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## Drug injection trends among participants in the Australian Needle and Syringe Program Survey, 2012-2016

Authors: Sonja Memedovic, Jenny Iversen and Lisa Maher

Kirby Institute, UNSW Australia; on behalf of the Collaboration of Australian Needle and Syringe Programs.

Medicine

National Drug and Alcohol Research Centre

### KEY FINDINGS

- Since 2014, methamphetamine rather than heroin has been the most commonly reported drug last injected nationally. In 2016, 43% of respondents reported last injecting methamphetamine, a significant increase from 2012 when 26% of respondents reported last injecting methamphetamine ( $\chi^2$  trend  $p < 0.001$ ).
- Heroin was the second most commonly reported drug last injected nationally in 2016. A significant decline in the proportion of respondents who reported last injecting heroin was observed between 2012 (33%) and 2016 (28%) ( $\chi^2$  trend  $p = 0.020$ ).
- Pharmaceutical opioids were the third most commonly reported class of drugs last injected nationally in all years 2012 to 2016, but prevalence declined significantly from 14% to 8% over this period ( $\chi^2$  trend  $p < 0.001$ ). Reports of methadone as the last drug injected were stable, accounting for between 5% and 7% of respondents over the period 2012 to 2016 ( $\chi^2$  trend  $p = 0.067$ ).
- Reports of performance and image enhancing drugs (PIEDs) as the last drug injected declined significantly, from 7% in 2012 to 4% in 2016 ( $\chi^2$  trend  $p = 0.001$ ).
- Daily or more frequent injecting in the month prior to the survey was reported by approximately half the respondents in all years 2012 to 2016.
- Prevalence of at least one public injection (injection in a car, beach, park, street or squat) in the month prior to survey completion increased significantly, from 39% in 2012 to 46% in 2016 ( $\chi^2$  trend  $p = 0.035$ ).
- The proportion of respondents reporting reuse of needles and syringes (including their own) increased significantly from 21% in 2012 to 27% in 2016 ( $\chi^2$  trend  $p < 0.001$ ). There was also a significant increase in the proportion of respondents reporting receptive sharing of needles and syringes, from 16% in 2012 to 19% in 2016 ( $\chi^2$  trend  $p = 0.018$ ). Conversely, reports of receptive sharing of drug preparation equipment remained stable, ranging from 28% to 32% over the five-year period ( $\chi^2$  trend  $p = 0.088$ ).
- HIV antibody prevalence remained low and stable nationally, ranging from 1.2% to 2.1% over the period 2012 to 2016 ( $\chi^2$  trend  $p = 0.943$ ).
- Hepatitis C virus (HCV) antibody prevalence was stable over the period 2012 to 2016, ranging from 51% to 57% ( $\chi^2$  trend  $p = 0.944$ ).

The Australian Needle and Syringe Program Survey (ANSPS) functions as a strategic early-warning system designed to monitor the prevalence of selected blood borne viral infections and associated risk behaviour among people who inject drugs (PWID). This bulletin summarises recent drug injection trends among ANSPS participants over the five-year period 2012 to 2016 (Memedovic, Iversen, Geddes & Maher, 2017).

### INTRODUCTION

The collaboration of Australian Needle and Syringe Programs has conducted annual sentinel surveillance of human immunodeficiency virus (HIV) and hepatitis C virus (HCV) antibody prevalence and associated risk behaviours among PWID since 1995. Each year during a one to two week period, all clients attending selected Needle and Syringe Programs (NSPs) are invited to participate in the Australian NSP Survey (ANSPS) by completing a brief self-administered survey and providing a finger stick capillary blood sample. The ANSPS methodology is described in detail elsewhere (Iversen, Wand, Topp, Kaldor & Maher, 2013) and ANSPS samples are representative of the broader NSP client population (Topp et al, 2008). This Drug Trends Bulletin supplement reports national and jurisdictional trends from the ANSPS for the period 2012 to 2016.

Over the past five years the number of participating NSP services ranged from 47 to 52, the number of respondents ranged from 2210 to 2407 and the response rate ranged from 41% to 48% (2012-2016, Table 1).

**Table 1. ANSPS sample size distribution by jurisdiction, 2012–2016**

Jurisdiction	2012	2013	2014	2015	2016
ACT	78	100	99	110	112
NSW	712	686	761	639	532
NT	50	70	70	60	87
QLD	624	565	490	532	349
SA	203	248	228	238	247
TAS	75	70	69	48	35
VIC	463	448	436	459	423
WA	186	220	225	218	425
Total	2391	2407	2378	2304	2210
Response rate	46%	44%	48%	41%	41%
N° of sites	52	50	50	47	50

## NATIONAL TRENDS

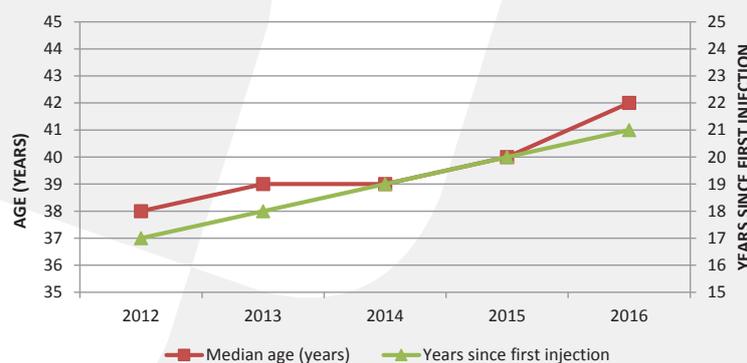
### Demographic characteristics

In all survey years 2012 to 2016, males accounted for approximately two thirds of survey respondents and a small minority (<1%) of respondents identified as transgender. In 2016, the majority of respondents (78%) identified as heterosexual, 10% identified as bisexual and 4% as homosexual.

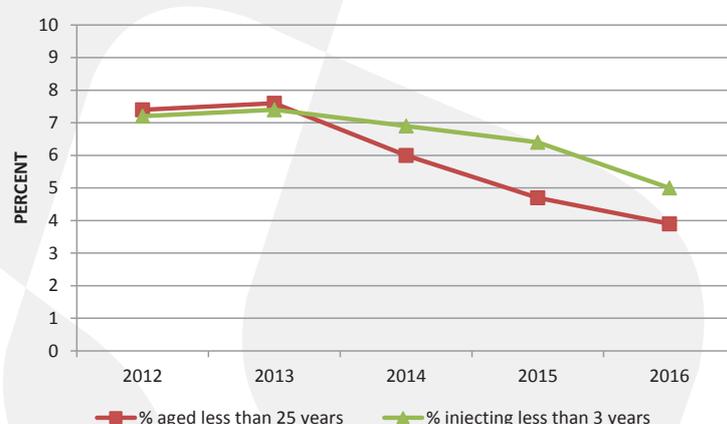
The proportion of respondents from an Indigenous Australian background increased significantly, from 12% to 18% over the period 2012 to 2016 ( $\chi^2$  trend  $p < 0.001$ ). Across all survey years, the majority of respondents were born in Australia (ranging between 85% and 87%), with the United Kingdom and Ireland (4%) and New Zealand (3%) the predominant countries of birth outside Australia in 2016. The majority of respondents reported that their parents spoke English at home (range 92% to 94% over the period 2012 to 2016).

The median age of survey respondents increased from 38 years in 2012 to 42 years in 2016 and the median time since first injection increased from 17 years in 2012 to 21 years in 2016 (Figure 1). Concomitantly, there was a decline in the proportion of younger injectors (aged less than 25 years), from 7% in 2012 to 4% in 2016 ( $\chi^2$  trend  $p < 0.001$ ) and in the proportion of new initiates (those injecting for less than three years), from 7% in 2012 to 5% in 2016 ( $\chi^2$  trend  $p = 0.002$ , Figure 2). However, the median age at first drug injection remained stable across the period 2012 to 2016, ranging from 18 to 19 years of age.

**Figure 1. Median age and median years since first injection, 2012–2016**



**Figure 2. Proportion of young people and new initiates, 2012–2016**



The proportion of respondents reporting incarceration in the 12 months prior to survey participation was stable over the period 2012 to 2016, ranging from 10% to 12% ( $\chi^2$  trend  $p = 0.390$ ). Among those reporting incarceration in the past year, approximately one in three reported injecting while in prison in all years 2012 to 2016.

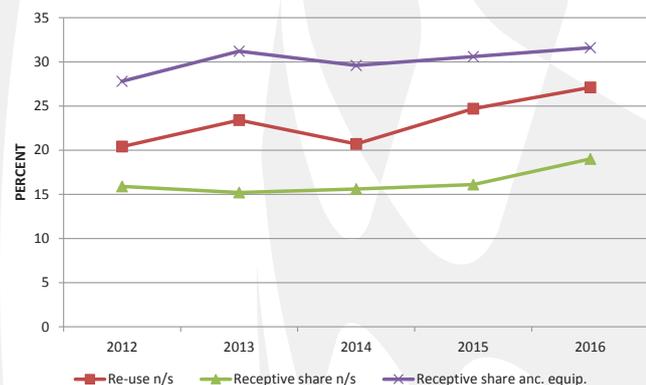
### Injecting risk behaviour

Daily or more frequent injection was reported by approximately half of respondents in all survey years 2012 to 2016. Prevalence of at least one public injection (injection in a car, beach, park, street or squat) in the month prior to survey completion increased significantly from 39% in 2012 to 46% in 2016 ( $\chi^2$  trend  $p = 0.035$ ).

There were also significant increases in two of the three key injecting risk behaviours over the five-year period (Figure 3). Reports of reuse of needles and syringes (including one's own) in the month preceding the survey increased from 21% in 2012 to 27% in 2016 ( $\chi^2$  trend  $p < 0.001$ ). Further, there was a significant increase in the prevalence of receptive sharing of needles and syringes in the month prior to survey completion,

from 16% in 2012 to 19% in 2016 ( $\chi^2$  trend  $p=0.018$ ). Conversely, receptive sharing of ancillary equipment was stable, ranging from 28% to 32% over the period 2012 to 2016 ( $\chi^2$  trend  $p=0.088$ ). As in previous years, spoons and water were the most commonly identified ancillary items receptively shared in 2016.

**Figure 3. Prevalence of reuse and receptive sharing of needles and syringes and other drug preparation equipment, 2012–2016**

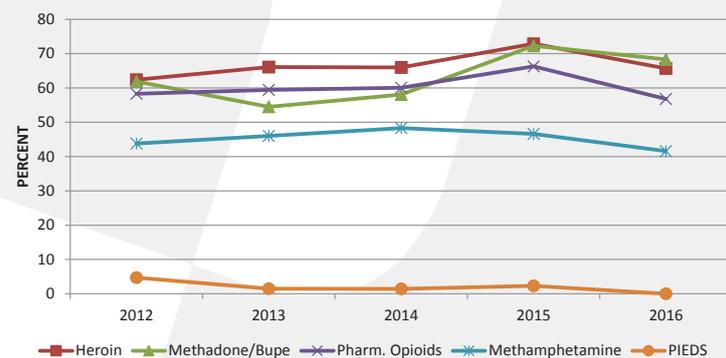


### HIV and HCV antibody prevalence

HIV antibody prevalence remained low and stable nationally over the period 2012 to 2016 (range 1.2% to 2.1%,  $\chi^2$  trend  $p=0.943$ ). In 2016, HIV antibody prevalence was highest in New South Wales (2.6%), followed by Victoria (1.9%), Queensland (1.2%) and Western Australia (1.2%). No respondents in the Australian Capital Territory or Tasmania tested HIV antibody positive in any of the previous five years. HIV antibody prevalence was higher among homosexual male respondents than among bisexual and heterosexual male respondents or female respondents, in all survey years 2012 to 2016.

HCV antibody prevalence remained stable both nationally (range 51% to 57%,  $\chi^2$  trend  $p=0.944$ ) and across all jurisdictions over the period 2012 to 2016. Across all five years HCV antibody prevalence was significantly higher among older respondents, those with longer injection histories, and those who reported imprisonment in the year prior to survey completion. HCV antibody prevalence was also higher among participants who reported heroin, OST or pharmaceutical opioids as the last drug injected compared to those who reported last injecting methamphetamine or PIEDs (Figure 4).

**Figure 4. Hepatitis C antibody prevalence (%) by drug last injected, 2012–2016**



### National and jurisdictional trends in drug last injected

**Table 2. Drug last injected among ANSPS respondents, 2012–2016**

	2012 n=2391	2013 n=2407	2014 n=2378	2015 n=2304	2016 n=2210	p-trend
Heroin (%)	33	29	31	31	28	0.020
Methamphetamine (%)	26	29	33	36	43	<0.001
Pharm. opioids (%)	14	14	11	10	8	<0.001
Methadone (%)	7	7	6	6	5	0.067
Buprenorphine (%)	4	3	2	3	2	0.010
Bup-naloxone (%)	2	2	2	1	2	0.159
PIEDs (%)	7	7	7	6	4	0.001
Cocaine (%)	1	1	1	1	1	0.932
Other drugs (%)	6	7	8	5	7	0.838
Not reported (%)	<1	1	<1	0	0	<0.001

### Methamphetamine

Nationally, methamphetamine has been the most commonly reported drug last injected since 2014. Reports of methamphetamine injection increased significantly over the five-year period, from 26% in 2012 to 43% in 2016 ( $\chi^2$  trend  $p<0.001$ ). In 2016, methamphetamine was the most common drug last injected in the majority of jurisdictions, including New South Wales (36%), Northern Territory (43%), Queensland (39%), South Australia (60%), Tasmania (37%), and Western Australia (60%).

### Heroin

Reports of heroin injection declined significantly over the five year period, from 33% in 2012 to 28% in 2016 ( $\chi^2$  trend  $p=0.020$ ). In 2016, heroin was the second most commonly reported drug last injected nationally. However, at the jurisdictional level, heroin remained the most commonly reported drug last injected in the Australian Capital Territory (40%) and Victoria (52%). Heroin injection was uncommon in the Northern Territory (5%) and in Tasmania (3%). In all survey years 2012 to 2016, reports of heroin injection were highest

in Victoria (range 52% to 65%) with the exception of 2013 when they were highest in the Australian Capital Territory (56%).

### Pharmaceutical Opioids

Pharmaceutical opioids were the third most commonly reported class of drugs last injected nationally in all years from 2012 to 2016, although prevalence declined significantly from 14% to 8% over this period ( $\chi^2$  trend  $p < 0.001$ ). Prior to 2016, pharmaceutical opioids were the most commonly reported class of drugs last injected in the Northern Territory, but in 2016, they were the second most commonly reported class of drugs last injected (34%), after methamphetamine. In 2016, pharmaceutical opioids were the third most commonly reported last injected drug class in Tasmania (20%), Queensland (15%) and South Australia (10%). In all other jurisdictions, fewer than 10% of respondents reported pharmaceutical opioids as drugs last injected: New South Wales (3%), Victoria (3%), Australian Capital Territory (4%) and Western Australia (7%).

### Methadone and Buprenorphine

Nationally, methadone was reported as the last drug injected by fewer than 10% of the ANSPS respondents (range 5% to 7%) in all years 2012 to 2016, and prevalence remained stable over this period ( $\chi^2$  trend  $p = 0.067$ ). At the jurisdictional level, reports of methadone as the last drug injected were highest in Tasmania across all five survey years (range 14% to 29%). Prevalence of methadone injection was lowest in Victoria, where <3% of respondents reported methadone as their last drug of injection in all years 2012 to 2016.

The prevalence of buprenorphine as the last drug injected declined significantly, from 4% to 2% over the period 2012 to 2016 ( $\chi^2$  trend  $p = 0.010$ ). Conversely, prevalence of buprenorphine-naloxone injection remained low and stable over this period (range 1% to 2%) ( $\chi^2$  trend  $p = 0.159$ ).

### Performance and image enhancing drugs (PIEDs)

The prevalence of performance and image enhancing drugs (PIEDs) as the last drug injected declined significantly between 2012 (7%) and 2016 (4%) ( $\chi^2$  trend  $p = 0.001$ ). In all survey years, the prevalence of PIEDs injection was highest in New South Wales and Queensland. In New South Wales, prevalence of PIEDs injection was stable at between 10% and 12% ( $\chi^2$  trend  $p = 0.587$ ). In Queensland, PIEDs injection prevalence ranged from 6% to 14% over the five-year period, but this variation was not statistically significant ( $p = 0.108$ ). In all other jurisdictions, the prevalence of PIEDs injection was  $\leq 3\%$ .

From 2012 to 2014, PIEDs were the most commonly reported last drug injected among new initiates (those injecting for less than three years) nationally, but since 2015, methamphetamine has been the most commonly reported last drug injected among this group. Nonetheless, in 2016, one in four new initiates reported last injecting PIEDs.

### Cocaine

Nationally, cocaine was reported as the last drug injected by a minority of respondents (1% in all years 2012 to 2016). Over the five-year period, the state with the highest prevalence of cocaine injection was New South Wales (range 1% to 3%). There were no reports of cocaine as the last drug injected in Tasmania in any of the past five years (2012-2016), and in 2016 there were no reports of cocaine injection in Western Australia and the Northern Territory.

### SUMMARY

Nationally, methamphetamine was the most commonly reported drug last injected (43%) in 2016, followed by heroin (28%). Over the period 2012 to 2016, there was a significant increase in prevalence of methamphetamine injection (from 26% in 2012), while prevalence of heroin injection declined significantly (from 33% in 2012). Pharmaceutical opioids were the third most commonly reported class of drugs last injected in all years 2012 to 2016, although there was a significant decrease in prevalence from 14% in 2012 to 8% in 2016. The proportion of respondents who reported methadone as the last drug injected remained stable at between 5% to 7% over the period 2012 to 2016. The prevalence of PIEDs as the drug last injected declined between 2012 to 2016, from 7% to 4%. The highest rates of PIEDs injection were observed in New South Wales and Queensland in all survey years. Between 2012 and 2016, significant increases were observed in reports of reuse of needles and syringes (from 21% to 27%), receptive sharing of needles and syringes (from 16% to 19%), and injecting in a public location (from 39% to 46%).

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## SUGGESTED CITATION

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