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## Key findings

- This bulletin considers recent changing trends in heroin and other opioid use across Australian jurisdictions.
- It suggests that evidence from the IDRS is consistent with a possible cyclical shift from uppers (stimulants) to downers (depressants) may be reoccurring, although the pattern may be different in different Australian jurisdictions.
- Western Australian IDRS findings are used as a case study to demonstrate recent shifts in heroin use amongst IDU.
- The bulletin concludes by summarising the measures taken in Western Australia in response to recent trends in the event that heroin availability, use and harm increase further.

## Indications of changing trends in heroin and other opioid use in IDRS data nationally and in Western Australia

### The 'heroin shortage' and methamphetamine use

It is well documented that there was an abrupt and substantial reduction in the availability of heroin in Australia in early 2001, a phenomenon that has come to be referred to as the "heroin shortage" (Degenhardt, Day et al. 2005). The reasons why this occurred remain a matter of conjecture, however it was most likely the result of several different factors. Consequently, the supply of heroin in Australia was substantially disrupted; while there was some variations between jurisdictions (Degenhardt, Day et al. 2005) in every state and territory, overall there were indications of reductions in heroin availability, purity, along with increases in price. These market changes resulted in decreased heroin use and harm, ensuring a sharp decline in fatal heroin-related overdoses (Degenhardt, Day et al. 2006).

Following the sudden heroin shortage, as heroin became more difficult to obtain and less pure, many users switched to alternate drugs. Data from the IDRS showed that in NSW, VIC and QLD, while there was a decrease in self reported recent heroin use among regular injectors, the drugs people switched to differed across jurisdictions (Degenhardt, Day et al. 2005). In NSW many injectors seem to switch to cocaine injecting, while in Victoria there was a shift to benzodiazepine injecting (Degenhardt, Day et al. 2005). In WA there was a shift toward pharmaceutical opioid injecting (Fetherston & Lenton, 2007). Increasingly, however, across the country there was a perceived shift towards increasing use of methamphetamines like 'speed', 'crystal' and 'base' believed to be filling the hole that existed in the Australian drug market as a result of the heroin shortage. This phenomenon was dubbed the 'ice age' by the Australian media (Carney, 2006).

Even though an increase in the use of methamphetamines was reported by the media and observed by front line personnel in hospitals and drug service agencies, the statistics on the use of methamphetamines in Australia provide a varied picture. According to the *National Drug Strategy Household Survey (NDSHS)* from 1998- 2007, the percentage of Australians aged 14 years and over who reported recent use (used in the last 12 months) of methamphetamines peaked in 1998 (3.7%) and has since been steadily declining, with 3.4 per cent of the Australian population reporting in 2001, 3.2 per cent in 2004 and most recently to 2.3 per cent in 2007 (AIHW, 2009). Suggesting that even though there has been increased community concern about methamphetamine use and associated problems (Carney, 2006); population data from both the NDSHS (AIHW, 2009) and self report trend data from the IDRS (Topp et al., 2002) show a decrease in methamphetamine use rates over this period. Having said that, it is likely that among those people who were current long term methamphetamine users, associated problems may have been accumulating over time and subsequently revealed over this time period. This was evident in the amphetamine related morbidity data. For example, nationally from 1999-2000 there were 5679 hospital bed-days attributed to amphetamine-induced psychosis but by 2003-2004 this had risen to 8068 (Degenhardt et al., 2007). Community and media concerns about the drug were probably related to levels of problematic use, even though indicators of use per se were declining over the period.

## Recurring cycles and patterns

History has shown us that illicit drug use progresses in cycles between stimulants and depressants. In Australia from the late 1980s until the early 1990s there was a period of high rates of amphetamine use, followed by heroin use and associated harms increasing up until the period of the 2001 shortage (Dietze and Fitzgerald. 2002). Despite the abrupt nature of the Australian heroin shortage, which made it a unique case example (Degenhardt, Day et al. 2006), cycles of depressant use followed by stimulant use have occurred over decades in many countries. While price, purity and availability of drugs undoubtedly play some role in these cycles, it has also been suggested that there are things about the beliefs, knowledge and actions of the cohorts drug users themselves which also function to drive changes in drug use 'fashion'. (Musto 1987; Behrens, Caulkins et al. 2002). For example, Caulkins and Heinz (2002) explain that initially, drug use is low and for some unknown reason, use of a particular drug begins to grow, with existing users

receiving positive effects and new users being introduced to the market, leading to an infectious spread. They note that most drug users experience a honeymoon period for some years during with the good experiences overshadowing the obvious harms. However, this expansion stage is not continual, as eventually the number of first time users decreases, the number of users stabilises and when the drug's negative effects become more widely known, fewer people want to start using and consequently use declines.

As Musto (1987) suggested, as knowledge of the adverse consequences of a particular drug spreads (through, for example, widespread publicity of drug overdose deaths), at-risk young people are deterred from the use of that drug (possibly seeking alternatives). Cycles of drug use occur when the current generation of young people has no memory of the adverse experiences of those who came before them and, as a consequence, they tend to repeat the same patterns. Although there is no evidence in Australia of a return to heroin use at the levels seen in the mid 1990s up until 2001 (Lenton, Dietze et al. 2009), recent IDRS findings have suggested that heroin use is increasing in Australia, signifying that trends in drug use may be shifting from stimulants to depressants (heroin and pharmaceutical opioids). This trend has been more apparent in some jurisdictions such as Western Australia.

Below we investigate this cyclical shift from stimulants to depressants through national heroin and other opioid trends, focussing on Western Australia as a case study.

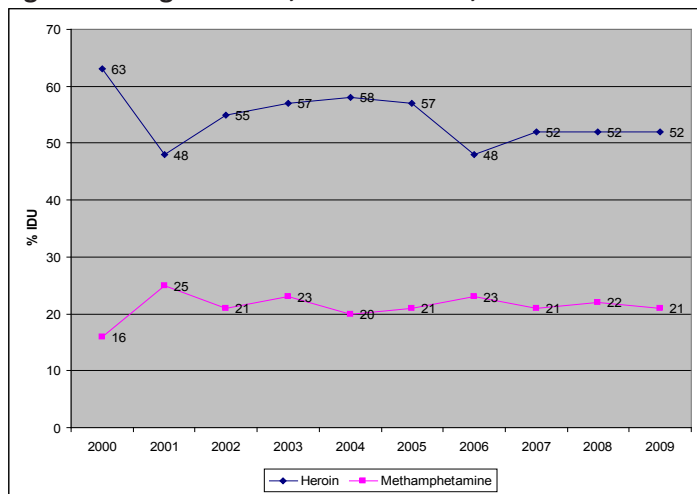
## National trends over time

The IDRS has collected directly comparable data in each Australian jurisdiction since the year 2000, allowing shifts in drug trends to be placed in a rich and detailed background context, demonstrating the magnitude of the dramatic changes between 2000 and 2009 in our illicit drug markets both at state and federal levels. Shifts in drug trends since the heroin shortage provide an opportunity for the IDRS to operate in the way intended by Wardlaw (1994) when he first conceived the manner in which a strategic early warning system should be conducted. Wardlaw argued that the IDRS should point to areas of national concern that required further and more detailed specialist research. We believe the IDRS data set does this in pointing to shifts from uppers (stimulants) to downer (depressants) among this sentinel group of recent drug injectors.

Looking at national self report from regular IDU interviewed

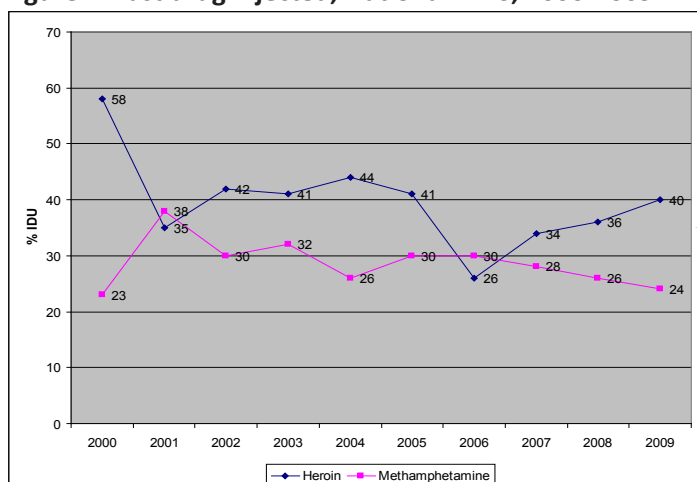
as part of the IDRS, between 2000 and 2009 heroin has continued to be the main drug of choice (Figure 1). Figure 2 and 3 show that after the initial shock of the heroin shortage, the percentage reporting heroin as the last drug injected or most often injected, increased for 3 years then declined (in 2005 and 2006) to below the figures for amphetamines in that year. Yet, since then there has been a steady increase in heroin use among both these indicators in the national IDRS sample. On the other hand, the percentage of the national IDRS sample saying methamphetamines were their drug of choice (Figure 1) stayed fairly stable from 2001 to 2009. However, the percentage reporting methamphetamine as the *last drug* they injected (Figure 2) or the drug *most often* injected (Figure 3) in the previous month have steadily declining since 2006.

**Figure 1: Drug of choice, National IDRS, 2000-2009**



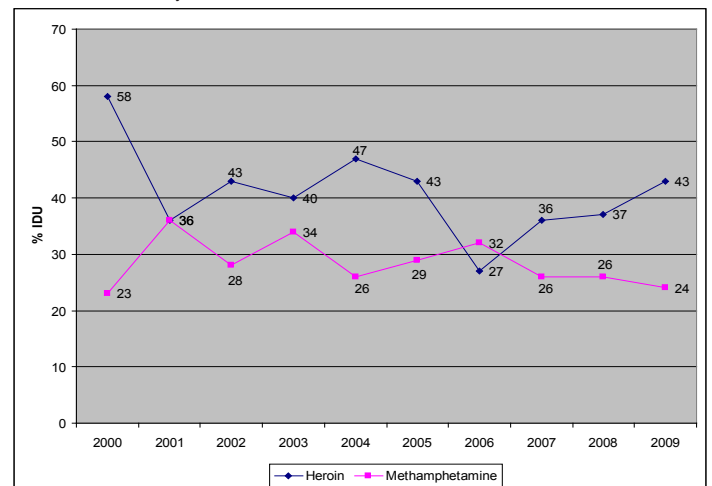
Source: IDRS IDU participant interviews, National findings

**Figure 2: Last drug injected, National IDRS, 2000-2009**



Source: IDRS IDU participant interviews, National findings

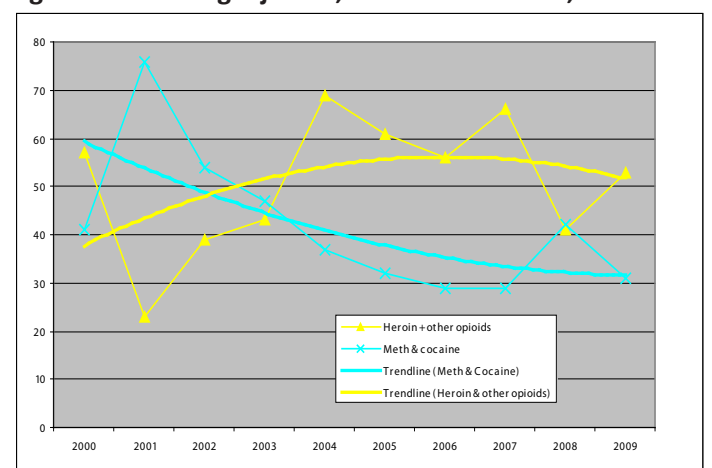
**Figure 3: Drug injected most often in the last month, National IDRS, 2000-2009**



Source: IDRS IDU participant interviews, National findings

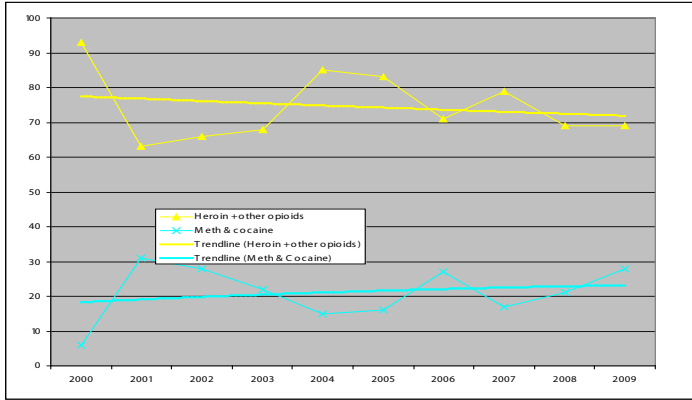
Simply looking at national drug use trends can obscure differences at the jurisdictional level. For example, there appear to be differences in recent use of depressants (most commonly heroin and opiates) and stimulants (methamphetamines and cocaine) in the IDRS data from smaller (WA, SA, NT and TAS) and larger (NSW, VIC, QLD) jurisdictions. In the smaller jurisdictions, with lower levels of heroin use among the IDRS samples, we see the distributions stimulant and depressant use overlap (see Figure 4 showing WA for example) whereas in the larger jurisdictions, which have larger and more robust heroin markets, the amphetamine and opioid trend lines are more distinct as heroin availability does not appear to have been as affected by the shortage as it was in the smaller jurisdictions (see Figure 5 for the Victorian data).

**Figure 4: Last drug injected, Western Australia, 2000-2009**



Source: IDU IDRS interviews, Western Australia, 2009

**Figure 5: Last drug injected, Victoria, 2000-2009**



Source: IDU IDRS interviews, Victoria, 2009

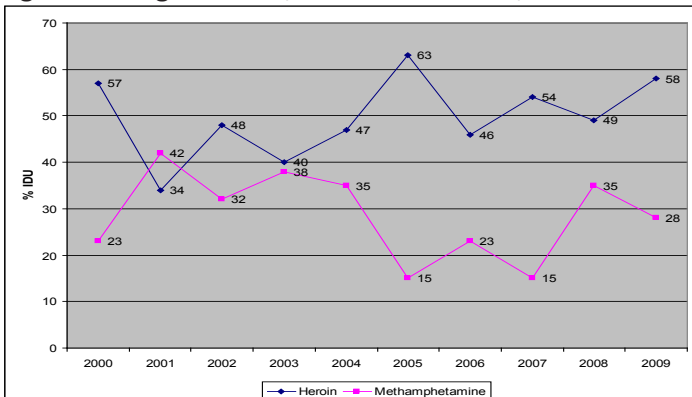
In a larger jurisdiction, like Victoria, findings suggest that even after a heroin shortage, heroin as the last drug injected has remained relatively stable. Whereas in a smaller jurisdiction like Western Australia, after the heroin shortage, heroin and other opioids were replaced by methamphetamine as the last drug injected (Figure 4). It is likely that numerous factors such as geographical isolation, more challenging border security and smaller populations demanding certain drugs tend to influence trends in stimulant and depressant drug popularity.

### Western Australian drug trends over time

Here we present IDRS data from Western Australia which is one jurisdiction where IDRS data is showing signs of increasing heroin use.

In 2009, as in most other years, 100 current injecting drug users (IDU) participated in the Western Australian IDRS study. Heroin has remained the 'drug of choice' for the majority of the IDRS sample since 2002 (Figure 6).

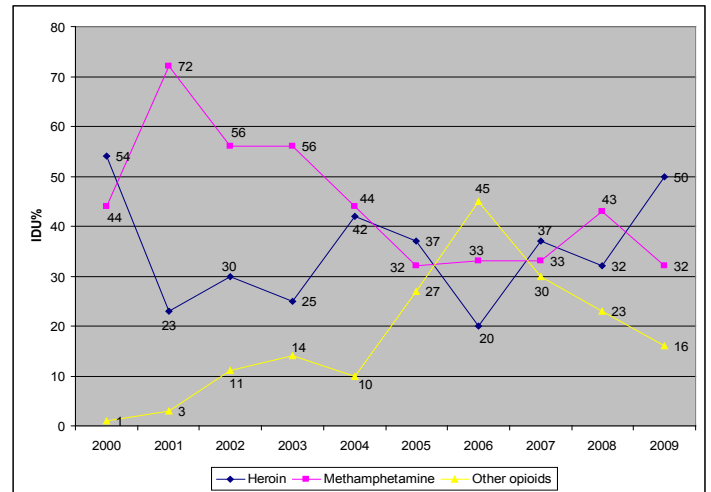
**Figure 6: Drug of choice, Western Australia, 2000-2009**



Source: IDRS IDU Interviews, Western Australia, 2009

Heroin has not always been the drug most injected in Western Australia, with use of methamphetamine initially dominant in the wake of the heroin shortage. In 2009, this changed, with heroin clearly the drug most frequently injected by most drug injectors' interviewed in the WA IDRS along with a decline in injection of other opiates (Figure 7).

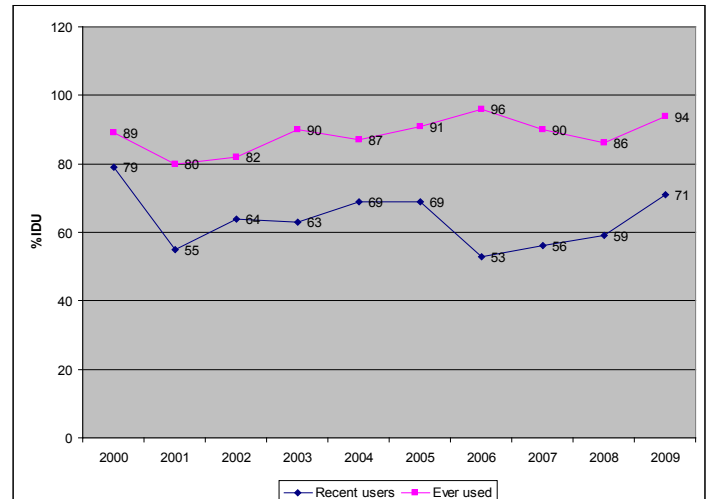
**Figure 7: Drugs most injected in the month prior to interview, Western Australia, 2000-2009**



Source: IDRS IDU Interviews, Western Australia, 2009

In addition, from 2008 to 2009 there were significant increases in the percentage of IDU interviewed in the WA IDRS reporting having *ever* used heroin and having *recently used* heroin (ie: in the last 6 months) (Figure 8).

**Figure 8: Ever and recent (last 6 months) use of heroin, Western Australia, 2000-2009**



Source: IDRS IDU interviews, Western Australia, 2009

## Other opioids

Western Australian IDRS findings suggest that recent use of other opioids (methadone, morphine, oxycodone, buprenorphine and buprenorphine-naloxone) has increased from 2000 to 2006, but has been in decline since (see Figure 7).

## Price, purity and availability

According to the WA IDU sample the price of heroin remains more expensive than prior to the shortage despite recent falls. The median price for a gram of heroin in 2009 was \$575, down from \$600 in 2008 compared to \$450 in 2010. In the 2009 WA IDRS heroin was described as 'very easy' to obtain by 45% of those responding, up from 28% in 2008. In 2009 there were no users who described availability as 'very difficult' which was consistent with 2008 findings. Viewed as a dichotomous variable, this situation remains relatively unchanged from 2008. Ease of access to heroin in the six months preceding the survey was reported as 'stable' by 73% of those responding.

Despite apparent increases in availability, heroin purity appears to remain modest in WA. In 2009 heroin purity was rated as 'medium' by most IDU interviewed. Indeed from 2008 to 2009 the proportions reporting that heroin was 'high' or 'medium' decreased while the proportion reporting it as 'low' increased significantly.

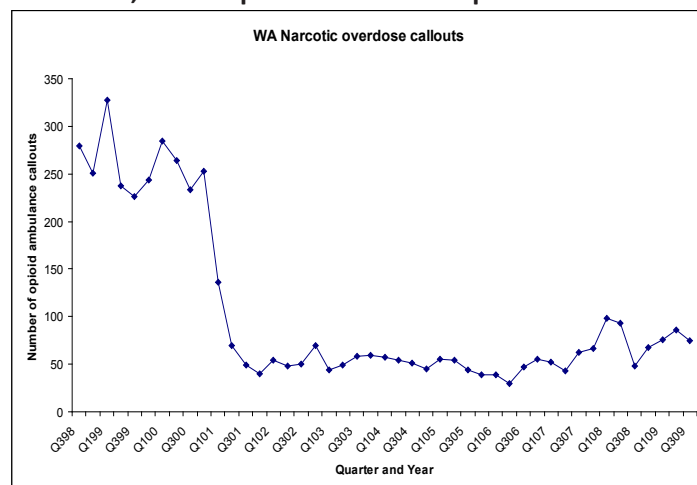
This can be explained by national heroin importation indicators. There is no evidence in Australian customs detections that large shipments of heroin are getting to Australia as they were in the pre-shortage period. Whilst in recent years there has been an increase in the number of small 'scatter' importations through the post, air cargo and on air passengers (Australian Crime Commission, 2009), the net weight of detections remains far below where it was during the pre-drought years (Stafford et al., 2009).

## Overdose

Ambulance data indicate that the number of ambulance callouts to narcotic overdoses in WA has increased in the last two years (Figure 9), but remains far lower that it was prior to the heroin shortage. Nevertheless in the last 2 years WA has seen the greatest number of ambulance callouts to narcotic overdoses seen since the beginning of the heroin shortage in 2001. It is unclear at this stage whether this increase is reflective of increase availability of heroin, homebake heroin or pharmaceutical opioids. Self reported

overdoses by the IDRS samples were also highest in WA compared to other states in 2009. The fact that overdose fatalities in WA remain low compared to the pre shortage levels is probably because overall, heroin purity appears to remain low in WA. However, in WA we have seen localized and sporadic clusters of overdoses over the last 12 months, suggesting purity has been fluctuating, posing an overdose risk.

**Figure 9: Number of ambulance callouts to narcotic overdoses, WA 3<sup>rd</sup> quarter 1998 – 3<sup>rd</sup> quarter 2009**



Source: St John Ambulance, WA from WA Pre Hospital Care Research Unit (WAPCRU)

\*NB due to missing data for Sep-05, that month was allocated a data value equal to the average for the 3rd quarter 05

## Time for prudent action

After observing changes in the IDRS and other indicators in 2008, the WA Overdose Strategy Group (a coalition of government and non-government stakeholders chaired by the Drug and Alcohol Office), which has been monitoring overdose indicators since 1998 and guiding WA responses, began to consider what prudent steps should be taken in the event of heroin overdose and fatalities increasing.

The measures which have been implemented included: (1) Continuing to monitor indicators of heroin availability in WA (including reports from the WA Substance Users association (WASUA), police seizure purity data, data from emergency departments and ambulance callouts, heroin related calls to the Alcohol and Drug Information Service (ADIS) help line, and of course the IDRS data); (2) Reviewing the content and messages from past overdose prevention and management pamphlets and other guidelines and updating when necessary; (3) Incorporating the newly developed

international resuscitation guidelines (DRABC) in training packages for drug workers and drug users; (4) Reviewing strategies that target those most at risk of overdose, particularly heroin users exiting prisons, residential rehabilitation, or detoxification clinics; (5) undertaking a review of policies and practices such as those regarding police attendance at drug overdose; and (6) consideration of the validity of measures to increase access to naloxone for peer administration (see Lenton, Dietze et al. 2009; Lenton, Dietze et al. 2009).

The work of the WA Overdose Strategy Group means that WA is better positioned to deal with any further increases in heroin availability and associated harms, should they occur. Clearly too, the continued monitoring of trend data collected through the IDRS and other indicators in WA and elsewhere in the country will help inform strategic policies and limit associated harms.

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