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The Difference is Research

Drug injection trends among respondents in the Australian Needle and Syringe Program Survey (ANSPS), 1995–2014

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KEY FINDINGS

- The median age of ANSPS respondents increased over the most recent five year period (2010 to 2014), with close to half of all respondents aged 40 or more years in 2014. There was a concurrent decline in the proportion of young people (aged less than 25 years), from 8% in 2010 to 6% in 2014, although the proportion of new initiates (respondents who first injected within the previous three years) was stable at 9% to 10% over the period 2010 to 2014.
- Despite fluctuations in patterns of drug use, between 1995 and 2014, heroin and methamphetamine were the most commonly reported drugs last injected in all survey years. In 2014, one in two respondents reported last injecting an opioid (predominantly heroin) and one in three (33%) reported last injecting methamphetamine.
- Over the most recent five year period (2010 to 2014), there was a significant decline in the proportion of respondents reporting heroin, pharmaceutical opioids and opioid substitution therapies as the last drugs injected and a significant increase in the proportion of respondents reporting methamphetamine and performance and image enhancing drugs (PIEDs). Reports of cocaine injection were rare.
- Despite declines in the proportion of respondents who reported receptively sharing syringes (since 1995) and ancillary drug preparation equipment (since 1999), reports of receptive sharing of syringes and ancillary injecting equipment increased over the most recent five year period (from 12% in 2010 to 16% in 2014 and from 25% in 2010 to 30% in 2014 respectively). Prevalence of syringe re-use and public injection also declined since commencement of data collection (in 1997) and remained stable over the period 2010 to 2014.
- HIV antibody prevalence was low and stable at 2.5% or less in all years over the period 1995 to 2014, although an increase in HIV prevalence was observed over the most recent five year period, from 1% in 2010 to 1.7% in 2014. HCV antibody prevalence was high and stable at 50% or more in most survey years, with prevalence stable at 53% to 54% over the most recent five year period (2010 to 2014).

INTRODUCTION

The Australian Needle and Syringe Program Survey (ANSPS) provides serial point estimates of exposure to human immunodeficiency virus (HIV) and hepatitis C virus (HCV) and monitors injecting behaviour among people who inject drugs (PWID). Conducted annually since 1995, the ANSPS is implemented during a one to two week period in October and all clients attending selected needle and syringe programs (NSPs) are invited to participate. Participation involves completion of a self-administered anonymous questionnaire and the provision of a capillary blood sample, which is subsequently tested for antibodies to HIV and HCV. The ANSPS methodology is described in detail elsewhere (MacDonald et al, 1997; Topp et al, 2008). This issue of the Drug Trends Bulletin reports national trends in ANSPS respondent characteristics over the 20 year period, 1995 to 2014 (Iversen & Maher 2015).

Twenty NSPs were selected to participate in the 1995 ANSPS, with selection based on the volume of clients, willingness to participate and the representation across all jurisdictions. Following an initial expansion of participating services in the late 1990s, around two thirds (n=50) of Australia's primary NSPs participate in the ANSPS annually. Sample sizes ranged from 1072 (1995) to 2697 (2009) and response rates ranged from 38% (2006) to 60% (1997). A total of ~45,000 respondents have participated in the ANSPS since 1995.

NATIONAL TRENDS

Two thirds of ANSPS respondents were male in all survey years. The majority of respondents identified as heterosexual (76% to 83%), while smaller proportions identified as bisexual (9% to 12%) and homosexual (3% to 7%). The proportion of respondents who reported an Indigenous background increased from 5% in 1995 to 14% in 2014 (χ^2 trend $p<0.001$). A similar increase was observed among the 15 NSP services that participated in the ANSPS in all survey years, suggesting that the increase in Indigenous respondents is not attributable to site variation. In all survey

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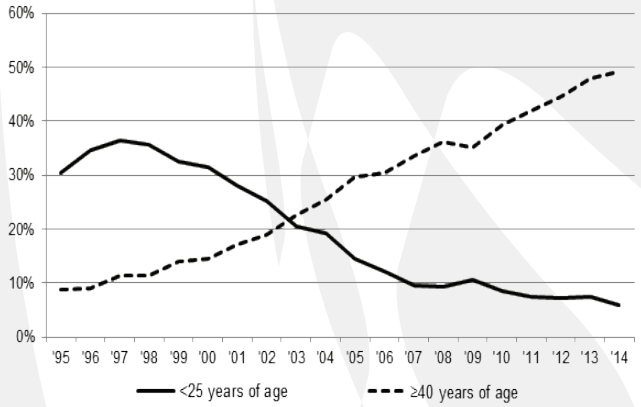
years, the majority of respondents were born in Australia (70% to 87%) and reported that their parents spoke English at home (67% to 95%).

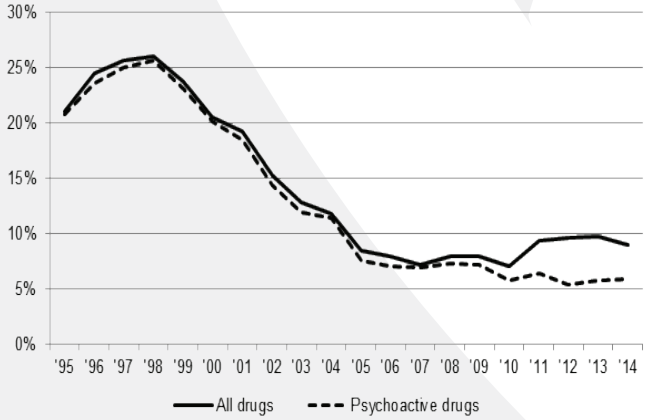
An increase in the proportion of young people (those aged less than 25 years) was observed between 1995 (30%) and 1998 (36%, p=0.039), coinciding with a nationwide increase in heroin use and injection (Hando et al, 1998; Dietze & Fitzgerald 2002; Maher et al, 2007). However, a significant decline in the proportion of young people was observed in subsequent years, from 33% in 1999 to 6% in 2014 (χ^2 trend p<0.001, Figure 1). Over the same period, the median age of respondents increased from 28 years in 1999 to 39 years in 2014, with close to half of respondents aged 40 or more years in 2014.

Figure 1: Proportion of younger and older respondents by survey year



There was a concurrent decline in the proportion of new initiates (respondents who commenced injection within the previous three years), from 21% in 1995 to 9% in 2014 (χ^2 trend p<0.001, Figure 2). Over the past five years (2010 to 2014), the proportion of new initiates remained stable at 9% to 10% (χ^2 trend p=0.705), with approximately half of all new initiates last injecting performance and image enhancing drugs (PIEDs).

Figure 2: Proportion of new initiates to injection by survey year



Injection risk behaviour

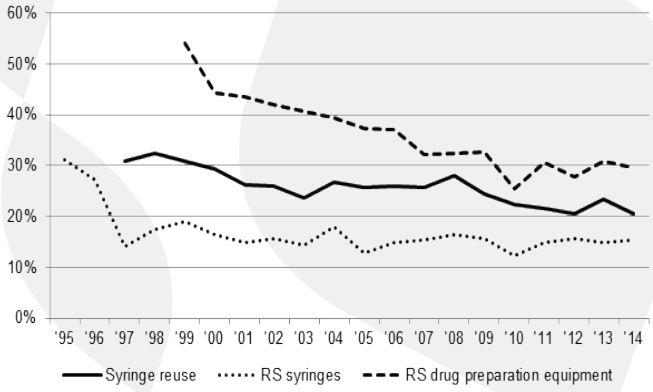
Frequency of injection

During the late 1990s, the proportion of respondents who reported injecting daily or more frequently increased from 40% (in 1995) to 57% (in 2000, χ^2 trend p<0.001), however, prevalence of daily injecting has remained stable at between 44% and 50% in all years from 2001 (χ^2 trend p=0.612). A minority of respondents (6% to 11%) reported no injection in the month prior to the survey in all survey years 1995 to 2014.

Syringe re-use and receptive sharing of syringes and ancillary injecting equipment

Following the introduction of data collection regarding syringe re-use and receptive sharing of syringes and ancillary equipment in 1997, 1995 and 1999 respectively, declines in all three of these injecting behaviours were observed (Figure 3).

Figure 3: Re-use of syringes and receptive sharing of syringes and ancillary drug equipment by survey year



The proportion of respondents who reported syringe re-use (including re-use of one's own syringe) declined significantly from 31% in 1997 to 21% in 2014 (χ^2 trend p<0.001), although syringe re-use has remained stable over the most recent five year period, 2010 to 2014 (range 21% to 23%, χ^2 trend p=0.647). A decline was also observed in the proportion of respondents who reported receptively sharing syringes, from 30% in 1995 to around 15% in most years since 2000 (χ^2 trend p<0.001). Nonetheless, an increase in RSS was observed in the most recent five year period, from 12% in 2010 to 16% in 2014 (χ^2 trend p=0.032). Receptive sharing of ancillary drug preparation equipment also declined from 45% in 1999 to 30% in 2014 (χ^2 trend p<0.001), with a recent increase observed from 25% in 2010 to 30% in 2014 (χ^2 trend p=0.042). Spoons and water were the two most commonly identified ancillary drug preparation items shared across all survey years.

Public injection

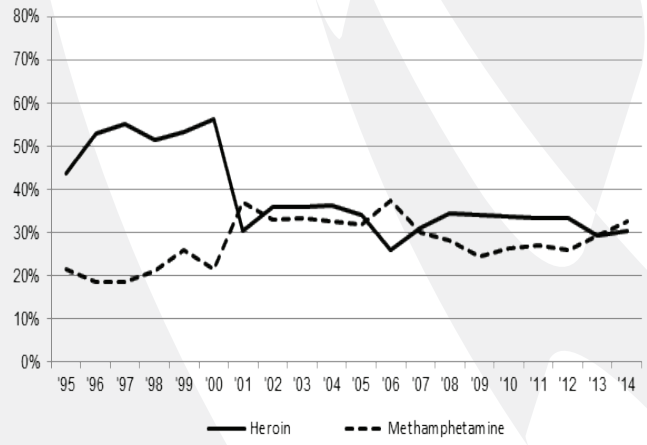
Collection of data on public injection (injecting in a street, car, public toilet, beach, park or squat) commenced in 1997, with around one in two respondents reporting public injection in the previous month between 1997 and 2000 (range 45% to 57%). However, reports of public injection in the month prior to the survey significantly declined in subsequent years (χ^2 trend p<0.001), with around one in three respondents (36%) reporting public injection in 2014.

Last drug injected

Heroin

Heroin was the most commonly reported drug last injected among ANSPS respondents in most survey years (Figure 4). During the period 1996 to 2000, more than half of ANSPS respondents reported last injecting heroin, although prevalence declined significantly over the period 1995 (44%) to 2014 (31%, χ^2 trend p<0.001), most notably since 2001 and reflecting changes in the Australian heroin market (Maher et al., 2007; Degenhardt et al., 2006). Over the past 5 years (2010 to 2014), prevalence of heroin injection declined from 34% in 2010 to 31% in 2014 (χ^2 trend p=0.015). In 2014, the median age of respondents who last injected heroin was 41 years.

Figure 4: Proportion of ANSPS respondents who reported last injecting heroin and methamphetamine by survey year



Methamphetamine

Methamphetamine was the second most commonly reported drug last injected in most survey years. A significant increase in injection of methamphetamine was observed over the twenty year period, from 22% in 1995 to 33% in 2014 (χ^2 trend p<0.001), with a notable increase occurring at the time of Australia's heroin shortage in 2001. Between one quarter and one third of ANSPS respondents reported methamphetamine as the last drug injected in all years since 2001, with an increase in methamphetamine injection observed in the most recent 5 year period (26% in 2010 to 33% in 2014, χ^2 trend p<0.001). However, the proportion of new initiates who reported last injecting methamphetamine significantly declined over the 20 year period, from 47% in 1995 to 32% in 2014 (χ^2 trend p<0.001) and was stable over the most recent five year period, 2010 to 2014 (range 20% to 32%, χ^2 trend p=0.224). In contrast, there was a significant increase in the proportion of respondents with a history of opioid substitution therapy (OST) who reported last injecting methamphetamine, from 17% in 1995 to 45% in 2014 (χ^2 trend p<0.001). In 2014, the median age of respondents who last injected methamphetamine was 40 years.

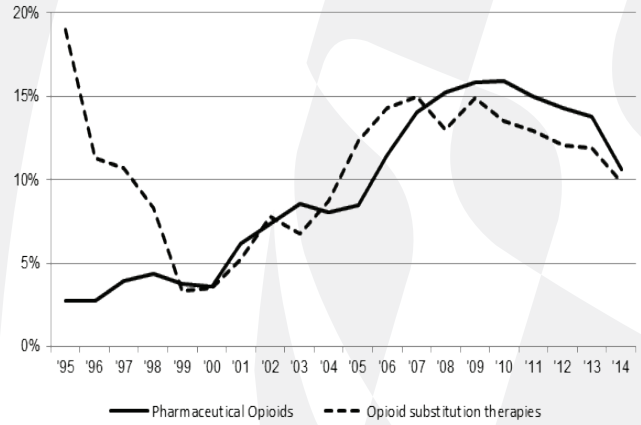
Pharmaceutical opioids

Pharmaceutical opioids were reported as the last drug injected by less than 5% of ANSPS respondents over the period 1995 to 2000, with an increase in the prevalence of pharmaceutical opioid injection observed between 2000 (4%) and 2009 (16%, χ^2 trend p<0.001). In the most recent five year period there was a significant decline in the proportion of ANSPS respondents who reported last injecting pharmaceutical opioids, from 16% in 2010 to 11% in 2014 (χ^2 trend p<0.001). In 2014, the median age of respondents who last injected pharmaceutical opioids was 42 years.

Opioid Substitution therapies

With the exception of injection of methadone which was reported as the last drug injected by more than 10% of ANSPS respondents in 1995 and 1996, the pattern of injection of opioid substitution therapies (methadone, buprenorphine and buprenorphine-naloxone) was similar to that of pharmaceutical opioid injection (Figure 5). A significant increase in injection of opioid substitution therapies was observed over the period 2000 (3%) to 2009 (15%; χ^2 trend p<0.001) with a decline observed over the most recent five year period (from 13% in 2010 to 10% in 2014, χ^2 trend p<0.001). In 2014, the median age of respondents who last injected opioid substitution therapies was 39 years.

Figure 5: Proportion of ANSPS respondents who reported last injecting pharmaceutical opioids and opioid substitution therapies by survey year



Cocaine

Over the twenty year period (1995 to 2014), a minority of respondents (2% or less) reported cocaine as the last dug injected in all survey years, except in 2000 and 2001 when cocaine was reported by 4% and 7% of respondents respectively. Reports of cocaine injection have remained stable at 1% in all years between 2010 and 2014 (χ^2 trend p=0.796). In 2014, the median age of respondents who last injected cocaine was 42 years.

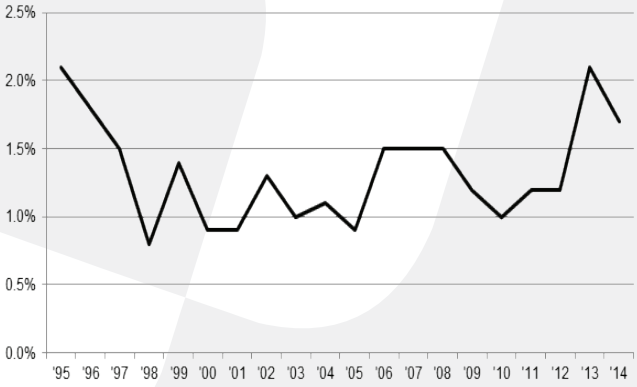
Performance and image enhancing drugs

Reports of PIEDs as the last drug injected were low and stable at 1% to 2% in all years 1995 to 2010 (χ^2 trend p=0.147). However, prevalence of PIEDs as the last drug injected increased significantly in recent years, from 2% in 2010 to 7% in 2014 (χ^2 trend p<0.001). In 2014, the median age of respondents who last injected PIEDs was 27 years.

HIV and hepatitis C virus antibody prevalence

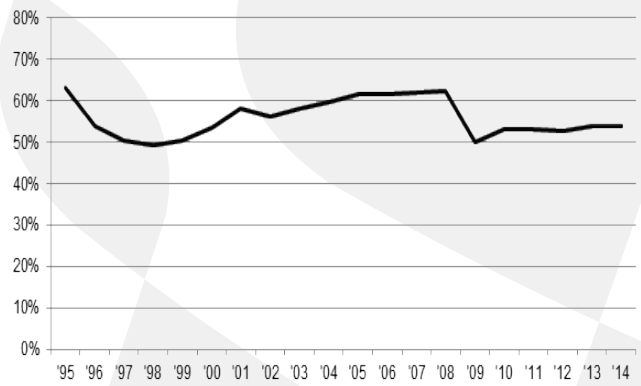
As shown in Figure 6, HIV antibody prevalence was low and stable at 2.5% or less in all years between 1995 and 2014 (χ^2 trend p=0.199). In Australia, HIV prevalence among PWID reflects the broader epidemic, with seroprevalence highest among men who have sex with men (Topp et al, 2011). This sub-population comprises between 2% and 5% of annual ANSPS samples and HIV prevalence in this group increased from 23% in 1995 to 30% in 2014 (χ^2 trend p<0.001). Male homosexual identity is the strongest independent predictor of HIV antibody-positive serostatus among ANSPS respondents (Topp et al, 2011).

Figure 6: HIV antibody prevalence by survey year



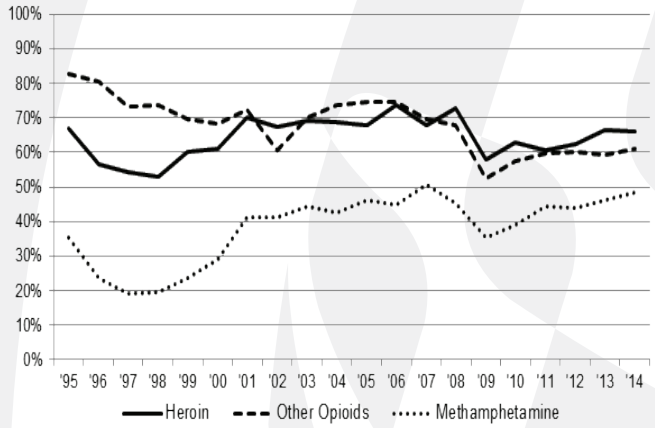
Despite some variation, hepatitis C virus (HCV) antibody prevalence was stable over the twenty year period, ranging from 49% in 1997 to 63% in 1995 (χ^2 trend p=0.590, Figure 7). Over the past five years (2010 to 2014) HCV antibody prevalence was stable at around 50% (χ^2 trend p=0.732). HCV antibody prevalence was highest among respondents with longer injection histories (56% to 84%) and among older respondents (59% to 85%).

Figure 7: HCV antibody prevalence by survey year



HCV antibody prevalence varied according to the drug most recently injected (Figure 8), with prevalence highest among respondents who reported last injecting opioids. HCV prevalence ranged from 53% (in 1998) to 74% (in 2006) among respondents who reported last injecting heroin and from 53% (in 2009) to 83% (in 1995) among respondents who reported last injecting other opioids (pharmaceutical opioids and opioid substitution therapies). In all survey years, HCV antibody prevalence was lower among respondents who reported last injecting methamphetamine (range 19% to 51%), however HCV antibody prevalence in this sub-population increased from approximately 20% in the late 1990s to 48% in 2014 (χ^2 trend p<0.001).

Figure 8: HCV antibody prevalence by drug last injected and survey year



SUMMARY

Despite variations in the patterns of drugs last injected observed over the twenty year period from 1995 to 2014, heroin and methamphetamine remained the two most commonly reported drugs last injected in all survey years. Over the most recent five year period, 2010 to 2014, reports of heroin as the last injected significantly declined from 34% to 31% and reports of methamphetamine increased significantly, from 26% to 33%. Reports of injection of pharmaceutical opioids and opioid substitution therapies declined significantly over the same period, from 16% to 11% and 15% to 10% respectively. The proportion of ANSPS respondents who reported last injecting PIEDs increased significantly, from 2% in 2010 to 7% in 2014. In 2014, just over half (51%) of ANSPS respondents reported last injecting an opioid. One in three (33%) respondents reported last injecting methamphetamine, with half of this sub-population reporting a history of OST.

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