2015

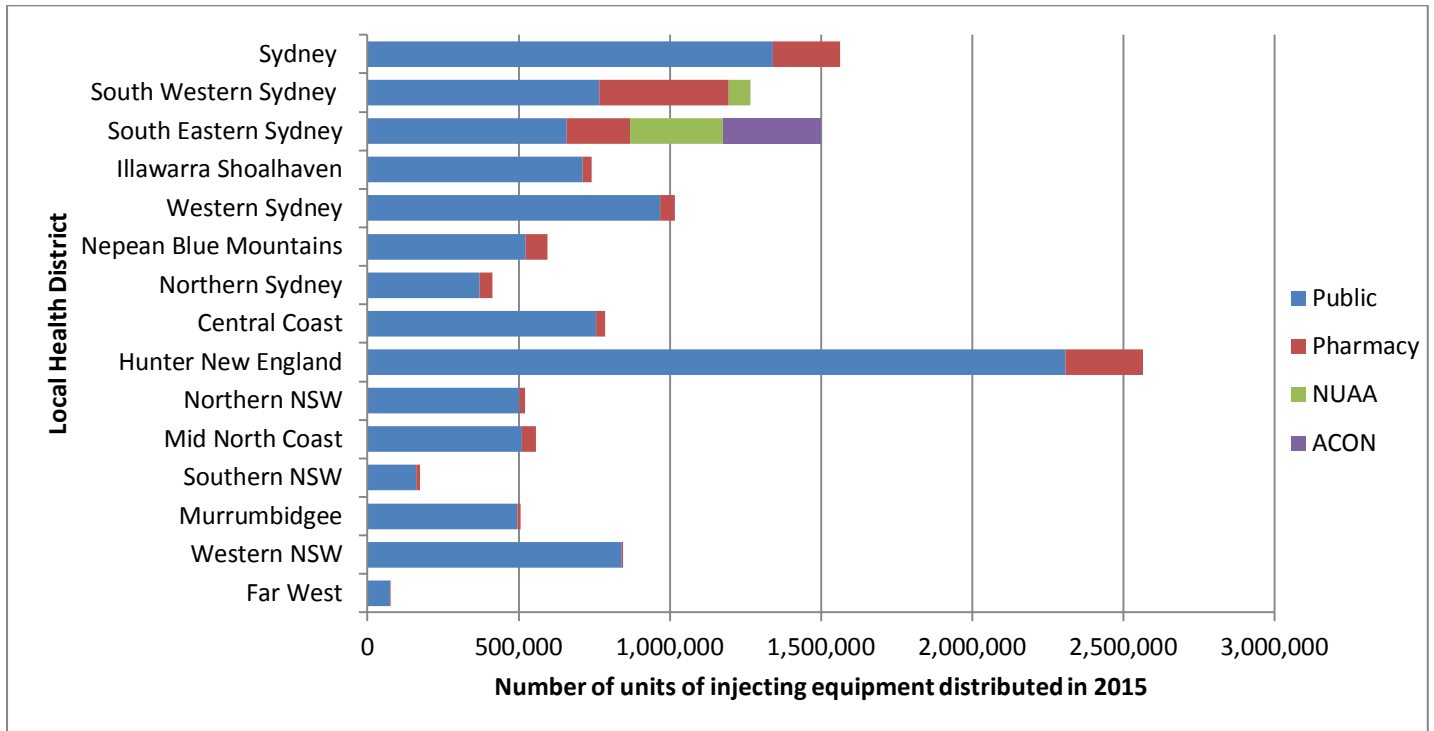
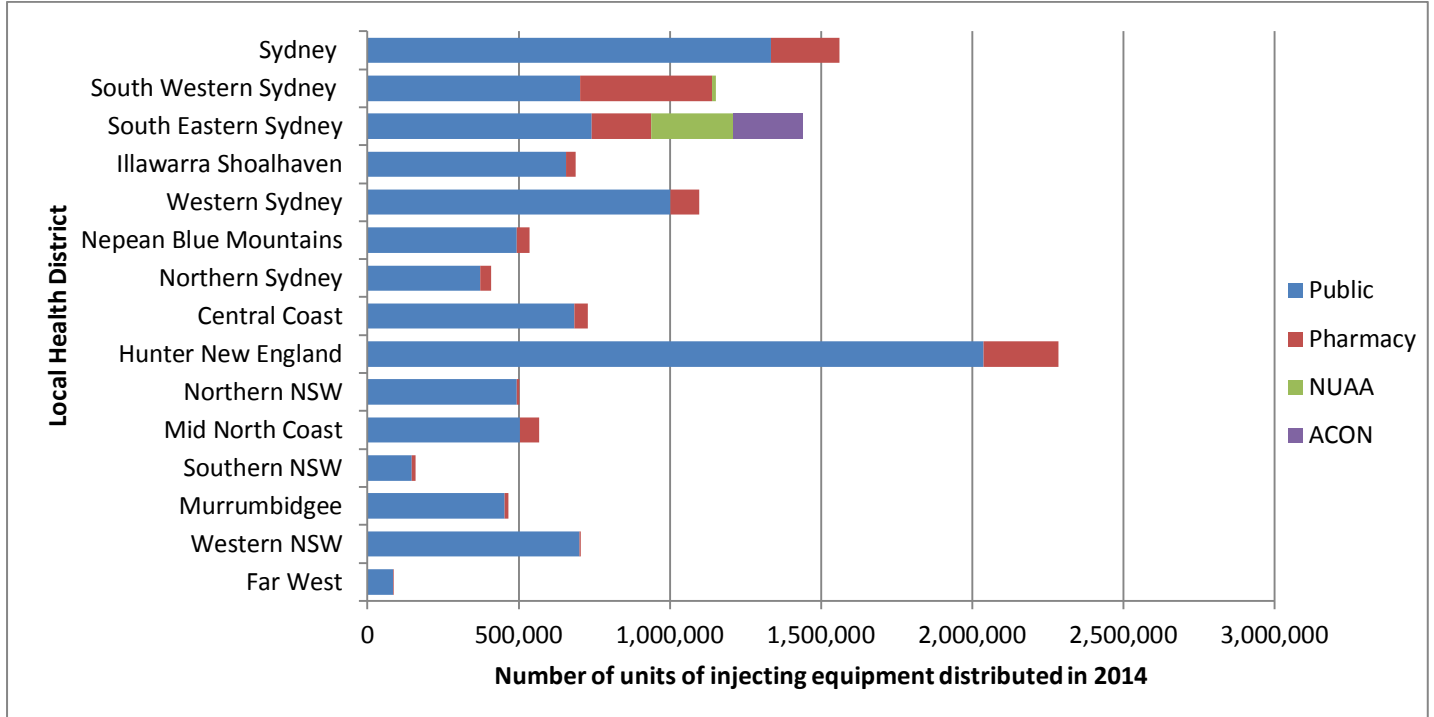


Figure 25: Number of units of injecting equipment distributed in NSW by LHD in 2014



Data sources for Figure 24 & Figure 25:

- Public - NSW Health NSP Minimum Data Set
- Pharmacy - NSW Health Pharmacy Data (Pharmacy NSP Fitpack[®] scheme)
- NUAA – The NSW Users and AIDS Association
- ACON - AIDS Council of NSW

Note in Figure 24 & Figure 25:

- The Public NSP includes injecting equipment distributed by secondary outlets including Aboriginal Community Controlled Health Services (ACCHS)
- South East Sydney LHD includes injecting equipment distributed by NUAA and ACON
- South Western Sydney LHD includes injecting equipment distributed by NUAA
- South Eastern Sydney LHD does not include the number of units of injecting equipment distributed by the Sydney Medically Supervised Injecting Centre (MSIC).

Comment

With some notable exceptions, the number of units of injecting equipment distributed by LHDs has remained steady between 2014 and 2015 (Figure 24 and Figure 25). The highest number of units of injecting equipment distributed occurs in Hunter New England, Sydney, South Eastern Sydney, South Western Sydney, and Western Sydney.

It is useful to view Figure 24 and Figure 25 alongside Figure 26, which identifies the per-capita rate of units of injecting equipment distribution by LHD in 2014 and 2015. Of particular note is Far West, which has the lowest number of units of injecting equipment distributed (Figure 24 and 25) but it has one of the highest per-capita rate of units of injecting equipment distribution (Figure 26).

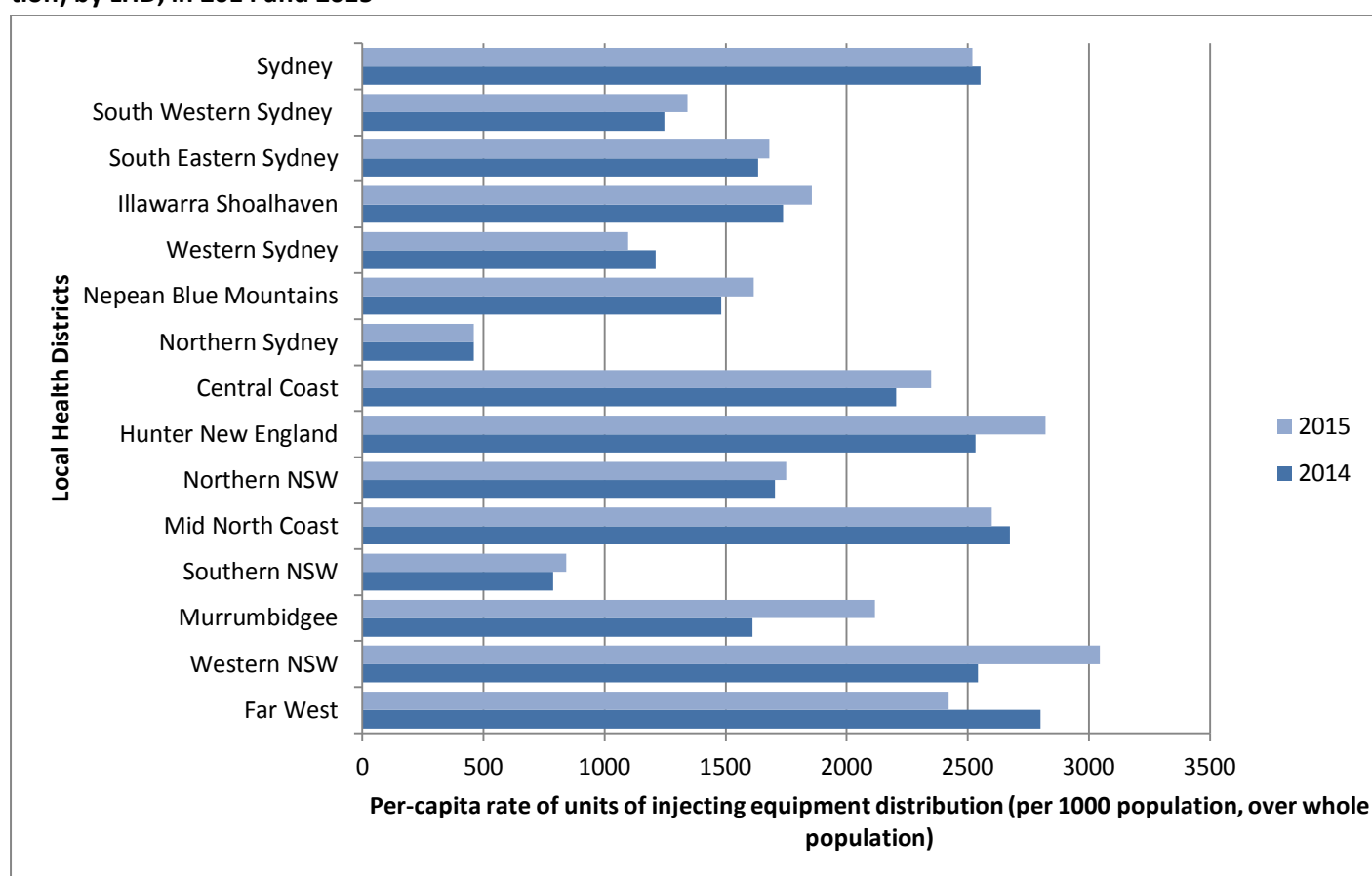
2.4.3 Who is accessing the Needle and Syringe Program in NSW?

The proportion of priority populations accessing the NSW NSP has remained relatively stable between 2014 and 2015. Among people participating in the NNEDC²⁹ in 2015:

- 18% identified as Aboriginal or as both Aboriginal and Torres Strait Islander (16% in 2014)
- 6% reported that their parents spoke a language other than English at home (5% in 2014)
- 5% reported being in prison in the past month (4% in 2014)
- 8% were aged less than 25 years (10% in 2014)

²⁹ Currie B, Iversen J, Maher L NSW Needle and Syringe Program Enhanced Data Collection 2013 A report for the Ministry of Health by the Kirby Institute, UNSW Australia, 2014

Figure 26: Per-capita rate of units of injecting equipment distribution (per 1000 population, over whole population) by LHD, in 2014 and 2015



Data sources:

- Population by LHD - Centre for Epidemiology and Evidence. Health Statistics New South Wales
- Public - NSW Health NSP Minimum Data Set
- Pharmacy - NSW Health Pharmacy Data (Pharmacy NSP Fitpack[®] scheme)
- NUAA – The NSW Users and AIDS Association
- ACON - AIDS Council of NSW

Notes:

- The units of injecting equipment includes injecting equipment distributed by the NSW Public NSP; the Pharmacy NSP Fitpack Scheme; as well as secondary outlets in Aboriginal Community Controlled Health Services (ACCHS)
- South East Sydney LHD includes injecting equipment distributed by NUAA and ACON
- South Western Sydney LHD includes injecting equipment distributed by NUAA
- South Eastern Sydney LHD does not include the number of units of injecting equipment distributed by the Sydney Medically Supervised Injecting Centre (MSIC).

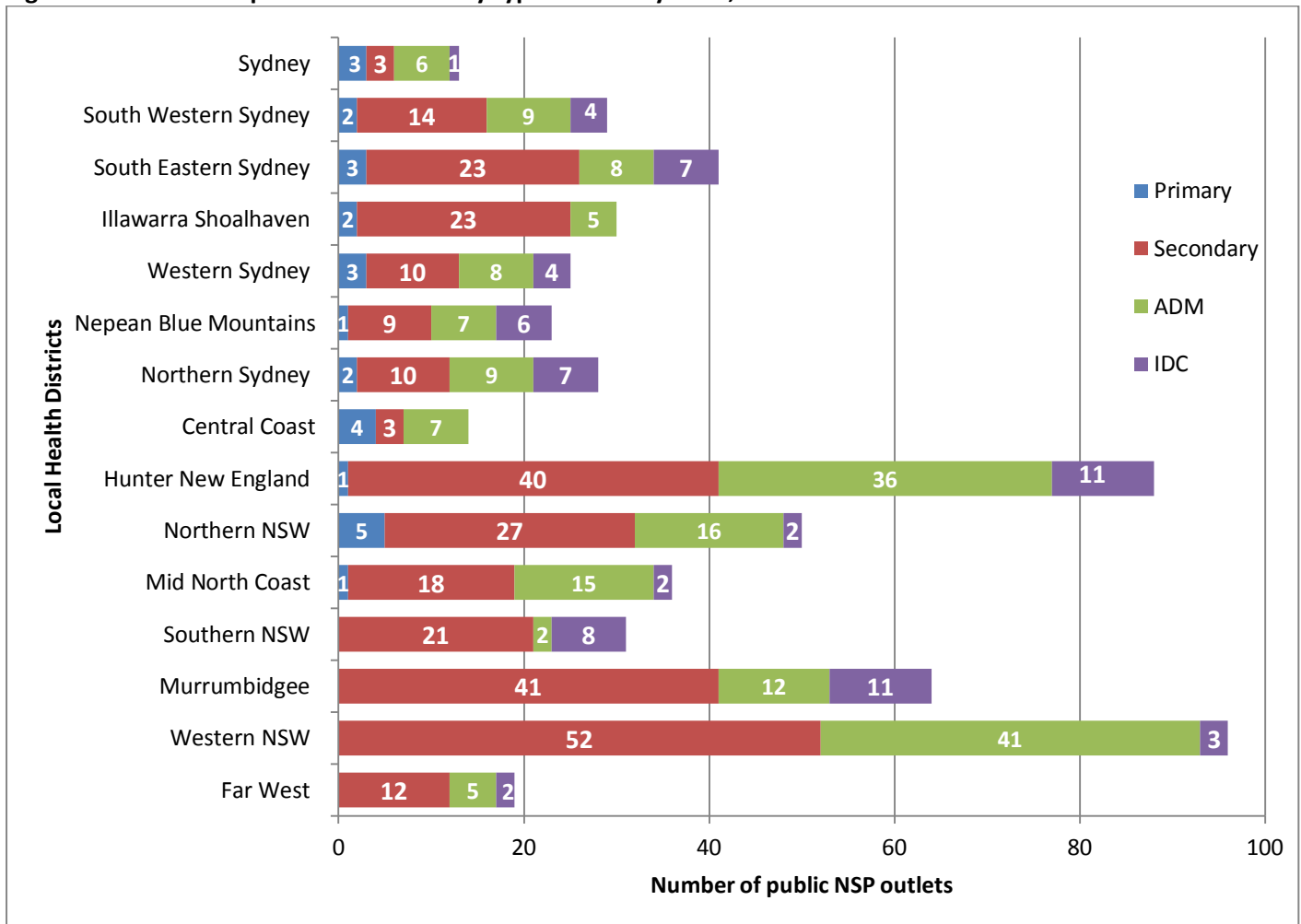
Comment

In 2015 the highest per-capita rate of units of injecting equipment distribution occurs in Western NSW, Hunter New England, Mid North Coast, Sydney, Far West and Central Coast.

Between 2014 and 2015, the per-capita rate of units of injecting equipment distribution increased in most LHDs, particularly Western NSW, Murrumbidgee and Hunter New England.

The Ministry of Health is currently developing updated PWID population size estimates for NSW by LHD under the BRISE³⁰ Research Program, which will provide a more valuable indication of coverage of the NSP in NSW.

³⁰ BBV & STI Research, Intervention and Strategic Evaluation (BRISE) 2014-2019 – University of NSW

Figure 27: Number of public NSP outlets by type in NSW by LHDs, 31 December 2015

Data source: NSW NSP Data Collection

Comment

As of 31 December 2015, under the public NSP there were a total of 27 primary and 306 secondary outlets, 254 ADMs and IDCs located across NSW. The breakdown by outlet type by LHD is identified above (Figure 27).

In addition, there were 518 Pharmacies participating in the Pharmacy NSW Fitpack Scheme, making a total of 1,105 NSP outlets located across NSW as at 30 December 2015. This represents an increase of 56 additional outlets (5.3%) compared with same period in 2014 (NSW NSP Data Collection).

2.5 Enhance drug and alcohol services

The *NSW Hepatitis C Strategy 2014-2020* identifies the importance of continuing to implement, and identify opportunities to enhance, drug and alcohol services and drug diversion programs. In Australia, research suggests that many new hepatitis C infections have been prevented from occurring through improved access to opioid substitution therapy (OST) and increased investment in Needle and Syringe Programs (NSPs)³¹.

Studies show that OST for people who inject drugs (PWID) and are opioid dependent has multiple beneficial effects, including decreased HIV acquisition risk and drug-related mortality, increased quality of life and reduced crime and the societal costs associated with drug use. A recent Australian study³² found for the first time that OST was protective against HCV seroconversion and associated with a reduced risk of incident infection among those who mainly injected heroin or other opioids. This finding is encouraging, given improving access in Australia where the number of people receiving OST nationally has almost doubled since 1998 (see **2.6.1**).

The evidence base for the protective effects of OST against incident HCV infection is also reflected in the results of cohort studies in Canada and North America. Taken together, results from the HITS-c study in Sydney, the VIDUS cohort in Vancouver and the UFO Cohort in San Francisco indicate that OST can reduce the risk of HCV acquisition by 50–80%³³.

2.5.1 How many people in NSW are receiving pharmacotherapy treatment?

In Australia, over 48,000 people received pharmacotherapy treatment for their opioid dependence on a snapshot day in June 2014 at 2,432 dosing points around Australia. The number of people receiving opioid pharmacotherapy treatment almost doubled between 1998 (from around 25,000) and 2014, but growth in client numbers slowed in recent years (growing by 0.5–2% a year between 2011 and 2014). In 2014, methadone was the most common pharmacotherapy drug, with around two-thirds (67%) of clients treated with this drug in Australia. There were 2,319 prescribers of opioid pharmacotherapy drugs in Australia in 2014, an increase of 15% from 2013.

The number of people receiving pharmacotherapy in Australia increased from 15 people per 10,000 in 1998 to 24 in 2010, and has remained stable to 2014. NSW had the highest rate of clients on pharmacotherapy treatment (26 clients per 10,000 of population) in 2014.³⁴

In NSW, over 19,700 people received pharmacotherapy treatment for their opioid dependence on a snapshot day in June 2014 (see Figure 26) at 825 dosing points around NSW. There were 716 prescribers of opioid pharmacotherapy drugs in NSW in 2014.³⁵

Based on available knowledge, and taking a state-wide perspective, the estimates for unmet need and unmet demand in NSW for OTP vary widely. They may be as low as 10% of the opioid dependent population or as high as 65% of the opioid dependent population. The primary reason for these large ranges is that the underlying prevalence of opioid dependence is not known with any degree of precision.³⁶

Aboriginal people

In Australia in 2014, 2,994 (10%) clients engaged in the OTP identified as being Aboriginal or Torres Strait Islander people. Note that the analysis of the 2014 data that follows should be treated with caution due to the high proportion of clients (42%) for whom Indigenous status is either not reported or not stated in Australia. Overall, the rate of Aboriginal or Torres Strait Islander people receiving pharmacotherapy treatment was 53 per 10,000 Aboriginal or

³¹ Iversen J, Wand H, Topp L, Kaldor J, Maher L. Reduction in HCV incidence among injecting drug users attending needle and syringe programs in Australia: a linkage study. *American Journal of Public Health*. 2013;103(8):1436-1444.

³² White B, Dore G, Lloyd A, Rawlinson W, Maher L. Opioid substitution therapy protects against hepatitis C virus acquisition in people who inject drugs: The HITS-c study. *Medical Journal of Australia* 2014;201(6):326-329.

³³ Vickerman P, Page K, Maher L, Hickman M. Commentary on Nolan et al: Opiate substitution treatment and HCV prevention: Building an evidence base? *Addiction* 2014;109(12):2060-2061.

³⁴ Australian Institute of Health and Welfare 2015. National opioid pharmacotherapy statistics 2014. Bulletin no. 128. Cat. no. AUS 190. Canberra: AIHW.

³⁵ Ibid.

³⁶ Alison Ritter, Matthew Sunderland, Jennifer Chalmers: *Estimating the Unmet Need and Demand for Opioid Treatment in NSW*, Drug Policy Modelling Program, National Drug and Alcohol Research Centre, University of NSW, October 2012

Torres Strait Islander people. When compared to the rate for non-Indigenous clients (17 clients per 10,000 non-Indigenous Australians), Aboriginal or Torres Strait Islander people are over-represented in pharmacotherapy treatment for opioid dependence. In NSW, the rate was 100 clients per 10,000 Aboriginal or Torres Strait Islander people.³⁷

A recent study³⁸ found that compared to non-Indigenous opioid-dependent people, opioid-dependent Aboriginal or Torres Strait Islander people in contact with the criminal justice system are charged with a greater number of offences, spend longer in custody and commonly initiate OST in prison. The percentage of Aboriginal or Torres Strait Islander people who first commenced OST in prison (30.2%) was three times that of non-Indigenous people (11.2%) ($p < 0.001$). Aboriginal or Torres Strait Islander males spent less time in OST compared to non-Indigenous males (median percentage of follow-up time in treatment: 40.5% vs. 43.15, $p < 0.001$).

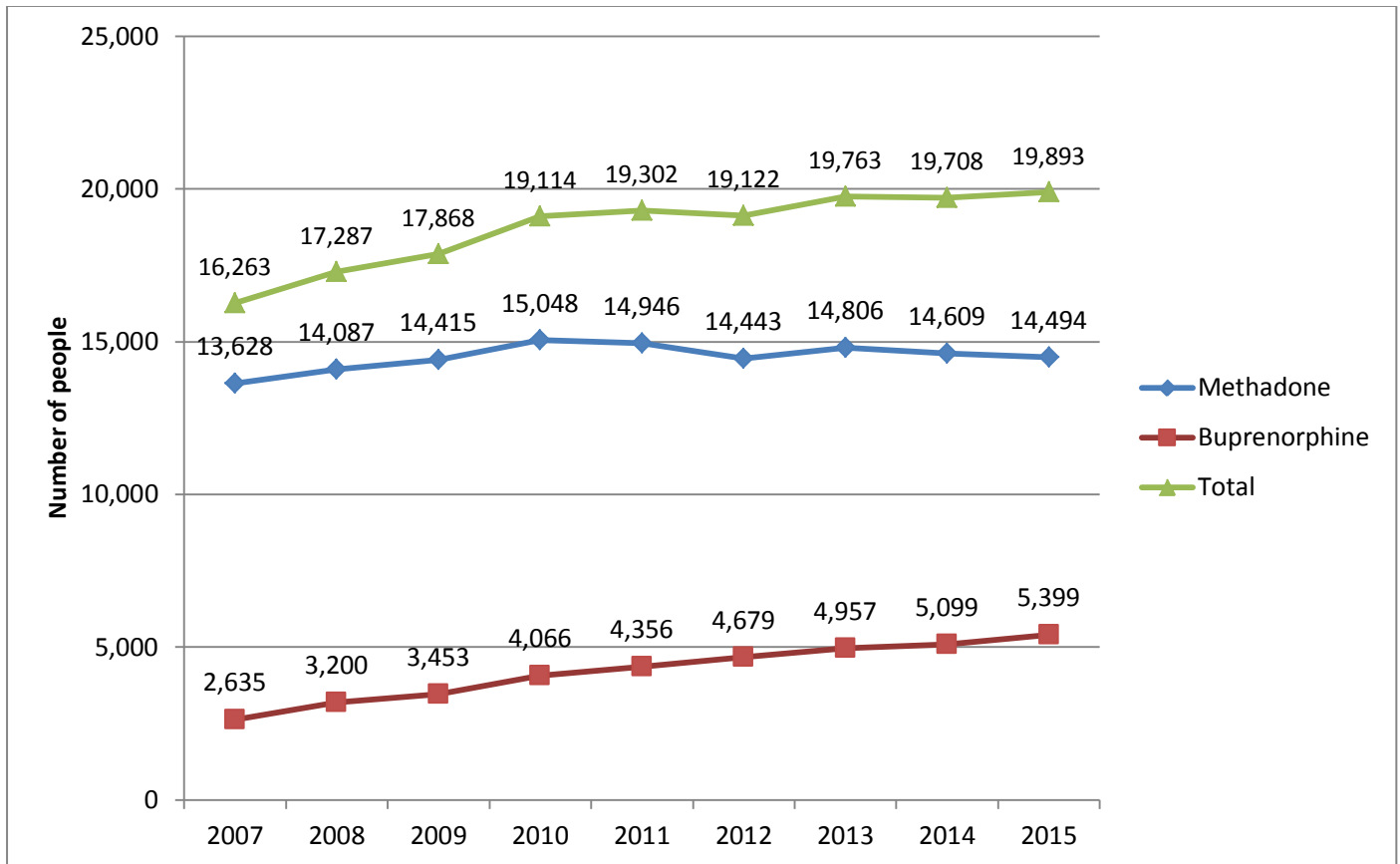
Glossary for section 2.5:

- **Prescriber** – a registered prescriber who is accredited and/or authorised to prescribe a pharmacotherapy drug
- **Justice Health prescriber** – prescribers who work in prisons or correctional facilities
- **Private Prescribers** – prescribers who work in organisations that are not controlled by government, such as private general practice clinics
- **Public prescribers** – prescribers who work in organisations that are part of government or are government-controlled, such as public drug and alcohol clinics and public hospitals

³⁷ Ibid.

³⁸ Gisev N, Gibson A, Larney S, Kimber J, Williams M, Clifford A, Doyle M, Burns L, Butler T, Weatherburn DJ, Degenhardt L. Offending, custody and opioid substitution therapy treatment utilisation among opioid-dependent people in contact with the criminal justice system: comparison of Indigenous and non-Indigenous Australians. *BMC Public Health* 2014, 14:920

Figure 28: Number of people participating in the NSW Opioid Treatment Program, by treatment type, 30 June 2007 – 30 June 2015



Data source: Pharmaceutical Drugs and Addiction System (PHDAS), NSW Health; data extracted: 8/7/2013, 7/7/2014, 7/7/2015.

Note: As this data is collected at a point in time (ie. the last day of every month), this data represents the number of clients participating in the OTP at 30 June in the given year.

Note: The data is likely to be higher than the actual number of people participating in the OTP due to the lag in the recording of program end dates for some people ending OTP.

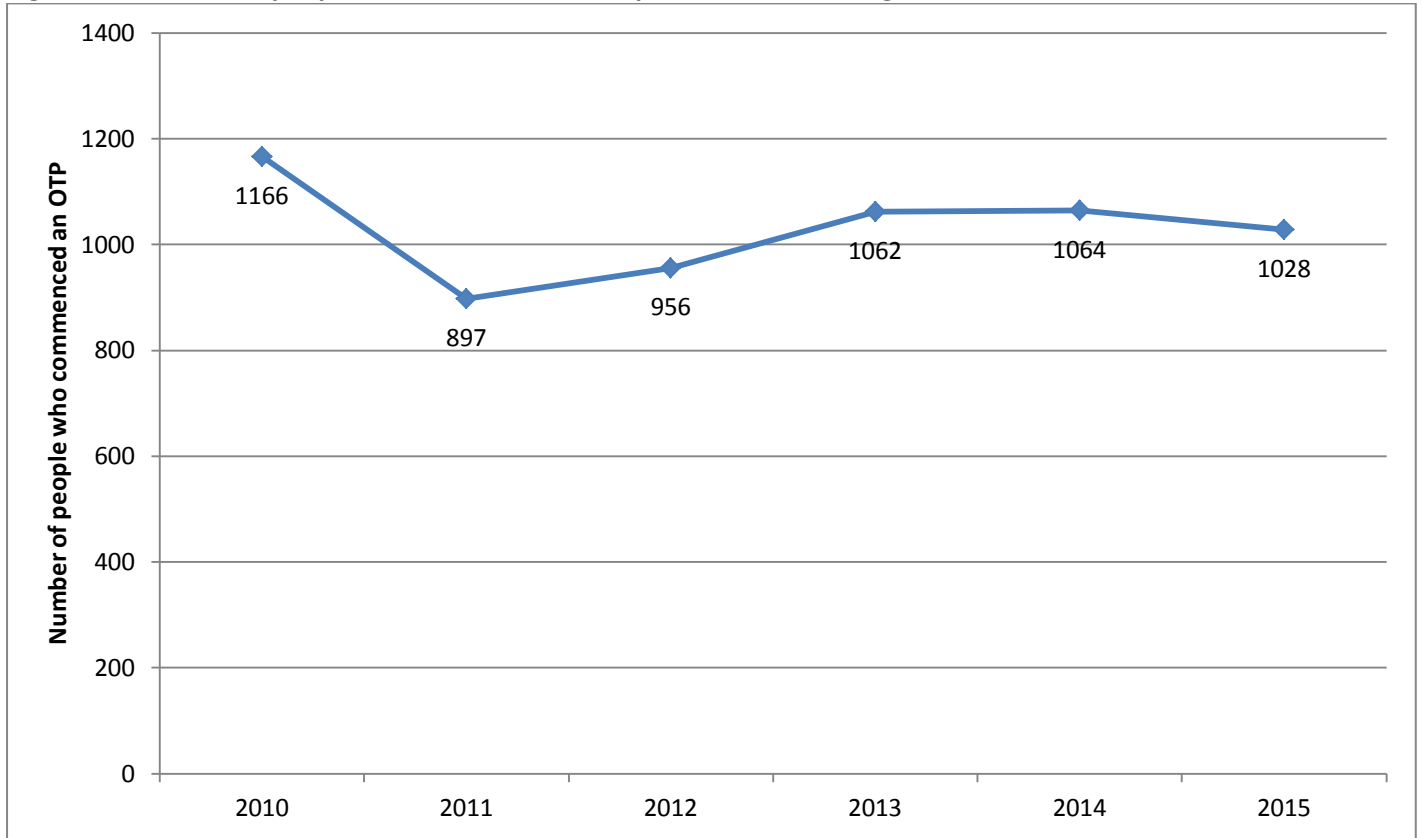
Comment

Between 30 June 2007 and 30 June 2015, the total number of clients being treated using opioid substitution therapy increased by 22%, to 19,893 clients in 2015.

Between 2014 and 2015, the total number of clients being treated using opioid substitution therapy remained stable (0.94% increase).

In 2015, methadone was the most common pharmacotherapy drug, with around 72% of clients (14,494) treated with this drug. In 2015, around 27% of clients (5,399) were treated with Buprenorphine.

As a treatment option, the use of methadone across the OTP population decreased by 11% between 30 June 2007 and 30 June 2015, with a corresponding increase in the use of buprenorphine.

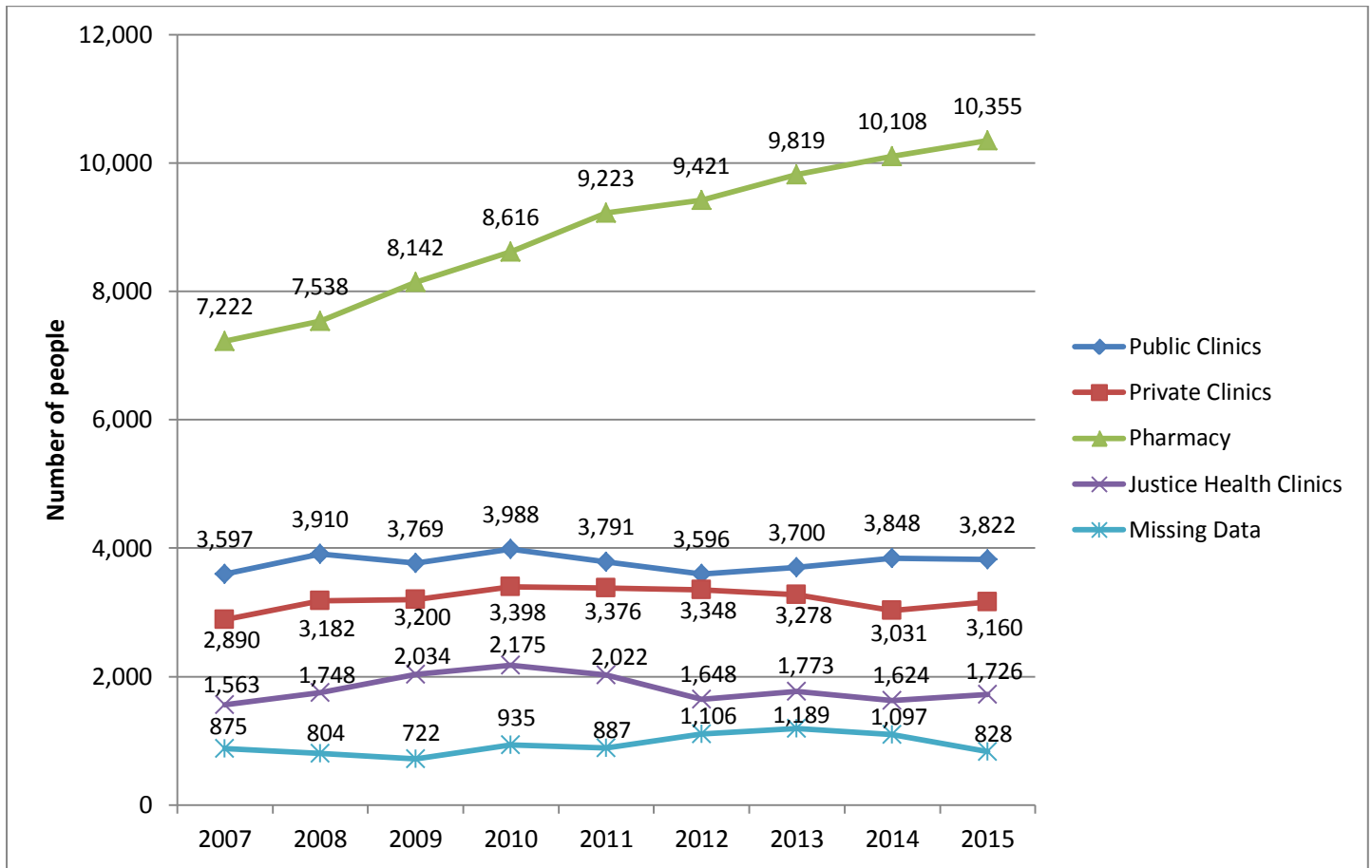
Figure 29: Number of people who commenced an Opioid Treatment Program, 2010 - 2015

Data source: Pharmaceutical Drugs and Addiction System (PHDAS)

Note: The data in this Figure is the number of new clients each year calculated based on data collected six-monthly. Clients are included when having a program number of "1" which indicates initial application of the program.

Comment

In 2015, there were 1,028 people who commenced an Opioid Treatment Program in NSW. Between 2014 and 2015, there was a 3% decrease in the number of new clients commencing OTP in NSW.

Figure 30: Number of people participating in the Opioid Treatment Program, by dosing point, at 30 June, 2007 - 2015

Data source: Pharmaceutical Drugs and Addiction System (PHDAS), NSW Health; data extracted: 8/7/2013, 7/7/2014, 7/7/2015.

Note: As this data is collected at a point in time (ie. the last day of every month), this data represents the number of clients participating in the OTP at 30 June in the given year. Data is by dosing point by LHD, not by patient's residential address.

Note: The data is likely to be higher than the actual number of people participating in the OTP due to the lag in the recording of program end dates for some people ending OTP.

Note: The number of people participating in the OTP (by dosing point) was less than 6 (less than 0.03%) in Public/Private clinics, 2007-2015. (Public/Private clinics - These numbers relate to dosing that cannot be separated into a private or public clinic type.)

Note: The total number of people participating in the OTP as shown in Figure 30 and Figure 33 is consistent as the data represents the number of people who received their dose on the snapshot day. Figure 30 shows the number who received their dose at each dosing point type.

Figure 33 shows those same people who received their dose on the snapshot day against their prescriber type. For example, a person receiving their dose at a pharmacy can have a prescriber who is either (1) public, (2) private, (3) justice health or (4) public/private.

Note: Missing data: Dosing point data is recorded as missing in cases where the dosing point information not available in the database at the time of extract and reporting.

Comment

Between 30 June 2007 and 30 June 2015, community pharmacy dosing was consistently the most common dosing point in each time period.

In 2015, 52% of clients (10,355) received treatment at a community pharmacy; 19% of clients (3,822) received treatment at a Public Clinic; and almost 16% of clients (3,160) received treatment at a Private Clinic (Figure 30).

Specialist clinics (public or private) are generally best placed to manage clients with complex clinical needs. Specialist Clinics are usually the most appropriate dispensing points for more vulnerable clients who require greater monitoring due to high risk drug use or medical/psychiatric conditions. Treatment in public clinics is free. For stable clients who require less monitoring, treatment is available through general practitioners and community pharmacy dosing. Clients who achieve stability in public clinics can transition to the community setting, which may be more suitable and convenient for them. Conversely, a patient undergoing a period of instability may return to a specialist public clinic for treatment.

Figure 31: Number of people participating in the Opioid Treatment Program, by dosing point, by LHD, at 30 June 2015

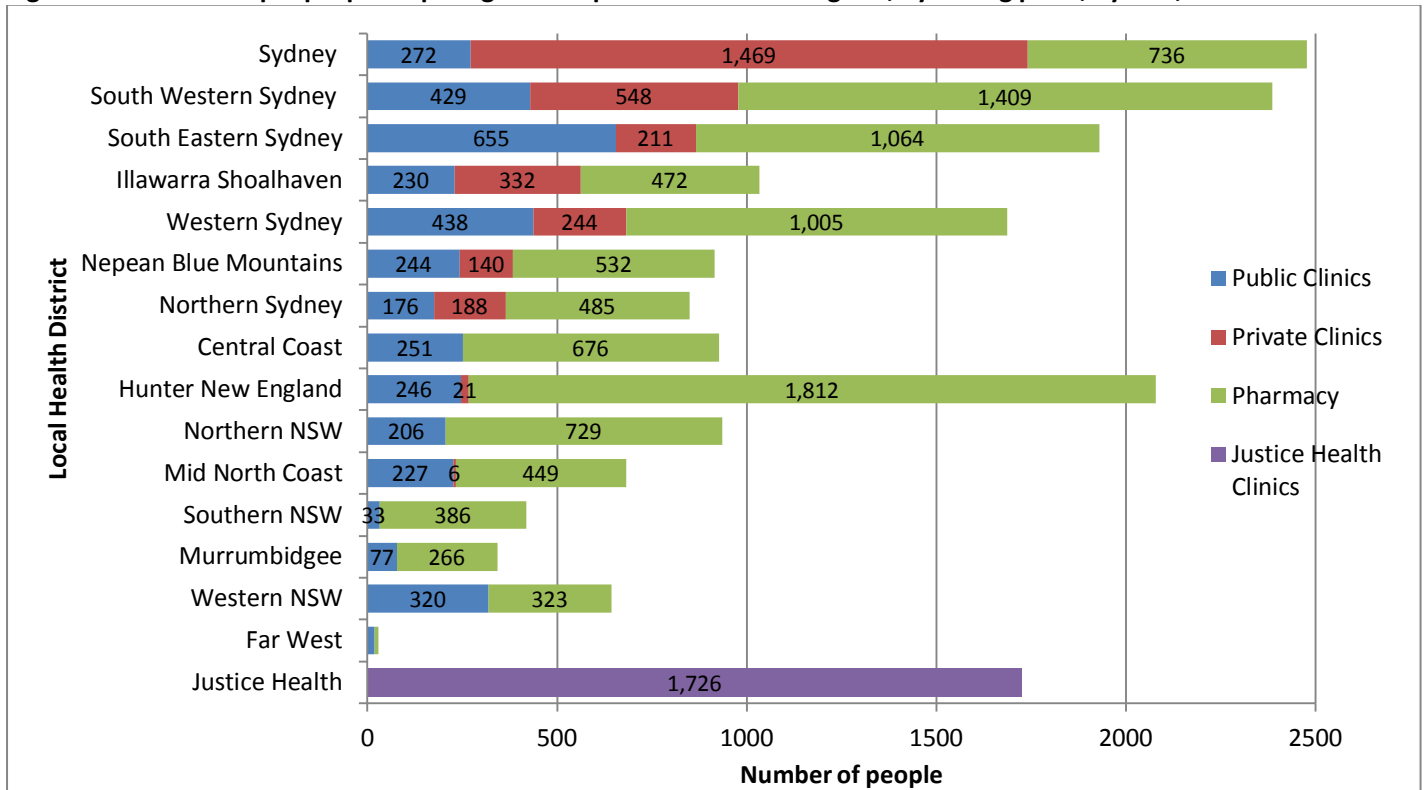
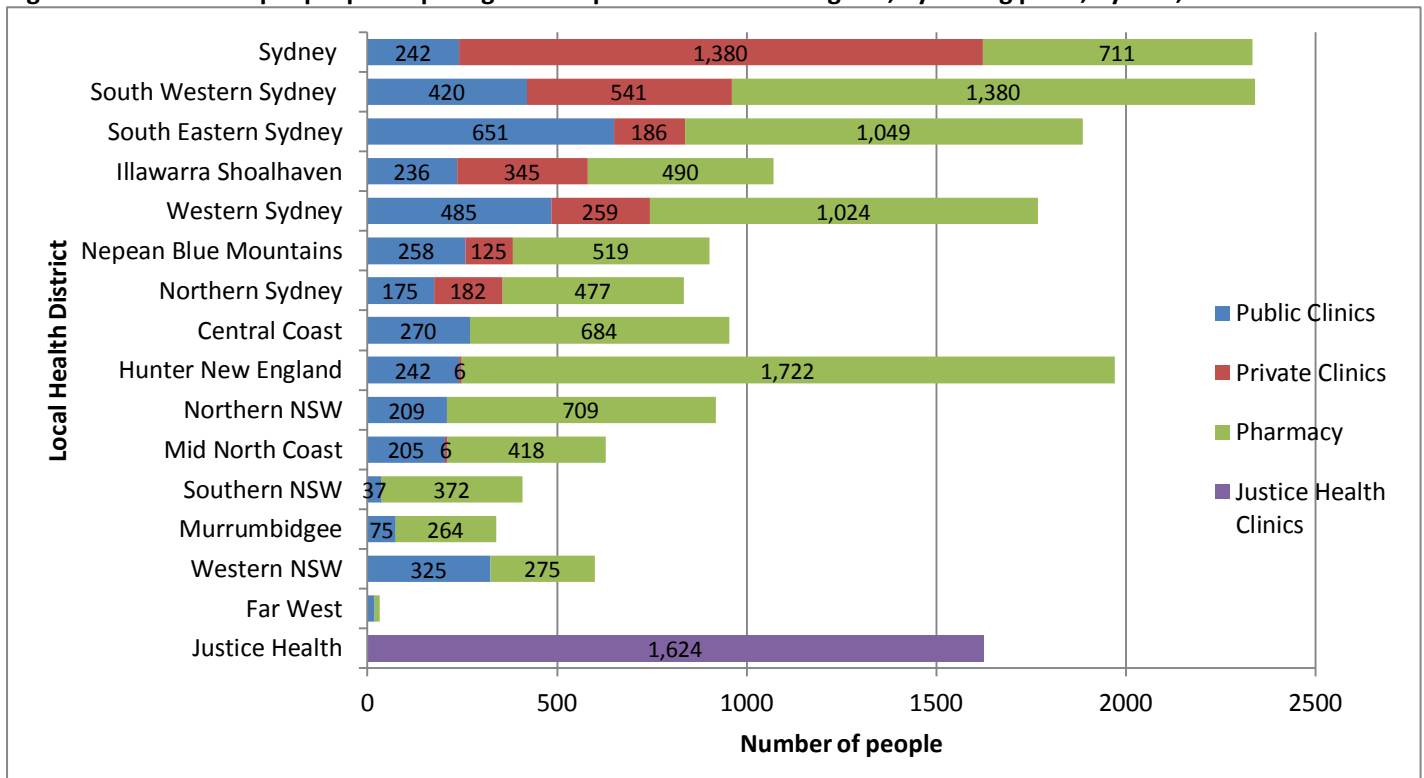


Figure 32: Number of people participating in the Opioid Treatment Program, by dosing point, by LHD, at 30 June 2014



Data sources (Figure 31 and 32): Pharmaceutical Drugs and Addiction System (PHDAS), NSW Health; data extracted: 7/7/2014, 7/7/2015.

Note (Figure 31 and 32): As this data is collected at a point in time (ie. the last day of every month), this data represents the number of clients participating in the OTP at 30 June in the given year. Data is by dosing point by LHD, not by patient's residential address.

Note: The data is likely to be higher than the actual number of people participating in the OTP due to the lag in the recording of program end dates for some people ending OTP.

Note Figure 31: In Far West, in 2015 there were 18 people treated in Public Clinics, and 14 people treated in community pharmacies.

Note Figure 32: In Far West in 2014 there were 18 people treated in Public Clinics and 11 people treated in community pharmacies.

Comment

The number of people receiving OST has increased or remained steady in the majority of LHDs between 2014 and 2015 (Figure 31 and Figure 32).

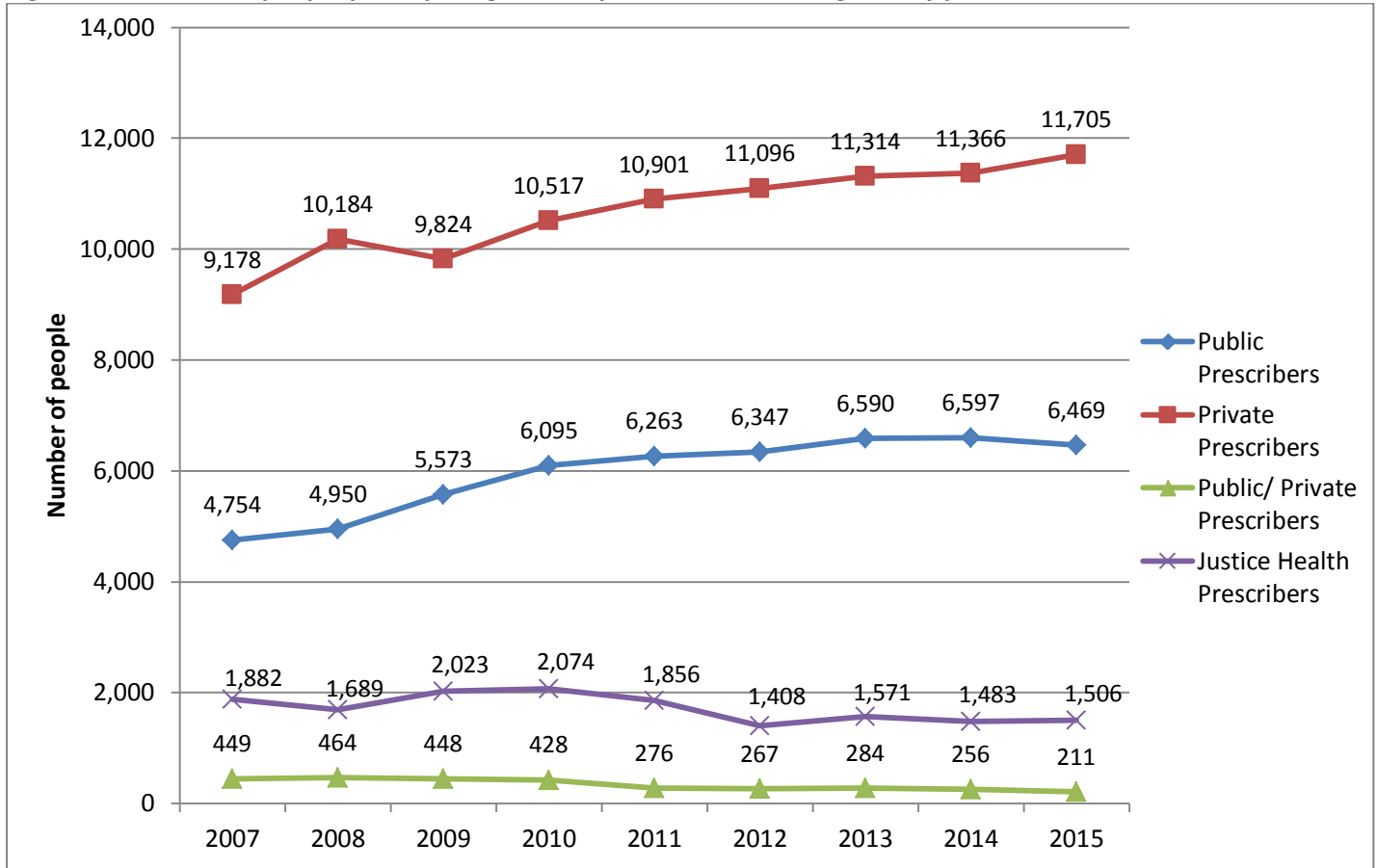
The highest number of people receiving OST occurs in Sydney, South Western Sydney, Hunter New England, South Eastern Sydney, Western Sydney and Justice Health.

The highest number of people treated in Public Clinics occurs in South Eastern Sydney, Western Sydney, and South Western Sydney.

The highest number of people treated in Private Clinics occurs in Sydney, South Western Sydney and Illawarra Shoalhaven.

The highest number of people treated in community pharmacies occurs in Hunter New England, South Western Sydney, South Eastern Sydney and Western Sydney.

(Figure 31 and Figure 32)

Figure 33: Number of people participating in the Opioid Treatment Program, by prescriber, at 30 June, 2007 – 2015

Data source: Pharmaceutical Drugs and Addiction System (PHDAS), NSW Health

Note: As this data is collected at a point in time (ie. the last day of every month), this data represents the number of clients participating in the OTP at 30 June in the given year.

Note: The data is likely to be higher than the actual number of people participating in the OTP due to the lag in the recording of program end dates for some people ending OTP.

Note: The total number of people participating in the OTP as shown in Figure 30 and Figure 33 is consistent as the data represents the number of people who received their dose on the snapshot day. Figure 30 shows the number who received their dose at each dosing point type.

Figure 33 shows those same people who received their dose on the snapshot day against their prescriber type. For example, a person receiving their dose at a pharmacy can have a prescriber who is either (1) public, (2) private, (3) justice health or (4) public/ private.

Note: Missing data was less than 6 (less than 0.03%), 2007-2015

Public/Private Prescribers – These numbers relate to prescribing that cannot be separated into a single prescriber type.

Comment

Between 30 June 2007 and 30 June 2015, people receiving OST in NSW were most likely to pick up their prescription at a Private Prescriber – usually a GP.

In 2015, over 58% of clients (11,705) picked up their prescription at a Private Prescriber. Over 32% of clients (6,469) picked up their prescription at a Public Prescriber in 2015 (Figure 30).

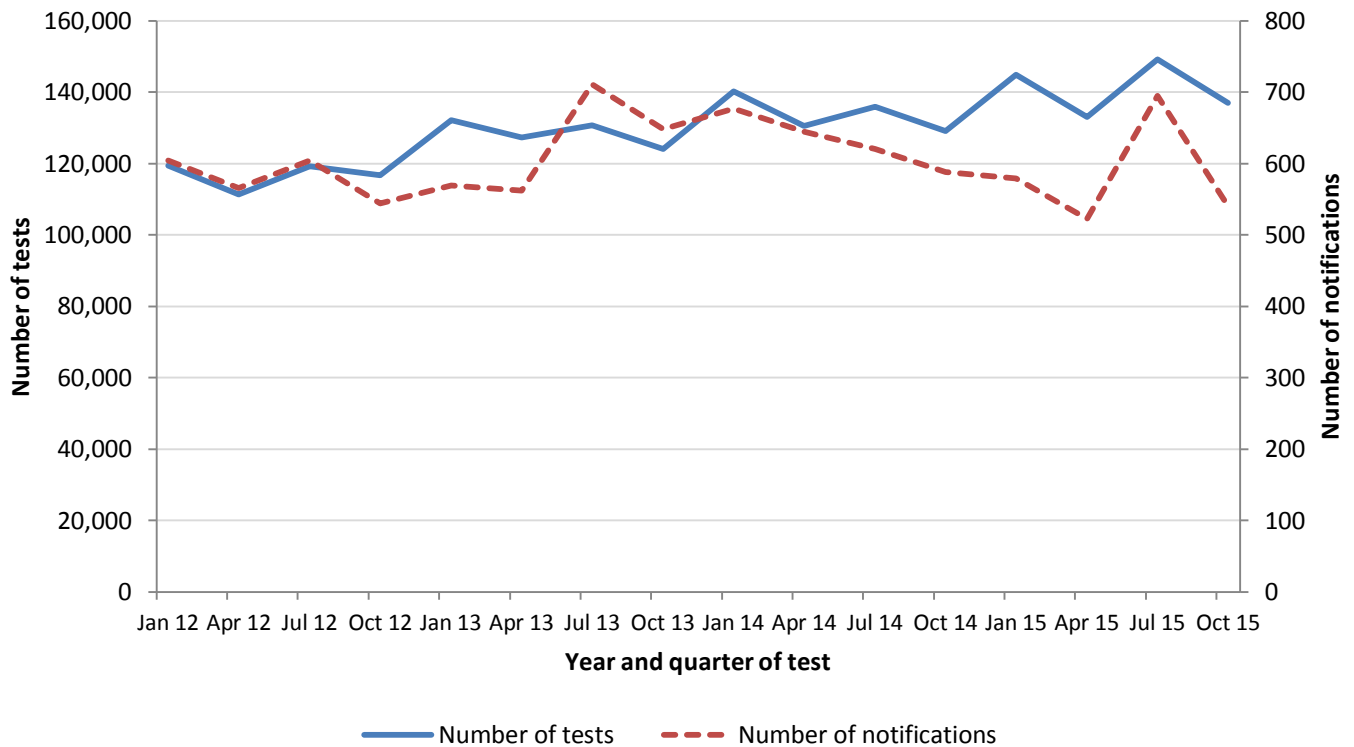
It is useful to view Figure 33 alongside Figure 30, Figure 31, and Figure 32 which identify the number of people participating in the OTP by dosing point.

3. TEST – Increase testing for hepatitis B and hepatitis C

3.1 Is hepatitis B virus testing increasing in NSW?

In 2012, NSW Health commenced collection of monthly testing data for selected notifiable conditions from 15 NSW public and private laboratories under the NSW denominator data project. Information from laboratories does not provide any indication on whether there are repeat tests on the same individual.

Figure 34: Number of tests for hepatitis B surface antigen performed at 15 NSW laboratories per month and number of hepatitis B notifications, 1 January 2012 to 31 December 2015



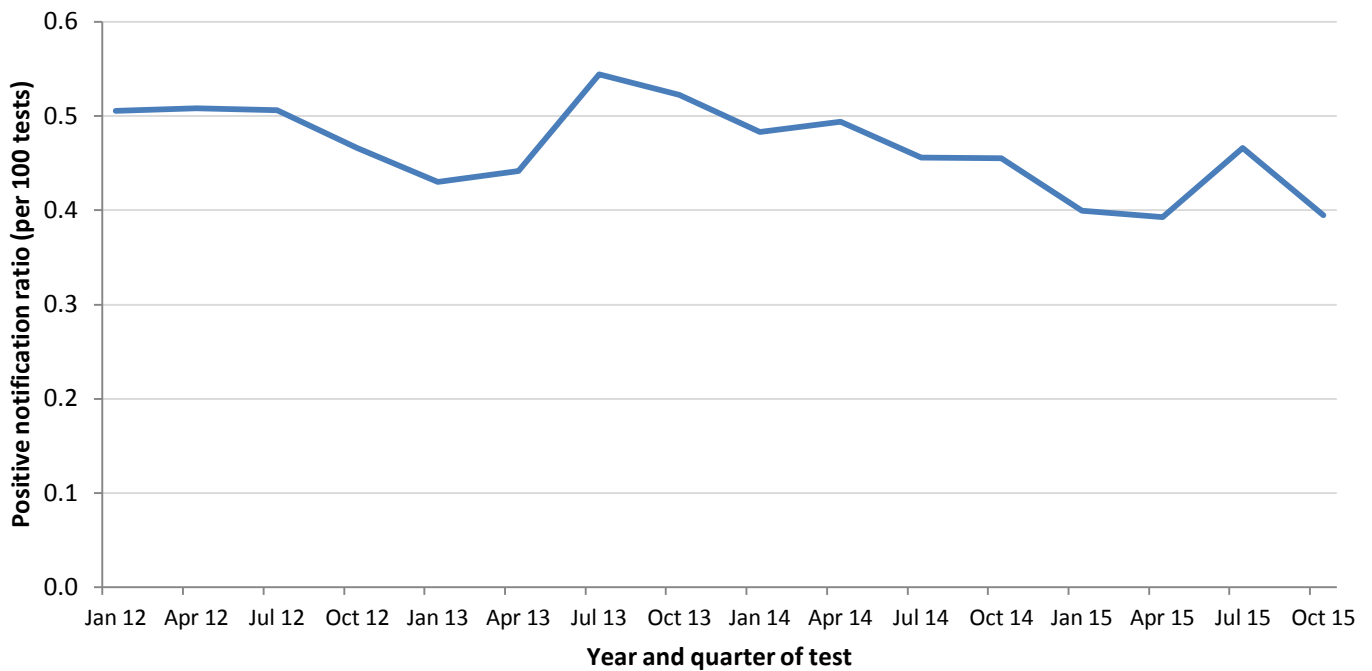
Data sources: NCIMS and NSW denominator data project, NSW Health; data extracted 12 Feb 2016

Note: Each quarter has been represented by the first month of that quarter eg 'Jan 12' includes data for 1 January to 31 March 2012

Comment

In 2015, 564,264 tests for hepatitis B surface antigen were performed in 15 laboratories in NSW, an average of 141,066 tests per quarter, or 47,022 tests per month. This is a 5.3% increase compared with the number of tests in 2014 (535,691).

There was an increase in both the number of tests and the number of notifications in the July-September quarter of 2015. The spike in the number of tests occurred in the month of July 2015, coinciding with a letter sent to selected dental clients in early July recommending testing for hepatitis B, hepatitis C and HIV as part of a public health intervention. There was spike in notifications across the quarter, coinciding with both the public health intervention and the launch of a local hepatitis B awareness campaign, 'Hepatitis B & liver cancer: breaking the cycle with Vietnamese men in South Western Sydney' (also see Figure 5).

Figure 35: Hepatitis B positive notification ratio, NSW, 1 January 2012 to 31 December 2015

Data sources: NCIMS and NSW denominator data project, NSW Health; data extracted 12 Feb 2016

Note: Each quarter has been represented by the first month of that quarter eg 'Jan 12' includes data for 1 January to 31 March 2012

Comment

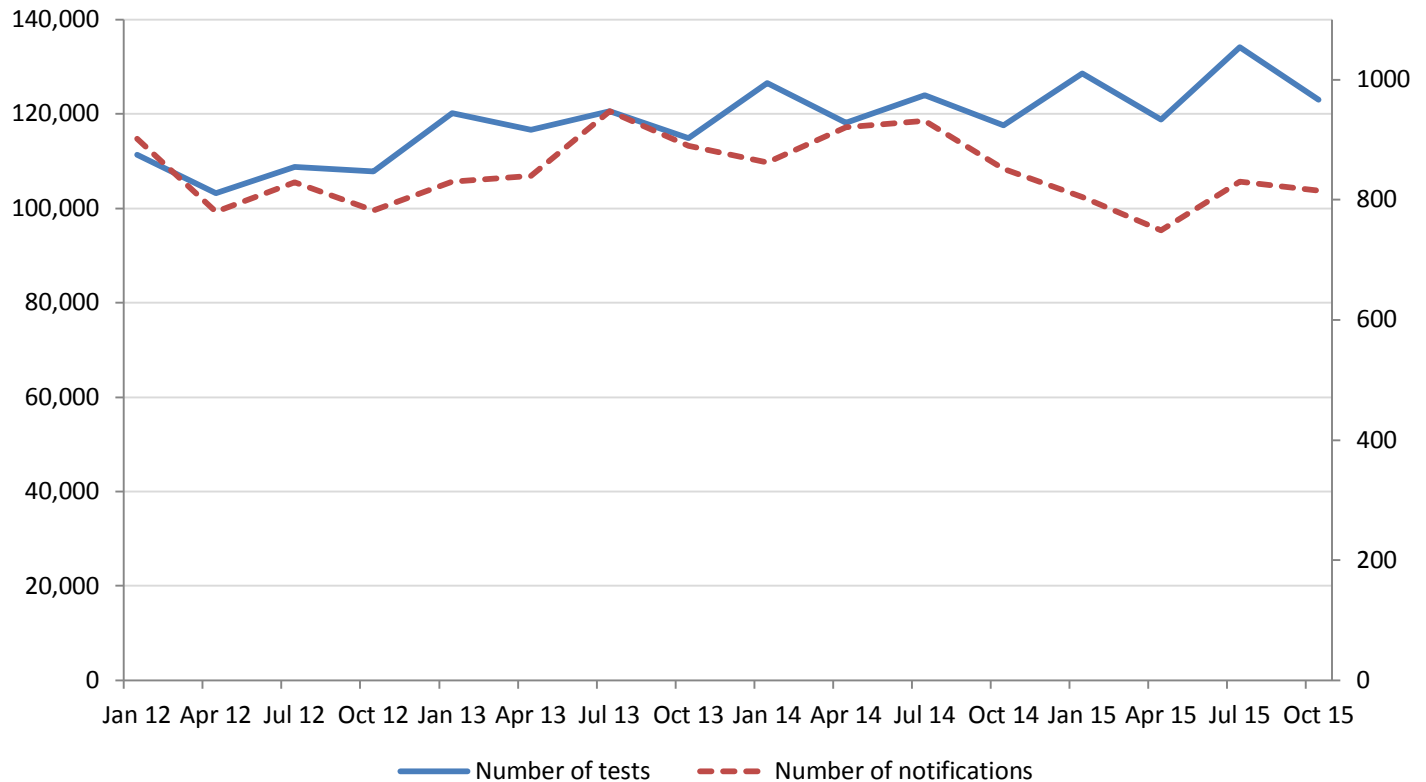
The positive notification ratio for hepatitis B in 2015 was 0.41 per 100 tests, a slight decrease from 2014 (0.47 per 100 tests).

The positive notification ratio was calculated by dividing the overall positive results notified to NSW Health by all laboratories by the total number of tests performed as reported from the participating laboratories. The overall positive results included in the analysis are for individual people notified with hepatitis B reported from all laboratories. However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the ratio of positive notifications per test may be an underestimate of the per cent of people tested that are positive for the condition.

3.2 Is hepatitis C virus testing increasing in NSW?

In 2012, NSW Health commenced collection of monthly testing data for selected notifiable conditions from 15 NSW public and private laboratories under the NSW denominator data project. Information from laboratories does not provide any indication on whether there are repeat tests on the same individual.

Figure 36: Number of tests for hepatitis C antibody performed at 15 NSW laboratories and number of hepatitis C notifications per month, 1 January 2012 to 31 December 2015



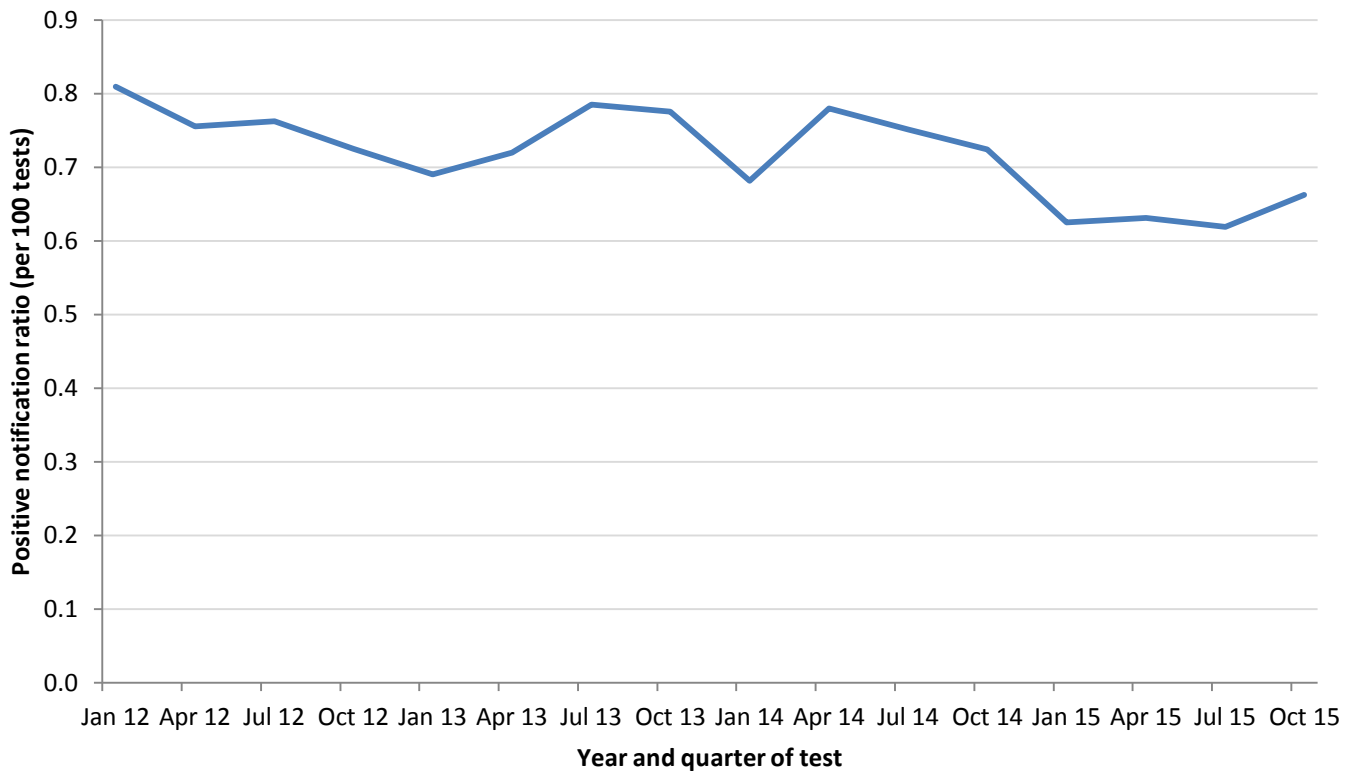
Data sources: NCIMS and NSW denominator data project, NSW Health; data extracted 12 Feb 2016

Note: Each quarter has been represented by the first month of that quarter eg 'Jan 12' includes data for 1 January to 31 March 2012

Comment

In 2015, 504,405 tests for hepatitis C antibody were performed in 15 laboratories in NSW, an average of 126,101 tests per quarter, or 42,034 tests per month. This is a 3.8% increase compared with the number of tests in 2014 (486,132).

The spike in the number of tests in July 2015 coincides with a public health intervention: a letter sent to selected dental clients in early July recommending testing for hepatitis B, hepatitis C and HIV.

Figure 37: Hepatitis C positive notification ratio, NSW, 1 January 2012 to 31 December 2015

Data sources: NCIMS and NSW denominator data project, NSW Health; data extracted 12 Feb 2016

Note: Each quarter has been represented by the first month of that quarter eg 'Jan 12' includes data for 1 January to 31 March 2012

Comment

The positive notification ratio for hepatitis C in 2015 was 0.63 per 100 tests, a decrease from 2014 (0.73 per 100 tests).

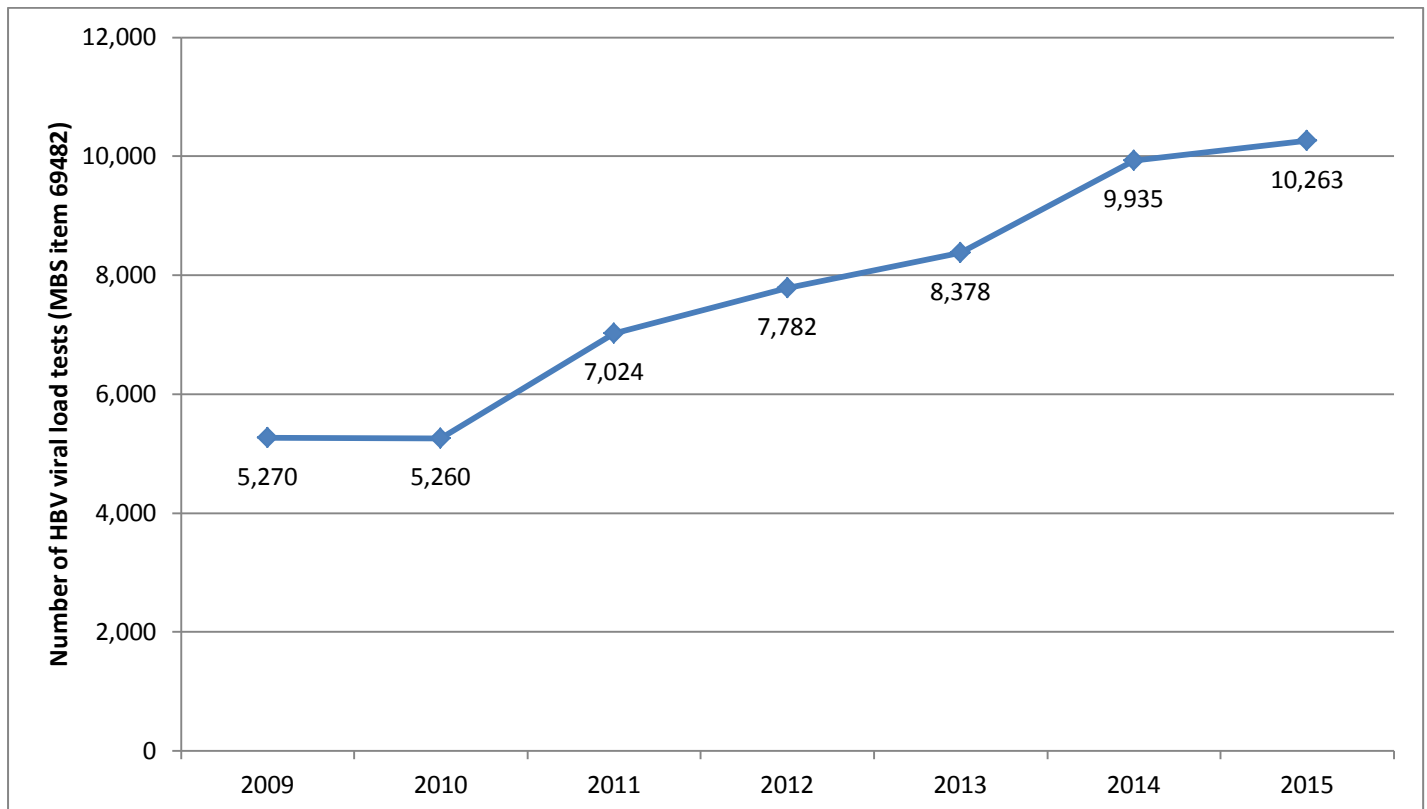
The positive notification ratio was calculated by dividing the overall positive results notified to NSW Health by all laboratories by the total number of tests performed as reported from the participating laboratories. The overall positive results included in the analysis are for individual people notified with hepatitis C reported from all laboratories. However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the ratio of positive notifications per test may be an underestimate of the per cent of people tested that are positive for the condition.

4. MANAGE - Improve management of hepatitis B and hepatitis C

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

Everyone living with chronic hepatitis B should be receiving ongoing care, incorporating either yearly off-treatment monitoring (including a DNA viral load test) or antiviral treatment. People who are on antiviral treatment are also monitored via a hepatitis B viral load test, in order to provide recommendations for their treatment plan.^{39 40}

Figure 38: Number of viral load tests provided to people with chronic hepatitis B (and not receiving treatment) via Medicare in NSW, 2009-2015 (annual test)



Data source: Medicare Australia - Medicare Benefits Schedule (MBS) item 69482

Note: Data is based on Patient Enrolment Postcode

Note: HBV Viral load tests (MBS item 69482) are covered annually under Medicare, so this data indicates the number of people tested. Note this data excludes tests not ordered under Medicare and therefore is an underestimate of the number of people being monitored.

Comment

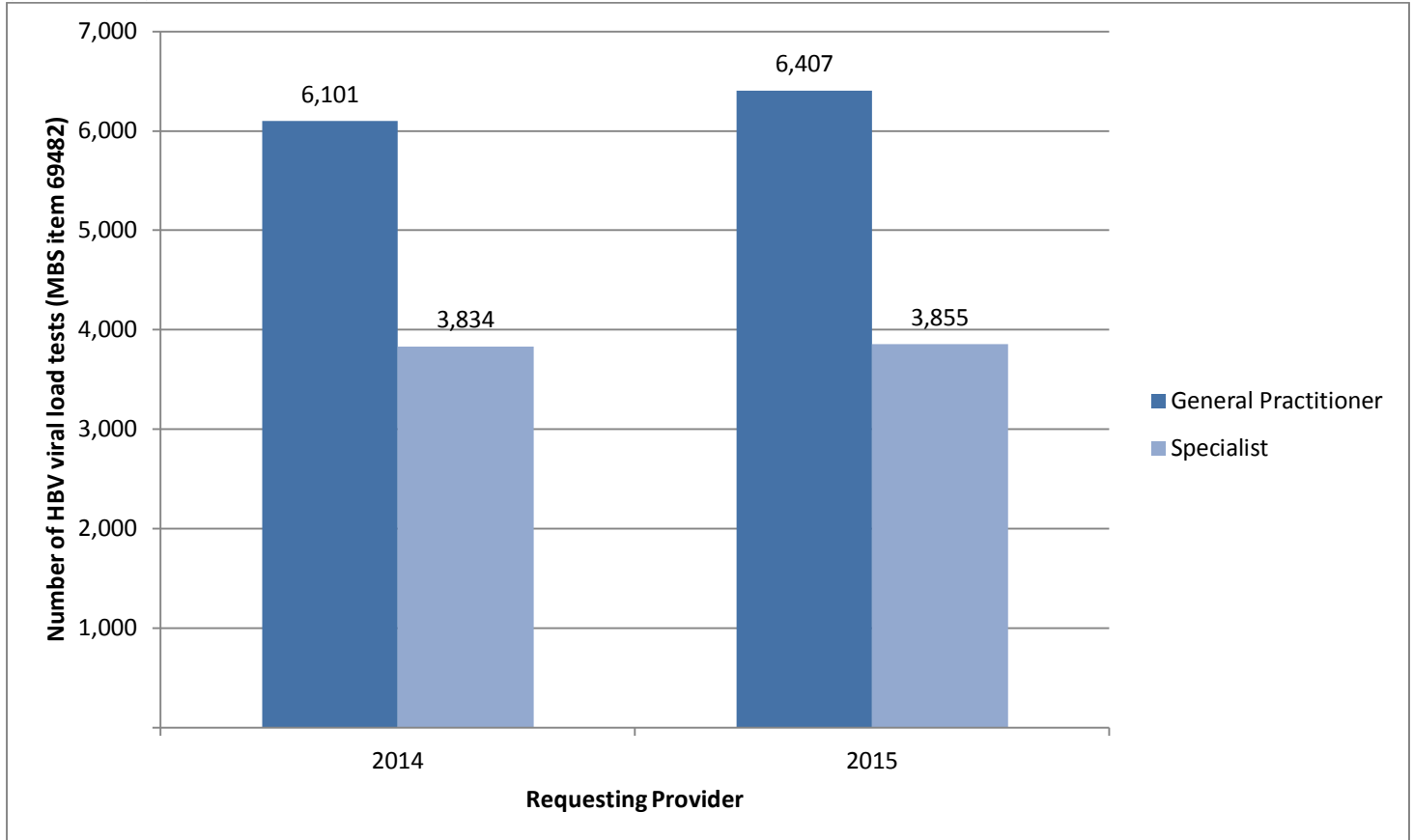
In 2015, there were 10,263 viral load tests provided to people with chronic hepatitis B and not receiving treatment in NSW, which is 3.3% more than 2014 (9,935).

³⁹ HBV viral load testing under the Medicare Benefits Schedule (MBS) is used as a surrogate for guideline-based monitoring of people living with chronic hepatitis B who are not receiving treatment. Viral load testing is covered annually 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.

⁴⁰ Hepatitis B Mapping Project: Estimates of chronic hepatitis B diagnosis, monitoring and treatment by Medicare Local, 2012/13 – National Report. Published by the Australasian Society for HIV Medicine (ASHM)

4.2 Where are people with chronic hepatitis B having their condition monitored in NSW?

Figure 39: Number of HBV viral load tests (MBS item 69482) provided to people with chronic hepatitis B (and not receiving treatment) requested by General Practitioners and Specialists via Medicare in NSW, in 2014 and 2015 (annual test)



Data source: Medicare Benefits Schedule, Department of Human Services

Note: Data is based on Patient Enrolment Postcode

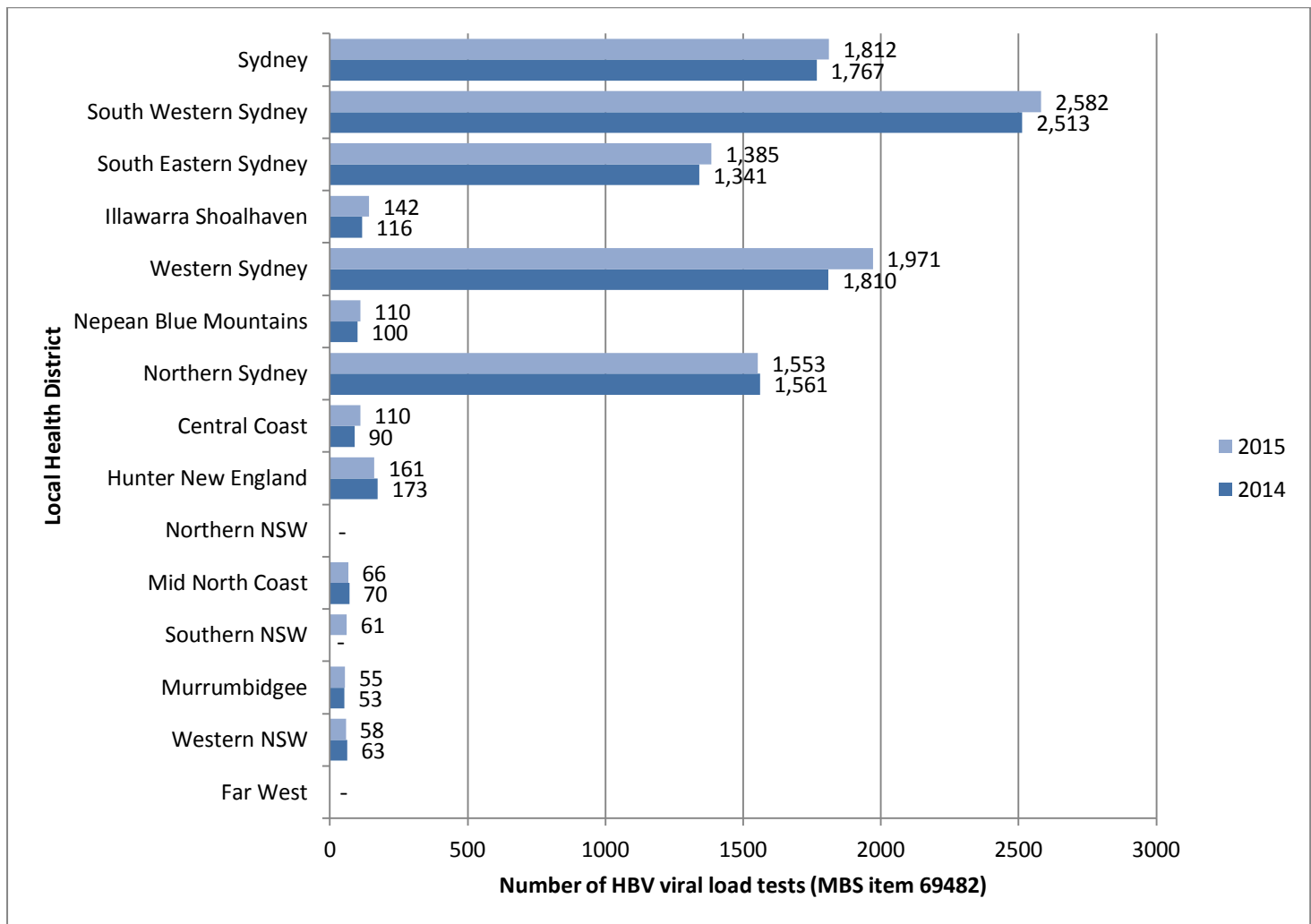
Note: HBV Viral load tests (MBS item 69482) are covered annually under Medicare, so this data indicates the number of people tested. Note this data excludes tests not ordered under Medicare and therefore is an underestimate of the number of people being monitored.

Comment

Of the 10,263 viral load tests provided to people with chronic hepatitis B (and not receiving treatment) in NSW in 2015, 62% (6,407) were requested by general practitioners and 38% (3,855) were requested by specialists (Figure 38).

Between 2014 and 2015, the number of viral load tests in NSW increased by 3.3% overall. The number of tests requested by general practitioners increased by 5% while the number of viral load tests requested by specialists was stable (increased by 0.55%) over this period (Figure 39).

Figure 40: Number of viral load tests provided to people with chronic hepatitis B (and not receiving treatment) via Medicare in NSW by LHD, in 2014 and 2015 (annual test)



Data source: Medicare Benefits Schedule, Department of Human Services

Note: The number of viral load tests provided via Medicare to people was **less than 50** in Northern NSW; Southern NSW in 2014; and Far West.

Note: Data is based on Patient Enrolment Postcode concorded to LHD. Of the total 10,263 tests in NSW, 136 were unallocated to an LHD.

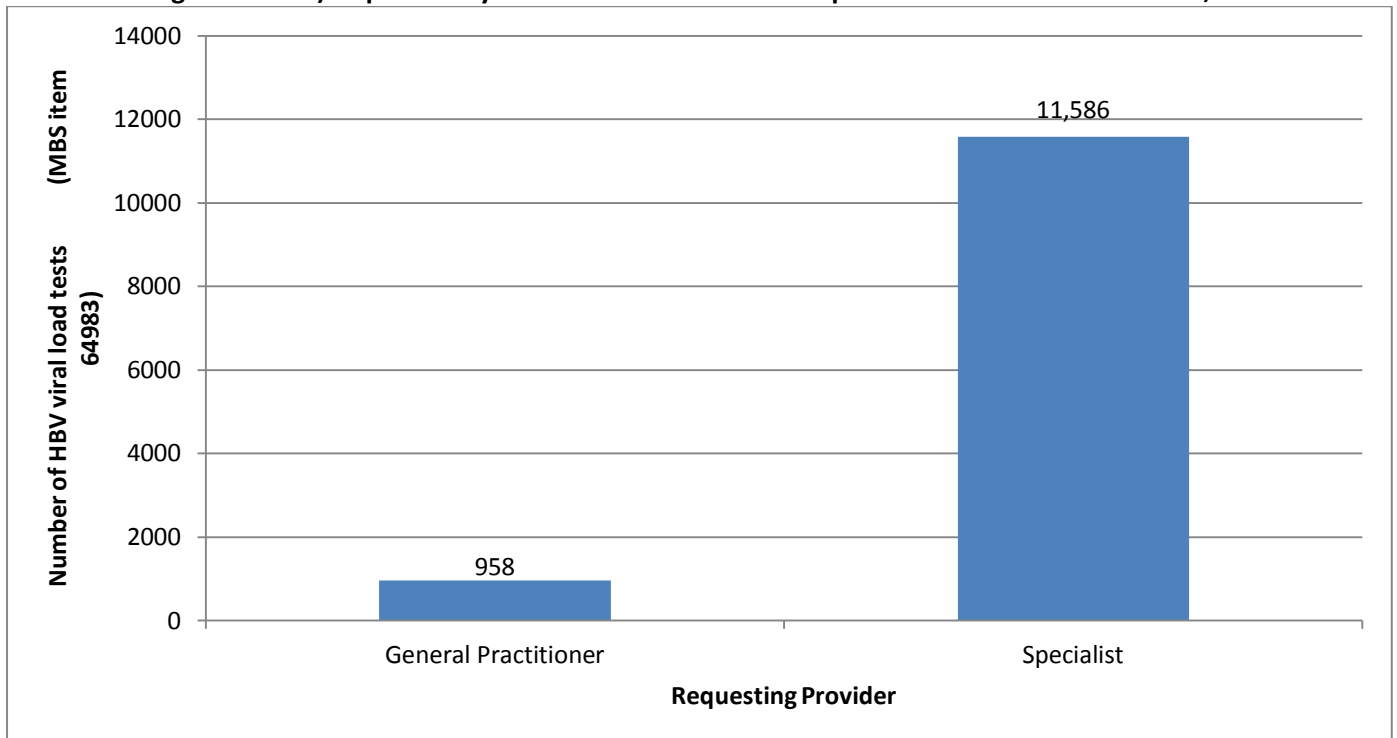
Note: HBV Viral load tests (MBS item 69482) are covered annually under Medicare, so this data indicates the number of people tested.

Comment

The highest number of viral load tests provided to people with chronic hepatitis B (and not receiving treatment) in NSW by LHD in 2014 and 2015 occurred in: South Western Sydney, Western Sydney, Sydney, Northern Sydney and South Eastern Sydney. This geographic spread is broadly consistent with the districts that have higher notification rates of hepatitis B.

Between 2014 and 2015, there was an increase in the number viral load tests provided to people with chronic hepatitis B (and not receiving treatment) in all these high need LHDs, and remained stable in Northern Sydney. (Figure 40)

Figure 41: Number of HBV viral load tests (MBS item 64983) provided to people with chronic hepatitis B (who were receiving treatment) requested by General Practitioners and Specialists via Medicare in NSW, in 2015



Data source: Medicare Benefits Schedule, Department of Human Services

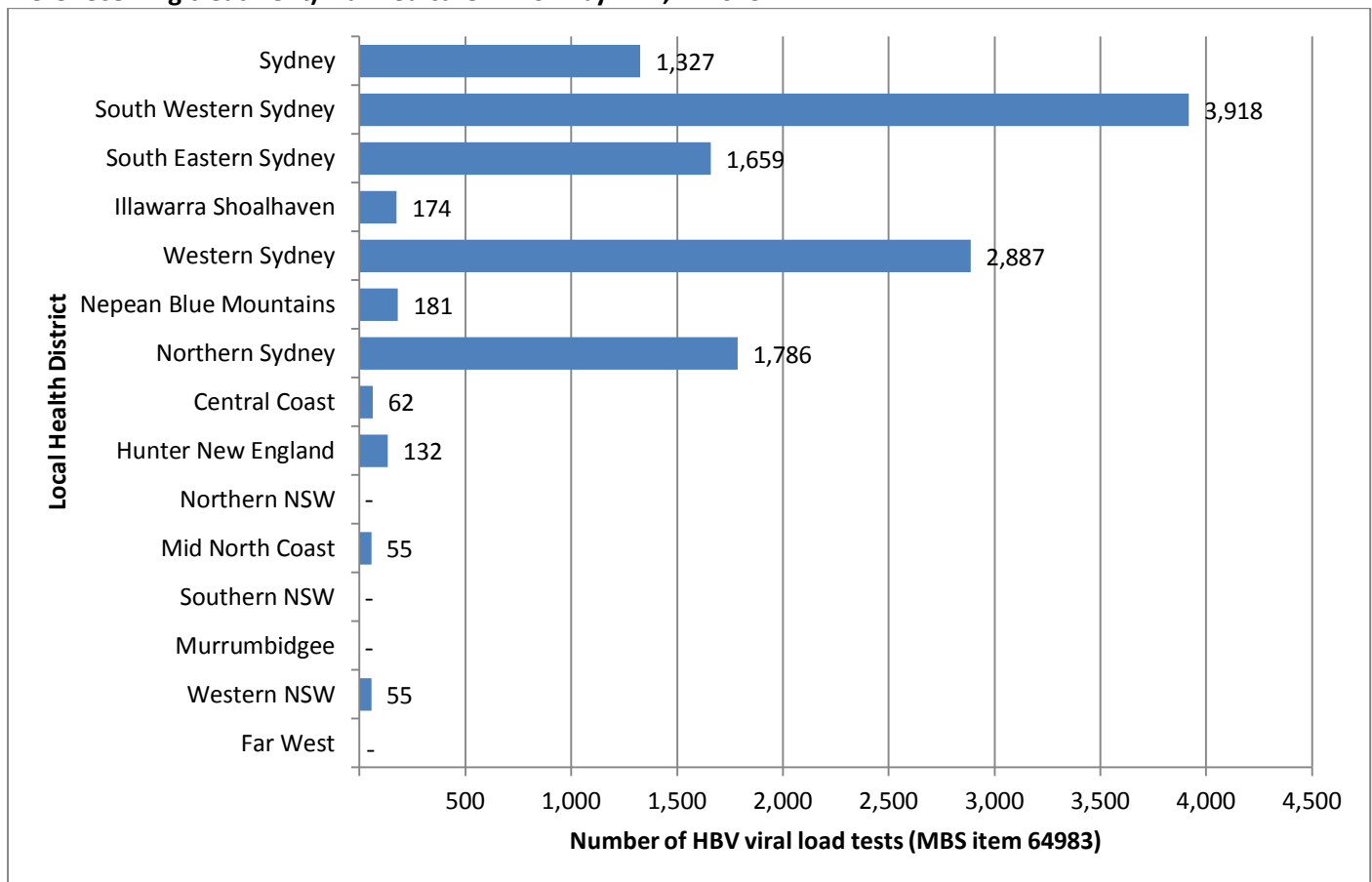
Note: Data is based on Patient Enrolment Postcode

Comment

People living with chronic hepatitis B require regular monitoring to determine their clinical status which informs treatment plans. Monitoring is undertaken via a hepatitis B DNA viral load test for people on treatment as well as people not on treatment. HBV Viral load tests (MBS item 64983) are covered four-times a year under Medicare to monitor people with chronic hepatitis B while they are on treatment. Information from the MBS does not provide the number of tests performed on the same individual during one year so the number of tests does not directly indicate the number of people being monitored. (Figures 41 and 42)

Of the 12,544 viral load tests provided to people with chronic hepatitis B who were receiving treatment in NSW in 2015, 92.4% (11,586) were requested by specialists and 7.6% (958) were requested by general practitioners (Figure 41).

Figure 42: Number of HBV viral load tests (MBS item 64983) provided to people with chronic hepatitis B (who were receiving treatment) via Medicare in NSW by LHD, in 2015



Data source: Medicare Benefits Schedule, Department of Human Services

Note: The number of viral load tests provided via Medicare to people was **less than 50** in Northern NSW; Southern NSW; Murrumbidgee; and Far West

Note: Data is based on Patient Enrolment Postcode. Of the total 12,544 tests in NSW, 167 were unallocated to an LHD.

Note: HBV Viral load tests (MBS item 64983) are covered four-times a year under Medicare to monitor people with chronic hepatitis B while they are on treatment, so it does not directly indicate the number of people being monitored. Information from the MBS does not provide any indication of the number of tests performed on the same individual during one year.

Comment

The highest number of viral load tests provided to people with chronic hepatitis B (who were receiving treatment) in NSW by LHD in 2014 and 2015 occurs in: South Western Sydney, Western Sydney, Northern Sydney, South Eastern Sydney and Sydney. This geographic spread is broadly consistent with the districts that have higher notification rates of hepatitis B.

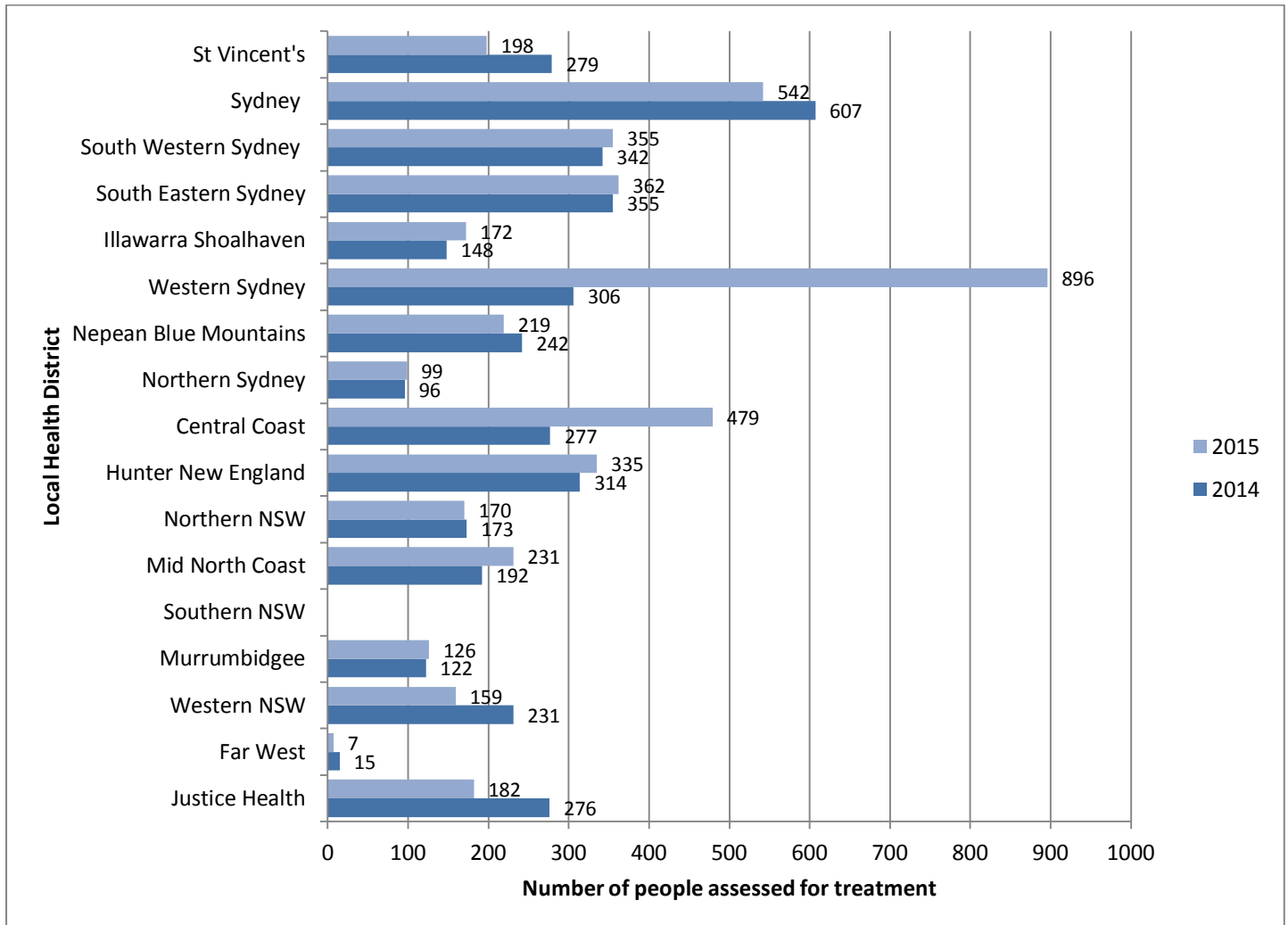
4.3 How many people with chronic hepatitis C are assessed for treatment in NSW?

The number of people with chronic hepatitis C assessed for treatment in publicly funded health services in NSW increased from 3,975 in 2014 to 4,532 in 2015 (14% increase).

The data indicates the number of people assessed for treatment in publicly funded liver clinics; drug and alcohol services; Justice Health; and St Vincent's Health Network.

4.4 Where are people with chronic hepatitis C assessed for treatment in NSW?

Figure 43: Number of people assessed for treatment in NSW by LHD in 2014 and 2015



Data source: NSW Health Hepatitis C Minimum Data Set

Note: Data was not available for Southern NSW in 2014-2015

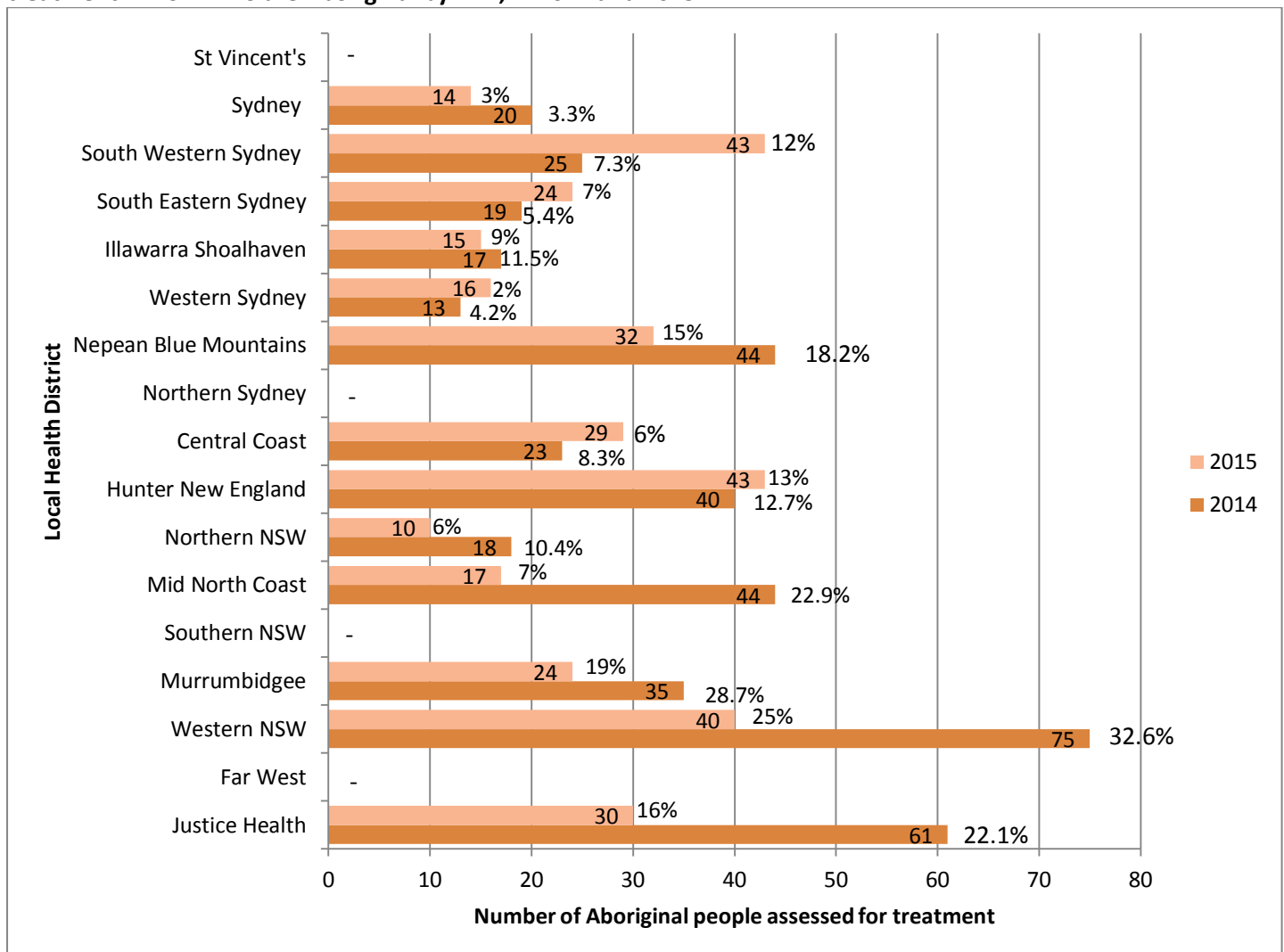
Note: NSW Health does not collect data on hepatitis C from the Sydney Children's Hospital Network

Comment

The number of people assessed for treatment in NSW increased between 2014 and 2015 in most LHDs, particularly Western Sydney and Central Coast.

However the number of people assessed for treatment has also decreased in a number of LHDs between 2014 and 2015.

Figure 44: Number of Aboriginal people assessed for hepatitis C treatment in NSW and % of people assessed for treatment in NSW who are Aboriginal by LHD, in 2014 and 2015



Data source: NSW Health Hepatitis C Minimum Data Set

Note: Data was not available for Southern NSW in 2014-2015

Note: The number of Aboriginal people assessed for treatment is **zero** in 2014 and 2015 in Northern Sydney

Note: The number of Aboriginal people assessed for treatment is **5 or less** in 2014 and 2015 in:

- St Vincent's Health Network; and
- Far West

Comment

Of the 4,532 people assessed for hepatitis C treatment in NSW in 2015, 7.6% (344) reported to be Aboriginal and/or Torres Strait Islander people and 90.8% were non-Indigenous. Indigenous status was unknown, not stated or missing for the remaining 1.5%.

Between 2014 and 2015, the number of people who were assessed for hepatitis C treatment in NSW who reported to be Aboriginal decreased from 439 people to 344 Aboriginal people. Over this period, the number of Aboriginal people assessed for hepatitis C treatment increased in South Western Sydney, South Eastern Sydney, Western Sydney, and Hunter New England.

It is useful to view Figure 44 alongside: Table 3, which identifies the proportion of Aboriginal people of total population by LHD (in 2011); and Table 4, which identifies the proportion of NSW Aboriginal adult custodial population.

Table 3: The proportion of Aboriginal people of total population by LHD in 2011

LHD	Aboriginal proportion of total population in 2011
Sydney	1.1%
South Western Sydney	1.6%
South Eastern Sydney	0.9%
Illawarra Shoalhaven	2.4%
Western Sydney	1.6%
Nepean Blue Mountains	2.5%
Northern Sydney	3.8%
Central Coast	2.1%
Hunter New England	4.0%
Northern NSW	3.8%
Mid North Coast	4.5%
Southern NSW	2.7%
Murrumbidgee	3.9%
Western NSW	8.6%
Far West	9.7%

Data source: ABS statistics 2011

Table 4: The proportion of Aboriginal adult custodial population in NSW as at June 2014

Justice health, custodial settings	Aboriginal proportion of NSW adult custodial population
As at June 2014	24% (2,492 people)

Data source: Australian Bureau of Statistics. Catalogue 4517.0 Prisoners in Australia, 2014. New South Wales profile. [Available at <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4517.0~2014~Main%20Features~New%20South%20Wales~10015>; accessed 1 March 2016]

5. TREAT - Improve access to hepatitis B and hepatitis C treatment

5.1 How many people in NSW are on hepatitis B antiviral treatment?

Public Pharmacy dispensing data indicates that in the 12 months between 1 January to 31 December 2015, **2,818** people with hepatitis B were dispensed hepatitis B antiviral therapy at least once in NSW public hospital pharmacies⁴¹. This represents an increase from 2,519 people (12% increase) in the same period in 2014⁴².

This data captures the number of people dispensed hepatitis B antiviral therapy in NSW public hospital pharmacies, but is an underestimate of the number of people dispensed hepatitis B treatment in NSW because it excludes people dispensed hepatitis B antiviral therapy in private hospital and community pharmacies.

Additionally, it does not include people who are accessing treatment through other sources, including those who purchase hepatitis B treatment from overseas or receive antiviral treatment through clinical trials.

In the period between January 2013 to December 2013, **5,871** people with chronic hepatitis B were dispensed hepatitis B antiviral therapy in public hospital, private hospital and community pharmacies⁴³. This includes all people accessing hepatitis B treatment subsidised through the Pharmaceutical Benefits Scheme, as part of the Highly Specialised Drugs Programme.

The NSW Ministry of Health is working towards accessing more comprehensive dispensing data.

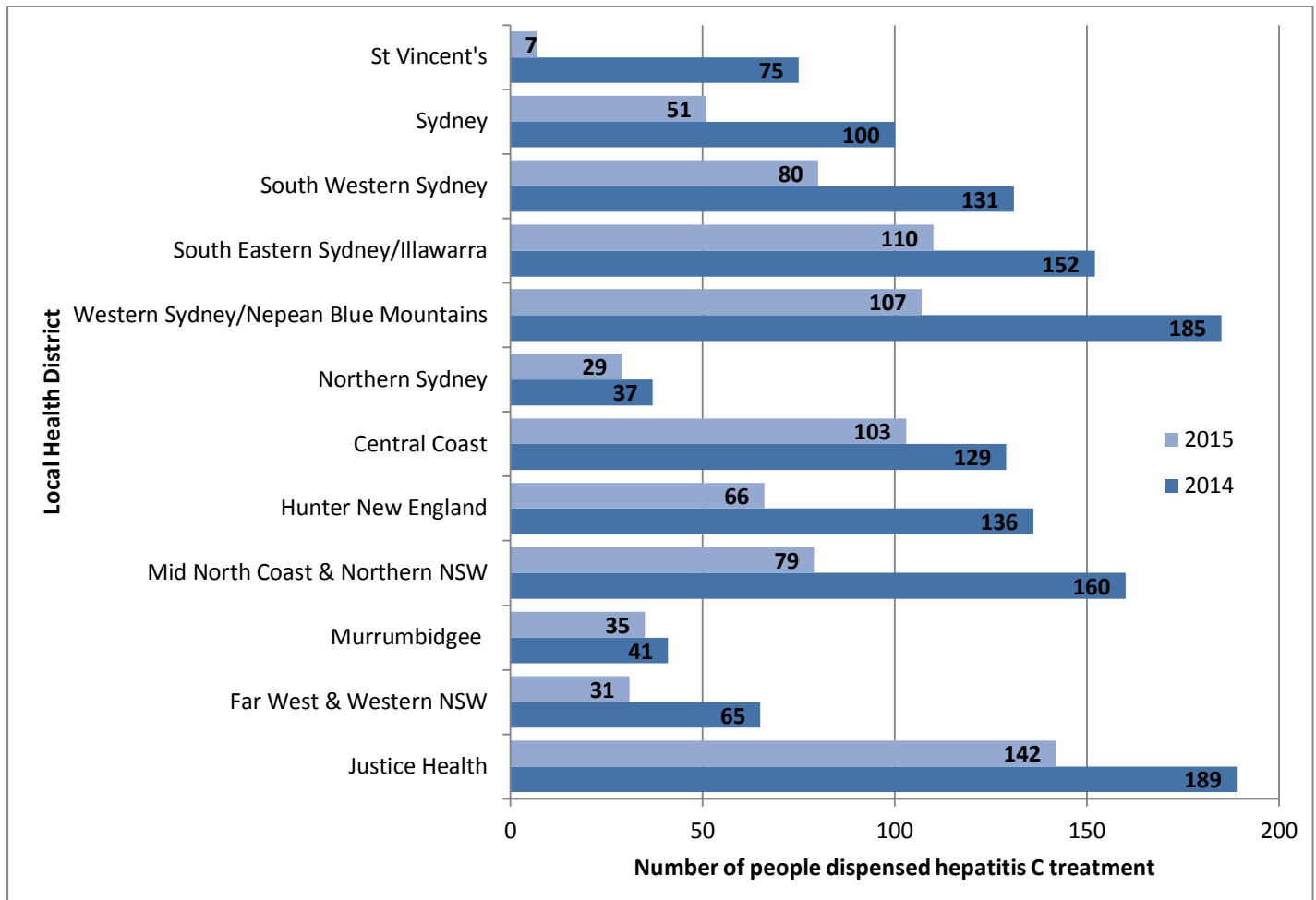
⁴¹Data source: Health Share NSW ipharmacy data and data submitted directly by Western Sydney, Nepean Blue Mountains LHDs. The hepatitis B and hepatitis C dispensing data was revised on 15 May 2016 to correct a duplication error identified in the NSW IParmacy data (incorporated above). In scope patients include anyone who received one or more of the following medications for the treatment of hepatitis B in 2014 and 2015: peginterferon alfa-2a; peginterferon alfa-2b; interferon alfa-2a; lamivudine; adefovir; entecavir; tenofovir; or telbivudine.

⁴²Note that the total number of people dispensed hepatitis B therapy in 2014 excludes data from Hunter New England LHD which was not available at the time of the report.

⁴³Hepatitis B Mapping Project: Estimates of chronic hepatitis B diagnosis, monitoring and treatment by Medicare Local, 2012/13 – National Report. Published by the Australasian Society for HIV Medicine (ASHM).

5.2 How many people in NSW are on hepatitis C antiviral treatment and where are they receiving treatment?

Figure 45: Number of people dispensed hepatitis C antiviral treatment in NSW by LHD of dispensing pharmacy, in 2014 and 2015 ⁴⁴



Data source: eHealth NSW iPharmacy data; and data submitted by Western Sydney, Nepean Blue Mountains, Hunter New England LHDs.
Notes:

- The hepatitis B and hepatitis C dispensing data was revised on 15 May 2016 to correct a duplication error in the analysis of the NSW iPharmacy data (incorporated above).
- This figure captures the number of people dispensed hepatitis C antiviral therapy in NSW public hospital pharmacies. It excludes people dispensed hepatitis C antiviral therapy in private hospital based pharmacies and community pharmacies.
- The data is an underestimate of the number of people dispensed hepatitis C treatment in NSW because it excludes people receiving antiviral treatment through clinical trials.
- In Southern NSW, the number of people dispensed treatment is zero in 2014; and 5 or less in 2015.
- In Sydney Children's Hospital Network, the number of people dispensed treatment is 5 or less in 2014; and zero in 2015.
- The numbers displayed in Figure 45 add up to a total that is greater than the overall totals for 2014 and 2015. This is because a small number of cross-LHD patient flows are not eliminated.

⁴⁴ In scope patients include anyone who received one or more of the following medications for the treatment of hepatitis C in 2014 and 2015: peginterferon alfa-2a; peginterferon alfa-2b; peginterferon alfa-2a and ribavirin; peginterferon alfa-2b and ribavirin; telaprevir; or boceprevir.

Comment

Pharmacy dispensing data indicates that in the 12 months between 1 January to 31 December 2015, 836 people with hepatitis C were dispensed hepatitis C antiviral therapy at least once in NSW public hospital pharmacies⁴⁵. This represents a decrease from 1,385 people (40% decrease) in the same period in 2014.

This result is expected given that the anticipation of new interferon-free treatments has led many people to delay starting therapy. However, the availability of new direct acting antiviral therapy through the Pharmaceutical Benefits Scheme (PBS) means that safer and highly effective hepatitis C treatment is available from 1 March 2016. It is expected that the introduction of these new treatment regimens will lead to substantial increases in the number of people accessing hepatitis C treatment.

This data (Figure 45) includes all people accessing hepatitis C treatment subsidised through the Pharmaceutical Benefits Scheme, as part of the Highly Specialised Drugs Programme. This data captures the number of people dispensed hepatitis C antiviral therapy in NSW public hospital pharmacies, including therapy prescribed by general practitioners and specialists.

The data is an underestimate of the number of people dispensed hepatitis C treatment in NSW because it excludes people dispensed hepatitis C antiviral therapy in private hospital based pharmacies. It excludes people receiving hepatitis C antiviral treatment through clinical trials. It also excludes people who may be accessing treatment through other sources, including those who purchase hepatitis C treatment from overseas.

The NSW Ministry of Health is working with the Commonwealth Pharmaceutical Benefits Scheme towards making more comprehensive public hospital and community pharmacy antiviral therapy dispensing data available.

⁴⁵ Data source: Health Share NSW iPharmacy data and data submitted directly by Western Sydney, Nepean Blue Mountains LHDs. Note, the hepatitis B and hepatitis C dispensing data was revised on 15 May 2016 to correct a duplication error in the analysis of the NSW iPharmacy data.

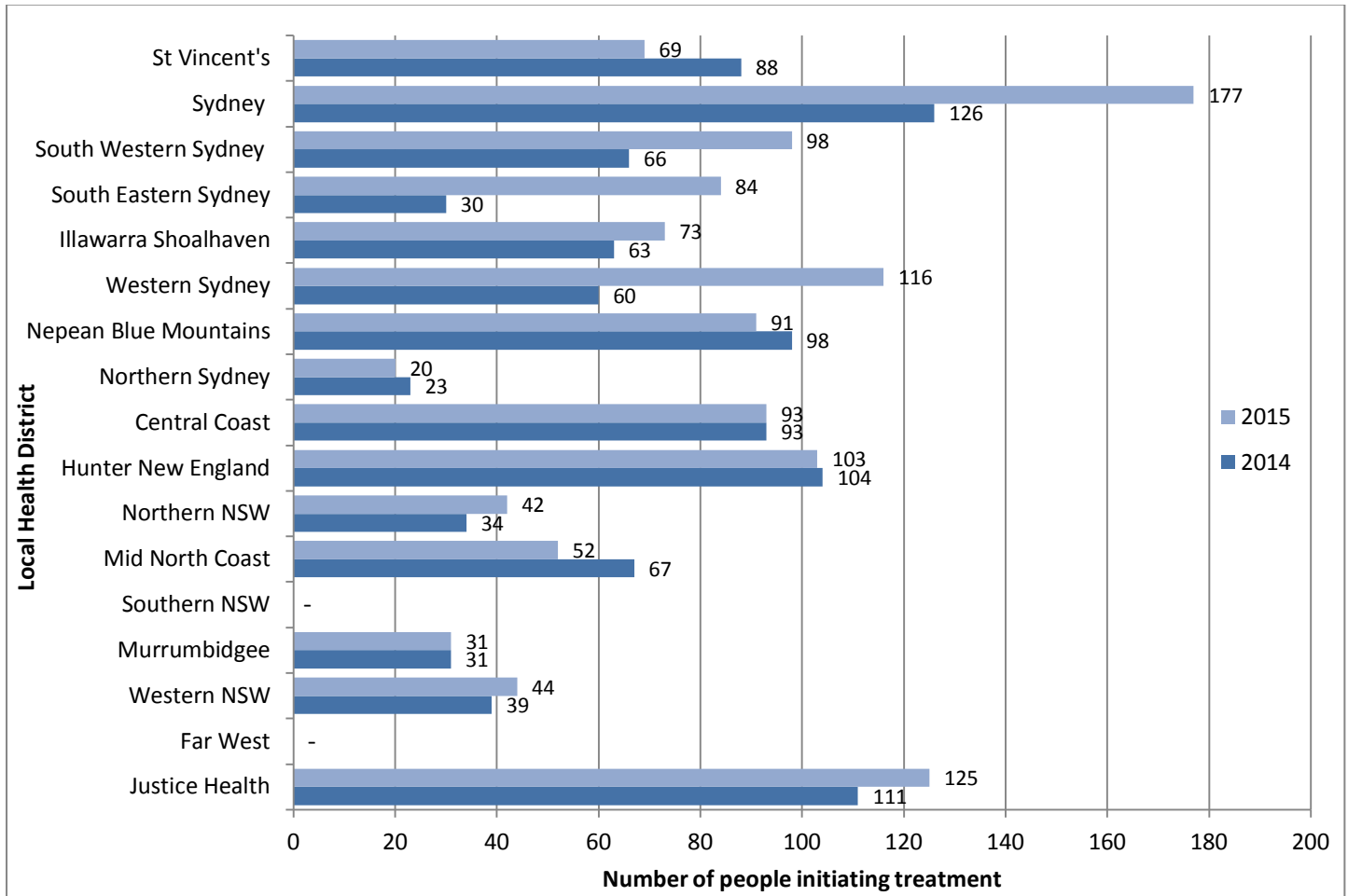
5.3 How many people in NSW with chronic hepatitis C are initiating treatment and where are they receiving this treatment?

The number of people with chronic hepatitis C initiating treatment in publicly funded health services in NSW increased from 1,037 in 2014 to 1,218 in 2015 (17% increase).⁴⁶

It is expected that the introduction of new hepatitis C treatments through the PBS on 1 March 2016 will lead to substantial increases in the number of people accessing hepatitis C treatment.

The data indicates the number of people initiating hepatitis C treatment in publicly funded liver clinics; drug and alcohol services; Justice Health; and St Vincent's Health Network. The data also includes the number of clients on clinical trials. The total number of clients on clinical trials who initiated hepatitis C treatment was 160 in 2014 and 197 in 2015. These figures exclude activity in the private sector (including private liver clinics and GPs).

⁴⁶ Note the total for SES was revised on 27 June 2016; the total for NSW was also updated.

Figure 46: Number of people initiating treatment in NSW by LHD in 2014 and 2015

Data source: NSW Health Hepatitis C Minimum Data Set

Note: Data was not available for Southern NSW in 2014-2015

Note: The number of people initiating treatment is 5 or less in 2014 and 2015 in Far West

Note: NSW Health does not currently collect data on hepatitis C from the Sydney Children's Hospital Network

Note: Figure 46 was updated on 27 June 2016, with a revised total for SES. The total for NSW was also updated.

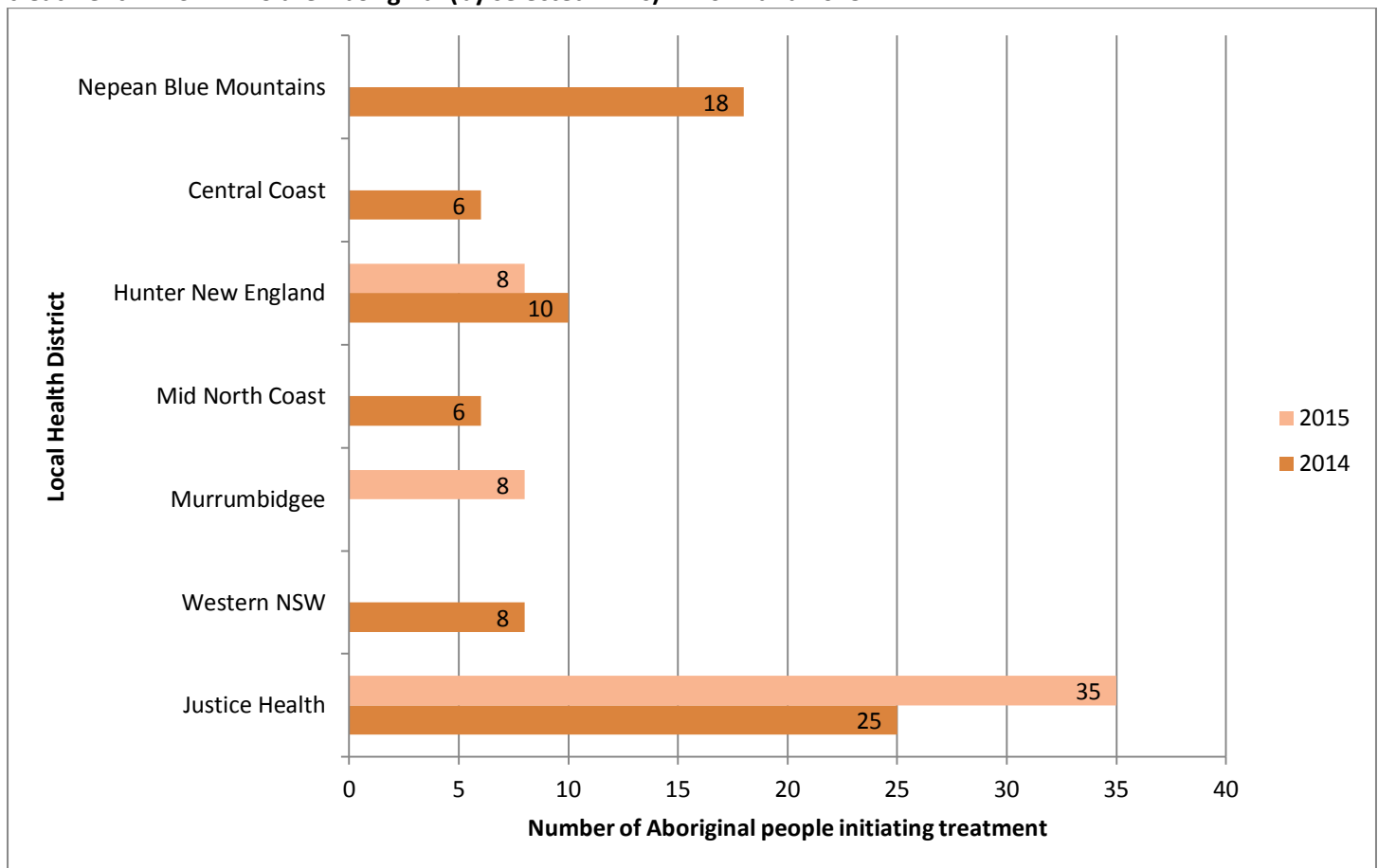
Comment

The number of people initiating treatment in publicly funded health services in Local Health Districts, St Vincent's Health Network as well as Justice Health is identified above.

The number of people initiating treatment in NSW between 2014 and 2015 increased in most LHDs, particularly Sydney, South Western Sydney, South Eastern Sydney and Western Sydney.

It is expected that the introduction of new hepatitis C treatments through the PBS on 1 March 2016 will lead to substantial increases in the number of people accessing hepatitis C treatment.

Figure 47: Number of Aboriginal people initiating hepatitis C treatment in NSW and % of people initiating treatment in NSW who are Aboriginal (by selected LHDs) in 2014 and 2015



Data source: NSW Health Hepatitis C Minimum Data Set

Note: The number of Aboriginal people initiating treatment is **zero** in:

- 2015 in: St Vincent's; NS; NNSW; SNSW; FW
- 2014 in: SES; NS; NNSW; IS; FW

Note: The number of Aboriginal people initiating treatment is **5 or less** in:

- 2015 in Sydney; SES; SWS; IS; WS; NBM
- 2014 in Sydney; SWS; WS; St Vincent's; Murrumbidgee

Note: Figure 47 was updated on 9 June 2016, with a revised total for SES. The total for NSW was also updated.

Comment

Of the 1,218 people who initiated hepatitis C treatment in NSW in 2015, 6.7% (82) reported to be Aboriginal and/or Torres Strait Islander people and 88% were non-Indigenous. Indigenous status was unknown, not stated or missing for the remaining 5.3%.

Between 2014 and 2015, the number of people who initiated hepatitis C treatment in NSW who reported to be Aboriginal decreased from 85 to 82 Aboriginal people (3.5% decrease).

In 2015, the LHDs with the highest proportion of Aboriginal people who initiated HCV treatment were: Murrumbidgee, Hunter New England and Justice Health.

See Table 3 – **The proportion of Aboriginal people of total population by LHD in 2011** (page 55)

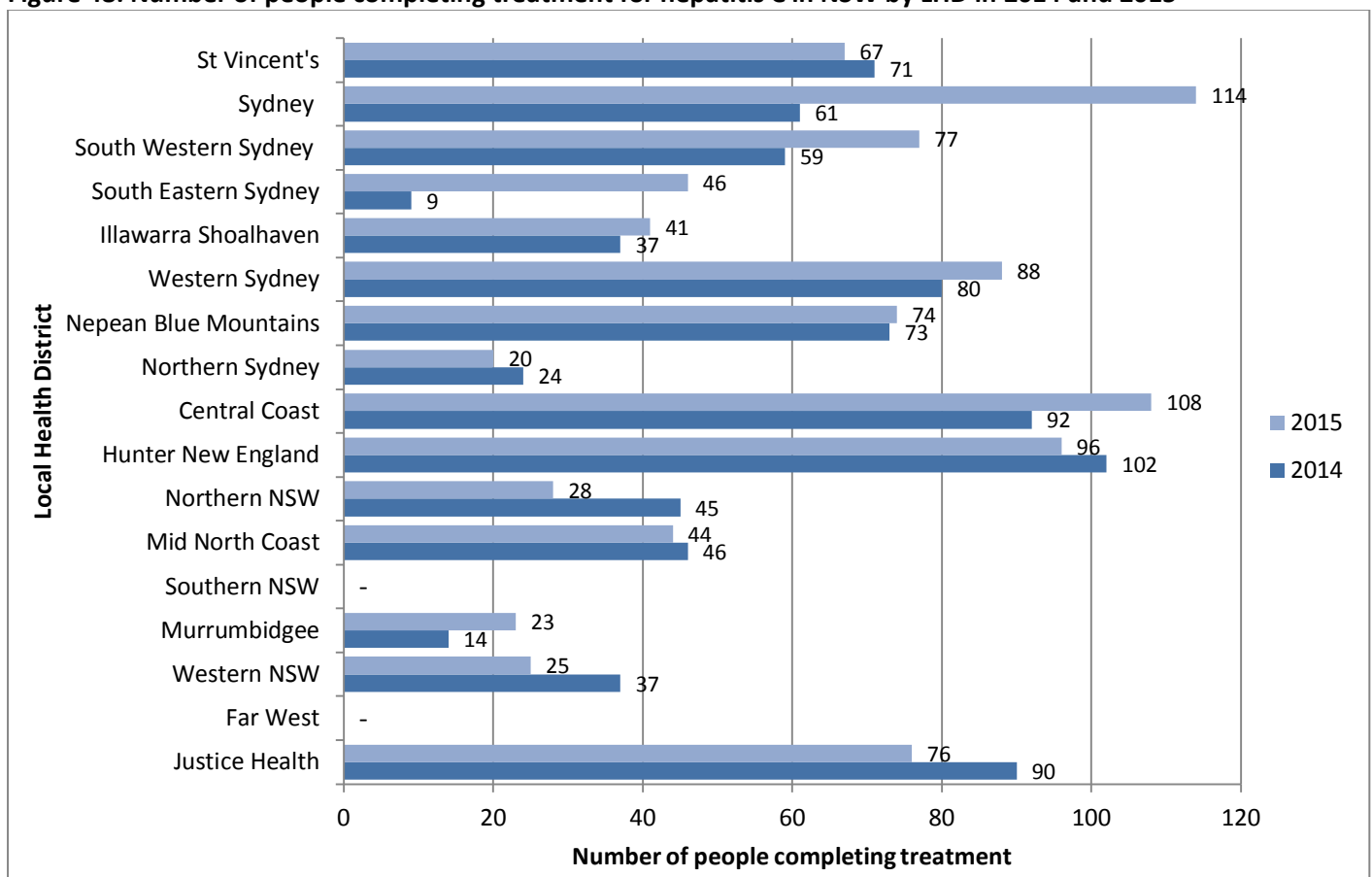
See Table 4 - **Table 4: The proportion of Aboriginal adult custodial population in NSW as at June 2014** (page 55)

5.4 How many people in NSW are completing hepatitis C treatment and where are they receiving this care?

The number of people completing treatment for hepatitis C in publicly funded health services in NSW has increased from 844 people in 2014 to 933 people in 2015 (10.5% increase).

The data indicates the number of people completing hepatitis C treatment in publicly funded liver clinics; drug and alcohol services; Justice Health; and St Vincent's Health Network. The data also includes the number of clients on clinical trials. The total number of clients on clinical trials who completed hepatitis C treatment was 146 in 2014 and 147 in 2015.

Figure 48: Number of people completing treatment for hepatitis C in NSW by LHD in 2014 and 2015



Data source: NSW Health Hepatitis C Minimum Data Set

Note: Data was not available for Southern NSW in 2014-2015.

Note: The number of people completing treatment is **6 or less** in 2014 and 2015 in Far West

Note: NSW Health does not currently collect data on hepatitis C from the Sydney Children's Hospital Network

Comment

The number of people completing treatment in publicly funded health services in Local Health Districts, St Vincent's Health Network, as well as Justice Health is identified above (Figure 48).

The highest number of people completing treatment in publicly funded health services in 2015 occurred in Sydney, Central Coast and Hunter New England.

Appendix 1

Table 5: NSW NSP Enhanced Data Collection - Receptive syringe sharing (RSS) last month by LHD (n, %, CI) in 2014 & 2015

RSS among respondents who reported injection in previous month (excluding respondents with missing RSS data)

	2014				2015			
	N ^o RSS	%	Total N	95% CIs	N ^o RSS	%	Total N	95% CIs
SYDNEY	69	16.6%	416	13.1 - 20.5	60	16.6%	361	12.9 – 20.9
SOUTH WESTERN SYDNEY	14	21.5%	65	12.3 - 33.5	29	31.2%	93	22.1 – 41.6
SOUTH EASTERN SYDNEY	111	18.4%	603	15.4 - 21.7	80	20.6%	389	16.7 – 24.9
ILLAWARRA SHOALHAVEN	7	4.5%	155	1.8 - 9.1	7	5.4%	129	2.2 – 10.9
WESTERN SYDNEY	45	12.4%	364	9.2 - 16.2	58	19.0%	305	14.8 – 23.9
NEPEAN BLUE MOUNTAINS	13	12.4%	105	6.8 - 20.2	10	12.7%	79	6.2 – 22.0
NORTHERN SYDNEY	11	17.5%	63	9.1 - 29.1	7	14.3%	49	5.9 – 27.2
CENTRAL COAST	18	10.5%	172	6.3 - 16.0	3	7.0%	43	1.4 - 19.1
HUNTER NEW ENGLAND	32	15.4%	208	10.8 - 21.0	65	21.5%	302	17.0 – 26.6
NORTHERN NSW	25	13.1%	191	8.7 - 18.7	7	6.8%	103	2.8 – 13.5
MID NORTH COAST	7	6.4%	110	2.6 - 12.7	7	8.8%	80	3.6 – 17.2
SOUTHERN NSW	3	21.4%	14	4.7 - 50.8	0	0.0%	6	--
MURRUMBIDGEE	9	16.7%	54	7.9 - 29.3	2	9.1%	22	1.1 – 29.2
WESTERN NSW	2	3.6%	55	0.4 - 12.5	3	3.3%	91	0.7 – 9.3
FAR WEST	0	0.0%	3	--	1	14.3%	7	0.3 – 57.9
NNEDC NSW	366	14.2%	2,578	12.9 - 15.6	339	16%	2059	14.3 – 17.3

Table 6: Comparable Australian NSP survey data - NSW respondents

RSS among NSW respondents who reported injection in previous month (excluding respondents with missing RSS data)

ANSPS NSW year	N ^o RSS	%	Total N	95% CIs
2008	140	19%	744	16.1 - 21.8
2009	112	17%	672	13.9 - 19.7
2010	83	17%	483	13.9 - 20.9
2011	58	11%	544	8.2 - 13.6
2012	82	14%	573	11.5 - 17.4
2013	75	13%	560	10.7 - 16.5
2014	105	16%	653	13.3 - 19.1

