



UNSW
SYDNEY



New South Wales Needle and Syringe Program Enhanced Data Collection

2016-2020

Prepared by
Ms Louise Geddes, Dr Jenny Iversen and Professor Lisa Maher

The Kirby Institute
for infection and immunity in society
UNSW Sydney
Sydney NSW 2052
Australia

Telephone: +61 (2) 9385 0900
www.kirby.unsw.edu.au

Suggested citation: Geddes, L., Iversen, J and Maher, L. New South Wales Needle and Syringe Program Enhanced Data Collection Report 2016-2020, The Kirby Institute, UNSW Sydney, 2020.

Table of Contents

Acknowledgements.....	1
Acronyms.....	2
Key points	3
Background.....	4
Respondents and occasions of service.....	5
Demographic characteristics.....	8
Social, legal and health	11
Drug last injected.....	13
Injecting behaviour.....	16
Receptive syringe sharing.....	17
Hepatitis C testing and treatment uptake.....	19
NSW demographic and drug use tables.....	25
NSW graphs	36
References.....	38
Appendix A: Study methodology.....	39
Appendix B: Participating NSP services by LHD.....	40
Appendix C: 2020 data collection instrument.....	42

Acknowledgements

We would like to thank the attendees of New South Wales (NSW) Needle and Syringe Program (NSP) sites who participated in data collection. We are grateful to NSP staff who worked with NSP attendees to collect the data presented in this report and to the NSW Ministry of Health, the HIV and Related Program Managers, and the Harm Minimisation Coordinators who supported and coordinated the 2020 data collection.

Acronyms

ACON	AIDS Council of NSW
DAAs	Direct-acting antivirals
HCV	Hepatitis C virus
LHD	Local Health District
NNEDC	New South Wales Needle and Syringe Program Enhanced Data Collection
NSP	Needle and syringe program
NSW	New South Wales
NUAA	NSW Users and AIDS Association
OOS	Occasions of service
OST	Opioid substitution therapy
PIED	Performance and image enhancing drug
PWID	People who inject drugs
RSS	Receptive syringe sharing

Key findings

A total of 4,238 occasions of service (OOS) were recorded over the two-week data collection period in February/March 2020, equating to approximately 2,100 OOS per week.

During the two-week data collection period in 2020, 65% of NSP attendees completed the NNEDC; 21% were repeat attendees and 15% declined to participate. After excluding repeat attendees, the state-wide response rate was 82% in 2020.

The median age of respondents was 42 years in 2020. One in twenty respondents (5%) were aged less than 25 years.

One in five respondents (19%) reported an Aboriginal background in 2020, a significant increase from 17% in 2016 (p-trend=0.037).

In the previous 12 months, one in five respondents (21%) had experienced homelessness, one in four (23%) reported a mental health issue, one in ten (11%) reported being imprisoned and one in four (24%) had been prescribed opioid substitution therapy.

A significant increase was observed in the proportion of respondents who reported a mental health issue in the previous 12 months (from 20% in 2016 to 23% in 2020, p-trend=0.025). Conversely, a significant decline was observed in the proportion of respondents who reported recent homelessness (from 25% in 2016 to 21% in 2020, p-trend=0.008).

Opioids were the most common class of drug last injected in 2020, reported by two in five respondents (43%). Stimulants (predominantly methamphetamine and cocaine) were the second most common class of drug last injected (36%).

A significant increase in the proportion of respondents who reported last injecting a stimulant was observed over the five-year period (from 34% in 2016 to 36% in 2020, p-trend=0.007). Methamphetamine was the most commonly reported drug last injected in 2020, reported by 35% of respondents.

One in two respondents (50%) reported injecting daily or more frequently in 2020, a significant increase from 48% in 2016 (p-trend<0.001).

One in ten (10%) reported initiating injecting in the previous three years, a significant decline from 12% in 2016 (p-trend=0.003).

In 2020, 16% of respondents reported at least one episode of receptive syringe sharing (RSS) in the month prior to data collection, a significant decline from 20% in 2016 (p-trend=0.014).

Factors associated with an increased risk of RSS included recent homelessness and daily or more frequent injection.

Three in four respondents (75%) reported a lifetime history of hepatitis C virus (HCV) testing, including 42% who reported a HCV test since in the previous 12 months.

Respondents aged over 35 years, those who reported recent imprisonment and those who were prescribed OST in the last 12 months were significantly more likely to report a lifetime history of HCV testing.

Among respondents who reported ever receiving a HCV diagnosis and who did not report spontaneous clearance the proportion who reported a lifetime history of HCV direct acting antiviral (DAA) treatment was 71%.

HCV DAA treatment uptake was highest in South Eastern Sydney LHD (85%), followed by Northern Sydney LHD (78%) and Nepean Blue Mountains LHD (75%). One in three respondents who accessed DAA treatment did so through public-sector community settings (29%), while one in five (19%) accessed treatment through tertiary facilities. Smaller proportions of respondents reported accessing DAA treatment through correctional facilities (14%), alcohol and other drug services (13%) and general practitioners (12%).

Background

The NSW NSP is a public health initiative that aims to reduce the transmission of blood borne viruses and other harms related to injecting drug use through the provision of sterile injecting equipment and health related information and support. The NSP operates within the principles of harm minimisation embedded in both the National and NSW HIV and Hepatitis C Strategies. The NSW public sector program is delivered through a mix of primary and secondary NSP outlets in health, welfare and pharmacy settings, augmented by mobile and outreach services and syringe dispensing machines and chutes.

The NSW Ministry of Health established the NSW NSP Enhanced Data Collection (NNEDC) as a mechanism to provide a systematic snapshot of the NSW NSP client population in 2004. The NNEDC was subsequently repeated in 2008 and in a revised format annually in all years since 2013. The 2020 NNEDC was conducted at 50 NSPs over a two-week period (24th February to 8th March) and was the eighth consecutive data collection in the new format. This report presents data from the previous five years of data collection, 2016 to 2020. Details on the study methodology, data collection instrument and participating sites are included at Appendices A, B and C, respectively.

Respondents and Occasions of Service

Key findings:

- **4,238 occasions of service were recorded over the two-week data collection period in 2020:**
 - **65% (n=2,730) completed the NNEDC, a significant increase from 48% in 2016 (p-trend<0.001)**
 - **21% (n=889) were repeat attendees, consistent with previous years (p-trend=0.616)**
 - **15% (n=619) declined to participate, a significant decline from 33% in 2016 (p-trend<0.001)**
- **After excluding repeat NSP attendees, the state-wide response rate was 82% in 2020.**

Fifty sites participated in the NNEDC in 2020, representing all 15 Local Health Districts (LHDs). The number of participating sites varied by LHD, and ranged from seven in South Eastern Sydney and Northern NSW LHDs to one in Far West LHD.

The methodology of the NNEDC was amended in 2017 to encourage all NSP attendees to complete a minimum of the first four questions in the data collection instrument. This report includes data collected from both NSP attendees who completed all questions on the data collection instrument and those who elected to respond to the first four questions only. As a result, the proportion of respondents who did not respond to subsequent questions (from question 5) varies. In order to examine trends over time in a consistent manner, missing data are excluded when calculating proportions for all variables, including data collected in 2016.

A total of 4,238 occasions of service (OOS) were recorded, equating to approximately 2,100 NSP OOS per week (~2,200 OOS recorded during the first week and ~2,000 OOS were recorded during the second week). The number of OOS recorded in 2020 was the lowest number recorded both during the five-year period reported on in this report, and in the eight years that the NNEDC has been conducted in its current format. However, a decline in NSP OOS has also been observed in other jurisdictions, for example Queensland where, OOS declined by 18% between 2013 and 2018 (Queensland Health, 2019). Despite the overall decline in OOS, nine of the fifteen LHDs

recorded a higher number of OOS in 2020 compared to 2019.

Of the 4,238 OOS recorded in 2020, approximately two in three (65%, n=2,730, Table 1) NSP attendees agreed to participate in the NNEDC (hereafter referred to as respondents). Over the five-year period, 2016 to 2020, a significant increase was observed in the proportion of NSP attendees who agreed to participate in the NNEDC, from 48% in 2016 to 65% in 2020 (p-trend<0.001), reflecting the additional efforts made by LHDs and NSP services since 2017 to encourage NSP attendees to complete the NNEDC. Furthermore, of the 2,730 respondents recorded in 2020, three quarters (77%, n=2,100) completed all questions in the data collection instrument. While a significant decline in the proportion of respondents who completed all questions in the NNEDC has been observed over the four-year period since the change in methodology, 2017 to 2020 (from 78% in 2017 to 77% in 2020, p<0.001), there was also a significant increase in the proportion of respondents who completed all questions in 2020 compared to 2019 (77% vs 67%, p<0.001).

In order to reduce bias towards frequent NSP attendees, those who completed the NNEDC at a previous attendance (repeat attendees) are ineligible to complete the NNEDC at subsequent NSP attendances during the data collection period. Consistent with previous years, in 2020, approximately one in five NSP attendees (21%, n=889) were repeat attendances (p-trend=0.616).

Approximately one in seven NSP attendees (15%, n=619) declined to participate in the NNEDC in 2020, and did not provide any data regarding their demographic characteristics and drug use. While a significant decline in the proportion of NSP attendees who declined to participate in the NNEDC was observed over the five-year period (from 33% in 2013 to 15% in 2020, p-trend<0.001), a significant increase has been observed in this sub-population during the four-year period since the change in methodology (from 8% in 2017 to 15% in 2020, p<0.001).

The response rate, which excludes repeat respondents, was 82% in 2020. The response rate in 2020 was the lowest response rate since the change in methodology in 2017 (the highest response rate was recorded in 2017, 90%). Despite the decline in response rates observed over the four-year period since the change in methodology, the response rate in 2020 was significantly higher than that recorded in 2016, prior to the introduction of the new methodology (82% vs 59%, p<0.001).

Metropolitan LHDs

Consistent with previous years, three quarters of state-wide OOS (74%, n=3,138) were recorded at NSPs in metropolitan LHDs. Of the n=3,138 OOS recorded in metropolitan LHDs, 67% (n=2,088) were NSP attendees who agreed to participate in the NNEDC, 22% (n=680) were repeat attendances, and 12% (n=370) were OOS where the NSP attendee declined to participate. The response rate of metropolitan LHDs in 2020 was 85%, a significant decline from 94% in 2017 (p-trend<0.001).

As shown in Figure 1, among metropolitan LHDs, Sydney LHD had the highest number of OOS in 2020 (n=599), and the highest response rate was recorded by the Nepean Blue Mountains LHD (100%).

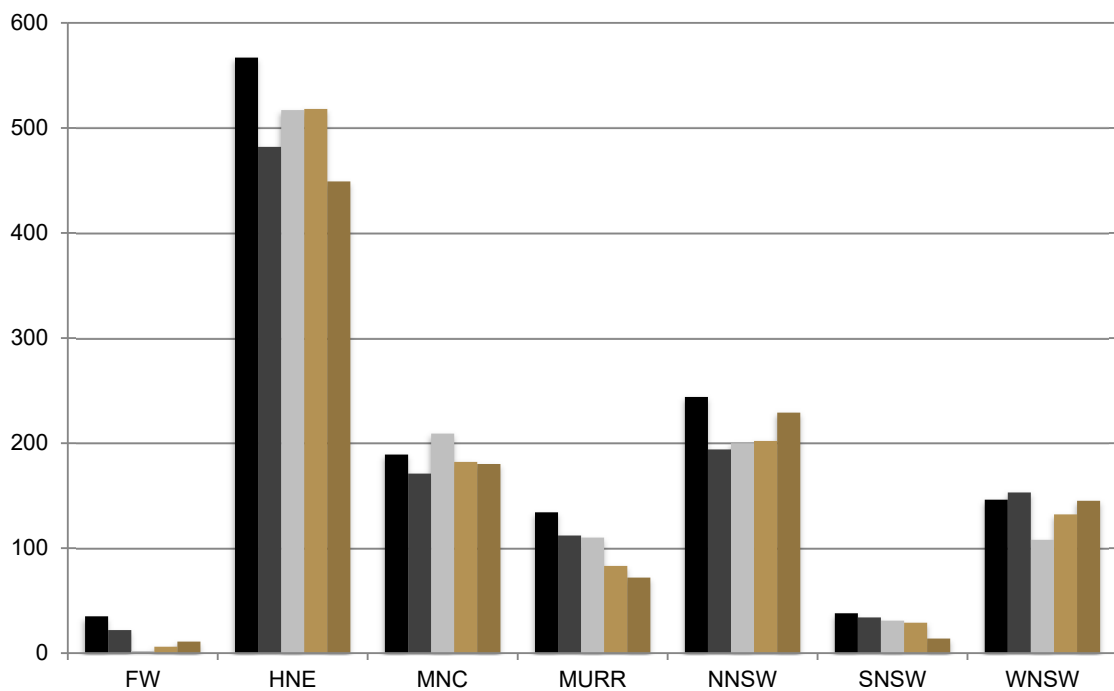
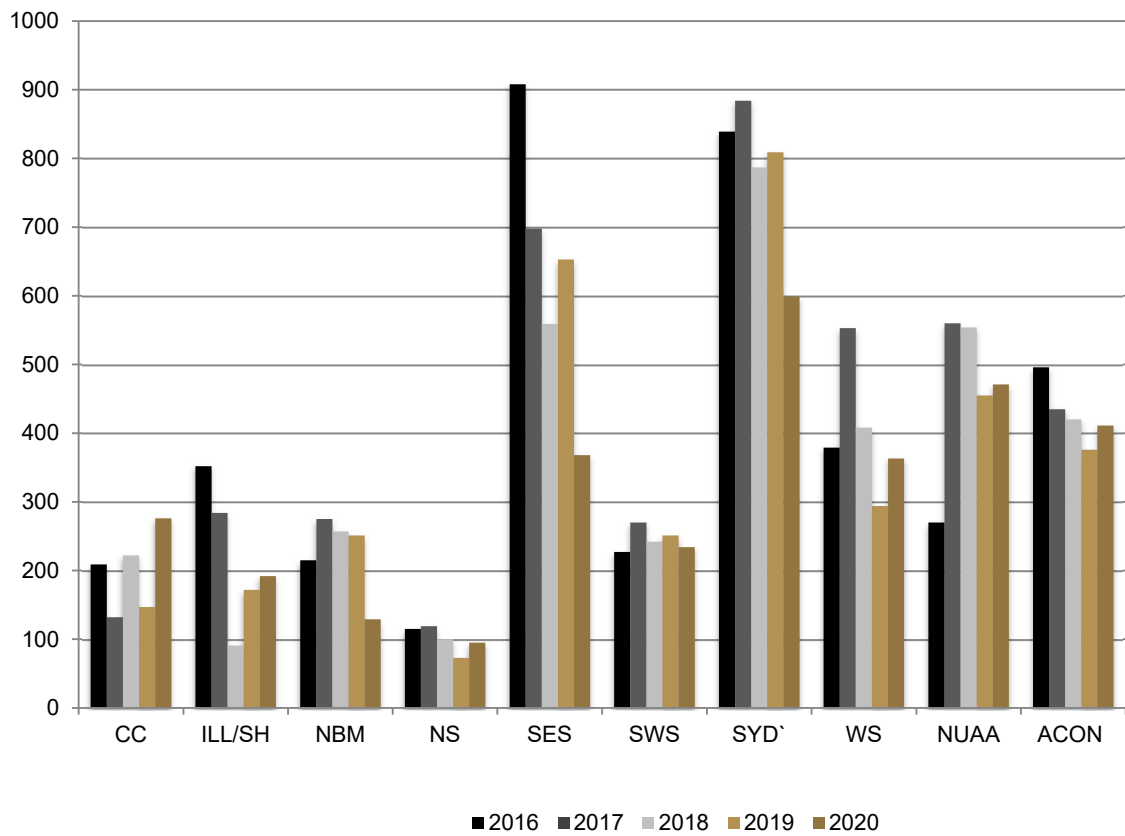
Rural and regional LHDs

The remaining quarter of OOS (26%, n=1,100) recorded throughout NSW during the 2020 data collection period were recorded at NSPs in rural and regional LHDs. Of the n=1,100 OOS recorded in rural and regional LHDs, 58% (n=642) were NSP attendees who agreed to participate in the NNEDC, 19% (n=209) were repeat attendances, and 23% (n=249) were OOS where the NSP attendee declined to participate. The response rate of rural and regional LHDs in 2020 was 72%, and was stable over the four-year period since the change in methodology (p-trend=0.086).

Among rural and regional LHDs, Hunter New England LHD recorded the highest number of OOS (n=449) in 2020, and Far West LHD and Southern NSW LHD both recorded response rates of 100%.

Differences in NSP service delivery modalities may account for variations observed in the number of OOS recorded in metropolitan and rural/regional LHDs. In general, rural and remote LHDs are more reliant on secondary NSPs and syringe dispensing machines (vending machines and chutes), in order to provide access to injecting equipment over large geographic areas. For this reason, staff interaction with NSP attendees may be limited, impacting their ability to participate in NNEDC data collection.

Figure 1 Occasions of service by LHD, NUAA & ACON Sydney, 2016-2020



Demographic characteristics

Key findings:

- Over the five-year period, key demographic characteristics of respondents (gender, sexual identity, language spoken at home) were stable
- One in twenty respondents (5%) were aged less than 25 years in 2020, a significant decline from 8% in 2016 (p-trend<0.001)
- One in five respondents (19%) reported an Aboriginal background in 2020, a significant increase from 17% in 2016 (p-trend<0.001).

Gender

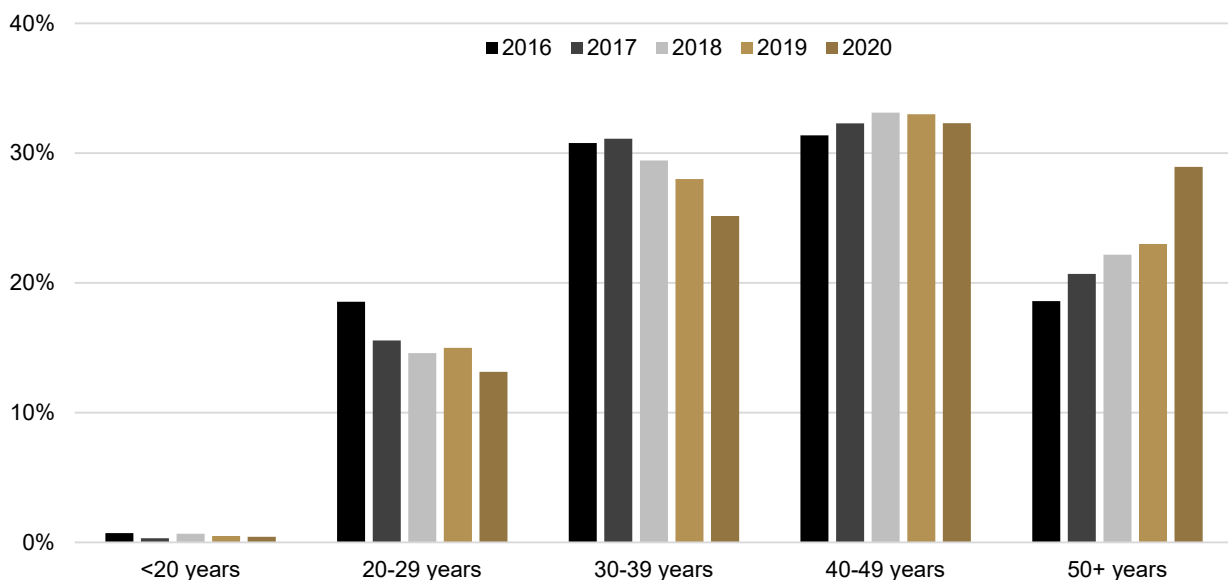
In 2020, three quarters of respondents (75%, n=1,996) were men, while women accounted for one quarter of respondents (25%, n=666). A minority of respondents (1%, n=15) identified as other. The distribution of gender was stable over the five-year period (p-trend=0.394, p-trend=0.461 and p-trend=0.515 respectively). Consistent with previous years, in 2020, men comprised the majority of respondents in all LHDs, except for Far West LHD. The proportion of men ranged from 33% in Far West LHD to 85% in Northern Sydney LHD. However, women comprised a significantly greater proportion of respondents from rural and regional LHDs compared to metropolitan LHDs (32% vs 23%, p<0.001).

Age

The median age of respondents was 42 years (range 13-75 years) in 2020, and this was consistent with the median age reported in 2019 (42 years), however, prior to 2020, the median age of respondents increased in one-year increments from 39 in 2016 to 42 in 2019 and 2020. In 2020, the lowest median age was recorded in Northern Sydney LHD (36 years), while the highest median age was recorded at Western NSW LHD (46 years).

Respondents who completed the NNEDC in metropolitan LHDs had a significantly higher median age compared to respondents who completed the NNEDC in rural or regional LHDs (42 years vs 41 years, p=0.003).

Figure 2 Proportion of respondents by age category, 2016-2020



There was no significant difference in the median age of men and women in 2020 (42 years for both, $p=0.822$). However, among respondents who reported last injecting a psychoactive drug (all drugs excluding performance and image enhancing drugs [PIEDs]), the median age of men was significantly higher than that of women (45 years vs 42 years, $p<0.001$). This association has been observed in each of the last five-years.

As observed in previous years, respondents who reported last injecting PIEDs in 2020 had a significantly lower median age compared to respondents who reported last injecting a psychoactive drug (32 years vs 44 years, $p<0.001$).

A small proportion of respondents (5%, $n=135$) were aged less than 25 years (young people) in 2020, a significant decline from 8% in 2016 (p -trend <0.001 , Figure 2). The highest proportion of young people in 2020 was observed in the Nepean Blue Mountains and Far West LHDs (9%), while Murrumbidgee and Southern NSW LHDs recorded no young people attended NSPs during the data collection period.

Sexual identity

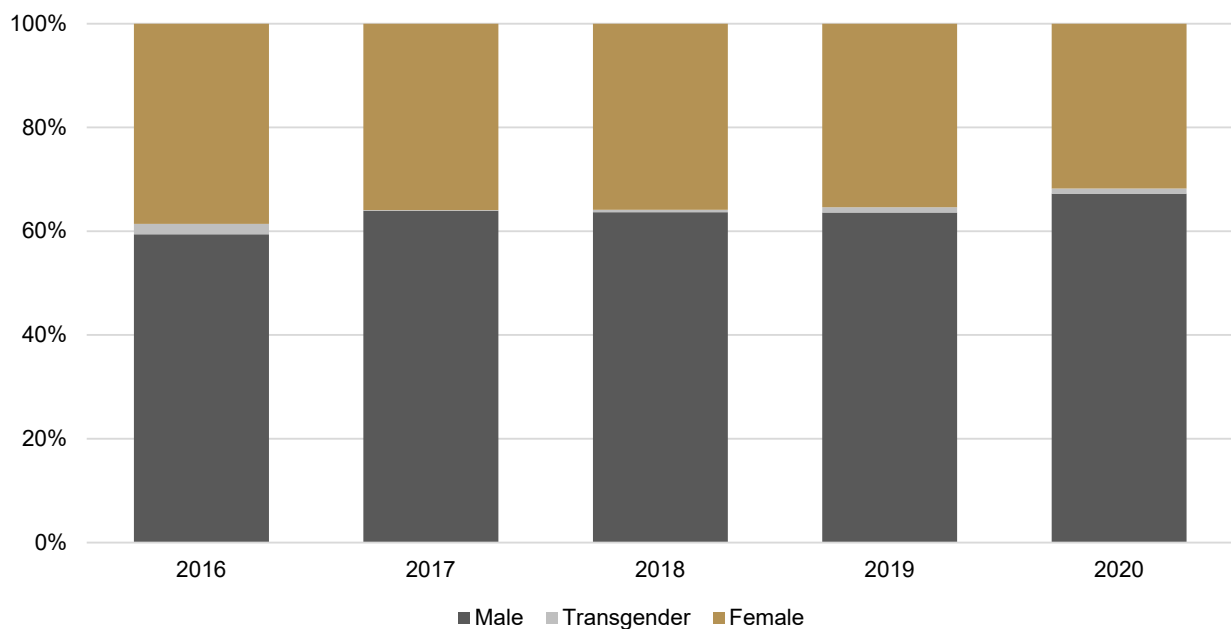
The majority of respondents (84%, $n=1,590$) identified as heterosexual in 2020, while approximately one in ten respondents identified as either bisexual (8%, $n=150$) or homosexual (8%, $n=149$). Over the five-year period, the distribution of sexual identity remained stable (p -trend=0.394, p -trend=0.461 and p -trend=0.239, respectively).

The proportion of respondents who identified as homosexual or bisexual ranged from 4% in Western Sydney LHD to 37% in South Eastern Sydney in 2020. Consistent with previous years, in 2020 women were significantly more likely than men to identify as bisexual (15% vs 5%, $p<0.001$), while men were more likely than women to identify as homosexual (9% vs 5%, $p=0.007$).

Cultural and linguistic diversity

In 2020, one in five respondents (20%, $n=524$) reported either an Aboriginal background (19%, $n=507$) or an Aboriginal and Torres Strait Islander background (1%, $n=17$). A further 1% ($n=16$) of respondents reported a Torres Strait Islander background. Over the five-year period, a

Figure 3 Indigenous respondents by gender, 2016-2020



significant increase was observed in the proportion of respondents who reported an Aboriginal background, from 17% in 2016 to 19% in 2020 (p-trend=0.037). The proportion of respondents who reported a Torres Strait Islander background, both an Aboriginal and Torres Strait Island background, or neither an Aboriginal or Torres Strait Islander background were stable over the five-year period (p-trend=0.892, p-trend=0.346 and p-trend=0.070 respectively).

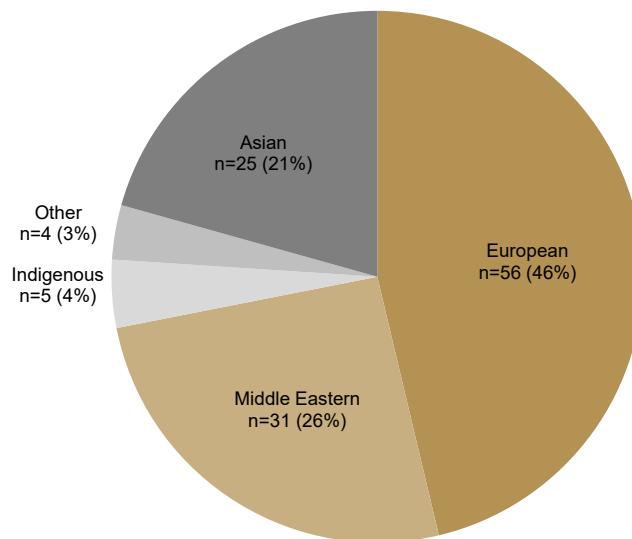
In 2020, the highest proportion of Indigenous respondents (Aboriginal and/or Aboriginal and Torres Strait Islander background) ranged from 4% in Northern Sydney LHD to 73% in Far West LHD. Consistent with previous years, in 2020, the proportion of Indigenous respondents was significantly higher in rural and regional LHDs compared to metropolitan LHDs (29% vs 17%, $p < 0.001$).

Additionally, women were significantly more likely than men to report an Indigenous background in 2020 (26% vs 18%, $p < 0.001$, Figure 3), and this association has been observed in every year of the five-year period.

Approximately one in twenty respondents (7%, $n=134$) reported a language other than English as the main language spoken by their parents at home, and this was consistent with proportions reported in previous years (p-trend=0.428). European languages were the most commonly reported category of languages spoken, reported by one in two respondents (46%, $n=56$). This was followed by one in four respondents (26%, $n=31$) who reported a Middle Eastern language and one in five (21%, $n=25$) who reported an Asian language. Smaller proportions of respondents reported that their parents spoke an Indigenous language (4%, $n=5$) or another language (3%, $n=4$).

The highest proportion of respondents who reported a language other than English as the main language spoken by their parents at home was recorded in South Western Sydney LHD (25%) in 2020, while five LHDs (Far West, Mid North Coast Murrumbidgee, Southern NSW and Western NSW) had no participants who reported that their parents spoke a language other than English at home.

Figure 4 Languages other than English spoken at home by parents in 2020



Social, legal and health issues

Key findings:

- In the previous 12 months:
 - One in five respondents (21%) had experienced homelessness, a significant decline from 25% in 2016 (p-trend=0.008)
 - One in four respondents (23%) reported living with or being diagnosed with a mental health issue, a significant increase from 20% in 2016 (p-trend=0.025)
 - One in ten respondents (11%) reported recent imprisonment, consistent with previous years (p-trend=0.100)
 - One in four respondents (24%) reported recent OST, consistent with previous years (p-trend=0.277).

Homelessness

In 2020, one fifth of respondents (21%, n=424, Figure 5) had experienced homelessness in the previous 12 months, a significant decline over the five-year period (from 25% in 2016 to 21% in 2020, p-trend=0.008).

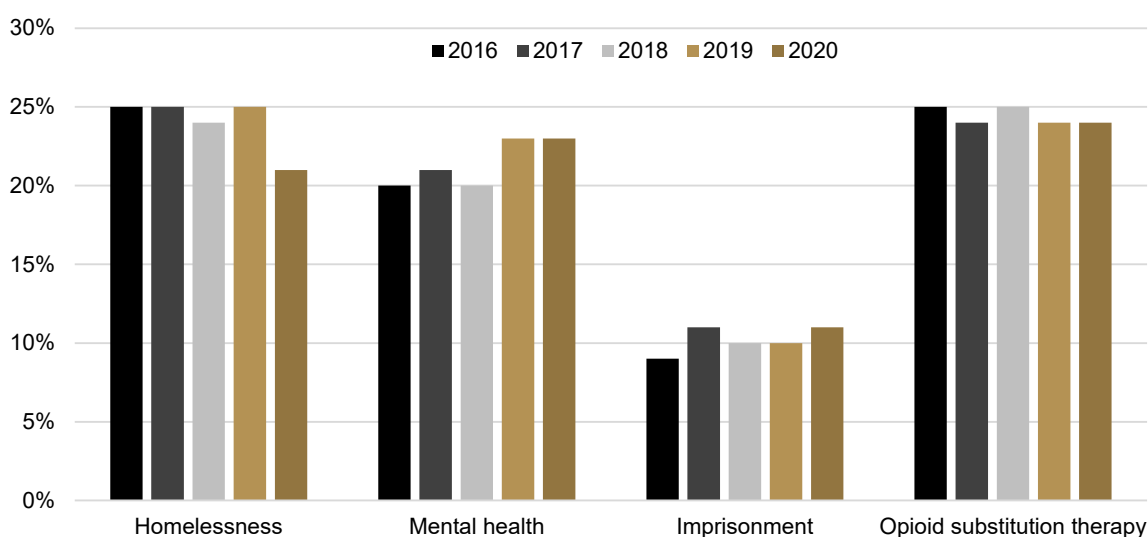
The majority of respondents who reported recent homelessness in 2020 were men (68%, n=282), identified as heterosexual (82%, n=310), and had completed the NNEDC at a NSP in a metropolitan LHD (66%, n=281). The median age of respondents who reported recent homelessness was 40 years (range 18-67). Only 4% (n=15) of respondents who reported recent homelessness were young people.

Mental health

One quarter of respondents (23%, n=463) reported living with, or being diagnosed with a mental health issue in the preceding 12 months in 2020. Over the five-year period, a significant increase was observed in the proportion of this sub-population, from 20% in 2016 to 23% in 2020 (p-trend=0.025).

The majority of respondents who reported a mental health issue in 2020 were men (66%, n=297), identified as heterosexual (82%, n=356) and completed the NNEDC at an NSP in a metropolitan LHD (63%, n=265). The median age of respondents who reported a recent mental health issue was 41 years (range 18-66 years).

Figure 5 Social, legal and health issues in the previous 12 months, 2016-2020



Imprisonment

Consistent with previous years, one in ten respondents in 2020 (11%, n=226) reported that they had been imprisoned in the previous 12 months (p-trend=0.100).

The majority of respondents who reported imprisonment in the previous 12 months were men (80%, n=178), identified as heterosexual (88%, n=180), and had completed the NNEDC at a NSP in a metropolitan LHD (76%, n=172). The median age of respondents who reported recent imprisonment was 40 years (range 17-62), with only 3% (n=7) of respondents who reported recent imprisonment being young people.

Opioid substitution therapy

One in four respondents in 2020 (24%, n=490) reported that they were prescribed OST in the previous 12 months, consistent with proportions reported in previous years (p-trend=0.277).

The majority of respondents who reported being prescribed OST in the previous 12 months were men (67%, n=323), identified as heterosexual (88%, n=397), and had completed the NNEDC at a NSP in a metropolitan LHD (78%, n=380). The median age of respondents who reported recent OST was 45 years (range 20-67). Of the 856 respondents who reported last injecting an opioid and completed the social, legal and health questions, approximately two in five in 2020 (41%, n=354) reported being prescribed OST.

Drug last injected

Key findings:

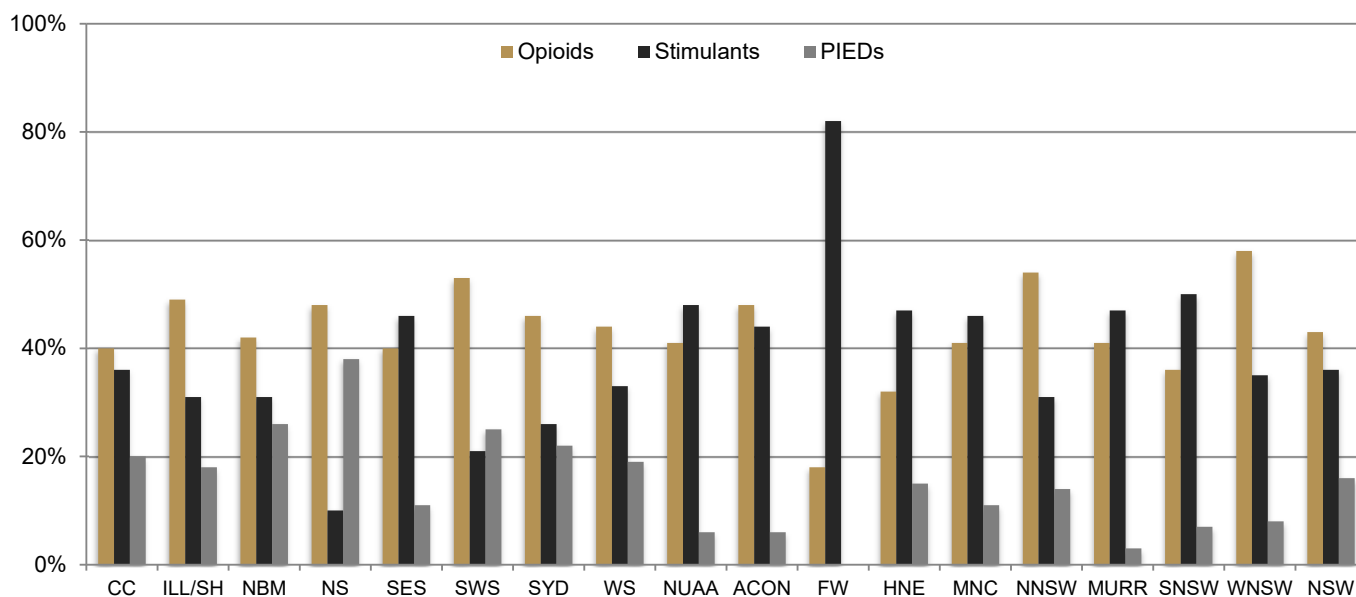
- Consistent with previous years, opioids were the most common class of drug last injected in 2020, reported by two in five respondents (43%)
- The proportion of people who reported last injecting heroin was stable over the period 2016 (28% to 2019 (30%, p-trend=0.154)
- One in three respondents (36%) reported last injecting a stimulant in 2020, a significant increase from 34% in 2016 (p-trend=0.007)
- Methamphetamine was the most commonly reported drug last injected in 2020, reported by 35% of respondents, a significant increase from 32% in 2016 to 35% in 2020 (p-trend=0.002).
- One in six respondents (16%) reported last injecting PIEDs in 2020

Opioids

Opioids (predominantly heroin, opioid pharmacotherapies and pharmaceutical opioids) were the most common class of drug last injected by NNEDC respondents in 2020, reported by approximately two fifths of respondents (43%, n=1,125, Figure 6). Over the five-year period, the proportion of respondents who reported last injecting an opioid has remained stable (p-trend=0.995). Opioids were the most commonly reported class of drug last injected in nine of the fifteen LHDs in 2020, and the proportion reporting last injecting opioids ranged from 18% in Far West LHD to 58% in Western NSW LHD.

Heroin was the most commonly reported opioid last injected in 2020, reported by approximately one in three respondents (30%, n=784, Figure 7). This was followed by methadone (7%, n=169) and pharmaceutical opioids (4%, n=103). Smaller proportions of respondents reported last injecting buprenorphine (1%, n=34), more than one opioid (1%, n=33), and buprenorphine-naloxone (<1%, n=2).

Figure 6 Opioids, stimulants and PIEDs as last drug injected in NSW and by LHD in 2020



Over the five-year period significant declines were observed in the proportion of respondents who reported last injecting pharmaceutical opioids (from 6% in 2016 to 4% in 2020, p-trend=0.001) and buprenorphine-naloxone (from 0.49% to 0.08%, p-trend=0.035). The proportion of all other opioids were stable over the five-year period.

Stimulants

In 2020, approximately one in three respondents (36%, n=937) reported last injecting a stimulant (predominantly methamphetamine and cocaine). Over the five-year period, a significant increase in the proportion of respondents who reported last injecting a stimulant was observed, from 34% in 2016 to 36% in 2020 (p-trend=0.007). Stimulants were the most common class of drug last injected in six of the fifteen LHDs, and the proportion of respondents reporting last injecting stimulants ranged from 10% in Northern Sydney LHD to 82% in Far West LHD.

As in all previous years, methamphetamine was the most commonly reported stimulant last injected in NSW in 2020, with the injection of methamphetamine reported by one third of respondents (35%, n=898). Smaller proportions of respondents reported last injecting cocaine (1%, n=34) or more than one stimulant (<1%, n=5).

Between 2016 and 2020, a significant increase in the proportion of respondents who reported last injecting methamphetamine was observed, from 32% in 2013 to 35% in 2020 (p-trend=0.002). The proportion of respondents who reported last injecting cocaine or more than one or other stimulants was stable during this period (p-trend=0.361 and p-trend=0.442 respectively).

Performance and image-enhancing drugs

PIEDs (predominantly anabolic steroids, peptides and growth hormone) were the third most commonly class of drug last injected in 2020, reported by approximately one in six respondents (16%, n=425), and consistent with proportions reported in previous years (p-trend=0.091). The highest proportion of PIEDs injection was recorded in Northern Sydney LHD (38%), while Far West LHD recorded no respondents who reported last injecting PIEDs.

As in previous years, in 2020, anabolic steroids were the most commonly reported PIED last injected, reported by approximately one in ten respondents (12%, n=311). Smaller proportions of respondents reported last injecting more than one or other PIEDs (4%, n=114), including growth hormone (2%, n=41) and peptides (1%, n=29).

The response options for the drug last injected question were expanded in 2017 to include growth hormone and peptides. Trend analysis for anabolic steroids, growth hormone and peptides was restricted to the years since the methodological change. Over the four year period, 2017 to 2020, a significant decline was observed in the proportion of respondents who reported last injecting peptides, from 2% in 2017 to 1% in 2020 (p-trend=0.026). The proportions of respondents who reported last injecting anabolic steroids, growth hormone or more than one or other PIEDs remained stable during this period (p-trend=0.208, p-trend=0.213, and p-trend=0.178 respectively).

A small proportion of respondents reported last injecting more than one class of drug (3%, n=68) in 2020, while 1% (n=37) of respondents reported last injecting other drugs not specified on the data collection instrument. A significant decline was observed in proportion of respondents who reported last injecting more than one class of drug, from 5% in 2016 to 3% in 2020 (p-trend<0.001). The proportion of respondents who reported last injecting a drug other than those specified on the data collection instrument remained stable over the five-year period (p-trend=0.138)

Drug last injected among young people

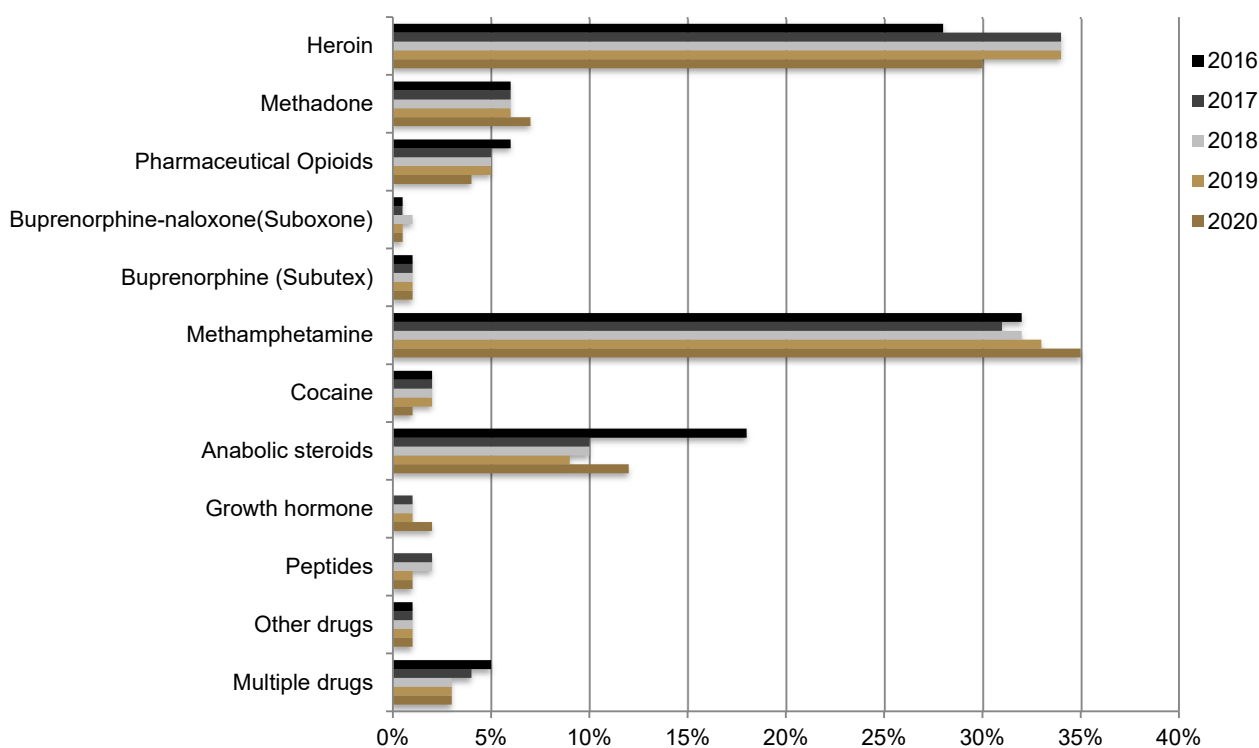
Consistent with previous years, in 2020, PIEDs was the most common class of drug last injected among young people, reported by one in two young people (51%, n=66). This was followed by one in four young people (25%, n=32) who reported last injecting an opioid and one in five young people (21%, n=29) who reported last injecting a stimulant.

While the pattern of drug last injected among young men mirrored the overall pattern for young people, among young women, opioids were the most commonly reported class of drugs last injected, reported by one in two young women in 2020 (54%, n=13), followed by stimulants (29%, n=7), and PIEDs (29%, n=4).

Drug last injected by location

In 2020, approximately two in five metropolitan respondents (44%, n=887) reported last injecting an opioid. This was followed by one in three respondents (34%, n=682) who reported last injecting a stimulant, and approximately one in five (17%, n=348) who reported last injecting PIEDs. Conversely, among respondents who completed the NNEDC at a rural or regional LHD, just over two in five respondents (43%, n=215) reported last injecting a stimulant. This was followed by two in five respondents (40%, n=238) who reported last injecting an opioid and approximately one in ten (13%, n=77) who reported last injecting PIEDs.

Figure 7 Drug last injected among NNEDC respondents, 2016-2020



Injecting behaviour

Key findings:

- **One in two respondents (50%) reported injecting daily or more frequently in 2020, a significant increase from 48% in 2016 (p-trend=0.035)**
- **The median number of years since first injection was 19 years (range 0-54 years), and the median age at first injection was 21 years (range 10-66 years)**
- **One in ten respondents (10%) reported injection initiation within the previous three years, a significant decline from 12% in 2016 (p-trend=0.003).**

Frequency of injection

In 2020, one in two respondents (50%, n=1,018) reported injecting daily or more frequently. This was followed by one in four respondents (25%, n=512) who reported injecting more than weekly, but not daily, and one in seven respondents (15%, n=314) who reported injecting less than weekly. Finally, one in ten respondents (10%, n=197) reported no injection in the month prior to data collection.

Over the five-year period, a significant increase was observed in the proportion of respondents who reported injecting daily or more frequently, from 48% in 2016 to 50% in 2020 (p-trend=0.035). Additionally, a significant increase was also observed in the proportion of respondents who reported injecting more than weekly but not daily (from 24% in 2016 to 25% in 2020, p-trend<0.001). Conversely, a significant decline was observed in the proportion of respondents who reported injecting less than weekly during this period (from 19% in 2016 to 15% in 2020, p-trend<0.001).

Time since first injection and new initiates

The median number of years since first injection was 19 years (range 0-54 years) in 2020, and the median age at first injection was 21 years (range 10-66 years).

One in ten respondents (10%, n=191) reported injection initiation within the previous three years (new initiates) in 2020, and this was a significant decline from 12% in 2016 (p-trend=0.003). As in previous years, the majority of new initiates in 2020 were men (87%, n=161), identified as heterosexual (86%, n=142), and completed the NNEDC at an NSP in a metropolitan LHD (75%, n=144). The median age of new initiates was 20 years (range 13-68) in 2020, and approximately one in four new initiates (27%, n=52) were aged less than 25 years.

Consistent with previous years, in 2020 PIEDs were the most commonly reported class of drug last injected among new initiates, reported by approximately three fifths of new initiates (59%, n=110). This was followed by stimulants (28%, n=52) and opioids (11%, n=20). One third of new initiates (36%, n=67) reported injecting daily or more frequently, with a similar proportion reporting injecting weekly but not daily (34%, n=64).

Receptive syringe sharing

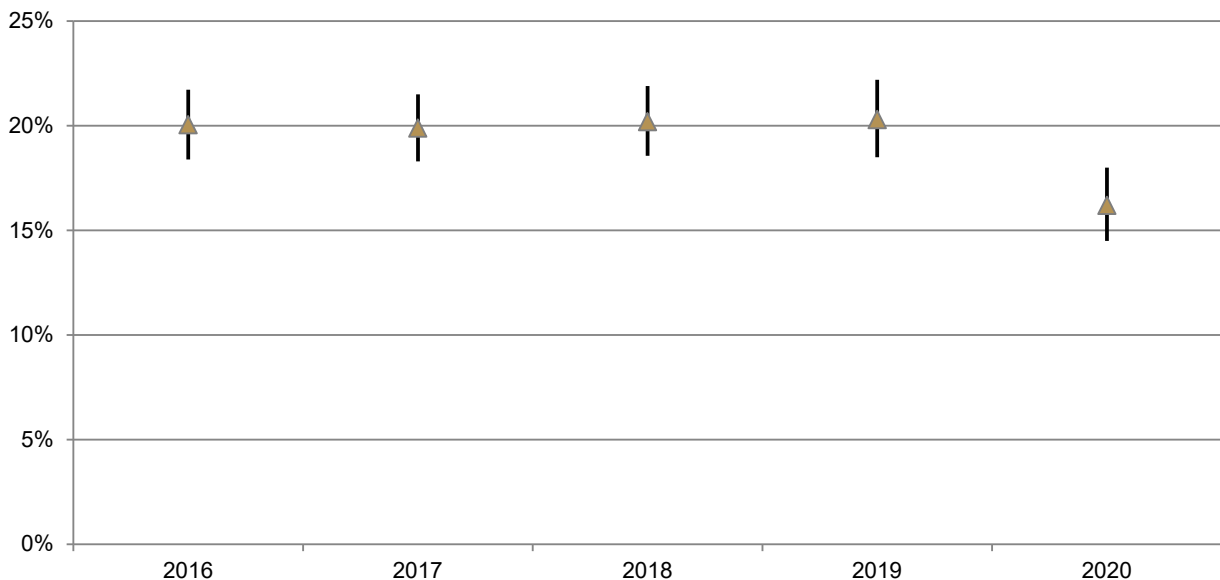
Key findings:

- One in six respondents (16%) reported at least one episode of receptive syringe sharing (RSS) in the month prior to data collection in 2020
- Of the 296 respondents who reported RSS:
 - One in three (36%) reported five or more occasions of RSS
 - One in four (26%) reported a single occasion of RSS
 - One in five (22%) reported between three and five occasions of RSS
 - One in six (16%) reported two occasions of RSS in the last month
- A significant decline in the proportion of respondents who reported recent RSS was observed over the five-year period, from 20% in 2016 to 16% in 2020 (p-trend=0.014)
- Factors associated with an increased risk of RSS included recent homelessness and injecting daily or more frequently.

Of the 1,844 respondents who reported at least one injection episode in the month prior to data collection, one in six (16%, n=296, Figure 8) reported at least one occasion of receptive syringe sharing (RSS) during this time period. A significant decline was observed in the proportion of respondents who reported RSS over the five-year period, from 20% in 2016 to 16% in 2020 (p-trend=0.014).

Among respondents who reported recent RSS in 2020, approximately one third (36%, n=108, Figure 9) reported that RSS has occurred on five or more occasions. This was followed by one in four (26%, n=76) who reported that RSS had occurred once, and one in five (22%, n=64) who reported that RSS had occurred on between three and five occasions. A further one in six respondents (16%, n=48) reported that RSS had occurred twice. There were no significant changes in the frequency of recent RSS over the five-year period.

Figure 8 Proportion of NNEDC respondents who reported recent RSS, 2016-2020, with 95% confidence intervals



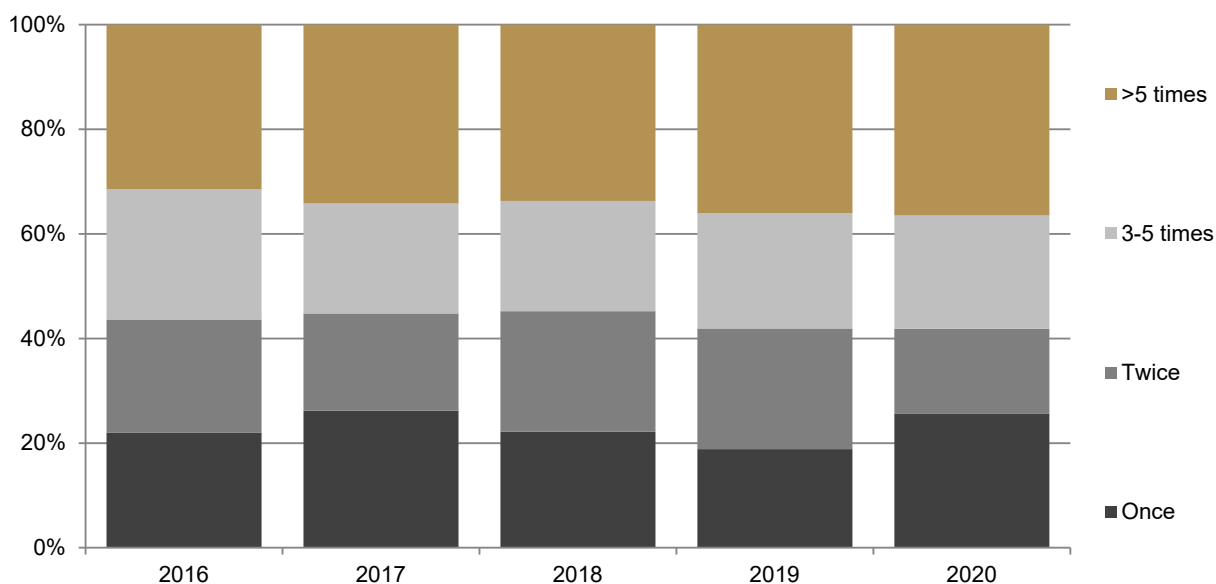
In 2020, one in five respondents (19%, n=521) required assistance with the completion of the NNEDC data collection instrument. As RSS is a highly stigmatised behaviour, the reporting of RSS may be affected by social desirability bias (White et. al. 2007). As observed in previous years, in 2020, respondents who were assisted to complete the NNEDC by either NSP staff or other NSP attendees, were significantly less likely to report RSS, compared to respondents who did not require assistance (16% vs 21%, p=0.022). It is therefore likely that the overall RSS prevalence of 16% is an under-estimate of the true extent of this behaviour.

In adjusted analysis, respondents aged 50 years and over and those who reported a mental health issue were significantly less likely to report recent RSS compared to respondents aged less than 35 years and those who did not report a mental health issue. Conversely, respondents who reported recent homelessness, those who were imprisoned in the previous 12 months, and those who reported injecting daily or more frequently were significantly more likely to have reported recent RSS, compared to respondents who did not report recent homelessness, imprisonment or those who reported injecting less than daily.

Factors independently associated with RSS

As shown in Table 5, in 2020, no associations were observed between recent RSS and gender, sexual identity, language spoken at home by parents, geographic location, drug last injected or being prescribed OST. Consistent with the literature (White et al., 2014), since 2016 NNEDC respondents who reported being prescribed OST were significantly less likely to report recent RSS.

Figure 9 Frequency of RSS among NNEDC respondents who reported recent RSS, 2016-2020



Hepatitis C testing and treatment uptake

Key findings:

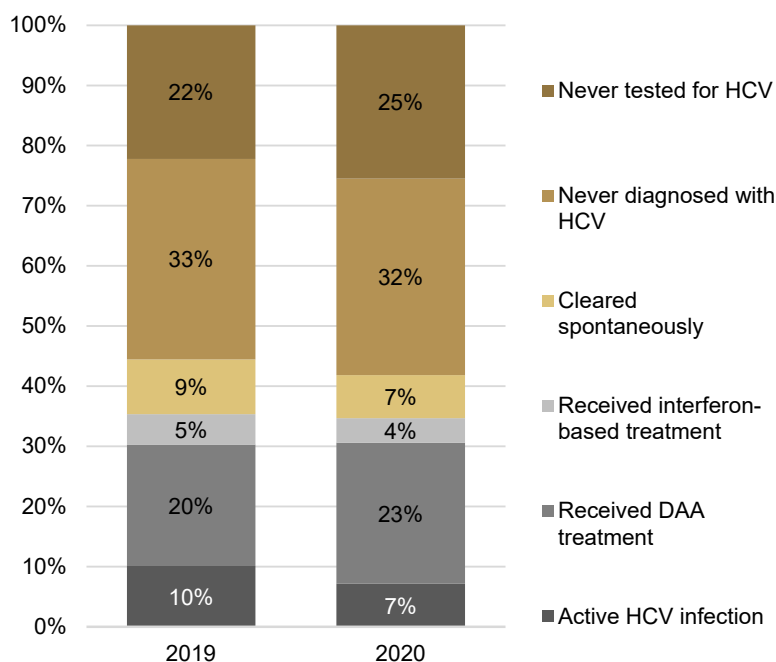
- Three in four respondents (75%) in 2020 reported a lifetime history of hepatitis C (HCV) testing, including 42% who reported a HCV test in the previous 12 months
 - One in four respondents (25%) reported never having a test for HCV
- Among respondents who reported ever receiving a HCV diagnosis and who did not report spontaneous clearance, the proportion who reported a lifetime history of HCV direct acting antiviral (DAA) treatment was 71%
- HCV DAA treatment uptake was highest in South Eastern Sydney LHD (85%), followed by Northern Sydney LHD (78%) and Nepean Blue Mountains LHD (75%)
- One in three respondents who accessed HCV DAA treatment did so through public-sector community settings (29%), while one in five (19%) accessed treatment through tertiary facilities. Smaller proportions of respondents accessed DAA treatment through correctional facilities (14%) alcohol and other drug services (13%), and general practitioners (12%).

Since 2018, additional questions were included in the NNEDC data collection instrument to estimate the uptake of hepatitis C virus (HCV) direct-acting antiviral (DAA) treatment among people who inject drugs (PWID) attending NSPs in NSW and to identify the range of settings where treatment was accessed. In 2019, further questions were added to determine the year of HCV treatment and proportion of respondents who had received a HCV diagnostic test.

HCV Testing

A total of 2,035 respondents completed the additional HCV questions in 2020, of which three in four (75%, n=1,520, Table 4) reported a lifetime history of HCV testing, including 42% (n=855) who reported that they had been tested in the previous 12 months. One in four respondents (25%, n=515, Figure 10) reported never having had a diagnostic test for HCV.

Figure 10 Self-reported HCV status and treatment uptake among NNEDC respondents, 2019-2020



As shown in Table 6, in 2020, there were no associations observed between the uptake of HCV diagnostic testing and sexual identity, language spoken at home, geographic location, recent homelessness, report of a mental health issue, injection frequency, and receptive syringe sharing in the previous month.

In adjusted analysis, compared to men, women were significantly more likely to report a lifetime history of HCV testing. Additionally, respondents aged over 35 years, and those who reported recent imprisonment or were prescribed OST were significantly more likely to report a lifetime history of HCV testing than those aged less than 35 years and those who did not report recent imprisonment or prescription of OST. Compared to respondents who reported last injecting an opioid, respondents who reported last injecting a PIED were significantly less likely to report a lifetime history of HCV testing.

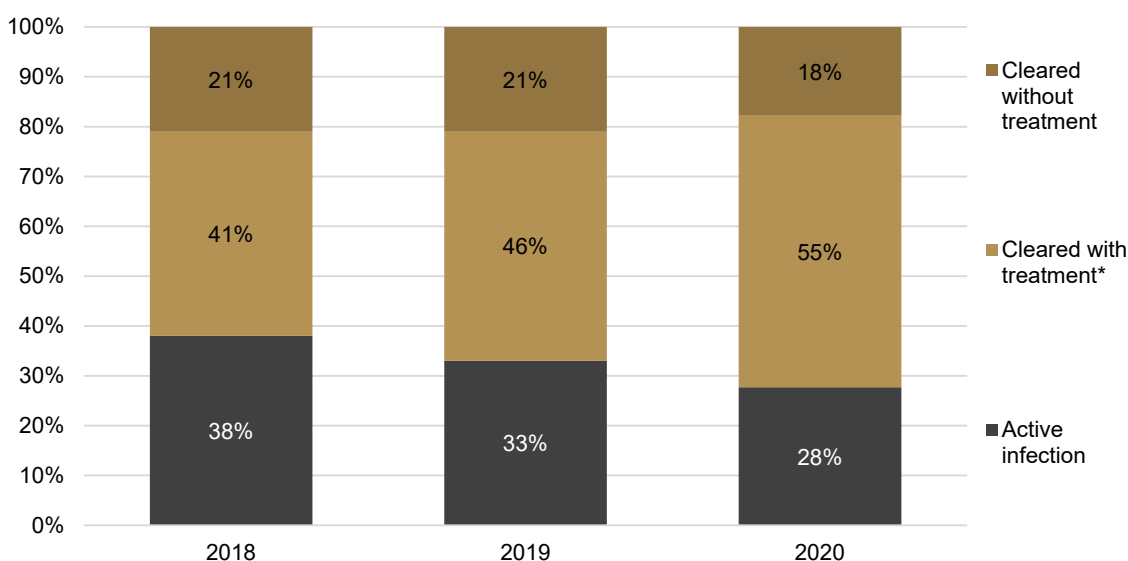
Exposure to HCV

In 2020, approximately three in five respondents (57%, n=850) reported a previous HCV diagnosis. These findings are consistent with the proportion of NNEDC respondents who reported a HCV diagnosis in 2019 (57%, p=0.698) and bio-behavioural surveillance systems, such as the Australian NSP Survey (ANSPS) where the proportion of NSW respondents who were serologically confirmed as HCV antibody positive ranged from 45% to 61% between 2014 and 2019 (Heard et. al. 2020).

Current HCV status

Among the n=850 respondents who reported a HCV diagnosis and after excluding a minority (n=6, 1%) who did not report their HCV treatment status, one in five respondents (18%, n=148, Figure 11) reported that they had spontaneously cleared their HCV infection. While this is lower than observed in previous years, it is likely that recent advances in HCV treatment have resulted in improved diagnostic testing, such that people who spontaneously clear the virus are not diagnosed with HCV infection.

Figure 11 Self-reported HCV status among NNEDC respondents who reported a previous HCV diagnosis, 2018-2020



* Assumes 55% cure among respondents who reported Interferon-based therapy and 90% cure among respondents who reported receiving treatment with DAAs.

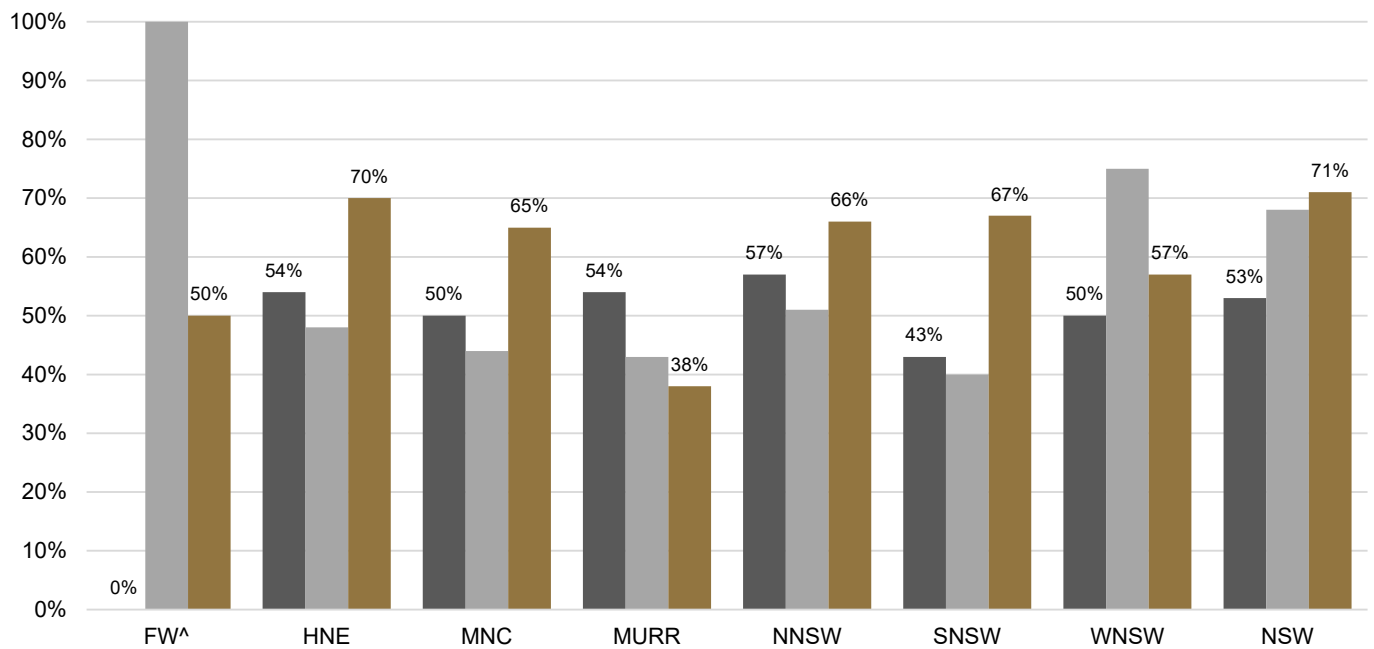
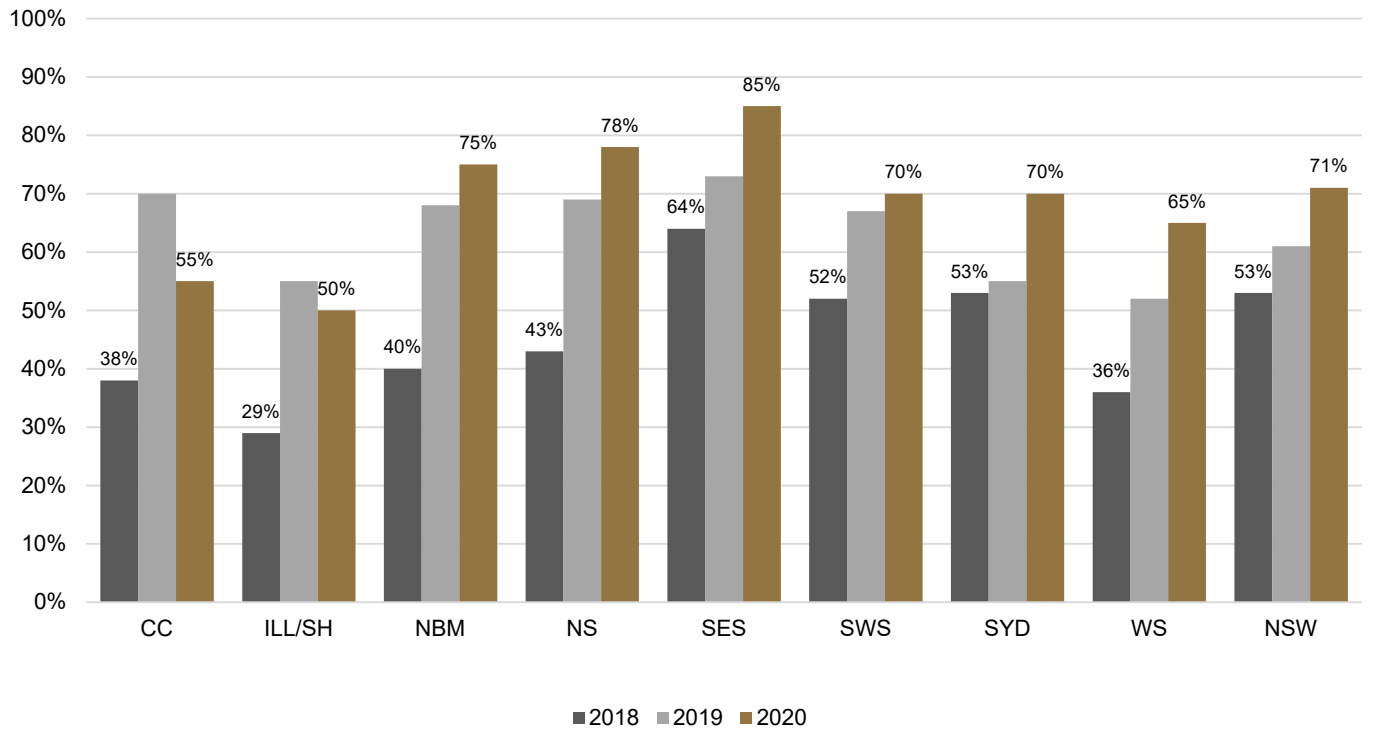
Around one in ten (11%, n=90) respondents reported a history of Interferon-based HCV treatment and this comparable to findings by Iversen et. al. (2014), where ~10% of HCV antibody positive PWID in Australia had engaged in treatment in the Interferon-based therapy era (Iversen et al, 2014). Given ~55% cure rates among people engaged in HCV Interferon-based treatment (Fried et. al. 2002), n=40 respondents were assumed to be eligible for DAA therapy as a result of unsuccessful Interferon-based therapy.

HCV DAA treatment uptake

Among n=606 respondents who reported ever receiving a HCV diagnosis and who did not report spontaneous clearance and n=40 with unsuccessful Interferon-based treatment, approximately three in four (71%, n=456) reported they had accessed DAA treatment. This is considerably higher than the 37% of people living with HCV who had accessed DAA treatment in NSW at the end of December 2018 (Hepatitis C Elimination in NSW: Monitoring and Evaluation Report, 2019). This suggests that NSP attendees may be more likely to be aware of their HCV status and/or to have greater opportunities and support to access DAA treatment than other sub-populations of people living with chronic HCV. Notwithstanding the higher treatment uptake among NSP attendees compared to the general community, it should be noted that 25% of NSP attendees did not report HCV diagnostic testing and treatment uptake of 71% is not among all those with HCV infection.

As shown in Figure 12, DAA treatment uptake ranged from 38% to 85% among LHDs. DAA treatment uptake was highest in South Eastern Sydney LHD (85%), followed by Northern Sydney LHD (78%), and Nepean Blue Mountains LHD (75%).

Figure 12 HCV DAA treatment uptake* by LHD, 2018-2020



* Denominator comprised those who self-reported ever receiving a HCV diagnosis, excluding those who reported spontaneous clearance, and those with successful Interferon-based treatment

[^] No respondents from FW LHD reported HCV exposure or status in 2018

HCV DAA treatment uptake by year

Approximately two in five respondents (44%, n=197) reported they had accessed DAA treatment in the 12 months prior to data collection (in 2019 or later). A further one in four respondents (27%, n=120) reported accessing treatment in 2018, while one in seven respondents (15%, n=68) reported accessing treatment in 2017 and one in ten (9%, n=40) accessed treatment in 2016. Although DAA therapy was available through the Pharmaceutical Benefits Scheme from March 2016 (Iversen et. al, 2018), a small proportion of respondents (5%, n=24) reported accessing treatment prior to 2016, with this group likely to have accessed treatment either privately or through clinical trials.

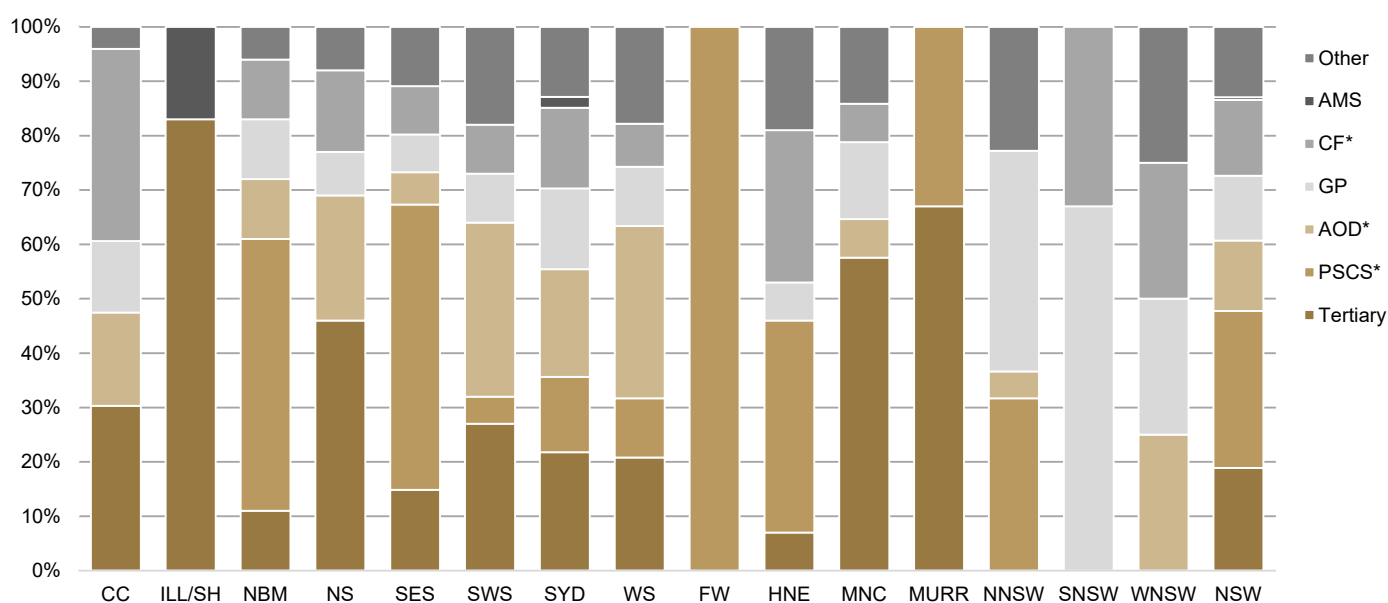
HCV DAA treatment uptake by health care setting

More than 114 different health care settings were reported by respondents who accessed DAA treatment in 2020. Health care settings identified by respondents were subsequently categorised into seven broad groups according to service type.

Among n=405 respondents who reported DAA treatment and provided health care setting data, just under one in three (29%, n=118) reported accessing DAA treatment through public-sector community settings (community health centres, sexual health services, community-based liver clinics and NSPs). This was followed by one in five respondents (19%, n=78) who reported accessing treatment through tertiary facilities, including hospitals and tertiary liver clinics. Smaller proportions of respondents reported accessing treatment through correctional facilities (14%, n=56), alcohol and other drug services (both public and private sector including OST and residential rehabilitation services, 13%, n=51), and general practitioners (12%, n=48). One in ten respondents (13%, n=52) reported accessing DAAs through 'other' settings, including housing services (n=4) and settings located outside NSW (n=7).

Figure 13 provides a breakdown of access to DAA treatment by health care setting and LHD (based on the LHD where the NNEDC was completed).

Figure 13 HCV DAA treatment uptake by health care setting and LHD in 2020



*PSCS: Public sector community setting
*CF: Correctional facility

*AOD: Alcohol and other drug setting
*ACCHS: Aboriginal Community Control Health Service

Uptake of HCV DAA treatment among key populations of NSP attendees

As shown in Table 7, in 2020, no significant associations were observed at the adjusted level between uptake of HCV DAA treatment and gender, sexual identity, geographic location, recent homelessness, or frequency of injection. This is in contrast to previous years where significant associations were observed between these demographic and drug use characteristics and HCV DAA treatment uptake.

At the adjusted level, compared to respondents who did not report being prescribed OST, respondents who were prescribed OST were significantly more likely to report accessing HCV DAA treatment. This association was also observed in 2019. Co-location or provision of HCV testing, treatment services and hosting of HCV treatment studies by some OST providers may account for this association.

New South Wales

Table 1: Demographics characteristics, by year

	2016	2017	2018	2019	2020	5 year p-trend
Number of sites	52	50	50	49	50	--
Number surveyed (OOS)	5,363 (%)	5,378 (%)	4,817 (%)	4,633 (%)	4,238 (%)	--
Completed survey	2,584 (48)	3,607 (67)	3,264 (68)	3,195 (69)	2,730 (65)	<0.001
Previously completed (repeat NSP attendee)	1,004 (19)	1,355 (25)	1,054 (22)	902 (19)	889 (21)	0.616
Declined to participate	1,775 (33)	416 (8)	499 (10)	536 (12)	619 (15)	<0.001
Response rate	59%	90%	87%	86%	82%	
N° surveyed (individuals)	2,584	3,607	3,264	3,195	2,730	
Gender						
Male	1,851 (73)	2,666 (74)	2,400 (74)	2,310 (74)	1,996 (75)	0.394
Female	673 (27)	882 (24)	813 (25)	799 (25)	666 (25)	0.461
Other	23 (1)	19 (1)	20 (1)	25 (1)	15 (1)	0.515
Not reported	37 --	40 --	31 --	61 --	53 --	--
Sexual identity						
Heterosexual	2,091 (85)	2,077 (83)	1,833 (84)	1,498 (80)	1,590 (84)	0.151
Bisexual	202 (8)	214 (9)	188 (9)	193 (10)	150 (8)	0.445
Homosexual	179 (7)	219 (9)	173 (8)	178 (10)	149 (8)	0.239
Not reported	112 --	1097 --	1070 --	1,326 --	841 --	--
Age (years)						
Median age (range)	39 (18-73)	40 (18-74)	41 (16-74)	42 (17-78)	42 (13-75)	--
Less than 25 years	200 (8)	196 (6)	169 (5)	155 (5)	135 (5)	<0.001
25 years or more	2,276 (91)	3,234 (94)	2,956 (95)	2,870 (95)	2,442 (95)	<0.001
Not reported	108 --	177 --	139 --	170 --	153 --	--
Aboriginal and/or Torres Strait Islander						
Yes, Aboriginal	436 (17)	645 (19)	620 (20)	594 (19)	507 (19)	0.037
Yes, Torres Strait Islander	13 (1)	23 (<1)	18 (1)	14 (<1)	16 (1)	0.892
Yes, both Aboriginal and Torres Strait Islander	23 (1)	24 (1)	24 (1)	21 (1)	17 (1)	0.346
No	2,085 (82)	2,732 (80)	2,452 (79)	2,442 (80)	2,077 (79)	0.070
Not reported	27 --	183 --	150 --	124 --	113 --	--
Main language spoken at home by parents						
English	2,411 (94)	2,621 (94)	2,279 (93)	1,951 (93)	1,921 (93)	0.428
Other	154 (6)	180 (6)	164 (7)	138 (7)	134 (7)	0.428
Not reported	19 --	806 --	821 --	1,106 --	675 --	--

NB: Percent excludes not reported

Table 2: Last drug injected and injecting behaviours, by year

	2016	2017	2018	2019	2020	5 year p-trend
Number surveyed (individuals)	2,584 (%)	3,607 (%)	3,264 (%)	3,195 (%)	2,730 (%)	--
Last drug injected						
Opioids	1,101 (43)	1,606 (47)	1,448 (48)	1,421 (47)	1,125 (43)	0.995
Heroin	708 (28)	1,150 (34)	1,033 (34)	1,011 (34)	784 (30)	0.154
Pharmaceutical opioids	162 (6)	186 (5)	159 (5)	146 (5)	103 (4)	0.001
Methadone	162 (6)	202 (6)	180 (6)	182 (6)	169 (7)	0.754
Buprenorphine (Subutex)	37 (1)	25 (1)	31 (1)	39 (1)	34 (1)	0.512
Buprenorphine-naloxone (Suboxone)	12 (<1)	10 (<1)	16 (1)	9 (<1)	2 (<1)	0.035
Other opioids/ more than 1 opioid	20 (1)	33 (1)	29 (1)	34 (1)	33 (1)	0.069
Stimulants	852 (34)	1,122 (33)	1,031 (34)	1,060 (35)	937 (36)	0.007
Methamphetamine	801 (32)	1,049 (31)	966 (32)	995 (33)	898 (35)	0.002
Cocaine	40 (2)	69 (2)	58 (2)	56 (2)	34 (1)	0.361
Other stimulants/ more than 1 stimulant	11 (<1)	4 (<1)	7 (<1)	9 (<1)	5 (<1)	0.442
Performance image-enhancing drugs	449 (18)	494 (15)	448 (15)	397 (13)	425 (16)	0.091
Anabolic steroids	448 (18)	350 (10)	309 (10)	267 (9)	311 (12)	0.208
Growth hormone*	-- --	42 (1)	31 (1)	37 (1)	41 (2)	0.213
Peptides*	-- --	55 (2)	63 (2)	37 (1)	29 (1)	0.026
Others PIEDs/ more than 1 PIED	1 (<1)	47 (1)	45 (1)	56 (2)	44 (2)	0.178
Other drugs	26 (1)	39 (1)	34 (1)	40 (1)	37 (1)	0.138
More than one category	115 (5)	130 (4)	87 (3)	76 (3)	68 (3)	<0.001
Not reported	41 --	216 --	216 --	201 --	138 --	--
Frequency of injection last month						
Not last month	228 (9)	223 (8)	203 (8)	182 (9)	197 (10)	0.350
Less than weekly	475 (19)	481 (17)	272 (11)	239 (12)	314 (15)	<0.001
More than weekly, not daily	616 (24)	689 (25)	1,009 (41)	828 (40)	512 (25)	<0.001
Daily or more	1,201 (48)	1,360 (49)	975 (40)	824 (40)	1,018 (50)	0.035
Not reported	64 --	854 --	805 --	1,122 --	689 --	--
Age at first injection						
Median (range)	20 (10-59)	20 (10-67)	20 (10-66)	20 (10-65)	21 (10-66)	--
Not reported	147 --	845 --	729 --	1,089 --	701 --	--
Years since first injection						
Median (range)	18 (0-56)	18 (0-53)	19 (0-62)	20 (0-59)	19 (0-54)	--
Less than 3 years since first injection	280 (12)	322 (12)	235 (9)	202 (10)	191 (10)	0.003
3 or more years since first injection	2,087 (88)	2,420 (88)	2,286 (91)	1,819 (90)	1,765 (90)	0.003
Not reported	217 --	865 --	743 --	1,174 --	774 --	--

NB: Percent excludes not reported

* Data not collected in all years

^ Trend analysis conducted for 2017-2020 only

Table 3: Receptive syringe sharing and psychosocial factors in the previous 12 months

	2016	2017	2018	2019	2020	5 year p-trend
Number who injected last month	2,292 (%)	2,530 (%)	2,256 (%)	1,891 (%)	1,844 (%)	--
Receptive syringe sharing last month (RSS)						
No	1,814 (80)	2,014 (80)	1,780 (80)	1,478 (80)	1,532 (84)	0.014
Yes	454 (20)	500 (20)	451 (20)	377 (20)	296 (16)	0.014
Not reported	24 --	16 --	25 --	36 --	16 --	--
Ocassions of RSS last month among respondents who reported RSS						
Once	100 (22)	131 (26)	100 (22)	71 (19)	76 (26)	0.786
Twice	98 (22)	93 (19)	104 (23)	87 (23)	48 (16)	0.543
3-5 times	113 (25)	105 (21)	95 (21)	83 (22)	64 (22)	0.372
More than 5 times	143 (32)	171 (34)	152 (34)	136 (36)	108 (36)	0.123
Number surveyed (individuals)[#]						
	2,557 (%)	2,833 (%)	2,445 (%)	2,106 (%)	2,081 (%)	--
Psychosocial factors in previous 12 months						
Homelessness	627 (25)	695 (25)	584 (24)	529 (25)	424 (21)	0.008
Living with, or diagnosed with, a mental health issue	519 (20)	593 (21)	481 (20)	489 (23)	463 (23)	0.025
Imprisoned	226 (9)	311 (11)	245 (10)	216 (10)	226 (11)	0.100
Prescribed OST	644 (25)	681 (24)	619 (25)	507 (24)	490 (24)	0.277

NB: Percent excludes not reported

[#] Excludes respondents who did not complete entire survey

Table 4: NSW Hepatitis C testing and treatment uptake, 2018-2020

	2018	2019	2020
Number surveyed (individuals)	2,460 (%)	2,074 (%)	2,035 (%)
Previous hepatitis C test			
Yes, ever	-- --	1,618 (78)	1,520 (75)
In the previous 12 months	-- --	956 (46)	855 (42)
>12 months	-- --	662 (32)	665 (33)
Never	-- --	456 (22)	515 (25)
Self-reported ever hepatitis C infection			
	N=2,460	N=1,618*	N=1,520*
No	1,270 (52)	690 (43)	650 (43)
Yes	1,190 (48)	928 (57)	850 (57)
Not reported	-- --	0 --	20 --
Ever received treatment			
	N=1,190	N=928	N=850
No, still hepatitis C positive	343 (30)	215 (23)	150 (17)
No, cleared spontaneously	243 (21)	191 (21)	148 (18)
Yes, received interferon based treatment	125 (11)	103 (11)	90 (11)
Yes, received treatment with DAAs	449 (39)	407 (44)	456 (54)
Not reported	30 --	12 --	6 --
Ever eligible for DAA treatment[^]			
	N=848	N=668	N=646
Yes, received treatment with DAAs	449 (53)	407 (61)	456 (71)
HCV DAA treatment year			
		N=407	N=456
Since 2019	-- --	-- --	197 (44)
2018	-- --	241 (60)	120 (27)
2017	-- --	99 (25)	68 (15)
2016	-- --	39 (10)	40 (9)
Prior to 2016	-- --	23 (6)	24 (5)
Not reported	-- --	5 --	7 --
HCV DAA treatment uptake by health care setting			
	N=449	N=407	N=456
Aboriginal Community Controlled Health Service	5 (1)	0 (0)	2 (<1)
Alcohol and Other Drug services ¹	50 (14)	57 (16)	51 (13)
Correctional Facilities	28 (8)	25 (7)	56 (14)
General Practitioner	38 (10)	35 (10)	48 (12)
Public sector community services ²	105 (29)	113 (32)	118 (29)
Tertiary services	108 (29)	86 (24)	78 (19)
Other ³	34 (9)	39 (11)	52 (13)
Not reported	81 --	52 --	51 --

[^] Assumes 55% cure among respondents who reported Interferon-based therapy. Denominator excludes this group, those who reported spontaneous clearance and those with no valid response

* Unlike 2018, the denominator in 2019 & 2020 excludes respondents who reported no history of HCV testing and results cannot be compared across years

¹ Alcohol and other drugs services includes both public and private sector including OST and residential rehabilitation services

² Public sector community services includes community health centres, sexual health services, community-based liver clinics and NSPs

³ Other services includes housing services and settings located outside of NSW

Table 5: Factors independently associated with receptive syringe sharing

Factor	Crude			Adjusted		
	OR	95% CI	<i>p value</i>	OR	95% CI	<i>p value</i>
Gender						
Male (reference)	--			--		
Female	0.91 (0.68-1.21)		0.507	--		
Sexual Identity						
Heterosexual (reference)	--			--		
Bisexual	0.86 (0.51-1.47)		0.587	--		
Homosexual	1.18 (0.71-1.98)		0.519	--		
Age (quartiles)						
<35 years (reference)	--			--		
35-42 years	0.94 (0.67-1.31)		0.694	0.97 (0.69-1.36)		0.839
43-49 years	0.77 (0.54-1.11)		0.159	0.81 (0.56-1.17)		0.259
>50 years	0.42 (0.28-0.64)		<0.001	0.45 (0.30-0.68)		<0.001
Language spoken at home by parents						
English (reference)	--			--		
Other	0.71 (0.40-1.26)		0.244	--		
Geographic location						
Metropolitan (reference)	--			--		
Rural/Regional	0.96 (0.72-1.27)		0.776	--		
Recent homelessness*						
No (reference)	--			--		
Yes	1.64 (1.24-2.17)		0.001	1.65 (1.21-2.24)		0.001
Recent imprisonment*						
No (reference)	--			--		
Yes	1.78 (1.26-2.51)		0.001	1.52 (1.05-2.20)		0.026
Recent OST*						
No (reference)	--			--		
Yes	0.66 (0.48-0.90)		0.010	--		
Living with a mental health issue*						
No (reference)	--			--		
Yes	0.68 (0.49-0.93)		0.017	0.54 (0.38-0.76)		<0.001
Drug class last injected						
Opioids (reference)	--			--		
Stimulants	1.02 (0.78-1.36)		0.843	--		
PIEDs	0.91 (0.62-1.33)		0.620	--		
Daily or more frequent injection						
No (reference)	--			--		
Yes	1.48 (1.14-1.91)		0.003	1.36 (1.03-1.79)		0.030

Table 6: Factors independently associated with uptake of HCV testing

Factor	Crude			Adjusted		
	OR	95% CI	<i>p value</i>	OR	95% CI	<i>p value</i>
Gender						
Male (reference)	--			--		
Female	2.38	(1.82-3.11)	<0.001	1.45	(1.07-1.98)	0.017
Sexual Identity						
Homosexual (reference)	--			--		
Bisexual	2.72	(1.62-4.56)	<0.001	--		
Homosexual	1.40	(0.92-2.12)	0.115	--		
Age (quartiles)						
<35 years (reference)	--			--		
35-42 years	2.52	(1.92-3.29)	<0.001	1.75	(1.28-2.39)	<0.001
43-49 years	4.00	(3.01-5.30)	<0.001	2.25	(1.28-2.39)	<0.001
>50 years	7.49	(5.21-10.77)	<0.001	3.80	(2.54-5.69)	<0.001
Language spoken at home by parents						
English (reference)	--			--		
Other	0.73	(0.50-1.07)	0.107	--		
Geographic location						
Metropolitan (reference)	--			--		
Rural/Regional	1.08	(0.87-1.36)	0.478	--		
Recent homelessness*						
No (reference)	--			--		
Yes	1.76	(1.34-2.31)	<0.001	--		
Recent imprisonment*						
No (reference)	--			--		
Yes	2.11	(1.44-3.10)	<0.001	1.67	(1.09-2.55)	0.018
Recent OST*						
No (reference)	--			--		
Yes	6.45	(4.44-9.38)	<0.001	3.10	(2.05-4.67)	<0.001
Living with a mental health issue*						
No (reference)	--			--		
Yes	3.09	(2.28-4.19)	<0.001	--		
Drug class last injected						
Opioids (reference)	--			--		
Stimulants	0.60	(0.46-0.79)	<0.001	0.81	(0.60-1.09)	0.161
PIEDs	0.06	(0.04-0.07)	<0.001	0.12	(0.09-0.17)	<0.001
Daily or more frequent injection						
No (reference)	--			--		
Yes	1.78	(1.45-2.19)	<0.001	--		
Receptive syringe sharing						
No (reference)	--			--		
Yes	0.67	(0.51-0.89)	0.005	--		

Table 7: Factors independently associated with uptake of DAA treatment

Factor	Crude			Adjusted		
	OR	95% CI	<i>p value</i>	OR	95% CI	<i>p value</i>
Gender						
Male (reference)	--			--		
Female	0.84	(0.56-1.25)	0.394	--		
Sexual Identity						
Homosexual (reference)	--			--		
Bisexual	1.78	(0.81-3.91)	0.152	--		
Homosexual	2.46	(0.85-7.18)	0.099	--		
Age (quartiles)						
<35 years (reference)	--			--		
35-42 years	0.72	(0.37-1.42)	0.346	--		
43-49 years	1.01	(0.53-1.92)	0.981	--		
>50 years	0.98	(0.52-1.83)	0.937	--		
Language spoken at home by parents						
English (reference)	--			--		
Other	1.57	(0.64-3.87)	0.327	--		
Geographic location						
Metropolitan (reference)	--			--		
Rural/Regional	0.67	(0.45-1.01)	0.054	--		
Recent homelessness*						
No (reference)	--			--		
Yes	0.92	(0.60-1.40)	0.683	--		
Recent imprisonment*						
No (reference)	--			--		
Yes	1.30	(0.76-2.21)	0.333	--		
Recent OST*						
No (reference)	--			--		
Yes	1.89	(1.25-2.85)	0.003	1.89	(1.25-2.85)	0.003
Living with a mental health issue*						
No (reference)	--			--		
Yes	0.98	(0.65-1.49)	0.931	--		
Drug class last injected						
Opioids (reference)	--			--		
Stimulants	1.07	(0.72-1.58)	0.752	--		
PIEDs	0.16	(0.01-1.83)	0.142	--		
Daily or more frequent injection						
No (reference)	--			--		
Yes	0.73	(0.50-1.07)	0.108	--		
Receptively shared syringes						
No (reference)	--			--		
Yes	0.80	(0.49-1.32)	0.386	--		

Table 8: Hepatitis C testing and treatment uptake by LHD (Metropolitan), 2018-2020

	Central Coast			Illawarra Shoalhaven			Nepean Blue Mountains			Northern Sydney		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Number surveyed (individuals)	117 (%)	30 (%)	164 (%)	50 (%)	24 (%)	60 (%)	145 (%)	111 (%)	71 (%)	64 (%)	52 (%)	47 (%)
Previous hepatitis C test												
Yes, ever	-- --	26 (87)	117 (71)	-- --	19 (79)	42 (70)	-- --	88 (79)	57 (80)	-- --	39 (75)	30 (64)
In the previous 12 months	-- --	12 (40)	57 (35)	-- --	8 (33)	19 (32)	-- --	48 (43)	40 (56)	-- --	28 (54)	17 (36)
>12 months	-- --	14 (47)	60 (37)	-- --	11 (46)	23 (38)	-- --	40 (36)	17 (24)	-- --	11 (21)	13 (28)
Never	-- --	4 (13)	47 (29)	-- --	5 (21)	18 (30)	-- --	23 (21)	14 (20)	-- --	13 (25)	17 (36)
Self-reported ever hepatitis C infection[^]		N=26	N=117		N=19	N=42		N=88	N=57		N=39	N=30
No	64 (55)	10 (38)	59 (51)	31 (62)	6 (32)	19 (45)	76 (54)	32 (36)	18 (32)	42 (66)	21 (54)	10 (33)
Yes	53 (45)	16 (62)	57 (49)	19 (38)	13 (68)	23 (55)	65 (46)	56 (64)	38 (68)	22 (34)	18 (46)	20 (67)
Not reported	0 --	0 --	1 --	0 --	0 --	0 --	4 --	0 --	1 --	0 --	0 --	0 --
Ever received treatment	N=53	N=16	N=57	N=19	N=13	N=23	N=65	N=56	N=38	N=22	N=18	N=20
No, still Hep C positive	21 (40)	3 (20)	16 (28)	11 (58)	5 (38)	8 (36)	25 (42)	9 (16)	4 (11)	6 (27)	4 (22)	3 (15)
No, cleared spontaneously	9 (17)	4 (27)	8 (14)	1 (5)	2 (15)	3 (14)	16 (27)	12 (22)	6 (17)	6 (27)	5 (27)	2 (10)
Yes, received interferon based treatment	8 (15)	1 (7)	9 (16)	2 (11)	0 (0)	2 (9)	2 (3)	7 (13)	5 (14)	4 (18)	0 (0)	1 (5)
Yes, received treatment with DAAs	15 (28)	7 (47)	24 (42)	5 (26)	6 (46)	9 (41)	17 (28)	27 (49)	21 (58)	6 (27)	9 (50)	14 (70)
Not reported	0 --	1 --	0 --	0 --	0 --	1 --	5 --	1 --	2 --	0 --	0 --	0 --
Ever eligible for DAA treatment[^]	N=40	N=10	N=44	N=17	N=11	N=18	N=43	N=40	N=28	N=14	N=13	N=18
Yes, received treatment with DAAs	15 (38)	7 (70)	24 (55)	5 (29)	6 (55)	9 (50)	17 (40)	27 (68)	21 (75)	6 (43)	9 (69)	14 (78)
HCV DAA treatment year		N=7	N=24		N=6	N=9		N=27	N=21		N=9	N=14
Since 2019	-- --	-- --	11 (46)	-- --	-- --	5 (56)	-- --	-- --	10 (48)	-- --	-- --	3 (21)
2018	-- --	3 (43)	9 (38)	-- --	4 (67)	2 (22)	-- --	13 (50)	9 (43)	-- --	4 (44)	5 (36)
2017	-- --	2 (29)	1 (4)	-- --	2 (33)	2 (22)	-- --	6 (23)	1 (5)	-- --	1 (11)	2 (14)
2016	-- --	1 (14)	2 (8)	-- --	0 (0)	0 (0)	-- --	5 (19)	1 (5)	-- --	3 (33)	4 (29)
Prior to 2016	-- --	1 (14)	1 (4)	-- --	0 (0)	0 (0)	-- --	2 (8)	0 (0)	-- --	1 (11)	0 (0)
Not reported	-- --	0 --	0 --	-- --	0 --	0 --	-- --	1 --	0 --	-- --	0 --	0 --
HCV DAA treatment uptake by health care setting[^]	N=15	N=7	N=24	N=5	N=6	N=9	N=17	N=27	N=21	N=6	N=9	N=14
Aboriginal Community Controlled Health Service	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	1 (7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Alcohol and Other Drug services	4 (29)	1 (17)	4 (17)	2 (40)	1 (20)	0 (0)	0 (0)	1 (6)	2 (11)	2 (50)	2 (29)	3 (23)
Correctional Facilities	0 (0)	0 (0)	8 (35)	1 (20)	0 (0)	0 (0)	1 (7)	2 (12)	2 (11)	0 (0)	0 (0)	2 (15)
General Practitioner	0 (0)	0 (0)	3 (13)	0 (0)	1 (20)	0 (0)	1 (7)	2 (12)	2 (11)	0 (0)	1 (14)	1 (8)
Public sector community services	1 (7)	1 (17)	0 (0)	0 (0)	0 (0)	0 (0)	6 (40)	7 (42)	9 (50)	1 (25)	0 (0)	0 (0)
Tertiary services	9 (64)	3 (50)	7 (30)	1 (20)	2 (40)	5 (83)	4 (27)	4 (24)	2 (11)	1 (25)	3 (43)	6 (46)
Other	0 (0)	1 (17)	1 (4)	1 (20)	1 (20)	0 (0)	2 (13)	1 (6)	1 (6)	0 (0)	1 (14)	1 (8)
Not reported	1 --	1 --	1 --	0 --	1 --	3 --	2 --	10 --	3 --	2 --	2 --	1 --

[^] See Table 4 for footnotes

Table 9: Hepatitis C testing and treatment uptake by LHD (Metropolitan), 2018-2020

	South Eastern Sydney			South Western Sydney			Sydney			Western Sydney		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Number surveyed (individuals)	767 (%)	634 (%)	466 (%)	164 (%)	154 (%)	95 (%)	427 (%)	299 (%)	359 (%)	260 (%)	127 (%)	207 (%)
Previous hepatitis C test												
Yes, ever	-- --	540 (85)	386 (83)	-- --	91 (59)	67 (71)	-- --	211 (71)	250 (70)	-- --	85 (67)	142 (69)
In the previous 12 months	-- --	355 (56)	255 (55)	-- --	54 (35)	38 (40)	-- --	126 (42)	129 (36)	-- --	54 (43)	85 (41)
>12 months	-- --	185 (29)	131 (28)	-- --	37 (24)	29 (31)	-- --	85 (29)	121 (34)	-- --	31 (24)	57 (28)
Never	-- --	94 (15)	80 (17)	-- --	63 (41)	28 (29)	-- --	88 (29)	109 (30)	-- --	42 (33)	65 (31)
Self-reported ever hepatitis C infection[^]		N=540	N=386		N=91	N=67		N=211	N=250		N=85	N=142
No	303 (44)	227 (42)	173 (45)	80 (50)	29 (32)	26 (39)	179 (52)	97 (46)	106 (43)	157 (61)	41 (48)	53 (38)
Yes	385 (56)	313 (58)	208 (55)	79 (50)	62 (68)	41 (61)	163 (48)	114 (54)	141 (57)	101 (39)	44 (52)	86 (62)
Not reported	79 --	0 --	5 --	5 --	0 --	0 --	85 --	0 --	1 --	2 --	0 --	3 --
Ever received treatment	N=385	N=313	N=208	N=79	N=62	N=41	N=163	N=114	N=141	N=101	N=44	N=86
No, still Hep C positive	82 (22)	48 (16)	17 (8)	27 (36)	13 (21)	6 (15)	43 (27)	25 (22)	23 (16)	38 (39)	10 (23)	23 (27)
No, cleared spontaneously	90 (24)	65 (21)	52 (25)	14 (18)	7 (11)	4 (10)	25 (16)	28 (25)	19 (13)	19 (19)	10 (23)	13 (15)
Yes, received interferon based treatment	31 (8)	29 (10)	11 (5)	4 (5)	7 (11)	8 (20)	28 (18)	20 (18)	22 (16)	16 (16)	9 (20)	4 (5)
Yes, received treatment with DAAs	171 (46)	163 (53)	127 (61)	31 (41)	35 (56)	23 (56)	63 (40)	41 (36)	77 (55)	25 (26)	15 (34)	46 (53)
Not reported	11 --	8 --	1 --	3 --	0 --	0 --	4 --	0 --	0 --	3 --	0 --	0 --
Ever eligible for DAA treatment[^]	N=267	N=224	N=149	N=60	N=52	N=33	N=119	N=75	N=110	N=70	N=29	N=71
Yes, received treatment with DAAs	171 (64)	163 (73)	127 (85)	31 (52)	35 (67)	23 (70)	63 (53)	41 (55)	77 (70)	25 (36)	15 (52)	46 (65)
HCV DAA treatment year		N=163	N=127		N=35	N=23		N=41	N=77		N=15	N=46
Since 2019	-- --	-- --	57 (46)	-- --	-- --	13 (57)	-- --	-- --	28	-- --	-- --	18 (41)
2018	-- --	94 (58)	32 (26)	-- --	24 (71)	3 (13)	-- --	20 (50)	16	-- --	11 (73)	13 (30)
2017	-- --	42 (26)	16 (13)	-- --	5 (15)	5 (22)	-- --	13 (33)	14	-- --	4 (27)	11 (25)
2016	-- --	15 (9)	14 (11)	-- --	4 (12)	1 (4)	-- --	5 (13)	10	-- --	0 (0)	0 (0)
Prior to 2016	-- --	11 (7)	6 (5)	-- --	1 (3)	1 (4)	-- --	2 (5)	7	-- --	0 (0)	2 (5)
Not reported	-- --	1 --	2 --	-- --	1 --	0 --	-- --	1 --	2 --	-- --	0 --	2 --
HCV DAA treatment uptake by health care setting[^]	N=171	N=163	N=127	N=31	N=35	N=23	N=63	N=41	N=77	N=25	N=15	N=46
Aboriginal Community Controlled Health Service	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)
Alcohol and Other Drug services	14 (10)	21 (14)	7 (6)	11 (44)	11 (37)	7 (32)	4 (8)	9 (27)	13 (20)	9 (45)	9 (60)	12 (32)
Correctional Facilities	12 (9)	7 (5)	10 (9)	3 (12)	5 (17)	2 (9)	2 (4)	2 (6)	10 (15)	3 (15)	2 (13)	3 (8)
General Practitioner	10 (7)	11 (7)	8 (7)	4 (16)	3 (10)	2 (9)	6 (13)	1 (3)	10 (15)	1 (5)	2 (13)	4 (11)
Public sector community services	56 (40)	65 (44)	62 (53)	0 (0)	0 (0)	1 (5)	8 (17)	6 (18)	9 (14)	0 (0)	0 (0)	4 (11)
Tertiary services	34 (24)	25 (17)	18 (15)	3 (12)	8 (27)	6 (27)	23 (48)	13 (39)	14 (22)	6 (30)	2 (13)	8 (21)
Other	13 (9)	18 (12)	12 (10)	4 (16)	3 (10)	4 (18)	5 (10)	2 (6)	8 (12)	1 (5)	0 (0)	7 (18)
Not reported	30 --	16 --	10 --	6 --	5 --	1 --	15 --	8 --	12 --	5 --	0 --	8 --

[^] See Table 4 for footnotes

Table 10: Hepatitis C testing and treatment uptake by LHD (Rural and Regional), 2018-2020

	Far West			Hunter New England			Mid North Coast			Murrumbidgee		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Number surveyed (individuals)	-- --	5 (%)	11 (%)	336 (%)	347 (%)	281 (%)	105 (%)	88 (%)	78 (%)	50 (%)	50 (%)	31 (%)
Previous hepatitis C test												
Yes, ever	-- --	5 (100)	11 (100)	-- --	269 (78)	210 (75)	-- --	81 (92)	66 (85)	-- --	40 (80)	26 (84)
In the previous 12 months	-- --	4 (80)	10 (91)	-- --	152 (44)	102 (36)	-- --	45 (51)	27 (35)	-- --	15 (30)	17 (55)
>12 months	-- --	1 (20)	1 (9)	-- --	117 (34)	108 (38)	-- --	36 (41)	39 (50)	-- --	25 (50)	9 (29)
Never	-- --	0 --	0 (0)	-- --	78 (22)	71 (25)	-- --	7 (8)	12 (15)	-- --	10 (20)	5 (16)
Self-reported ever hepatitis C infection[^]		N=5	N=11		N=269	N=210		N=81	N=66		N=40	N=26
No	-- --	2 (40)	4 (36)	185 (56)	117 (43)	93 (44)	38 (37)	32 (40)	34 (36)	32 (64)	20 (50)	15 (58)
Yes	-- --	3 (60)	7 (64)	145 (44)	152 (57)	117 (56)	66 (63)	49 (60)	32 (64)	18 (36)	20 (50)	11 (42)
Not reported	-- --	0 --	0 --	6 --	0 --	0 --	1 --	0 --	0 --	0 --	0 --	0 --
Ever received treatment	--	N=3	N=7	N=145	N=152	N=117	N=66	N=49	N=32	N=18	N=20	N=11
No, still Hep C positive	-- --	0 (0)	3 (43)	41 (29)	49 (33)	18 (15)	25 (39)	22 (45)	7 (22)	5 (28)	7 (35)	4 (40)
No, cleared spontaneously	-- --	0 (0)	1 (15)	31 (22)	28 (19)	21 (18)	11 (17)	9 (18)	8 (25)	3 (17)	4 (20)	2 (20)
Yes, received interferon based treatment	-- --	0 (0)	0 (0)	15 (10)	20 (13)	17 (15)	2 (3)	1 (2)	2 (6)	3 (17)	3 (15)	1 (10)
Yes, received treatment with DAAs	-- --	3 (100)	3 (43)	56 (39)	53 (35)	61 (52)	26 (41)	17 (35)	15 (47)	7 (39)	6 (30)	3 (30)
Not reported	-- --	0 --	0 --	2 --	2 --	0 --	2 --	0 --	0 --	0 --	0 --	1 --
Ever eligible for DAA treatment[^]	--	N=3	N=6	N=104	N=111	N=87	N=52	N=39	N=23	N=13	N=14	N=8
Yes, received treatment with DAAs	--	3 (100)	3 (50)	56 (54)	53 (48)	61 (70)	26 (50)	17 (44)	15 (65)	7 (54)	6 (43)	3 (38)
HCV DAA treatment year		N=3	N=3		N=53	N=61		N=17	N=15		N=6	N=3
Since 2019	-- --	-- --	2 (67)	-- --	-- --	30 (49)	-- --	-- --	4 (27)	-- --	-- --	2 (67)
2018	-- --	3 (100)	1 (33)	-- --	41 (79)	16 (26)	-- --	10 (59)	6 (40)	-- --	2 (33)	0 (0)
2017	-- --	0 (0)	0 (0)	-- --	8 (15)	9 (15)	-- --	6 (35)	4 (27)	-- --	2 (33)	0 (0)
2016	-- --	0 (0)	0 (0)	-- --	1 (2)	4 (7)	-- --	1 (6)	1 (7)	-- --	1 (17)	1 (33)
Prior to 2016	-- --	0 (0)	0 (0)	-- --	2 (4)	2 (3)	-- --	0 (0)	0 (0)	-- --	1 (17)	0 (0)
Not reported	-- --	0 --	0 --	-- --	1 --	0 --	-- --	0 --	0 --	-- --	0 --	0 --
HCV DAA treatment uptake by health care setting[^]	--	N=3	N=3	N=56	N=53	N=61	N=26	N=17	N=15	N=7	N=6	N=3
Aboriginal Community Controlled Health Service	-- --	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Alcohol and Other Drug services	-- --	0 (0)	0 (0)	3 (6)	2 (4)	0 (0)	1 (5)	0 (0)	1 (7)	0 (0)	0 (0)	0 (0)
Correctional Facilities	-- --	0 (0)	0 (0)	4 (8)	5 (10)	15 (28)	1 (5)	2 (13)	1 (7)	1 (20)	0 (0)	1 (33)
General Practitioner	-- --	0 (0)	0 (0)	9 (18)	2 (4)	4 (7)	3 (14)	4 (25)	2 (14)	0 (0)	2 (33)	0 (0)
Public sector community services	-- --	3 (100)	3 (100)	15 (29)	18 (38)	21 (39)	3 (14)	0 (0)	0 (0)	3 (60)	2 (33)	2 (67)
Tertiary services	-- --	0 (0)	0 (0)	14 (27)	14 (29)	4 (7)	12 (57)	10 (63)	8 (57)	0 (0)	1 (17)	0 (0)
Other	-- --	0 (0)	0 (0)	5 (10)	7 (15)	10 (19)	1 (5)	0 (0)	2 (14)	1 (20)	1 (17)	0 (0)
Not reported	-- --	0 --	0 --	5 --	5 --	7 --	5 --	1 --	1 --	2 --	0 --	0 --

[^] See Table 4 for footnotes

Note: There were no respondents in Far West LHD who reported HCV status or treatment in 2018

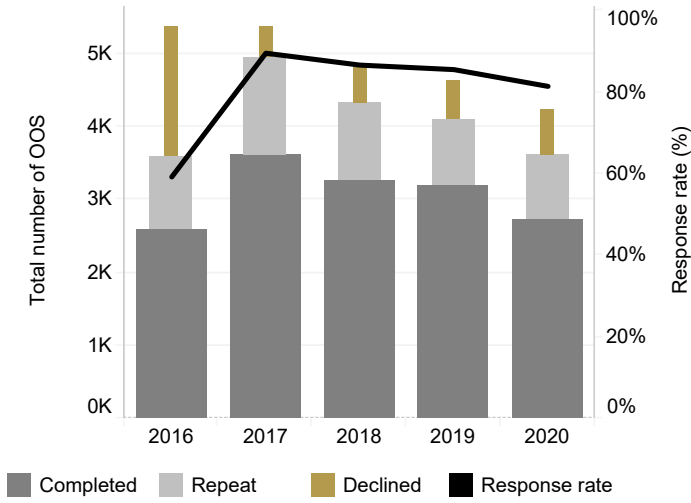
Table 11: Hepatitis C testing and treatment uptake by LHD (Rural and Regional), 2018-2020

	Northern NSW			Southern NSW			Western NSW		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Number surveyed (individuals)	93 (%)	103 (%)	126 (%)	19 (%)	17 (%)	14 (%)	46 (%)	33 (%)	25 (%)
Previous hepatitis C test									
Yes, ever	-- --	86 (84)	89 (71)	-- --	13 (76)	9 (64)	-- --	25 (76)	18 (72)
In the previous 12 months	-- --	40 (39)	46 (37)	-- --	6 (35)	4 (29)	-- --	9 (27)	9 (36)
>12 months	-- --	46 (45)	43 (34)	-- --	7 (41)	5 (36)	-- --	16 (49)	9 (36)
Never	-- --	17 (17)	37 (29)	-- --	4 (24)	5 (36)	-- --	8 (24)	7 (28)
Self-reported ever hepatitis C infection		N=86	N=89		N=13	N=9		N=25	N=18
No	39 (42)	32 (37)	37 (42)	8 (42)	4 (31)	2 (22)	36 (78)	20 (80)	1 (9)
Yes	53 (58)	54 (63)	52 (58)	11 (58)	9 (69)	7 (78)	10 (22)	5 (20)	10 (91)
Not reported	1 --	0 --	0 --	0 --	0 --	0 --	0 --	0 --	7 --
Ever received treatment	N=53	N=54	N=52	N=11	N=9	N=7	N=10	N=5	N=10
No, still Hep C positive	12 (23)	16 (30)	15 (29)	4 (36)	3 (33)	1 (14)	3 (30)	1 (20)	2 (22)
No, cleared spontaneously	11 (21)	12 (22)	6 (12)	4 (36)	4 (44)	1 (14)	3 (30)	1 (20)	2 (22)
Yes, received interferon based treatment	9 (17)	6 (11)	6 (12)	0 (0)	0 (0)	1 (14)	1 (10)	0 (0)	1 (11)
Yes, received treatment with DAAs	21 (40)	20 (37)	25 (48)	3 (27)	2 (22)	4 (57)	3 (30)	3 (60)	4 (44)
Not reported	0 --	0 --	0 --	0 --	0 --	0 --	0 --	0 --	1 --
Ever eligible for DAA treatment[^]	N=37	N=39	N=38	N=7	N=5	N=6	N=6	N=4	N=7
Yes, received treatment with DAAs	21 (57)	20 (51)	25 (66)	3 (43)	2 (40)	4 (67)	3 (50)	3 (75)	4 (57)
HCV DAA treatment year		N=20	N=25		N=2	N=4		N=3	N=4
Since 2019	-- --	-- --	9 (38)	-- --	-- --	2 (50)	-- --	-- --	3 (75)
2018	-- --	9 (45)	6 (25)	-- --	1 (50)	1 (25)	-- --	2 (67)	1 (25)
2017	-- --	7 (35)	3 (13)	-- --	0 (0)	0 (0)	-- --	1 (33)	0 (0)
2016	-- --	2 (10)	1 (4)	-- --	1 (50)	1 (25)	-- --	0 (0)	0 (0)
Prior to 2016	-- --	2 (10)	5 (21)	-- --	0 (0)	0 (0)	-- --	0 (0)	0 (0)
Not reported	-- --	0 --	1 --	-- --	0 --	0 --	-- --	0 --	0 --
HCV DAA treatment uptake by health care setting[^]	N=21	N=20	N=25	N=3	N=2	N=4	N=3	N=3	N=4
Aboriginal Community Controlled Health Service	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)
Alcohol and Other Drug services	0 (0)	0 (0)	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)
Correctional Facilities	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	1 (25)
General Practitioner	4 (25)	5 (29)	9 (41)	0 (0)	0 (0)	2 (67)	0 (0)	1 (33)	1 (25)
Public sector community services	10 (63)	10 (59)	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	1 (33)	0 (0)
Tertiary services	1 (6)	0 (0)	7 (32)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)
Other	1 (6)	2 (12)	5 (23)	0 (0)	1 (50)	0 (0)	0 (0)	1 (33)	1 (25)
Not reported	5 --	3 --	3 --	3 --	0 --	1 --	0 --	0 --	0 --

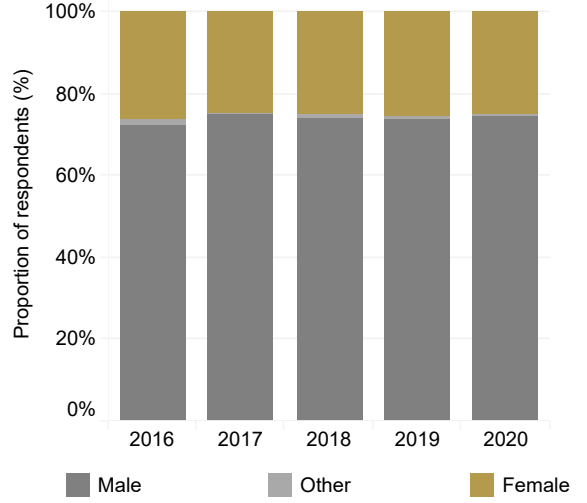
[^] See Table 4 for footnotes

Graphs: NSW

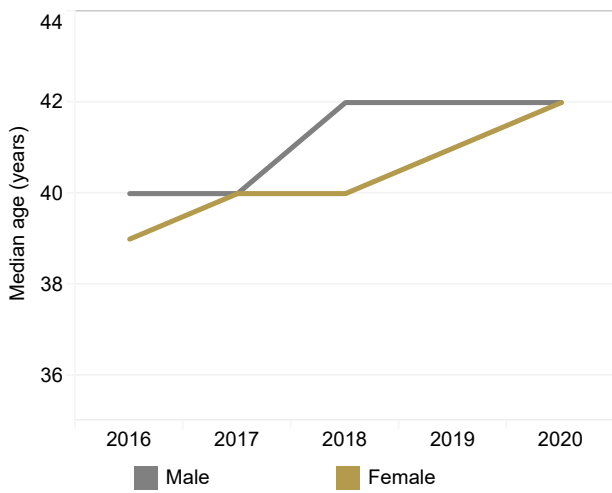
Occasions of service, 2016-2020



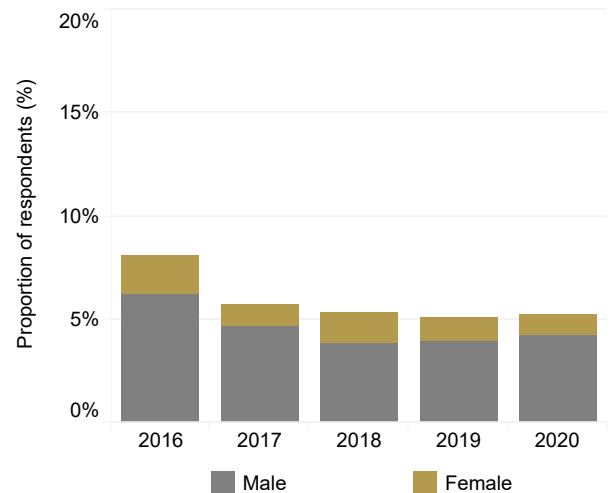
Gender distribution, 2016-2020



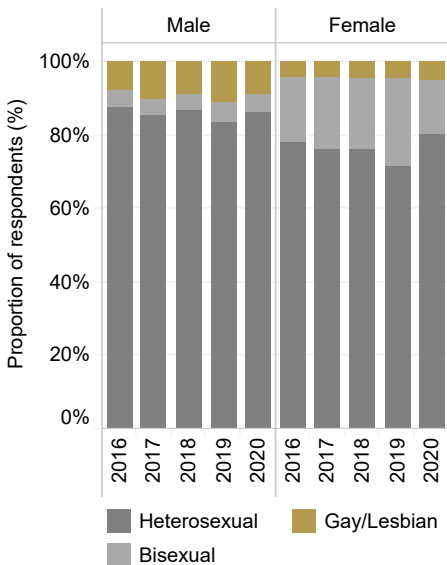
Median age of respondents by gender, 2016-2020



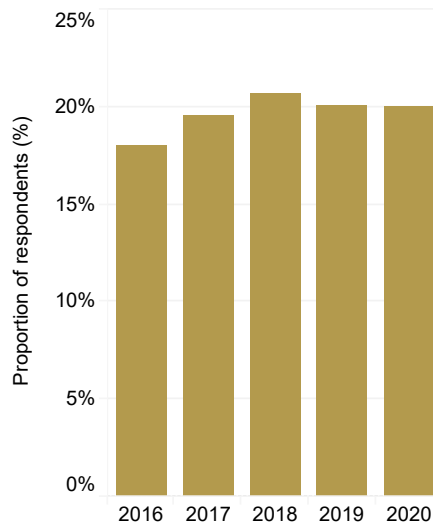
Proportion of respondents under 25 years, 2016-2020



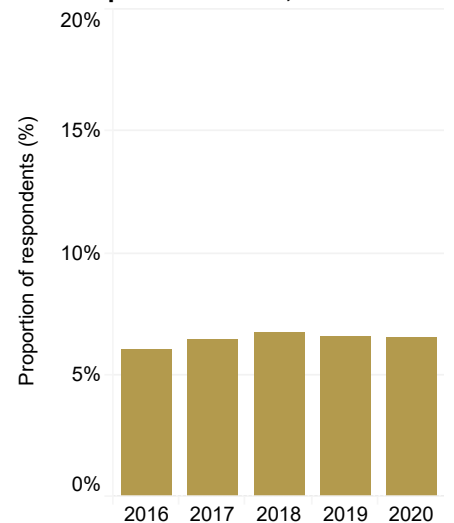
Sexual identity by gender, 2016-2020



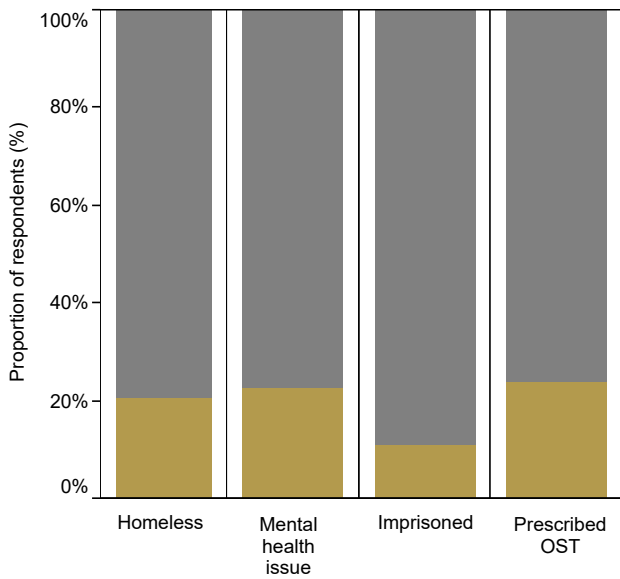
Indigenous background, 2016-2020



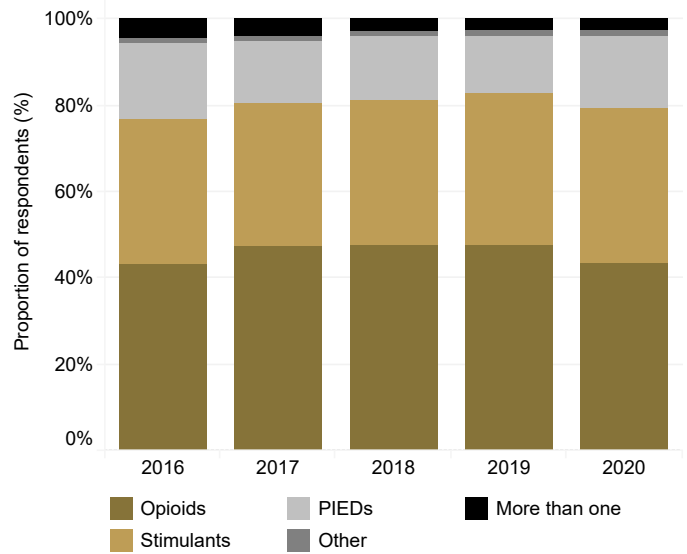
Language other than English spoken at home, 2016-2020



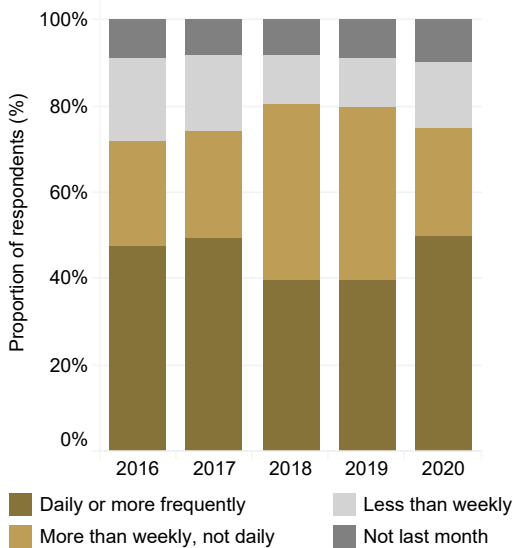
Social, legal and health characteristics in the previous 12 months in 2020



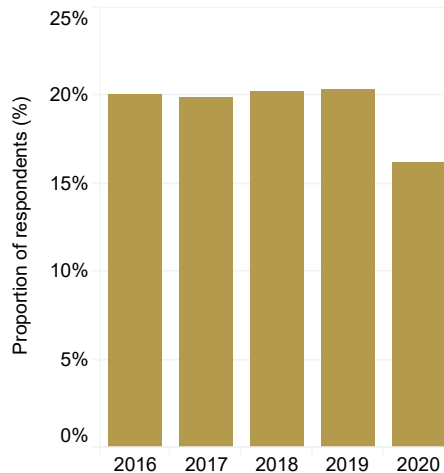
Class of drug last injected, 2016-2020



Frequency of injection, 2016-2020

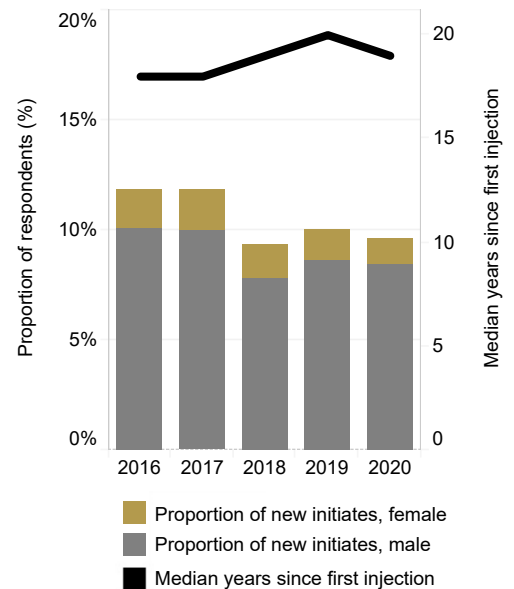


Proportion of respondents who reported RSS*, 2016-2020

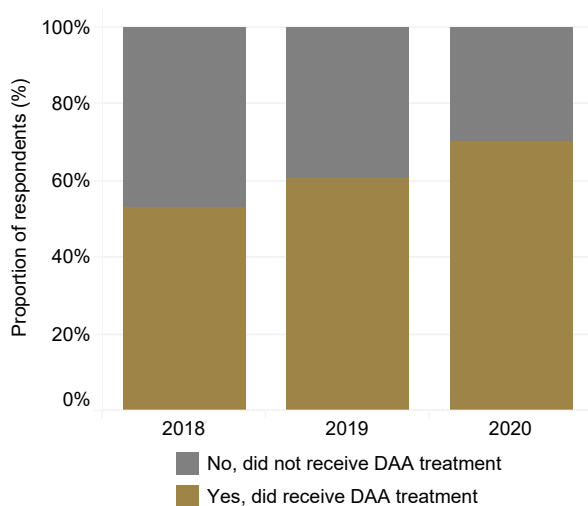


* Among respondents who reported injecting in the month prior to data collection

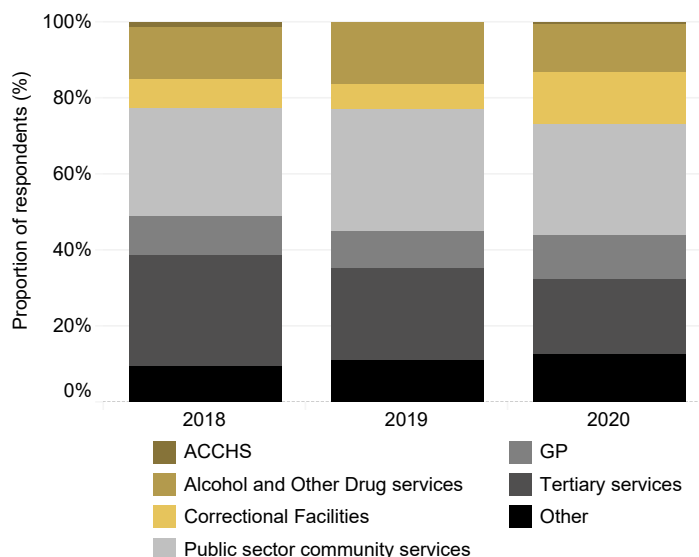
Years since first injection, 2016-2020



HCV DAA treatment uptake^, 2018-2020



HCV DAA treatment uptake by health care setting, 2018-2020



^ Denominator comprised those who self-reported ever receiving a HCV diagnosis, excluding those who reported spontaneous clearance, and those with successful Interferon-based treatment

References

Fried M, Shiffman M, Reddy K, Smith C, Marinos G, Gonçalves F, Häussinger D, Diago M, Carosi G, and Dhumeaux D. (2002). Peginterferon alfa-2a plus ribavirin for chronic hepatitis C virus infection. *New England Journal of Medicine*; 347(13): 975-982.

Grebely J, Page K, Sacks-Davis R, Loeff M, Rice T, Bruneau J, Morris M, Hajarizadeh B, Amin J, Cox A, Kim A, McGovern B, Schinkel J, George J, Shoukry N, Lauer G, Maher L, Lloyd A, Hellard M, Dore G, and Prins M. (2014). The effects of female sex, viral genotype, and IL28B genotype on spontaneous clearance of acute hepatitis C virus infection. *Hepatology*; 59(1): 109-120.

Iversen, J., Dore, G. J., Catlett, B., Cunningham, P., Grebely, J., & Maher, L. (2019). Association between rapid utilisation of direct hepatitis C antivirals and decline in the prevalence of viremia among people who inject drugs in Australia. *Journal of hepatology*, 70(1), 33-39.

Iversen J, Grebely J, Topp L, Wand H, Dore G, and Maher L. (2014) Uptake of hepatitis C treatment among people who inject drugs attending Needle and Syringe Programs in Australia, 1999-2011. *Journal of Viral Hepatitis*; 21 (3): pp.198-207.

Heard S, Iversen J, Geddes L, and Maher L. Australian Needle Syringe Program Survey National Data Report 2014-2019: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees. Sydney: Kirby Institute, UNSW Sydney; 2020. ISSN: 1448-5915.

Kirby Institute. Hepatitis C elimination in NSW: monitoring and evaluation report, 2019. Sydney: Kirby Institute, UNSW Sydney; 2019.

Queensland Health. Queensland Minimum Data Set for Needle and Syringe Programs 2018. December 2019

White B, Day C, and Maher L. (2007) Self-reported risk behaviour among injecting drug users: self-versus assisted questionnaire completion. *AIDS Care*; 19(3): 441-447.

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

Appendix A

Data collection

The NNEDC was conducted over a two-week period in late February/early March over the past eight years, 2013 to 2020. A minority of low volume NSPs in rural/regional areas extended the data collection period for an additional week to increase sample size and facilitate data analysis. All primary and some secondary NSP services in NSW were involved in the collection of demographic and drug use information from all NSP attendees. Appendix B provides detail on participating services by year.

The data collection instrument consisted of one A4 page and was designed to be self-completed (see Appendix C). To provide an estimate of the proportion of the broader NSP population, NSP staff submitted a blank NNEDC form on each occasion of service (OOS) when a client elected not to participate in the NNEDC. NSP attendees who had previously contributed to the data collection (repeat attendees) were recorded as an OOS, but were excluded from re-contributing to the data collection to avoid skewing the data collection towards frequent NSP attendees.

Data analysis

The data presented in this report were electronically scanned and validated. Stata, Version 14 (Stata Corporation, College Station TX) was used to analyse data. Percentage values exclude the proportion of respondents who didn't answer the question and may not add to 100 because of rounding.

The methodology for presenting RSS was changed in 2015 to exclude respondents who did not inject in the previous month.

Ethical approvals for the data collection were obtained from Sydney LHD Ethics Review Committee (RPAH Zone) and the Aboriginal Health and Medical Research Council (AH&MRC). Site Specific Assessment Forms were completed for all Local Health Districts.

Limitations

In some LHDs, NSP services are predominantly or entirely delivered through secondary NSPs and some LHDs distribute a large proportion of injecting equipment via vending machines and dispensing chutes. This may limit opportunities for staff to engage NSP attendees to participate in the data collection in some services and LHDs. The number of NSP attendees who participated in the NNEDC is not an indicator of needle and syringe distribution or NSP coverage. It should also be noted that changes to staffing levels and changes to service delivery may impact on NNEDC participation.

Appendix B

Metropolitan	2016	2017	2018	2019	2020
Central Coast LHD					
Gosford Needle and Syringe Program	✓	✓	✓	✓	✓
Long Jetty Needle and Syringe Program	✓	✓	✓	✓	✓
Woy Woy Needle and Syringe Program	✓	✓	✓	✓	✓
Wyong Hospital Needle and Syringe Program	✓	✓	✓	✓	✓
Illawarra Shoalhaven LHD					
First Step: Port Kembla	✓	✓	✓	✓	✓
First Step: Wollongong	✓	✓	✓	✓	✓
Nepean Blue Mountains LHD					
Barnardos Cranebrook	✓	✓			
South Court Primary Care	✓	✓	✓	✓	✓
Northern Sydney LHD					
Manly RUSH	✓	✓	✓	✓	✓
RUSH Royal North Shore Hospital	✓	✓	✓	✓	✓
South Eastern Sydney LHD					
ACON Sydney	✓	✓	✓	✓	✓
Albion Centre	✓	✓			
Clinic 180	✓	✓	✓	✓	✓
Haymarket Foundation	✓	✓			
Kirketon Road Centre	✓	✓	✓	✓	✓
Kirketon Road Centre Outreach Bus		✓	✓	✓	✓
KRC South	✓	✓	✓	✓	✓
Medically Supervised Injecting Centre		✓	✓	✓	✓
New South Wales Users and AIDS Association (NUAA)	✓	✓	✓	✓	✓
South Western Sydney LHD					
Bankstown Harm Minimisation Program	✓	✓	✓	✓	✓
Liverpool Harm Minimisation Program	✓	✓	✓	✓	✓
Sydney LHD					
Canterbury Harm Minimisation Program	✓	✓	✓	✓	✓
Marrickville Harm Minimisation Program	✓	✓	✓	✓	✓
Redfern Harm Minimisation Program	✓	✓	✓	✓	✓
Western Sydney LHD					
Blacktown Needle and Syringe Program	✓	✓	✓	✓	✓
Kelly Close Needle and Syringe Program	✓	✓	✓	✓	✓
Parramatta Needle and Syringe Program	✓	✓	✓	✓	✓

Rural and Regional	2016	2017	2018	2019	2020
Far West LHD					
Broken Hill Sexual Health Service	✓	✓	✓	✓	✓
Dareton Primary Health Centre	✓				
Hunter New England LHD					
ACON Hunter	✓	✓	✓	✓	✓
Coledale Community Centre	✓	✓	✓	✓	✓
Eastlakes Community Health Centre	✓	✓	✓	✓	✓
Maitland Neighbourhood Centre	✓	✓	✓	✓	✓
Newcastle Community Health Centre	✓	✓	✓	✓	✓
Taree Community Health Centre				✓	✓
Mid North Coast LHD					
Coffs Harbour Needle and Syringe Program	✓	✓	✓	✓	✓
Grafton Needle and Syringe Program		✓	✓	✓	✓
Kempsey Needle and Syringe Program		✓	✓	✓	
Port Macquarie Population Health	✓	✓	✓	✓	✓
Murrumbidgee LHD					
Albury Community Health Centre	✓	✓	✓	✓	✓
Barham Hospital		✓			
Griffith Needle and Syringe Program				✓	✓
Wagga Wagga Community Health Centre	✓	✓	✓	✓	✓
Northern NSW LHD					
ACON Lismore	✓	✓	✓	✓	✓
Ballina Needle and Syringe Program	✓	✓	✓	✓	✓
Byron Bay Needle and Syringe Program	✓	✓	✓	✓	✓
Lismore Needle and Syringe Program	✓	✓	✓	✓	✓
Lismore Sexual Health Service (SHAIDS)	✓	✓	✓	✓	✓
Nimbin Hospital Needle and Syringe Program	✓	✓	✓	✓	✓
Tweed Needle and Syringe Program	✓	✓	✓	✓	✓
Southern NSW LHD					
Batemans Bay Community Health Centre	✓	✓	✓	✓	✓
Moruya Community Health Centre	✓	✓	✓	✓	✓
Narooma Community Health Centre	✓	✓	✓	✓	✓
Western NSW LHD					
Bathurst Sexual Health Clinic		✓	✓	✓	✓
Dubbo Sexual Health Centre	✓	✓	✓	✓	✓
Orange Sexual Health Clinic	✓	✓	✓	✓	✓

Appendix C

NSW NSP ENHANCED DATA COLLECTION 2020

Please MARK LIKE THIS:

To be completed for every client attending the NSP during the designated data collection period.

If the client has already completed the data collection at this or another NSP, mark this circle: Already completed

If questionnaire was completed with the assistance of staff, mark this circle: Assisted

Today's date: / 2020

1. Are you?

- Male
- Female
- Other
- Prefer not to answer

2. How old are you?

3. Are you?

- Aboriginal
- Torres Strait Islander
- Both Aboriginal & Torres Strait Islander
- Neither

4. What was the last drug you injected?

Mark only one. If more than one drug was injected at your last injection, mark "other" and specify the drugs injected.

- Heroin
- Morphine
- Oxycodone
- Methadone
- Subutex/Buprenorphine
- Suboxone
- Methamphetamine (Speed, ice, base)
- Cocaine
- Anabolic steroids
- Growth hormone
- Peptides
- Other, please specify _____

5. How old were you when you first injected drugs?

6. How often did you inject in the last month?

- More than 3 times most days
- 2 to 3 times most days
- Once a day
- More than weekly, but not daily
- Less than weekly, (on 1 to 5 days)
- Did not inject in the last month *← Go to Q8*

7. How many times in the last month have you used a needle/syringe after someone else had already used it?

- None
- Once
- Twice
- 3-5 times
- More than 5 times

8. At any time in the last 12 months were you?

Mark all that apply

- Homeless
- Living with or diagnosed with a mental health issue
- In prison
- Prescribed methadone or bupe
- None of the above

9. What was the main language spoken at home by your parents?

- English
- Other, please specify _____

10. Do you identify as?

- Heterosexual
- Bisexual
- Gay/Lesbian
- Prefer not to answer

11. Have you EVER had a hepatitis C test?

- Yes, in 2020 (in last 2 months)
- Yes, in 2019 (last year)
- Yes, in 2018 (a year ago)
- Yes, in 2017 or before
- No, I have never been tested *← End of questions.*

11a. Have you EVER been told that you have hepatitis C infection?

- Yes
- No *← End of questions.*

11b. Have you EVER received treatment for your hepatitis C?

- No, I still have hepatitis C *← End of questions.*
- No, I cleared without treatment *← End of questions.*
- Yes, I received the new treatment (tablets only)
- Yes, I received the old treatment (with injections)

11c. What year did you START your LAST course of treatment?

- 2020 (in last 2 months)
- 2019 (last year)
- 2018 (a year ago)
- 2017 (2 years ago)
- 2016 (3 years ago)
- 2015 or before

11d. What was the name of the clinic or service where you were LAST prescribed your hepatitis C treatment?

End of questions, thank you for your time.

This information is being collected by the Kirby Institute for the NSW Ministry of Health.
If you have any questions or concerns please contact Professor Lisa Maher, Kirby Institute on phone (02) 9385 0900.