

## UPHEAVAL IN THE AUSTRALIAN DRUG MARKET

# UPHEAVAL IN THE AUSTRALIAN DRUG MARKET: THE CAUSE AND IMPACTS OF THE SUDDEN HEROIN SHORTAGE AND INCREASED SUPPLY OF STIMULANTS IN 2000-01

by  
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# PREFACE

This study is intended as a survey of what is known about the large and unprecedented changes to the Australian drug market in 2000 and 2001. It focuses on those changes. They are important because of their uniqueness for Australia, the fact that similar changes did not seem to occur elsewhere, the insight that they give into the working of illicit drugs markets and for what they reveal about the efficacy of existing drug policy. A general description of the illicit drug situation in Australia and how it varies across the country is beyond the study's scope. Nor does it attempt to give more than a brief sketch of developments since 2001.

The causes of the changes have been the subject of little published academic analysis yet a substantial amount of information is available from Australian, United States and other sources that allows reasonably confident conclusions to be drawn. In contrast, much analysis is being published on impacts of particular aspects of the changes on health and, to a smaller extent, on crime. The present study seeks to do no more than faithfully place in the context of all that is known about the changes the findings of the specific research. At the same time it does not shrink from making connections and deductions from what is known when this is reasonable to do so on the basis of the best available evidence. An example is the treatment of the causes of the drug upheavals where the evidence points beyond reasonable doubt to a conclusion different to that espoused by the Federal Government.

The objectives of the study are therefore a great deal more ambitious than what to date has been published. Moreover, it has been prepared without the benefit of access to an officially funded study, *The causes, course and consequences of the heroin shortage in Australia* being published by the Australasian Centre for Policing Research of Adelaide. From its title, that too would aim to tell only part of the story, namely the heroin shortage and its impact, and not the other interlinked changes to Australia's drug scene.

Compared to other fields of research, analysis of drug policy is conditioned. This occurs by virtue of the political sensitivity of drug policy and the influence that government can exercise on analysis through funding and access to information.

Particularly because the impacts on health and crime of the drug market changes of 2000 and 2001 are still being investigated, the present study should be considered as a work in progress. Readers are therefore requested to bring additional information as well as errors and omissions to the attention of the author at [bushwil@goldweb.com.au](mailto:bushwil@goldweb.com.au).

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# **UPHEAVAL IN THE AUSTRALIAN DRUG MARKET: THE CAUSE AND IMPACTS OF THE SUDDEN HEROIN SHORTAGE AND INCREASED SUPPLY OF STIMULANTS IN 2001**

by

**Bill Bush**

## **I. INTRODUCTION & SUMMARY**

Australia experienced extraordinary changes to its illicit drug market from the end of 2000. A so-called heroin drought caught the headlines but it was accompanied by a flood of potent imported methamphetamine and cocaine. This paper outlines what happened and what caused the upheaval to Australia but to no other country.

The Government has been ready to take credit for the “heroin drought” but not the flood of other drugs. It attributes the “drought” to its supply reduction measures. The evidence contradicts the Government’s claim. It is known that heroin supplies to Australia were subject to a tightening from two sides: big drops in production and a big jump in demand from countries closer to the source of supply. It is also known that the same groups that supplied heroin to Australia were also involved in the manufacture of methamphetamine-type stimulants and the supply of cocaine. In fact, an Australian agency had forecast what happened several years before it actually occurred. To cap it off, police intelligence actually detected a scheme to promote orally ingestible stimulants in Australia rather than heroin.

The upheaval in the drug market had big impacts on health and crime. Most notably, there was a most welcome drop in overdose deaths but, on the other hand, very worrying indications of serious harm – particularly to their mental health - to injecting drug users who came to use more of the stimulants and other users. There was a sharp rise in the level of property crime when the heroin shortage first struck but this increase seems to have been relatively short-lived.

There has been speculation about the light that the events of 2000-01 throw on the economics of drug demand. The paper criticises suggestions that what happened reinforces the case for law enforcement effort to keep the price of illicit drugs higher than what it would otherwise be. The paper ends with observations on the highly politicised atmosphere that makes a dispassionate examination of the causes of the upheavals difficult and which even distorts the academic analysis of what happened.

## **II. CHANGES IN THE AUSTRALIAN DRUG MARKET**

In the lead up to the Sydney Olympic Games in 2000 something unusual started to occur in Australia’s illicit drug market. Initially, changes were barely perceptible with some indicators of availability and usage of heroin showing a moderate decline. Then, around Christmas 2000 there was

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a precipitous reduction in the availability of heroin. The shortage was particularly marked between January and April 2001 (IDRS 2001, 46). Ambulances were being called to less overdoses, there was a fall in the number of overdose deaths, clients were telling syringe distribution services and drug treatment agencies that heroin was suddenly much harder to obtain and that what was available was now of lower quality but costing much more. These reports amounted to a reversal of trends that had been evident for years.

Concurrently, other changes were happening. In Sydney, a city of some four million and the largest in Australia, those working with drug users were hearing of much greater availability of cocaine – a drug that had been little used. Police started finding more people using that drug among those whom they arrested. Police also began warning about the likelihood of much greater supplies of potent imported methamphetamine.

Research has since confirmed the remarkable dimensions of these changes to the illicit drug market.

### 1. Heroin

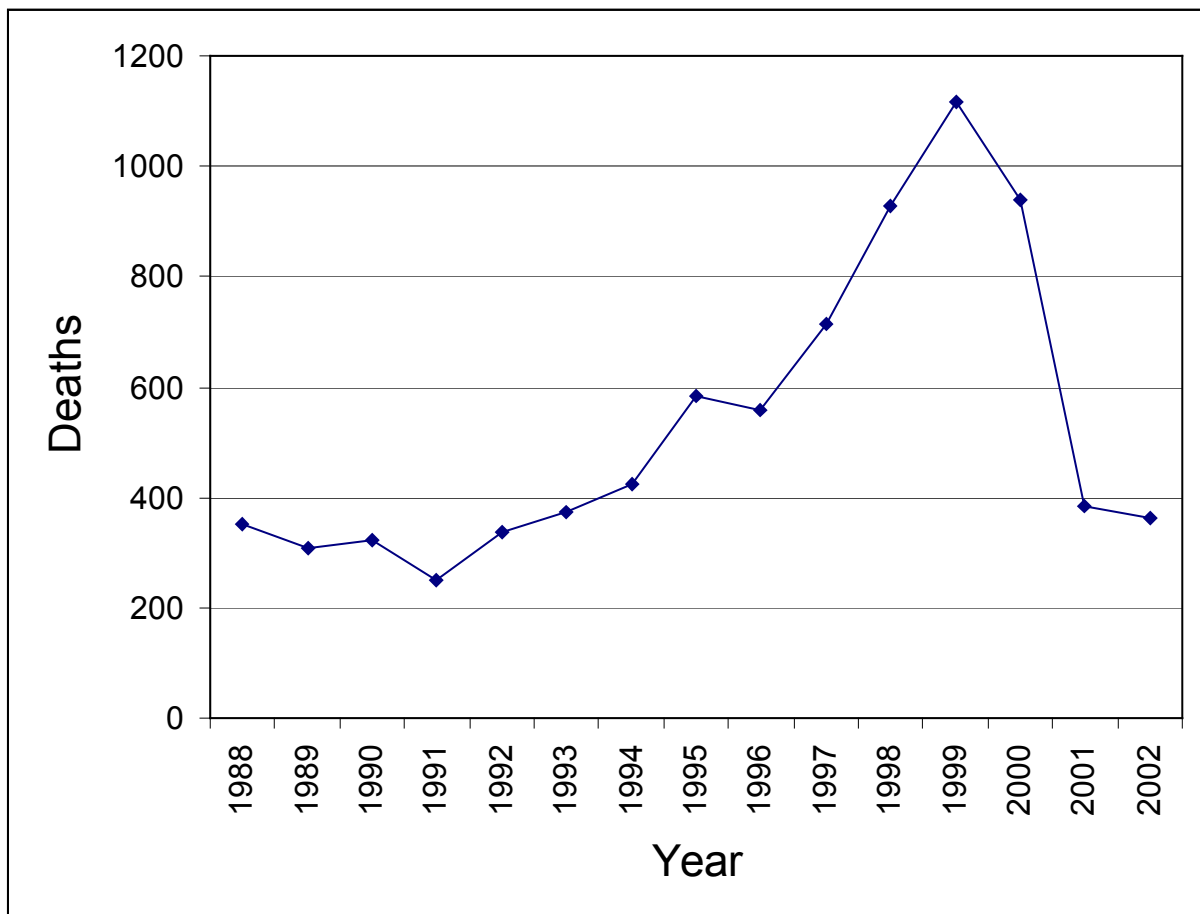
The following are some of the striking indicators of the heroin shortage. Declines before December 2001 in purity, in ambulance attendances at non-fatal heroin overdoses and in overdose deaths may indicate changes in heroin supply before the onset of the severe shortage:

- *Purity of heroin:* From mid-1999 there was “a steady decline in the median purity of heroin seizures by State police” (IDRS 2002, 44; see also IDRS 2001, 45-46). It sank from about 65% to less than 20% by the end of 2001 (IDDR 2004, 17). Reduced purity was particularly noticeable to users at the end of 2000. In Cabramatta 82% of users surveyed regarded heroin as less pure than before Christmas (Weatherburn *et al.* 2001, 5 &, similarly, Day *et al.* 2003).
- *Price of heroin:* The reported price per gram of heroin in the two most populous states increased 45% in New South Wales and 50% in Victoria between the annual surveys of injecting drug users carried out between June and August of 2000 and of 2001. From June to June the price of the standard street measure of a cap doubled in New South Wales. This followed stable or decreased prices since the first survey in 1996 (IDRS 2001, 42-44 & Darke *et al.* 2002, 11-12). According to another survey of users in the Sydney suburb of Cabramatta, considered Australia’s largest heroin market, a gram cost 75% more after Christmas 2000 than during the month before (Weatherburn *et al.* 2001, 4)
- *Perceived availability of heroin:* Far fewer users reported that heroin was “very easy” to obtain and more that it was more difficult. For example in New South Wales only 46% reported that heroin was “very easy” to obtain in 2001 compared to 85% in 2000 (IDRS 2001, 13). 71% of users surveyed in Cabramatta thought heroin was harder to get after Christmas (Weatherburn *et al.* 2001, 5 &, similarly, Day *et al.* 2003)

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- *Drop in the demand for syringes:* In New South Wales there was an estimated 16% reduction of syringes provided in the first half of 2001. In Cabramatta in Sydney the number distributed dropped by a huge 59% (Weatherburn *et al.* 2001, 7-8).
- *Reduction according to household survey:* According to the 2001 Household survey conducted between July and November 2001, 0.2% of the male population had used heroin recently compared to 0.5% of the male population in the 1998 survey (AIHW 2002a, 25, 43). The survey probably underestimates the extent of heroin use given that it was based around households and thus excluded the institutionalised and homeless. This underestimate applied equally to the 1998 and 2001 surveys (*ibid.* 1).

**Figure 1: Opioid deaths in Australia among those aged 15-54, 1988-2002**



Source: IDRS 2003, 57.

- *Ambulance attendances at non-fatal heroin overdoses:* In Melbourne in Victoria (Australia's second biggest city) between December 2000 and February 2001 ambulance attendances at overdoses declined 73% and



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attendances for the first four months of 2001 averaged 3 a day compared to 12 for the corresponding period in 2000 (Fry & Miller 2002, 68). In New South Wales the reduction was 53% across the state and 74% in Sydney (Weatherburn *et al.*, 2003, p. 87). There had been several decreases in New South Wales from a peak in early 1999, thus well before the severe shortage (Roxburgh *et al.* 2003, 15);

- *Heroin overdose deaths:* Opioid related deaths among 15-54 year olds in Australia decreased from 1,116 in 1999 to 938 in 2000 and a dramatic 58% to 386 in 2001. (IDRS 2003, 57, IDRS 2002, 55). The decline was most dramatic in Victoria: In that state there were 85% fewer deaths in 2001 compared to 2000 (Jenkinson *et al.* 2003, 54).
- *Arrests of heroin consumers and providers:* From a peak in 1998-99 there has been “a steady decline” in the number of arrests, namely a 34% reduction between 1999-2000 and 2000-01. This is regarded as “consistent with the reduction in heroin availability and . . . decreased heroin use” (IDRS 2002, 53-54).

### 2. Methamphetamine-type stimulants

At the time of the reduction in the supply of heroin, data pointed to a substantial increase in the availability of imported methamphetamine-type stimulants supplementing existing substantial local production.

- *Usage among injecting drug users:* Annual surveys among injecting drug users showed a sharp increase in use by them of methamphetamine-type stimulants in all jurisdictions except New South Wales. Recent use increased from 64% in 2000 to 76% in 2001 and the frequency of use increased from an average of 15 days in the preceding 6 months to 30 days (IDRS 2001, 68-69; Topp *et al.* 2003, 279, 280). In particular, use of potent imported forms of the stimulants increased. “Between 2000 and 2001, every jurisdiction recorded dramatic increases in the proportion of current methamphetamine users who reported recent use of crystalline forms of methamphetamine known variously as ice, shabu and crystal meth” (IDRS 2001, 72).
- *Usage among others:* The non-injecting drug using population is not as well surveyed in Australia as the injecting one but the indications are that usage of methamphetamine-type stimulants among this population also grew substantially. Reflecting the view of law enforcement agencies, the 2000-01 Illicit Drug Report, 48 stated that: “The demand for amphetamine-type stimulants in Australia is on the increase. The prevalence of tablet-form methylamphetamine being marketed as ecstasy further generates a whole new market and user group for the drug. In Queensland alone, the amphetamine-type stimulant market has evolved to the extent that its consumers outnumber those in the heroin market and cross a variety of licit and illicit drug markets via polydrug usage.” ‘Base’ and ‘ice’ or crystal methamphetamine - potent forms that are typically imported - became “relatively commonplace among the dance party

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scene since 2001” (McKetin & McLaren 2004, 34). Moreover, analysis of seized samples shows the extent that amphetamine tablets were often passed off as ecstasy. New South Wales police reported that in 2001-02 only something over half the tablets sold as ecstasy contained methylamphetamine and not the active ingredient of ecstasy, the phenethylamine known as MDMA. The proportion had been 3:1 in favour of methylamphetamine in 2000-01 (AIDR 2003, 80).

- *Arrests:* Consumer and provider arrests for offences concerning methamphetamine-type stimulants increased by 10% between 1999-00 and 2000-01 (IDRS 2001, 71-72). Testing of police detainees at several urban sites around Australia showed either pre-existing high percentages of positive tests or increases. A site in Western Australia ranged “fairly consistently” between 37% and 46% though there was a “significant increase” “between the last quarter in 1999 and the first quarter in 2000.” During 2001 a site in Queensland increased from 19% of adult male detainees to 32%, an increase of 68%. Even in Sydney where cocaine use grew most rapidly during 2001, the report of detainees noted that “as opiate use has declined . . . amphetamine use seems to be increasing” (Makkai & McGregor 2002, 11, 13 & 14).
- *Seizures of imported methamphetamine-type stimulants:* There were huge increases in the amount of imported methamphetamine-type stimulants seized by Customs. In particular, the weight of crystalline methamphetamine they seized grew by an enormous 832% in 2000-01 to 82.1 kg. In the following year seizures were 88% higher than that (IDRS 2002, 69-70 & IDRS, 2003, 74). These seizures complemented a continuing steady rise in detection of clandestine methamphetamine laboratories in Australia (IDRS, 2002 68).

### 3. Cocaine

Cocaine has not been widely used in Australia. It has been principally confined to Sydney in New South Wales. Coinciding with the onset of the shortage of supply of heroin, there was a big increase in the supply of cocaine in Sydney rather than a large increase in supply of methamphetamine-type stimulants as occurred elsewhere.

- *Usage among injecting drug users:* There was a “marked increase” in New South Wales. The proportion of users “reporting recent cocaine use increased from 63% in 2000 to 84% in 2001, and the median number of days on which cocaine had been used in the preceding six months increased from 12 days to 90 days” (IDRS 2001, 91; Topp *et al.* 2003, 279, 280; similarly Roxburgh *et al.* 2004a). 2001 was also the first year in which the annual survey of injecting drug users “documented early indicators of a potential increase in the availability and use of cocaine in jurisdictions other than NSW” (IDRS 2001, 94).
- *Arrests:* Consumer and provider arrests for offences concerning cocaine increased by 50% between 1999-00 and 2000-01 (IDRS 2001, 90). These

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were predominantly in New South Wales. The number of detainees who tested positive to cocaine at two centres surveyed in Sydney increased from 6.2% of detainees in 2000 to 16.4% of detainees in 2001 at one and from 3.1% to 12.2% at the other (Makkai & McGregor 2001, 2 & 22; Makkai & McGregor 2002, 35 & 54). Throughout New South Wales, police arrests for the possession or use of cocaine also markedly increased during 2001 (Donnelly *et al.*, 3).

### **4. Significance of the changes in drug supply**

In summary, there was a sharp decrease in supply of heroin in Australia from the end of 2000. This coincided with a big increase in cocaine in New South Wales and in imported methamphetamine-type stimulants elsewhere. The sudden shortage in supply of heroin was preceded by what was probably a modest reduction in supply from 1999.

What happened in Australia from late 2000 was apparently unique to that country (Gibson *et al.* 2003, 35). While the United States and the International Narcotics Control Board reported a worldwide growth in availability of artificial stimulants like methamphetamine, no other country experienced the same shortage of heroin. Moreover, historically, there are few examples in the world of large and sudden reductions in drug availability.

The recent Australian changes are important for what they may reveal about:

- (a) the nature of the illicit drug market in the globalised economy;
- (b) the effectiveness of supply reduction strategies to bring about big changes; and
- (c) irrespective of the cause, the effects of large changes in drugs availability on the health of users and on crime.

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### III. EXPLANATIONS OF THE PERTURBATIONS

What best explains the precipitate shortage of heroin in Australia from the end of 2000 (preceded by a moderate tightening of supply) and the concurrent growth in supply of imported methamphetamine-type stimulants and cocaine?

The Australian Government has attributed the shortage of heroin (though not the growth in supply of other drugs) to the success of Australian law enforcement. Law enforcement did have some successes at the relevant time that could have influenced a shortage but other documented factors are likely to have had more influence. Information on the public record that may explain the changes in drug supply to Australia can be grouped under the headings of successful police operations, evidence of effectiveness of earlier operations, the source and supply routes of illicit drugs imported into Australia and relevant developments in the global environment.

#### **1. Successful police operations in the lead up to 2001**

Like other comparable countries, Australia devotes large resources to the reduction of the supply of illicit drugs by law enforcement. An economic study estimated that in 1998-99 the crime cost borne by the budgets of state and local governments alone were at least \$1,427m in addition to unspecified additional enforcement costs of the federal government (Collins & Lapsley 2002, 67 & 40-41).

Police have pointed to two particular law enforcement successes to explain the heroin shortage:

- “In 2000-01, the [Australian Federal Police] seized 249 kg of heroin domestically and was significantly involved in operations leading to the seizure of another 357 kg overseas” (AFP 2001, 17 &, similarly, Hawley 2002, 48); and
- “dismantling of a major syndicate in mid-2000 by an Australian-led international task force. . . . This syndicate allegedly had been bringing in large shipments to Australia on a very regular basis, using an excellent modus operandi” (Gordon 2002 & more details in Hawley 2002, 46-48).

Heroin importation syndicates were hit very hard and police intelligence received by the AFP indicated that some investors had incurred losses which prevented them from continuing in the business and some syndicates had decided to avoid Australia altogether and look towards safer markets. (Hawley 2002, 48)

#### **2. Evidence from the previous decade of the influence of police operations on availability**

Prior evidence of the effect of law enforcement on availability is relevant to the assessment of whether law enforcement in 2000-01 is likely to have accounted for the shortage then. The evidence is that tough levels of

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law enforcement were ineffective to prevent a general increase in drug supply during the 1990s.

- Without contrary information bearing on the size of the illicit drug market, “seizures of drugs by law enforcement agencies . . . can provide an important insight into the actual trends in illicit drug production and trafficking” (WA 1997, v.1, §3.2.4, 61). Thus, police intelligence acknowledges that: “While seizure rates do not necessarily correspond with production, they can be a good indicator of production trends.” (Gordon 2001, 18 & similarly ODCCP 2002, 18, 29). Research agencies regularly cite rising trends in the rate of seizure as evidence of greater availability (e.g. IDRS 2001, 67).
- Law enforcement agencies manage to seize only a small proportion of the estimated volume of the Australian illicit drug market. In a commentary prepared at the height of the heroin shortage and which would have been cleared with other law enforcement agencies, the National Crime Authority stated as much. It estimated that in 1999-00 only about 12% of heroin was being seized (NCA 2001, 21-22). A researcher with law enforcement connections estimated earlier that: “In its ‘best’ year, law enforcement seized approximately 21 percent (1994-95) of the heroin coming into the country, and during its ‘worst’ year (1992-93), only 3 percent was seized. The average for the period [from 1988-89 to 1995-96] was about 10 percent” (Pruncken 1998).
- In the years leading up to the 2000-01 heroin shortage, large seizures had not led to increases in prices or purity at street level. According to a Sydney study “. . . there was no detectable relationship between the price, purity or perceived availability of heroin at street-level in Cabramatta and average amount of heroin seized, either (a) across Australia, or (b) within New South Wales” (Weatherburn & Lind 1996, 194). The then Commissioner of the Australian Federal Police said of Australia’s biggest single seizure of heroin - 400 kg in October 1998 - that “the indications are we haven’t made much dent on the market” (*Herald Sun* (Melbourne), 25 Nov. 1998, p. 22). The amount seized represented 6% of the size of the Australian heroin market of 6.7 tonnes as estimated by the Australian Crime Commission (NCA 2001, 21-22). It was part of 508 kg seized that year (AIDR 2000, 37). The seizures amounting to 606 kilograms in the lead up to the 2000-01 shortage represented 9%.

### **3. Information about the source and supply routes of illicit drugs to Australia**

The heroin shortage in Australia coincided with two factors unrelated to Australian law enforcement that were tightening supply. In the first place there was less heroin being manufactured because of reduced opium harvests in Burma or Myanmar in the Golden Triangle from where Australia received its heroin. In the second place, there were growing demands on that supply from much closer markets than Australia, indeed from markets

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through which supplies to Australia passed. Meanwhile, the same region was producing increasing amounts of methamphetamine-type stimulants. The same crime groups that had concentrated on heroin were also beginning to supply South American cocaine to Australia.

- “The major source of heroin imported into Australia is Burma, which accounts for some 80 per cent of supply” (AFP 2001, 21).
- In the lead up to 2001 there was a big decline in opium production in Burma. “Three years of drought was followed by abnormal flooding and frost in Burma” (Gordon 2001, 20; AIDR 2001, 29). According to figures of the United Nations Office on Drugs and Crime the potential yield for 1999 was 53% of the estimate for 1997. Production increased in 2000 but was still only 65% of the estimate for 1997 (ODCCP 2002, 47). The decline was even greater according to estimates of the US Department of State. It considered that the potential yield for 2000 was only 46% of the estimate for 1997 (US, DOS, 2000; US, DOS 2001, VIII-6 & 14; Morrison 2003, 2).
- At the same time there has been substantial growth in the opium and heroin markets in countries which, like Australia, are supplied from the Golden Triangle. Indeed the Australian Federal Police has noted that “in the region predominantly now supplied by the Golden Triangle – East and South East Asia [including China], Australia and Canada – opium and heroin addiction grew. According to official Chinese data, opium and heroin addiction in China rose by 870 per cent in the period from 1990-99” (Gordon 2001, 20 & 19; Wardlaw 1999, 4; Morrison 2003, 6; ODCCP 2002, 238-39). Other comment of the Australian Federal Police seeks to dismiss the significance of the reported Chinese increase in consumption on the ground that it represents principally “better recording systems” (Hawley 2002, 45).
- Australia is at the end of the supply chain of Burmese heroin. In particular, that chain lies through China where consumption has been steeply rising. It also involves costlier and more vulnerable sea or air transport rather than overland transport (Wardlaw 1999, 5; Morrison 2003, 5-6).
- There was a large growth in production of methamphetamine-type stimulants in the same region that supplied Australia with heroin (Gordon 2001; US, DOS 2001, VIII-6, 11-12). According to the International Narcotics Control Board: “In East and South-East Asia, there has been a drastic increase in the manufacture of, trafficking in and abuse of amphetamine-type stimulants in the past few years. Illicit methamphetamine laboratories continue to operate in the border areas between Myanmar and Thailand and between Myanmar and China. Those three countries and the neighbouring countries have reported sizeable seizures, low prices and wide availability of stimulants” (INCB 2001, §330).

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- Methamphetamine-type stimulants originating either in south-east Asia or Europe were being imported into Australia via similar channels to heroin (Gordon 2001, 21-22; AFP 2001, 3, 22 & 23). The Asian group operating through Fiji that police broke up in the lead up to the heroin shortage trafficked in methamphetamine as well as heroin (Hawley 2002, 48). This action led to no reduction in availability of those stimulants.
- Asian crime groups that had concentrated on heroin were also becoming involved in the supply of South American cocaine to Australia. "The New South Wales Police/Australian Federal Police Joint Asian Crime Group in New South Wales obtained information from overseas agencies regarding cocaine seized within Australia, which suggested cooperation between South American cocaine cartels and individuals from Southeast Asian crime groups that had previously concentrated on heroin trafficking"(AIDR 2002, 68). The following year's report noted that: "Southeast Asian centres, where heroin and amphetamine-type stimulants have a long history of use, are increasingly used for storage and transit of cocaine" (AIDR 2003, 90).

### **4. Developments in the global environment affecting the supply of drugs to Australia**

Two factors not specific to the supply of drugs to Australia operated in the lead up to the Australian supply perturbations of 2000-01. These were the impact of economic globalisation on the world drug trade and a sudden big reduction in opium production in Afghanistan.

- Economic globalisation has facilitated the international illicit drug trade. "Globalisation has significantly expanded the opportunities for sophisticated illegal activity and facilitated closer interaction between organised criminal groups from different locations and cultures" (AFP 2001, 17; Wardlaw 1999, 2-3). In particular, "[g]lobal drug markets are now closely interconnected, both in terms of markets for the same drug type and markets between drug types" (Gordon 2001, 22).
- The Taliban ban on opium production in Afghanistan was estimated to have reduced global opium production by 60% (Moor 2001b quoting the Police Commissioner; Morrison 2003, 2). While heroin from Afghanistan had been "only marginally present" in Australia, the near elimination of production in Afghanistan reduced the possibility of even stockpiled heroin from there being diverted to meet shortfalls in a market like Australia supplied from the Golden Triangle (ODCCP 2002, 11, 16, 39).

### **5. Intelligence about intentions of criminal groups supplying the Australian market**

Nearly all the foregoing factors had been operating for some time. In this environment, police in 2000 or 2001 picked up some highly significant intelligence about the intentions of criminal groups supplying drugs to the Australian market. This was revealed by the Commissioner of the Australian Federal Police, Mr Keelty, to a Melbourne newspaper in June 2001.

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- Criminal intelligence learnt that drug syndicates “have their market research which tells them that these days people are more prepared to pop a pill than inject themselves” (Moor 2001a). The police later confirmed this report in evidence before a parliamentary inquiry (McDevitt 2002, 1,221).
- Criminal intelligence also learnt of “a business decision by Asian organised crime gangs to switch from heroin production as their major source of income to the making of methamphetamine, or speed, tablets. . . . [T]he Asian drug barons would continue to supply some heroin to the Australian market, but intelligence suggested they were gearing up to aim for a new and much bigger market of people prepared to use methamphetamine pills.” This was also revealed by the Police Commissioner in June 2001 and later confirmed (Moor 2001a & McDevitt 2002, 1,221).

### 6. Discussion of explanations offered

It is obvious that the changes regarding heroin from Christmas 2000 arose from a shortage of supply rather than a fall in demand for the drug. Among other things, the rapidity of the onset, the rising prices and a rapid fall in overdose deaths are inconsistent with a fall in demand (Weatherburn *et al.* 2003 89). Notwithstanding the information obtained by criminal intelligence, the Federal Government and Australian Federal Police attribute the shortage of heroin to the law enforcement successes. The abruptness of the onset and that it was confined to Australia are consistent with either this explanation or with the impact of the detected decision of suppliers to reduce exports to Australia. The abruptness and targeting of Australia are not explained by the shortfalls in production in Burma or the increasing demand for opiates in China because these had been evolving for several years. On the other hand, evidence of moderate tightening of supply in Australia from 1999 may reflect the tightening of supply overseas. The abruptness of the severe shortage is also inconsistent with the ban on opium growing in Afghanistan because this had been the source of only a small proportion of Australia's heroin.

Of the competing explanations – law enforcement and decision of suppliers – the weight of evidence strongly favours the latter as the proximate cause of the abrupt Australian heroin shortage. Representing only about 9% of the annual Australian market, the 606 kg of heroin seized is most unlikely to have been so influential. Earlier seizures of a similar magnitude had had no perceptible effect on availability. It is understood that drug entrepreneurs can regularly lose a higher proportion and still turn a profit (Caulkins & Reuter 1998, 596). Seizures can be seen as a form of taxation.

The dismantling of a major syndicate is also an unlikely explanation. The information mentioned above on the public record makes clear that methamphetamine-type stimulants were being manufactured in the same region as Australia's heroin and dealt with by the same criminal groups. Moreover, those groups also appear to have become involved in the supply



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of South American cocaine to Australia. If disruption of a major syndicate had abruptly reduced the supply of heroin it should also have resulted in a reduction in importation to Australia of methamphetamine-type stimulants and cocaine. Instead, the reverse happened: the availability of these drugs in Australia significantly increased at the same time as the supply of heroin shrank. Even less credence could be given to the possibility that law enforcement affected supply if the break up of the syndicate resulted from a tip-off from business rivals. Such action does not reduce supply capacity so much as eliminate competition.

If the decision of entrepreneurs rather than law enforcement was the likely explanation of the heroin shortage, why did they make that decision? Shortage of opium is the obvious reason. There had been a severe shortfall in the Burmese opium crops over several years at the same time as the demand was rising sharply in markets much closer to source. It is probable that the shortage reached the point that the entrepreneurs did not have enough product to supply all their markets. Though this seems clear, it still has to be asked why the entrepreneurs would have made the decision when they did and why they would have chosen Australia rather than another of their markets such as Canada to bear the brunt of the shortfall. Some support for the timing of the decision is that it occurred when the Taliban government had nearly eliminated the cropping of opium in the area under its control in Afghanistan. This may have reduced the scope for entrepreneurs to source product from that region. It is unclear, though, whether the Taliban action in Afghanistan played a part given that there was at least sufficient opium stockpiled from that region to supply without interruption its customary European and other markets (ODCCP 2002, 32, 34).

Along with geographic circumstances, Australian law enforcement capacity may have played a subsidiary role in the decision of entrepreneurs to reduce heroin supply to Australia. In an environment of tightening supply of heroin, plentiful supply of methamphetamine-type stimulants and emerging capacity to supply cocaine, entrepreneurs could have assessed that it was more profitable to meet the demand for heroin in markets where law enforcement was not as efficient as it is in Australia and where they could be expected to lose an even smaller proportion to seizures. An objection to shortage of product having such an influence is that the wholesale price of heroin landed in Australia was much more than the wholesale price in Asian markets (Gordon 2002; Hawley 2002, 45). However, this fact does not necessarily provide a commercial incentive to favour the Australian market over others where the costs of supply are lower. A study of the Australian Institute of Criminology puts it this way:

“. . . the high retail value of the Australian heroin market is unlikely to benefit traffickers further up the supply chain. Those individuals will be more concerned with immediate needs to reduce the risks of trafficking and receive optimal returns on their investment. In 'lean' years, other markets closer to source, and with fewer trafficking costs

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(for example, the Asian markets) may simply offer a better proposition” (Morrison 2003, 6).

A decision by entrepreneurs best explains all the publicly known information about the extraordinary perturbations in Australia’s illicit drug market from the end of 2000 – the decision itself, the shortfall in opium production, growing demand elsewhere for opiates, the subtle evidence of tightening of heroin supply before the sudden onset of “the drought”, the plentiful supply of methamphetamine-type stimulants and availability of cocaine, the experience of Australian law enforcement, and the organisation of the international drug trade. In contrast, the attribution to Australian law enforcement of the proximate cause of the heroin drought smacks of wishful thinking. Law enforcement effort which has been a constant pressure on the illicit drug market would not have brought about the shortage.

To sum up, the scarcity of one product and the availability of alternatives were the underlying factors. It was a decision by criminals that targetted Australia and dictated the timing and severity of the upheaval.

The final word is best left to Dr Grant Wardlaw, Director, Office of Strategic Crime Assessments. In 1996 his office foresaw the possibility of a shortage of heroin in Australia and the substitution for heroin of other drugs (Morrison 2003, 6). In a 1999 paper he wrote:

“The analysis of the impact of trends in the Chinese heroin market on Australia indicates that the future of the heroin market in Australia may be influenced by changes in the Chinese heroin market. There is potential for the supply of heroin to Australia to be temporarily affected by significant increases in demand elsewhere, particularly in potentially large markets such as China. Such a temporary shortage could alter the dynamics of the local market by increasing the price of heroin, lowering its purity, leading to users substituting heroin with other types of drugs and increasing drug related crime. The likelihood of this occurring is limited by the surplus of heroin internationally and the fact that heroin use in China is not likely to exceed 6.5 million people in the next five years. If the number of regular heroin users in China does exceed 6.5 million, it could be a catalyst for a heroin shortage internationally and in Australia.

“As has been the case with heroin, for synthetic drugs such as amphetamines, Ice, and Ecstasy, there has been an increasing demand in Asian markets. Partly to service this demand, production of synthetic drugs has increased in the Golden Triangle. Given that this region also supplies Australia with most of its heroin, the infrastructure and networks to supply synthetic drugs to the Australian market from this source are already in place.

“Relevant to this is the displacement of synthetic drug production from countries with stronger precursor controls to those with weak controls” (Wardlaw 1999, 5).

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### IV. EFFECT OF THE PERTURBATIONS ON HEALTH

Whatever their cause, the impact on the health of illicit drug users of the large changes in the Australian drug market in 2000-01 merits close examination. This section seeks to describe what is known about that impact.

The rationale for the prohibition of a drug must be to promote the welfare and particularly the health of the community and the individual. The prohibition aims to do so by stopping or at least making it less likely that people who are not using will take up the drug and that those who are using it will stop using it. Making the drug less available by raising its price is one of the mechanisms by which it is assumed that these objectives will be achieved. According to this given wisdom the severe reduction in heroin should have led to fewer people taking up heroin and more existing users stopping or at least reducing their use of heroin. What happened?

The large drop in fatal and other overdoses as a result of the shortage of heroin was the spectacular and welcome benefit (figure at p. 3). Beyond that, the impacts are less clear because there is little quantitative data available on resulting changes in drug consumption. In particular, there are no precise figures on the number of injecting drug users who:

- stopped using illicit drugs altogether;
- injected stimulants in place of heroin;
- ingested other drugs like cannabis and stimulants by non-injecting means in place of heroin.

Nor are there precise figures available to judge whether the market forecasts of the criminal syndicates proved correct in attracting non-injecting drug users to the potent stimulants that they were supplying. Thus, it is not known:

- how many non-injecting drug users, such as those in the party scene, turned to the potent imported stimulants; or
- how many newcomers took up these potent stimulants; or
- whether the uptake of heroin changed.

On the other hand, there are some quantitative and a lot of qualitative data that allow an estimation of the likely impact of the upheavals on health. This impact is considered under the following headings:

- whether many heroin users moved away from illicit drugs altogether;
- the reduction in overdoses;
- the extent to which recourse was had to treatment for heroin dependence;
- the substitution of other illicit drugs for heroin; and

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- whether there was an increase in unsafe injecting;

### **1. To what extent was there a move away from illicit drugs altogether?**

Some heroin users may well have moved away from illicit drugs altogether. Just how many did so is uncertain. This otherwise beneficial change could have had serious consequences for those who had hepatitis C and who drank more than a moderate amount of alcohol.

The strongest indication that heroin users moved away from illicit drugs altogether is a reduction in syringes distributed. According to data for the year to the end of June 2001, 16% fewer were dispensed in New South Wales (Weatherburn *et al.* 2001, 13-14). A later study found a 28% reduction from September 2000 to mid-2002 (Day *et al.* 2004). Alternative explanations for this reduction are an increase in unsafe injecting and in a switch to non-injected illicit drug use. These possibilities are discussed below.

If there had been sizeable departures of injecting drug users from the illicit drug market one would have expected this to have been remarked upon by “key informants” like health and outreach workers and police in contact with injecting drug users. These people were questioned during surveys of injecting drug users in 2001 yet with one exception no such comments were reported (Rouen *et al.* 2001; Darke *et al.* 2002, 14-20, 31-34, 38-43; Fry & Miller 2002, 22-27, 33-35; Hargreaves & Lenton 2002, pp. 13-17, 22-25; Longo *et al.* 2002, pp. 13-16, 20-24, 57-59; Rose & Najman 2002, 23-34, 55-59; Williams & Rushworth 2002, 10-13, 16-18). The only exception noted was the report of one key informant in South Australia who “identified a small sub-group of heroin users who have stopped using as a result of the decrease in strength and availability of the drug” (Longo *et al.* 2002, pp. 53-54).

The drug injecting population in 2001 was much the same size as it was in 1998 which also suggests that few ceased injecting altogether while at the same time there was a substantial reduction in those who used heroin. This is known from the triennial household survey that happened to be conducted during the latter part of 2001. It found “no statistically significant differences in the proportions of the population who had injected drugs in the last 12 months” compared to the 1998 survey (from 1.0% to 0.8% of males). In contrast, those who used heroin in the last 12 months “decreased significantly” (from 1.0% to 0.3% of males). The decline revealed in the number of those using heroin is surprising given that those surveyed were asked about usage in the 12 months that extended back before the onset of the severe heroin shortage (AIHW 2002a, 25, 31; figure at p. 36).

### **2. Overdoses**

It is clear that the reduced availability led to a substantial reduction in consumption of heroin. The benefit of this was a dramatic reduction in opioid overdoses, notably fatal ones, but also non-fatal ones as measured by ambulance attendances. Rising remorselessly from 1980, deaths attributed

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to opioid overdoses rose from 6 in 1964 to 1,116 in 1999. This high accounted for about 10% of all deaths among those aged between 15 and 44. In 2000, overdose deaths declined by 25% and, in 2001, by an astonishing further 58% compared to 2000. In the two years there had been a decline from the peak of 1,116 deaths to 386. This amounted to a drop in the rate of death from 112.5 to 35.9 per million – a rate not seen for ten years. In 2002 deaths stabilised at that lowered rate (IDRS 2001, 119-22; IDRS 2002, 55-57; IDRS 2003, 55-9; NDARC 2001, vi, viii, 4-5; figure at p. 3).

Reflecting non-fatal overdoses, monthly ambulance attendances in Melbourne in Victoria declined sharply in just two months from 294 in December 2000 to 80 in February 2001. This coincided with what is “regarded as the peak period of the severe reduction to Melbourne’s heroin supply” (Fry & Miller 2002, 68-69). In New South Wales ambulance call-outs declined over much the same period from about 480 a month to less than a 100 (Donnelly *et al.* 2004, 1-2; Roxburgh *et al.* 2003, 15). In the Greater Brisbane region attendances declined from close to 60 in December 2000 to about 5 in February 2001 (Kinner & Fischer 2003, 67). The reduced number of overdoses probably led to a reduction in conditions known to be associated with overdoses such as neurological damage through prolonged hypoxia, cognitive impairment, pulmonary oedema and muscular complications (NDARC 2001, 34-38).

It is thought that the reduction in supply of heroin may have led to “fewer users, less frequent heroin use or a reduced risk of heroin overdose due to a sizeable reduction in the purity of the available heroin. The continued expansion of access to a variety of treatments for opioid dependence (including maintenance treatments as well as detoxification and inpatient treatment programs) is also likely to [have] contribute[d] to the reduction in overdose deaths” (IDRS 2002, 55).

### **3. Access to heroin treatment**

If the conventional justification is correct for applying the criminal law to those dependent on heroin, one would have expected a greater demand for treatment commensurate with the scarcity of heroin. That does not seem to have occurred much if at all. Indeed there were some declines in demand. This conclusion is suggested by the numbers seeking to access treatment and absence of comment that during the period there was a surge in unmet demand. In particular, key informants surveyed as part of the illicit drug reporting system made no reference to a rush of heroin dependent users seeking treatment and being turned away.

In New South Wales the number of opioid detoxifications “decreased noticeably during the first half of 2001” and remained at that lower level after a moderate increase in May and June. The trend in assessments of opioid users was similar. The number of those in rehabilitation was fairly stable throughout the year.

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Those on methadone or buprenorphine in New South Wales also did not significantly increase. Until January 2001 there had been a steady increase in the number of those registered to receive those therapies. "After this time, the number of persons in treatment stabilised at around 15,000 persons. This figure remained relatively unchanged until January 2002 . . ." (Roxburgh *et al.* 2003, 16-17). Outside Cabramatta where there was a sharp increase in January and February 2001, figures on admission to methadone alone similarly showed little increase. In January 2001 there was barely any increase in new admissions to methadone though some increase in re-admissions and thereafter an overall decline to June (Weatherburn *et al.* 2001, 9-10). The annual number of registrations for methadone and buprenorphine declined from over 6,000 in 2000 to below 5,000 in 2001 (in 1999 the number of registrations had been about 5,500) (Degenhardt *et al.* 2004, 24).

Something of the same happened in Victoria. From January to April 2001 there was an increase of 3% in methadone clients to 8,026. This represented a slight increase above the 2% increase from July 2000 to January 2001. A survey carried out in the early months of the heroin shortage concluded:

"It was anticipated that the 'drought' would lead to large increases in the number of people seeking access to treatment services. However the number of respondents in treatment was similar to previous surveys and of those who sought treatment during the 'drought' period, few people gave the 'drought' as the main reason for seeking treatment. Importantly, of those who reported seeking treatment during the drought, most reported being able to access treatment" (Miller *et al.* 2001, vii, 22-23).

By July 2001 the number in methadone treatment in Victoria had declined by 605 or 8% from that April peak though this should take into account the existence of 276 people on buprenorphine treatment. What happened to other heroin users? It is speculated that after an initial shift to methadone "people either commenced the use of other substances, such as amphetamines/methamphetamines, or were able to self-manage or avoid withdrawal via increasing use of benzodiazapines and morphine" (Fry & Miller 2002, 65-66).

Inpatient contacts for opiates in South Australia decreased in December 2000. "Although the numbers were observed to rise again by the middle of 2001, they did not return to those recorded prior to December 2000, and by the end of 2001, they had decreased even further" (Longo *et al.* 2004, 147-48). Key informants in Queensland reported "an increase of access to methadone clinics" as a result of the heroin shortage (Rose & Najman 2002, 66). The increase was unspecified there but in the Australian Capital Territory methadone enrolments climbed 12% in January 2001 and levelled off 7% above the pre-shortage level for the rest of the year

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(Smithson *et al.* 2004, 347; McFadden 2002). The ACT, at least, may have been something of an exception.

In spite of these indications of stable or even decline in demand for opiate treatment following the onset of the heroin shortage, the number of people actually on opioid pharmacotherapy across Australia (as opposed to registrations during the period) continued the steady increase in 2001 that had been occurring since at least 1987 (Degenhardt *et al.* 2004, 15, 22-23). The explanation presumably lies in the continuation in this treatment of many who registered for it in previous years.

### **4. Substitution of other illicit drugs for heroin**

#### **Cocaine**

It is clear that even in the Australian Capital Territory many heroin users moved to other drugs. Cocaine was largely confined to New South Wales where surveys show that there was a “marked increase” in reported use among injecting drug users. The proportion “reporting recent cocaine use increased from 63% in 2000 to 84% in 2001, and the median number of days on which cocaine had been used in the preceding six months increased from 12 days to 90 days” (IDRS 2001, 91). A survey in Cabramatta revealed that 56% were topping up with other drugs, notably cocaine (Weatherburn *et al.* 2001, 10).

#### **Methamphetamine-type stimulants**

Elsewhere methamphetamine-type stimulants were the main substitutes. According to an annual drug survey across Australia, use of these drugs by injecting drug users increased from 64% in 2000 to 76% in 2001 and the frequency of use from an average of 15 days in the preceding 6 months to 30 days (IDRS 2001, 68-69 & also NCHECR 2004, 3). The 2001 household survey revealed that 77.1% of injecting drug users had injected “amphetamines” in the previous 12 months, an increase from 69.6% in the 1998 survey (AIHW 2002a, 32; AIHW 1999, 28). In particular, consumption of the imported forms of potent methamphetamines increased. “Between 2000 and 2001, every jurisdiction recorded dramatic increases in the proportion of current methamphetamine users who reported recent use of crystalline forms of methamphetamine . . .” (IDRS 2001, 72). The 2001 household survey provided a measure of the use of crystal methamphetamine particularly among non-injecting users: about one-third (37.7%) of recent users of amphetamines had used it (AIHW 2002b, 63).

#### **Cannabis**

The 2001 household survey also revealed that when heroin was not available 56.6% of recent users of heroin had most commonly resorted to cannabis (AIHW 2002b, 61). This question was not asked in earlier surveys which makes it difficult to judge the significance of the high figure. Stimulant and heroin users commonly use cannabis (Hargreaves & Lenton 2002, 24, 32-33). Furthermore, the survey did not ask the length of time the users who turned to cannabis abstained from heroin or whether they regarded themselves as having given it up. Even so, there is other evidence of greater

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cannabis use associated with the heroin shortage. 10% of 41 injecting drug users surveyed in Sydney's Kings Cross area in February 2001 reported increased cannabis usage (Rouen *et al.* 2001, 7). A larger survey in Cabramatta in May and June also found that many heroin users "topped up" with cannabis in the absence of heroin (Weatherburn *et al.* 2001, 7-8). Young people in in-patient drug treatment in New South Wales and the Australian Capital Territory reported on admission a rise in concern about cannabis (and psychostimulants and alcohol) while there was a sharp decline in concern about heroin. In particular "the proportion reporting that cannabis use was of concern to them was 57% in January-March, compared to 82% in October-December" (Degenhardt *et al.* 2002, 13). There is thus evidence, that a displacement to cannabis, a less harmful drug than cocaine or the methamphetamine-type stimulants, was a beneficial effect of the heroin shortage, particularly for the less marginalised heroin using population captured by the household survey (AIHW 2002a, 47).

### **Alcohol**

There is also anecdotal evidence that heroin users had recourse to alcohol when heroin was unavailable. Consumption at greater than moderate levels of alcohol could have had serious consequences given the high percentage of injecting drug users who have hepatitis C.

### **Heroin injectors as polydrug users**

Substitution by injecting drug users of other drugs for heroin was to be expected because, typically, the injecting drug user who preferred heroin had been a polydrug user. The sample of users surveyed across Australia in 2001 "had used an average of 9.8 (SD 2.4; range 1-14) drugs in their lives and 6.8 (SD 2.2; range 1-14) in the preceding six months" (IDRS 2001, 33 and also van Beek *et al.* 2001, 334; Topp *et al.* 2003, 282; AIHW 2000, 54). The user had simply to adjust his or her drug usage to include more of the stimulants and less of the heroin that was still available though much more expensive and of lower quality. As described in the previous paragraphs, they increased their use of other drugs, notably the stimulants and cannabis.

### **Unsafe injecting of stimulants**

The substitution brought a substantially reduced risk of overdose and death through overdose but it also brought a raft of other problems associated with the drugs substituted. The flush of cocaine in Sydney starkly illustrates this. The short life of the cocaine rush often entails "the intense compulsiveness to inject cocaine over and over again in a binge-like way." This is "responsible for many of the harms associated with cocaine use" (van Beek *et al.* 2001, 335; Topp *et al.* 2003, 283). A survey of users in Sydney confirmed that these included poor venous access, thromboses, abscess formation and other consequences, cocaine-induced psychosis and "coke sores" from skin picking that may, as a result of "hallucination that there are bugs or vermin crawling in or under the skin", cause septicaemia and sub-acute bacterial endocarditis (*ibid.* 336).



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Although the half-life of amphetamines is substantially longer than cocaine, use of it and its methamphetamine analogue are associated with bingeing and disinhibition (Baker *et al.* 2004, 57, 21; Longo *et al.* 2004, 144). “[C]rystal meth is described as acutely ‘moreish’ by many users, leading to episodes of bingeing that may last several days where little or no sleep or food is had” (Slavin 2004, 1).

### **Mental health problems and aggression**

Increased mental health problems have dominated comments about the potent stimulants. Across Australia “. . . there has been a dramatic rise in the number of psychotic disorders due to stimulant use from 200 in 1998-99, to 1,028 in 1999-00 and a further but smaller increase to 1,252 in 2000-01” (McKetin & McLaren 2004, 16).

“The emergence of more pure forms of crystalline methamphetamine ‘ice’ and the so-called ‘base’ methamphetamine product (poorly purified crystalline methamphetamine), has been associated with an increase in psychotic behaviour among methamphetamine users in Australia. Psychotic symptoms can be induced in healthy subjects with no history of psychosis or substance use and in patients previously dependent on amphetamines. Psychostimulant use can exacerbate psychotic symptoms in people with schizophrenia” (Baker *et al.* 2004, 156).

In a 2001 survey in South Australia, many health workers and others of the key informants “spoke of the increasing emergence of mental health problems, including psychosis, depression, anxiety and violent behaviour. These adverse effects may be a result of increased use of much stronger forms of the drug, and they are manifested at a more rapid rate in users. The drug and alcohol workers noted a high incidence of clients with depression or bipolar disorders, as well as low self-esteem, suicidal impulses and self-destructive behaviour patterns” (Longo *et al.* 2002, 44). Added to similar reports from Queensland was the comment that: “Some Accident and Emergency departments reported between 2-12 people presenting a night with problems associated with amphetamine use. Another comment by key informants was that paramedics, health staff and police were experiencing abuse and violence and situations where it was difficult to handle someone because they were on high doses of amphetamine or methamphetamine” (Rose & Najman 2002, 67). A survey carried out the following year (2002) found that “there does seem to be a link between regular methamphetamine injection and mental health problems” (Kinner & Fischer 2003, 64 & similarly Kinner & Fischer 2004, 43-44).

The onset of these severe behavioural and other problems is much quicker with the imported potent forms of methamphetamine than with forms that had long been available.

“It was . . . unanimously agreed that the users of the more potent forms of methamphetamine reached these states of chaos far more

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quickly into their use careers than do users of methamphetamine powder. It was perceived by [key informants] that users of the more potent forms start to experience serious physical and psychological side-effects after only a few months of heavy use, and therefore tend to present requesting help after a relatively short period of time. Users of methamphetamine powder may take some years of heavy chronic use before they reach such states of disorder" (Darke *et al.* 2002, 33).

These reports were consistent with a Sydney study of a sample of 'crystal meth' users who were "largely male, highly educated and employed". This "suggested that despite relatively recent and infrequent use of this drug, users experienced significant side effects related to their use. Compared with a sample of longer-term, heavier, and predominantly injecting amphetamine users, crystal meth users appeared likely to experience significant harms at a much more recent and lower level of use" (Degenhardt & Topp 2003, 23).

### **Little overdosing on stimulants**

Unlike the situation with heroin, the negative health effects of the use of substitute drugs were not reflected in ambulance attendances for overdoses (van Beek *et al.* 2001, 337). This is illustrated in a study on the effect of the heroin shortage in the Australian Capital Territory that encompasses Canberra where there was a small number of attendances for non-heroin overdoses. Contrary to what the study suggested, there was other evidence of a high level of drug substitution there just as elsewhere (Smithson *et al.* 2004, 347; McFadden 2002; Williams & Rushworth 2002, xii-xiii, 16-20).

### **Stresses on treatment services and families from stimulant use**

People using large amounts of methamphetamine-type stimulants are typically difficult to engage in treatment and demanding once engaged. There is "a great deal less evidence relating to the effectiveness and cost-effectiveness of treatments for stimulant dependence" than for heroin. In spite of this difficulty, from January 2001 in South Australia there was an increase in in-patient contacts for detoxification related to amphetamines (Longo *et al.* 2004, 147, 149). Many who are "regular users experience methamphetamine-related financial, relationship and occupational problems" (Topp *et al.* 2003, 282, 283). Families are even less able to cope with them than they had been with their heroin use. In Queensland a number of workers in the health sectors "expressed concern over the incidence of unreported intrafamilial violence related to methamphetamine use, often within a relationship context but also directed at parents by teenage children" (Kinner & Fischer 2004, 44 &, similarly, Rose & Najman 2002). Use of the potent stimulants seems to have stretched the country's mental health services beyond their capacity. In short, the shift from heroin to stimulants among injecting drug users "has grave consequences" (Topp *et al.* 2003, 282, 283).

### **Benzodiazapines**

The heroin shortage also saw a big increase in some states in injecting users consuming benzodiazapines as a substitute for heroin or to

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ease the crash from the highs of stimulants. Of great concern was the injection of benzodiazepines in the form of temazepam gel. It is insoluble in water and damaged veins, produced blood clots leading to the amputation of limbs and increased the likelihood of overdose (Fry & Miller 2002, 48; Rose & Najman 2002, 49 & 66; Longo *et al.* 2002, 44; Aitken & Higgs (2002); IDRS 2001, 113-14).

### **5. Less injecting drug use or more unsafe injecting?**

It seems fairly clear that the changes in drug availability led to changes in frequency of injection. How many injected more, how many injected less and whether the level of unsafe injecting increased is still unclear but there is evidence that all this happened. Thus, while the heroin shortage may have led one group to cease injecting any drug and a second group to reduce the frequency of injection, it also seems certain that the heroin shortage and greater availability of potent stimulants would have led a third group to increase injecting.

#### **Evidence of reduced injection**

Clear evidence of reduced injecting is provided by the indications already mentioned of greater recourse to cannabis in the absence of heroin. The survey of those who during 2001 entered in-patient drug treatment for young people in New South Wales and the Australian Capital Territory revealed “a significant decrease in the proportion of clients reporting that they had injected any substance in the past three months (from 80% in January-March to 45% in October-December 2001)” (Degenhardt *et al.* 2002, 14). Increased cannabis consumption may not be the only explanation. It is also likely that some injecting drug users consumed by means such as swallowing or snorting the stimulants that they turned to. Such behaviour counters the expected preference for continued injecting by those who have embarked on that practice: “Once users make the transition to injecting, they are unlikely to return to snorting or swallowing as their preferred mode of administration” (Baker *et al.* 2004, 21)

A reduction, though only a modest one, in frequency of injection is suggested by the 2001 household survey even though it found the proportion of the population who had injected at least once in the previous twelve months was much the same. It found “no statistically significant differences in the proportions of the population who had injected drugs in the last 12 months” compared to the 1998 survey (from 1.0% to 0.8% of males) (AIHW 2002a, 31). This is telling in that the 2001 survey revealed that those who used heroin in the last 12 months “decreased significantly” (from 1.0% to 0.3% of males). Of those who injected at least daily there was a reduction from 20.4% in 1998 to 15.7% in 2001. This was matched by an increase from 11.1% in 1998 to 18.1% in 2001 of those who injected more than once a week but less than daily. The proportion who injected once a week or less remained the same (66.2% in 2001 compared to 68.5% in 1998) (AIHW 2002b, 83; AIHW 2000, 79).

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It is not possible to generalise from the household survey about the entire injecting drug user population. This is because the household survey would not have included many drug users who were “marginalised and difficult to reach”. The survey also excluded non-private dwellings like boarding houses, rehabilitation centres, prisons, military establishments and university halls of residence (AIHW 2002a 47). Such users are better reflected in the annual survey of illicit drug users which, as described below, reported increased injection of the stimulants by injecting drug users and increased unsafe injecting practices. Even so, like the household surveys, the annual surveys of a sample of clients of the syringe distribution programme found that a reduction in 2001 in those reporting injection daily or more (down to 46% from 58% in 2000 and 55% in 1999) and an increase in both those reporting weekly but not daily use (up to 25% from 22% in 1999 and 2000) and less frequent use (NCHECR 2004, 9).

Two further sets of data have been put forward to “suggest an overall reduction in the prevalence of injecting drug use after a decrease in heroin supply.” These are the 28% decrease in syringes distributed in New South Wales from September 2000 to mid-2002 and “a reduction in notifications of hepatitis C among people aged 15-19 years, which started around the time of the reduction in heroin supply” (Day *et al.* 2004). These deductions, which are contested, are examined after consideration of evidence of increased injection.

### **Evidence of increased injection**

The lower quality heroin and greater availability of potent stimulants can explain why some injecting drug users would have injected more:

- lower quality heroin inclined unsatisfied users to compensate by injecting more often (Rose & Najman 2002, 66; Darke *et al.* 2002, 20; Longo *et al.* 2002, 15 & 22; IDRS 2001, 87); and
- there is a known tendency to binge on the stimulants that many injectors of heroin or powdered speed turned to (Baker *et al.* 2004, 21 & 29).

The higher frequency of injection associated with cocaine is notorious.

“In contrast to most heroin-dependent IDUs [injecting drug users] who will be comfortable receiving a daily heroin dose of between 500 and 600 mg, there seems to be no maximum dose of cocaine that will satiate the user for any length of time. This makes cocaine an inherently more harmful drug, given its injecting frequency-related and dose-related effects. What limits the cocaine injector’s binge is that either the supply, the means to purchase it or the user themselves is eventually totally exhausted; but not always for long, leading to repeated cycles of harmful behaviour, during which demand and harm reduction strategies are difficult to effect” (van Beek *et al.* 2001, 338).

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Methamphetamine differs from cocaine in that it “has an extremely long half-life, resulting in an intense drug action that can persist for many hours” (Julien 1998, 142). Even so use of amphetamine and its methamphetamine analogue are associated with bingeing and disinhibition (Baker *et al.* 2004, 57, 21; Longo *et al.* 2004, 144).

What of the evidence of actual injection of these stimulants? In 2001, 38% of the injecting drug user surveyed nationally in the annual illicit drug reporting system stated that methamphetamine was the last drug they had injected. In 2000 the proportion was 23%. Heroin at 35% followed (58% in 2000), morphine was 12% (5% reported “other opiates” in 2000), cocaine was 7% (2% in 2000) and methadone at 5% was the same both years. Injection of methamphetamines was particularly high in Western Australia (74% in 2001), Queensland (60%) and South Australia (50%). New South Wales, where cocaine was most plentiful, recorded the lowest levels of recent methamphetamine injection (5%) (IDRS 2001, 29-30; IDRS 2000, 21-22; McKetin & McLaren 2004, 11; Darke *et al.* 2002: 27; Longo *et al.* 2004, 144, 146). Researchers investigating hepatitis C transmission in Melbourne in Victoria noted that:

“Until December 2000, most IDUs we encountered were using heroin – injection of amphetamines or prescription drugs was rarely reported; after the commencement of an ongoing heroin ‘drought’, this pattern altered dramatically. The decreased quality of street heroin induced many IDUs to inject other drugs . . .” (Aitken & Higgs (2002)).

What evidence was there of actual unsafe injecting? Key informants in several parts of Australia reported “problems associated with poor vein care because many are injecting anything available, and are injecting more often because of the low quality of the drug available” (Rose & Najman 2002, 66; and also Longo *et al.* 2002, 44-45; Hargreaves & Lenton 2002, 53). Self reported surveys of syringe sharing show no particular change but “it seems likely that the issue of used injecting equipment is one that is difficult to assess in a valid and reliable manner through self-report due to social desirability biases” (IDRS 2001, 122; Maher 2002, 316).

### **Changes in quantity of syringes distributed**

What light do changes in the number of syringes distributed throw on changing patterns of injecting drug use? The 28% decrease in syringes distributed in New South Wales in conjunction with a reduction in notifications of hepatitis C is put forward as evidence of “an overall reduction in the prevalence of injecting drug use after a decrease in heroin supply” (Day *et al.* 2004).

By itself the number of syringes distributed is not a measure of the prevalence or frequency of drug injection. A reduction may be explained by a rise in unsafe injecting as well as by a reduction in injecting.

What changes occurred in the number of syringes distributed? Remarkably, figures for the period covering the whole of Australia have not

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been published. The figures for New South Wales are an exception. They show that:

“The number of needles distributed decreased from around 3.1 million per quarter immediately before the heroin shortage to just under 2.2 million in mid-2002 — a decrease of around 28%. Time series analysis on monthly data from major needle and syringe programmes suggested that this decline was not a seasonal effect and was tied closely to the onset of the shortage” (Day *et al.* 2004).

An earlier study published in 2001 used less extensive data from New South Wales from July 2000 to June 2001. That revealed that in Cabramatta, where cocaine use was very high, the number of syringes dispensed from a particular service dropped by 59% in the first half of 2001. There was a smaller decrease in the Kings Cross-Darlinghurst area. Across other reported regions of New South Wales there was an estimated 16% reduction (Weatherburn *et al.* 2001, 7-8; MSIC 2003, 122-23). The large fall in syringes dispensed in Cabramatta was probably caused by the intense policing that occurred there between December 2000 and March 2001 when there was a big increase in arrests for use or possession (Weatherburn *et al.* 2001, 13). This enforcement deterred users from accessing syringe supply services and intensified unsafe injecting during a time of greater frequency of injections because of the spate of cocaine (Maher 2002, 321). If the big reduction in syringes dispensed in Cabramatta is removed from the state figures, across New South Wales there was a reduction of approximately 9% rather than the 16%.

It is understood that data on syringes distributed in Queensland and South Australia do not show the same change as in New South Wales:

“In Queensland and South Australia, where reported heroin shortages occurred at the same time as in NSW, the visible impact on NSP [needle & syringe program] distribution was limited. Quarterly NSP data indicate a non-seasonal decline in July-September quarter, followed by a return to the general pattern of steady increase” (Robert Kemp personal communication).

The number of syringes distributed in Victoria between 1995 and 2000 has been published but, unfortunately, not beyond (Fry & Miller 2002, 22). A study covering the early months of the impact of the heroin shortage in 2001 suggested that for one drug hot spot in Melbourne there was no material change in syringes dispensed:

“. . . some indicator data shows little or no change in some areas of the state (eg Needle and Syringe Program data from St Kilda)” (Miller *et al.* 2001, 2).

The number is available of syringes that were dispensed at another Melbourne drug hot spot, Footscray. As in Cabramatta, the heroin shortage co-incided with a campaign of intense policing commencing before the

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shortage at the beginning of December 2000. This was probably responsible for a 12.1% reduction in the number of syringes dispensed that month compared to the previous month (Aitken *et al.* 2002, 196-97). In the following month, January 2001, when the heroin shortage made itself felt in Footscray, the reduction in the number of syringes distributed made up nearly all that reduction. That month the number distributed then increased by 11.5% compared to December. A survey of users suggested that the police operation discouraged safe injecting practice (*ibid.*, 197, 201).

In summary, the reduction in syringes distributed in New South Wales is consistent with several explanations rather than just a reduction in injecting as a result of the heroin shortage. This is strongly suggested by the fact that there was not the same reduction in syringes distributed in other places that experienced a similar reduction in heroin supply. The reduction in syringes distributed in New South Wales is probably only partly explained by a reduction in injecting. Probably, different dynamics operated within different groups of people who before the shortage had injected heroin. These seem to be:

- the consumption by non-injecting means of drugs other than heroin – an effect that can be attributed to the heroin shortage and the greater availability of stimulants;
- intense police action in Cabramatta disrupting the supply of syringes – not a consequence of the heroin shortage though temporally “tied closely to the onset of the shortage”; and
- more dangerous injection practices fostered by the characteristics of the stimulants – particularly cocaine in New South Wales – that became available in association with the heroin shortage and thus also temporally “tied closely to the onset of the shortage”.

These last two reasons suggest that the perturbations to the drug supply in 2000-01 led to a big increase in unsafe injecting practices among a sizeable proportion of the injecting drug using population and a correspondingly greater risk of contracting hepatitis C and other blood borne diseases. **Reports of hepatitis C infection**

Transmission of hepatitis C continues to occur, primarily among people with a history of injecting drug use. It is estimated that 90% of infections are acquired that way (NCHECR 2003, 12; AIHW 2002c, 95). A reduction in the rate of infection is thus likely to reflect changes in behaviour among the population of injecting drug users. The actual rate of infection is not measured as regular population surveys are not undertaken of the level of infection. Rather, the rate of infection is inferred from the level of notification of the infection (hepatitis C being notifiable) and, where the circumstances are known, notifications of new infections. New infections are a small subset of the overall number of new notifications - 3.5% in 2001 and 2.7% in 2002 (NCHECR 2003, 12; AIHW 2002c, 96). It has been suggested on the basis of such statistics that the apparent reduction in injecting as

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indicated by a reduction in syringes distributed led to a reduction in the rate of infection in hepatitis C:

“Our findings [of a sustained reduction in the number of needles and syringes distributed in NSW after a considerable decrease in heroin supply] are also consistent with a reduction in notifications of hepatitis C among people aged 15-19 years, which started around the time of the reduction in heroin supply. Nearly all such infections are related to injecting drug use, and there are no alternative explanations for the decrease in notifications, which was not predicted by mathematical models of the hepatitis C epidemic in Australia” (Day *et al.* 2004).

The number of notified diagnoses for 15-19 year olds across Australia increased from 1,035 in 1998 to 1,397 in 2000 and then declined to 1,135 in 2001 and 792 in 2002. The number of notifications of newly acquired infections among that same age group increased from 58 in 1998 to 109 in 2001 and then sharply declined to 60 in 2002 (NCHECR 2003, 52-53).

The suggested inference from these statistics by Day and others that there was actually a reduction in the rate of infection of hepatitis C is questionable for a number of reasons:

- A decrease in new hepatitis C notifications as opposed to new or acute infections is to be expected as the pool of people who know that they are already infected increases every year (Higgs *et al.*, 2004).
- In contrast to a decline in overall notifications in 2001, there was an increase across Australia during that year in notifications of newly acquired hepatitis C from 466 to 672. It was only in 2002 that there was a decline to 434. In just New South Wales there was a sharp increase in notifications of new infections in 2001 (from 156 to 294) and an equally sharp decline in 2002 (from 294 to 149) (NCHECR 2003, 52 & 111; Higgs *et al.*, 2004).
- According to a large multi-site prospective cohort study of hepatitis C infection among injecting drug users in New South Wales between 1999 and 2002 the incidence of infection was highest (46.2 per hundred person years) among those aged 15-19 years, a group that is arguably less likely to access testing of hepatitis C (Higgs *et al.* 2004; Maher *et al.* 2004).
- One should be very cautious in drawing conclusions on infection rates on the basis of notifications of new infections for just a year or two particularly in the light of the small number of such notifications and the variable pool from which they are determined. Notifications have fluctuated in the past (NCHECR 2003, 52 & 111, 113)
- It is difficult to detect any meaningful correlation in other states between notifications of new infections of hepatitis C between 1998



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and 2002 and what is known about the number of syringes distributed. "HCV notifications also declined in Queensland and South Australia from 2001 onward against a background of increasing NSP distribution" (Robert Kemp personal communication).

In short, while it is clear that there was a reduction in the number of syringes distributed in New South Wales it is far from clear that there was a reduction in the actual incidence of hepatitis C infection during the same period.

### **6. Conclusions regarding impact on health**

The picture that emerges of the impact on health of the upheaval during 2000-01 in the Australian drug market seems to be different for different groups of drug users. For some it was probably overwhelmingly a benefit, for others a mixed blessing and for others a disaster. The following is put forward as the most likely outcome on the basis of the imperfect information available:

- The injecting drug using population that used heroin benefited from the big reduction in fatal and non-fatal overdoses.
- A substantial proportion of heroin users reduced their heroin consumption and used the less harmful, non-injected drug, cannabis, to compensate for the reduced availability. The 2001 household survey that captured the less marginalised heroin users estimated this to be 56.6% of them.
- Another substantial proportion significantly increased their consumption of the potent imported stimulants that were in greater supply.
- Some who had injected heroin and who turned to the stimulants consumed them orally or nasally rather than injecting them.
- A group of heroin injectors ceased injecting or injected less as a result of changes in drug using patterns brought about by the heroin shortage – those who turned to cannabis or who consumed stimulants by non-injecting means;
- There was a substantial increase in unsafe injecting practices among the injecting drug using population who used more of the stimulants in place of heroin. This carried a correspondingly greater risk of contracting hepatitis C and other blood borne diseases.
- The heroin shortage prompted some users to inject benzodiazepines in the form of insoluble temazepam gel that damaged veins, produced blood clots and increased the likelihood of overdose.

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- There was a substantial increase in mental illness or disorders in those who heavily used the potent imported stimulants like crystal methamphetamine and cocaine.
- The heroin shortage produced a decline rather than an increase in the number seeking treatment for heroin addiction. Stimulant users are much harder to engage in treatment than those dependent on heroin.
- Only a small proportion of heroin users seems to have ceased using any illicit drug as a result of the shortage.
- The non-injecting drug using population captured in the 2001 household survey substantially increased its consumption of the potent imported methamphetamine-type stimulants with all the risks that that entailed;

There is little firm evidence to affirm or dismiss the possibility that there was a substantial increase in uptake by those who had not been illicit drug users of the potent imported stimulants that were available.

A doctor who directed a drug service in the heart of Sydney was among those who wrote that “. . . the reduced supply of one drug with a certain pattern of harms, can result in an increase in the use of substitutes with a different harm profile which may result in a net increase in harm” (van Beek *et al.* 2001, 339). These comments were made about the substitution of cocaine for heroin but they also hold good for other drugs like the potent methamphetamine-type stimulants. For many users, the benefit of a significantly lower risk of death by overdose as a result of the heroin shortage was balanced by a deterioration in their welfare.

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### V. EFFECT OF THE PERTURBATIONS ON CRIME

Heroin addiction has long been associated with crime, particularly property crime. Indeed this was shown to be the case in a study of recidivist offenders in the Australian Capital Territory carried out during the heroin shortage. While warning that lack of data made it impossible to determine causation, the study concluded that:

“Analyses of individuals indicate that being a heroin user is significantly associated . . . with being a high volume offender” (Makkai *et al.* 2004, 55).

A severe shortage could therefore be expected to have an impact on crime. There are at least two views on the effect that a heroin shortage such as occurred from late 2000 would have: one that it would lead to an increase and the other to a reduction in property crime.

“Some argue that a shortage of illicit drugs will push prices up and drive an increase in property crime to compensate for increased prices, while others argue that a shortage of drugs will result in a drop in demand and associated property crime” (Makkai *et al.* 2004, 8)

There is some evidence from several jurisdictions that both happened: that the onset of the severe heroin shortage saw a spurt in crime but that, at least for property offences, this fell away as the market adjusted.

#### 1. Short term impact of the heroin shortage

With the onset of the heroin shortage, police were among those who predicted an increase in acquisitive crimes that have been associated with people dependent on heroin seeking to finance their habit. Crime statistics from New South Wales and less detailed evidence from elsewhere show this seems to have happened. Figure 2 below shows a dramatic peak in robbery in New South Wales in the first month or two in 2001. “Immediately after the shortage took hold, the robbery rate across NSW jumped 55 per cent in the space of just two months. It then began to fall quite rapidly . . .” (Donnelly *et al.* 2004, 2). A survey carried out in inner Sydney in February 2001 particularly mentioned a surge in violence as a result of disruption of the market:

“Over half of the [key informants] reported an increase in both property and violent crime as a result of the heroin shortage. The violent crime was perceived as occurring mainly between heroin dealers and/or IDUs [injecting drug users].

“IDU participants were not questioned about changes in their own or others’ criminal activity as a result of the heroin shortage. However, a number of IDUs did volunteer that they had observed an increase in fraud, associated with drug purchases in which glucose or similar substances were sold as heroin” (Day *et al.* 2003, 94).

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Figure 2: Trends in robbery, NSW and Cabramatta



Source: Donnelly, Weatherburn & Chilvers, "The impact of the Australian heroin shortage on robbery in NSW" NSW Bureau of Crime Statistics and Research, Crime and Justice Statistics, Bureau Brief, March 2004

A survey conducted in Victoria during the early months of the heroin shortage also found that the heroin shortage had brought "a series of negative impacts. These included:

- An increase in the proportion of respondents reporting participation in property crime;
- An increase in the proportion of respondents reporting participation in violent crime; and
- Reports of a generalised increase in danger for drug users" (Miller *et al.* 2001, 27).

At least in New South Wales the sharp rise was followed by a sharp fall and a further slower decline to the end of 2001 thus providing some comfort to both those who predicted a crime increase and those who predicted a reduction. The effect on crime beyond the first few months is now examined.

### 2. Property crime

Australia suffers from a high level of property crime. "In 2000 Australia recorded the highest rate of burglary victimisation among 17 industrialised nations (including Canada, England and Wales, and the United States of America)" (Makkai *et al.* 2004 2). Across Australia recorded crime increased in 2001 to new peaks for robbery and "other theft". Robbery increased by 14% above the average of the previous three years which had remained at about the same level. "Other theft" increased by just 3% compared to 2000 which was a lower rate of increase than the 10% in 2000. "Other theft" is the

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most common category of property crime. It includes pickpocketing, bag snatching and shoplifting. In 2001 motor vehicle and unlawful entry with intent remained at much the same peak level as in 2000 (AIC 2003a, 5-6).

The most careful analysis of drug trends and property crime covering 2000-01 appears to have been carried out in New South Wales, the most populous state. This jurisdiction was unique in that its large increase in cocaine overshadowed the growth in methamphetamine-type stimulants that characterised most other jurisdictions. In areas where there was increased usage of crystalline methamphetamine amongst traditional long-term heroin users, police noted that there had been “a significant increase in property offences . . . , which is correlated with increased consumption of crystalline methylamphetamine” (AIDR 2002, 45-46).

Across the whole state, robbery was much higher in 2001 than 2000 but, as shown in Figure 2, this was mostly accounted for by the initial jump in robberies in the first few months of the heroin shortage. As mentioned above, this jump may have been a temporary factor of market disruption. Whatever the case, an analysis of the robbery figures showed that the rate of heroin use as measured by the number of non-fatal opiate overdoses (which plummeted) and cocaine usage as measured by the number of cocaine arrests (which initially soared) were independently predictive of the number of robberies per month (Donnelly *et al.* 2004, 4-5). The study did not examine the relationship between robbery (or any other crime) and the use of methamphetamine-type stimulants.

During 2001 there was a sharp increase in robbery in Victoria. It jumped to 94.5 per 100,000 from 70.4 the previous year and 72.4 in 1999. Unlawful entry with intent also reached a new peak in 2001 (ABS 2004, 22). According to Police statistics, 2001 saw an increase in property offences of about 25% compared to the previous year. It is uncertain whether this crime peaked in the early months of the heroin shortage then tailed off as happened in New South Wales but the survey of drug users carried out in Melbourne early in 2001 pointed to a high level of property crime (Miller *et al.* 2001, 22).

In the Australian Capital Territory, the heroin shortage made itself felt in December 2000. Burglaries, which had been rising since about September 2000, reached a peak in February 2001. There followed a large reduction that extended into 2002 (Makkai *et al.* 2004, 7). The reduction is attributed principally to the success of a police operation that targetted burglary rather than the effect of the heroin shortage. In reaching this conclusion the study differed from an earlier one that found “modest links” between a decline in crime and the decline in heroin supply. “At the very least . . . there was no increase in property crime concurrent with the reduction in supply” (Smithson *et al.* 2004, 347; McFadden 2002). It remains possible that the high levels of burglary experienced until the police operation commenced at the end of February may be an echo of the early peak experienced in New South Wales.

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### 3. Violent offences

Regular amphetamine users are “more likely to be engaged in violent offending such as physical assault” and “significantly more likely to act impulsively with no planning” (Makkai & Payne 2003, xvi). The violence therefore feared because of the increased availability of methamphetamine-type stimulants and cocaine may be reflected in a 10% increase across Australia in recorded crimes of assault during 2001 as well as violence associated with market disruption in the first few months of the heroin shortage. This represented a marked rise on the 3% or so annual rate of increase for the previous three years (AIC 2003a, 5). In South Australia during 2000-01 compared to 1999-2000 there was a 15.4% increase in offences against the person. In that State there was a marked increase in violent crime by injecting drug users surveyed in 2001 (from 2.8% to 11% of those surveyed). The higher level was maintained in 2002 (12.4%) (Longo *et al.* 2002, 56; Longo *et al.* 2004, 147; Longo *et al.* 2003, 75). In 2001 Victorian police recorded an increase of 20% in violent offences compared to 2000. There were particularly large increases in violent crimes in two areas of Melbourne well known for drugs (Dandenong and Footscray) as well as in rural areas.

It is unlikely that the high levels of reported assault reflect the full impact of the stimulants. For example, according to a New South Wales survey, “. . . anecdotal reports from frontline workers and researchers in the field suggested that violence had increased during the drought, especially between users. Such criminal activity is unlikely to be reported to the authorities, and therefore unlikely to be reflected in official crime statistics” (Day *et al.*, 2002, 3). In Queensland “the shortage of heroin has seen more dealers being robbed, more people selling on the street and selling more aggressively . . . . Comments were made frequently about increased domestic violence among amphetamine users and their partners” (Rose & Najman 2002, 67; Kinner & Fischer 2004, 44).

### 4. Drug offences

Across Australia between 1999-2000 and 2000-01 the number of heroin consumer and provider arrests fell by 34.1% from 11,223 to 7,396. This was followed by an even greater decline of 56% in 2001-02. In contrast, consumer and provider arrests for amphetamine-type stimulants increased 9.5% from 8,083 in 1999-2000 to 8,851 in 2000-01 and then declined by 9% in 2000-02 (AIDR 2002, 31, 44; AIDR 2003, 40, 58). In Victoria all drug offences overall declined in 2001 by almost 40% compared to 2000. The relatively small increase in recorded drug offences for the stimulants which were known to be increasingly available suggests that it is even harder to interdict these drugs at the user and dealer level than it has been to interdict heroin.

### 5. Crime trends since 2001

Since 2001 Australian crime rates in many categories have declined (AIC 2003a, 5-6). For example, in New South Wales over the two years to

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December 2003 there have been “significant downward trends” in a number of categories of crime and none of the other main categories are trending upwards (Moffatt *et al.*, 2004, iii & 4). Quite what this says about the changing mix of drugs available in Australia is uncertain given the close association, known or suspected, between illicit drug use and crime. For example, since 2001 there has been a decline in the availability of cocaine, a greater availability of heroin (though not up to pre-2001 levels) and continuing easy availability of methamphetamine-type stimulants (IDRS 2003).

### **6. Conclusions regarding impact on crime**

There are at least two views on the effect that a heroin shortage, such as occurred from late 2000, would have: one that it would lead to an increase and the other to a reduction in property crime. There is some evidence from several jurisdictions that both happened: that the onset of the severe heroin shortage saw a spurt in crime but that, at least for property offences, this fell away as the market adjusted.

What emerged does not seem to have realised the worst fears and cannot be attributed to the shortage alone. Any rise in crime that arose because of market disruption does not seem to have been sustained as the market adjusted to the altered supply situation. Changes to crime patterns must take account of factors such as the increased supply of stimulants, the fact that polydrug use has been the norm even among those whose drug of choice is heroin and the considerable variation of availability of particular drugs between local areas as shown by the very different proportions of drugs found on testing groups of police detainees. In summary, the following seems to have happened:

- There is evidence of a jump in property crime and violence in the first two or three months of the heroin shortage that probably reflects the disruption brought about by the changes in drug supply.
- After an initial jump in property crime the level of such crime generally moderated suggesting that the market adjusted to the changed supply and that the use of the stimulants is not as closely linked to property crime as heroin appears to be.
- The stimulants probably brought about an increase across Australia in recorded crimes of assault during 2001.
- It is likely that the stimulants brought about a substantial increase in unrecorded violence including domestic violence.
- There was a large decline in recorded drug offences involving heroin but only a modest increase in offences involving the readily available amphetamine-type stimulants suggesting that it is even harder to interdict these drugs at the lower dealer and user levels than it has been to interdict heroin.

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### VI. WHAT THE PERTURBATIONS REVEAL ABOUT THE ECONOMICS OF DRUG DEMAND

Irrespective of its cause, the onset of the heroin shortage is revealing of the effect on demand of the rise in price that reflected the shortage. It has been argued that the evident fall in consumption of heroin shows that the demand for heroin is price elastic. The argument follows that if the demand for heroin is price elastic, law enforcement has “a critical role to play in drug harm reduction” in “keep[ing] the price of heroin high (or prevent[ing] it falling)”. It is asserted that this role remains “even if the process of investigating, arresting and sanctioning heroin importers and distributors fails to prevent a rise in heroin consumption” because the price would always be lower in the absence of law enforcement and, being lower, there would be more consumption of the drug and thus more “heroin-related harm” (Donnelly *et al.* 2004, 8). This argument justifies law enforcement irrespective of how ineffective it is in reducing consumption because the demand for heroin, being price elastic, will always be lower in the absence of law enforcement. The steps and assumptions implicit in this reasoning are breathtaking. The following are a few observations.

- If the demand for heroin was shown to be elastic, it has to be seen in the context of the users and drug market concerned. The users were overwhelmingly polydrug users and drugs other than heroin remained readily available. We know a lot simply used more of those drugs. We can, therefore, deduce little from the Australian heroin shortage about the price elasticity of heroin alone or indeed of price elasticity of illicit drugs generally.
- An American study is cited in support of the “assumption” that “many of the harms associated with heroin (e.g. heroin overdose) are inversely related to the price of heroin and the total amount of heroin consumed.” The study showed a striking but unexplained correlation between reducing prices for heroin and cocaine and one measure of harm – emergency department mentions of those drugs. It did not show any correlation between drug price and consumption (Donnelly *et al.* 2004, 8; Caulkins 2001). Indeed, in the United States there seems to be little such correlation. Consumption as measured in household surveys by self-reported recent use has generally declined or remained fairly stable for a long period of declining prices (Drucker 1997, 19-20).
- If the drugs are price elastic the law enforcement effort required to bring this about must be extraordinary. We know demand for drugs has flourished in spite of the fact that law enforcement has long been effective in maintaining the value of illicit drugs at or well above the price per weight of gold. What, therefore, must be required to raise prices are “increments in enforcement above and beyond the current tough levels” (Caulkins & Reuter 1998, 594 & 603). We also know of lengthy periods in



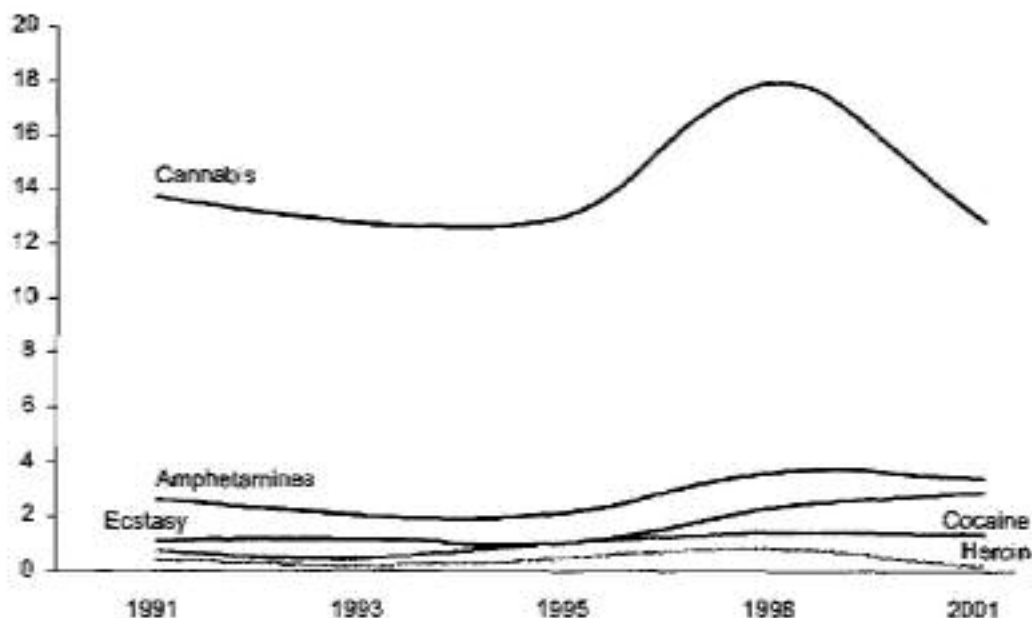
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Australia and elsewhere when prices have even declined in a tough law enforcement environment.

- To what extent does the success of law enforcement in maintaining the value of illicit drugs at or above the value of gold contribute to the very problem – making them available – that law enforcement is intended to solve?

Any consideration of the price elasticity of drugs in the Australian context should consider the biggest change in terms of quantity that has

**Figure 3: Trends as percentage of population in recent drug use for persons aged 14 years or older**



Source: Makkai & Payne 2003, 5 citing Australian Institute of Health and Welfare, *Statistics on drug use in Australia 2002* (AIHW, Canberra).

taken place in Australian illicit drug consumption in recent years. This is not the decrease in heroin or increase in stimulants but a decline in consumption of cannabis – the most consumed illicit drug. Between the household surveys of 1998 and 2001 there was a decline from 21.3% to 18% of the population that had used cannabis recently (AIHW 2002a, 3; Makkai & Payne 2003, 5). This trend was also reflected in the 1996 and 1999 survey of secondary students: “among 16-17-year-olds the proportions using cannabis recently had decreased from 27% to 20% in 1999” (White 2001, 32). Over this time both law enforcement effort and price also seem to have declined. Between 1995-96 and 2001-02 there was a decline of 30% in arrests and expiation notices for cannabis related offences (AIC 2003a, 93-94; AIDR 2002, 94). In that time a gram of cannabis head seems to have declined from mostly \$30 or more in 1995-96 to between \$20 and \$25 in 2001-02 (AIDR 1996, 228-30;

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AIDR 2002, 106; AIDR 2003, 145). Data like this suggest that trends in drug consumption are only weakly correlated with either price or law enforcement effort and that some other factors are more influential.

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### VII. THE PERTURBATIONS AS A POLITICAL HOT POTATO

The political environment in Australia is not conducive to a dispassionate examination of the causes of the upheavals of the drug market in 2000 and 2001 or even of its impacts. Drug policy is highly sensitive. At the federal level, the Liberal-National Party Government has claimed the heroin shortage and drop in overdose deaths as evidence of the success of the law enforcement aspects of its “Tough on Drugs” strategy – a success implicitly independent of any growth in availability of stimulants.

As another indication of its success, the government points to the quantity of drugs seized. It points out that “Australian law enforcement agencies have stopped more than nine tonnes of serious illicit drugs from reaching Australia's shores” (Ruddock 2004). At the same time, it avoids publishing and even, it seems, researching, estimates of the size of the drug market. Only with such an estimate is it possible to judge whether the drugs seized are reducing the quantity available in the domestic market or are a reflection of the size of the drug market.

The government rebuked the National Crime Authority when it estimated that law enforcement was intercepting only some 12% of the quantity of the Australian market, that drug trafficking was increasing and that other approaches such as the prescription of heroin needed to be considered in conjunction with law enforcement. The chairman of this independent agency, which had the status of a standing royal commission, published these observations in August 2001 during the heroin shortage. Two months later, in the course of an election campaign, the Prime Minister announced that the authority would be replaced. In spite of the government's denial, this action was widely seen as a response to the outspoken comments of the independent Authority.

The highly charged political environment puts any government agency with access to relevant criminal intelligence and analysis in a difficult position. In a different environment the Australian Crime Commission that succeeded the National Crime Authority and which absorbed the Office of Strategic Crime Assessments might have been expected to comment on the extent that the upheavals of 2000 and 2001 corresponded with that office's forecasts from 1996.

Australian research institutes working on drugs are also in a difficult position. They rely overwhelmingly on government to finance them either by direct grants or through research contracts. This influences the projects that researchers undertake and commentary on findings. In particular, in the case of uncertainty – the usual situation that researchers find themselves who examine social issues such as illicit drugs – a charged political environment will often dull scepticism or bias speculation against any conclusion seen to depart from a perceived correct political narrative. The politically safe narrative in the case of the events of 2000 and 2001 is that the heroin

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shortage represents a success for official supply reduction policies and that its consequences are overwhelmingly beneficial. From this perspective changes in the supply of stimulants are not linked to the heroin shortage.

Scepticism and speculation are at the heart of the scientific mission: the continual questioning of assumptions and the proposal of alternative possibilities if only to dismiss them. In the drug area, political sensitivity can limit researchers to speculate consistently with the *status quo*. Of course, possibilities consistent with the *status quo* should be considered fairly and rigorously but so should all other possibilities. The academic discussion mentioned above of price elasticity and the heroin shortage is a stark example of biased speculation. Anyone, relying on even persuasive evidence, who speculates in the other direction runs the risk of being rebuked for venturing beyond the facts into politics. The safest course is simply to recommend yet more research – an endless exercise given the difficulty of achieving scientific certainty in the social sciences.

## UPHEAVAL IN THE AUSTRALIAN DRUG MARKET

### **VIII. POSTSCRIPT: WHAT HAS HAPPENED TO THE DRUG SUPPLY IN AUSTRALIA SINCE 2001**

Across Australia price, purity, availability and levels of use of heroin have not returned to the levels reported in 2000, but by 2003 its price and use had stabilised. In New South Wales and South Australia median days of use had even returned to pre-shortage levels. Injecting drug users were reporting heroin being “easy” to “very easy” to obtain (IDRS 2003, 66; IDDR 2004, 16-17; NCHECR 2004, 3; Roxburgh *et al.* 2004a).

Cocaine, which was plentiful in New South Wales in 2001, became far less available by early 2002 as evidenced by police detainees in Sydney who tested positive to that drug. By 2003 its use by illicit drug users had “decreased substantially” even in New South Wales and remained “relatively uncommon” in other jurisdictions (IDRS 2003, 11; AIC 2003b; Roxburgh *et al.* 2004a).

In contrast, methamphetamine-type stimulants continue to be easy to obtain with stable availability. Around 30% or more of police detainees at sites in Western Australia, Victoria and Queensland continue to test positive for amphetamines. In New South Wales and elsewhere there have been reports of increases in the use of more potent forms of methamphetamine including crystal methamphetamine with larger amounts seized at the Australian border (IDRS 2003, 93; Roxburgh *et al.* 2004b, x; AIC 2003b).

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