



Heroin harm minimisation: Do we really have to choose between law enforcement and treatment?

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Drug law enforcement and treatment are often considered as alternative approaches to dealing with the problem of illicit drugs. This bulletin argues that both approaches have a role to play in minimising the harm associated with heroin use. The bulletin discusses the effects of drug law enforcement on the monetary and non-monetary costs of heroin and the role of these effects in deterring heroin use. Evidence is presented showing that drug law enforcement can encourage heroin users into treatment, thereby reducing some of the harm associated with heroin use. However, there is also evidence that drug law enforcement can have unintended consequences which increase other harms associated with heroin use. The bulletin concludes with a discussion of implications for policy and further research.

INTRODUCTION

It is often assumed that drug law enforcement and treatment are alternative and contradictory approaches to dealing with illicit drugs, such as heroin. This bulletin draws on recent research conducted by the Bureau (Weatherburn, Lind & Forsythe 1999) to suggest that, while drug law enforcement in some circumstances can certainly exacerbate some of the harms associated with heroin, treatment and drug law enforcement also depend to some extent on each other for their beneficial effects. This suggests that, instead of debating whether to invest public money in drug law enforcement or treatment, policy makers should concentrate on determining the optimal mix of drug law enforcement and treatment and the most appropriate policies for minimising any public health risks created by drug law enforcement.

The structure of the ensuing discussion is as follows. Firstly, we define and briefly discuss some key terms used in

the argument which follows. We then discuss the impact of drug law enforcement on the 'effective price' of heroin. By this we mean its effect, not only on the monetary cost of heroin, but also its effect on the time, effort, anxiety and suffering associated with involvement in the heroin market. We then consider whether the effective price of heroin plays a role in deterring heroin use or prompting heroin users to enter treatment. In the penultimate section we turn our attention to the unintended effects which drug law enforcement has on property crime and public health. We conclude by discussing the implications of preceding sections for policy.

DEFINITION AND DISCUSSION OF KEY TERMS

In what follows the term 'supply-side drug law enforcement' means law enforcement directed at drug producers, importers, distributors and/or suppliers, carried out with a view to keeping the

price of a proscribed drug high or the drug itself scarce or of poor quality. The term 'demand-side drug law enforcement' means law enforcement directed at drug users with a view to discouraging new entrants into the drug market, removing existing drug users from the market or reducing the quantity of drugs existing users consume.

Defining 'harm minimisation' is more difficult. It is easy enough to describe it as a policy toward drug use designed to minimise or reduce the harms associated with such use. Such a definition, however, provides no help in identifying which particular policies minimise harm. In fact it is possible to reach different conclusions about the trend in drug-related harm depending upon how one chooses to measure harm. In the United States, for example, emergency room admissions for cocaine abuse have been rising over the same period that the number of cocaine users has been falling (Caulkins & Reuter 1997).

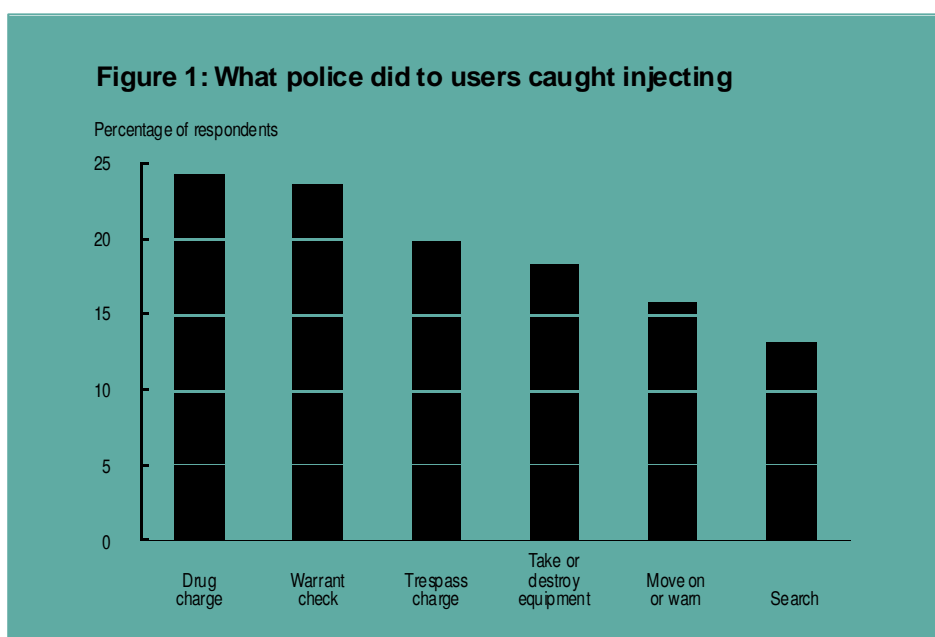
We do not attempt a definition of harm minimisation in this bulletin but we do

distinguish between two categories of harm associated with any drug use, including heroin. What we call *direct* harms are those which arise from the effect of the drug on the user and those directly affected by the user's behaviour. They include whatever physical harm, if any, the drug causes to those who use it. They also include the harm drug users cause to others, or society, under the influence of the drug. In the case of heroin such harms include low birth-weight, newborn drug toxicity, road fatalities, suicide, child neglect and, occasionally, medical complications such as antepartum haemorrhage (English et al. 1995; Collins & Lapsley 1996, pp.526-576; Dore, Doris & Wright 1995; Jaudes, Ekwo & Van Voorhis 1995; Tomison 1996).

Induced harms are those caused by our efforts to control, regulate or reduce the use of a drug. In the case of heroin and other illegal drugs, they include the additional harm generated by addicts who commit crime at a higher rate because of the income need their addiction generates or who engage in unsafe injection practices in order to avoid being detected or apprehended by police. They include the harm generated by police who are corrupted in the course of efforts to suppress the illegal heroin market. They include any organised crime which results from the illegal market for heroin. They also include any harm generated by medical or administrative corruption associated with efforts to treat heroin users (e.g. the development of a black market for methadone).

THE EFFECT OF LAW ENFORCEMENT ON THE COST OF HEROIN

In theory, at least, law enforcement can be used to impose a significant *monetary* cost on heroin use. This can be done through two mechanisms. Firstly, supply-side drug law enforcement strategies can be used to make heroin scarce relative to the demand for it. This should cause the price of heroin to rise. Secondly, supply-side law enforcement can be combined with tough penalties to create substantial risks for those who seek to import or distribute heroin. Importers and distributors will not enter the heroin market in the face of these risks unless they can make substantial



profits. This too should act to keep the price of heroin high.

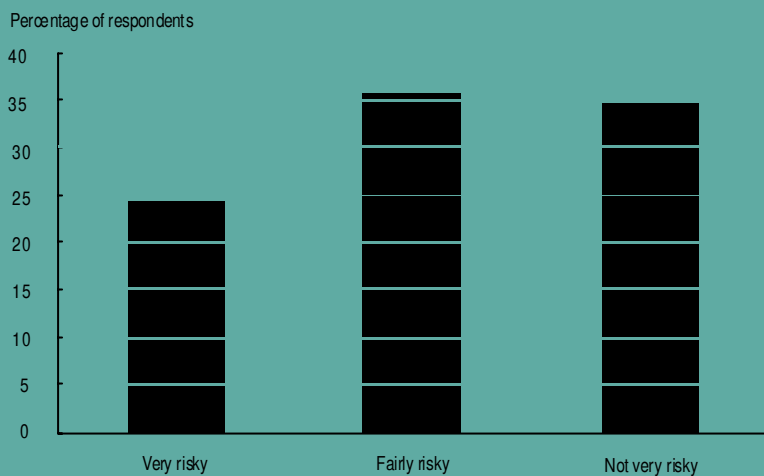
In practice supply-side drug law enforcement policies do not seem to have greatly restricted the availability of heroin. The drug now appears to be readily available in all States with the possible exception of Tasmania (Australian Bureau of Criminal Intelligence 1996, p.58). Law enforcement efforts to create a relative scarcity of heroin also appear to have failed. In their study of heroin seizures over a two-year period Weatherburn and Lind (1997) found no effect of seizures on the price, purity or availability of heroin at street level. Since that study the price of heroin seems to have fallen while its purity seems to have increased (Australian Bureau of Criminal Intelligence 1999, pp. 37-38).

As noted above, the second mechanism through which drug law enforcement can influence the price of heroin is through the risks and costs it imposes on heroin importers and traffickers. US research (Caulkins & Reuter 1998) suggests that as much as 50 per cent of the cost of cocaine can be attributed to risk compensation. Heroin sells on the streets of Cabramatta for between \$30 and \$50 a 'cap' (Australian Bureau of Criminal Intelligence 1999).¹ This is very high relative to similar pharmaceutical products, such as codeine.² On balance it would seem highly likely that the threat of arrest and prosecution for supplying or importing heroin is one of the factors keeping the street price of heroin as high as it is.

The *non-monetary* costs which drug law enforcement imposes on heroin use are obvious. They include the social stigma, inconvenience and anxiety associated with being arrested for using or possessing heroin and the fact that those found with even moderate quantities of heroin in their possession are liable to be prosecuted for supplying heroin, an offence which usually carries a prison sentence. The non-monetary costs also include the extra effort users have to put in to obtain their heroin if drug law enforcement activity succeeds in reducing its availability. Furthermore they include the fear and anxiety inextricably associated with using heroin in a climate of illegality (e.g. fear of disease, fear of being 'ripped off', fear of being assaulted or abused by police).

A recent interview study of over 500 heroin users by Weatherburn, Lind and Forsythe (1999) provides evidence of these non-monetary costs of heroin use. Amongst other things, the study looked at the level of interaction between heroin users and the police and the extent to which heroin users come into contact with the criminal justice system. The interviews revealed that 71 per cent of the sample of respondents had been arrested for drug-related crime, 63 per cent had been stopped by police for a drug offence, 40 per cent had been imprisoned for drug-related crime, 38 per cent had been interrupted by police while using heroin and 25 per cent had one or more court cases pending for a drug offence. The pattern of police-user interaction when police interrupt heroin

**Figure 2: Perceived risk of scoring heroin
- users not currently in MMT**



users is shown in Figure 1. The percentages are based on the 115 respondents who were interrupted by police while injecting heroin in the twelve months prior to the date of interview.

It is obvious that, while police sometimes simply give a warning or tell heroin users to move on, they also often charge heroin users with an offence, check whether they have an outstanding arrest warrant or engage in practices (destroying heroin or injection equipment) which are bound to make the experience of being interrupted while using heroin quite unpleasant.

The Weatherburn, Lind and Forsythe (1999) study also looked at the perceived risk associated with purchasing heroin. Figure 2, which is drawn from their data, indicates that the majority of users who were not in treatment at the time of interview regarded scoring heroin as either fairly or very risky.

It is clear, then, that dependent heroin users encounter significant non-monetary costs both in the use and in the pursuit of heroin from their suppliers.

DOES DRUG LAW ENFORCEMENT DETER HEROIN USE OR PROMPT USERS TO SEEK TREATMENT?

Commonsense suggests that one effect of prohibition and drug law enforcement should be to deter drug use. The fact that less than one per cent of the

Australian population are recent heroin users and less than three per cent have ever used heroin (Australian Institute of Health and Welfare 1999) seems to support this assumption. Further indirect support for the deterrent effect of drug law enforcement can be found in survey results which indicate that many young people who decline an opportunity to use cannabis, cite fear of being caught by the police as 'quite important' or 'very important' to their decision (Criminal Justice Commission 1994, p. 108). If drug law enforcement is a deterrent to cannabis use one might expect its deterrent effect on heroin use to be even stronger.

Appearances, however, can be deceiving. It is possible that other factors (e.g. fear of disease, fear of injecting) are at least partly responsible for the low prevalence of heroin use. After all, cannabis use is also prohibited but the prevalence of cannabis use is nowhere near as low as that of heroin. Nearly 18 per cent of the Australian population are recent users of cannabis (Australian Institute of Health and Welfare 1999). The fact that a drug is illegal may deter some people from using it but attract others.³ The available evidence, then, gives us little clue to the deterrent effects of drug law enforcement.

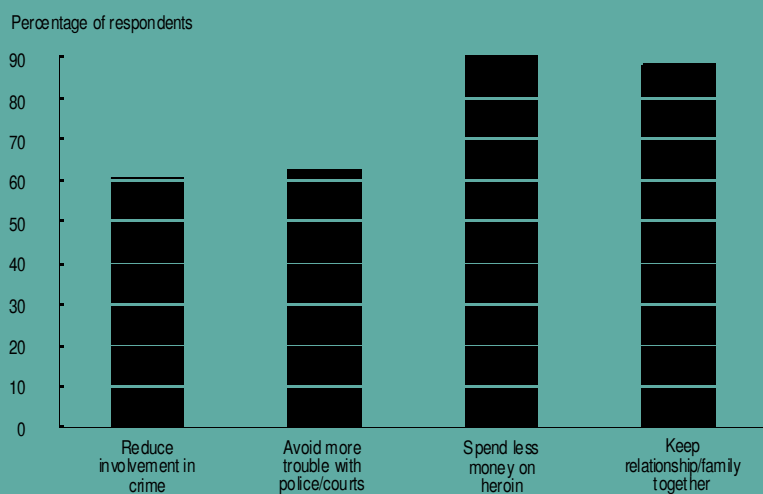
However, it would be a mistake to conclude, from the lack of evidence that drug law enforcement deters drug use, that no deterrent effect exists. In matters of drug law enforcement the problem is a paucity of evidence concerning deterrence rather than the existence of abundant and/or rigorous evidence

contrary to the deterrence hypothesis. The need for caution is underlined by the fact that, outside the context of drug law enforcement, there is now growing evidence suggesting (a) that the perceived risk of apprehension for crime exerts a significant effect on the likelihood of an individual engaging in it and (b) that police are able to influence the perceived risk of apprehension (Nagin 1998).

It is also worth noting that, even if drug law enforcement were only responsible for deterring a small fraction of the population from using heroin (the remainder being deterred by other considerations), the harm avoided as a result of drug law enforcement could be substantial. In 1996/97, for example, there were 2,835 hospital episodes attributable to the 0.7 per cent of the population who engaged in opiate use. If the absence of law enforcement had prompted only an additional 5 per cent of the non-using population to use heroin and they had been hospitalised at the same rate as those presently using heroin, there would have been an additional 19,845 hospital episodes related to heroin.⁴ Of course we cannot be sure that drug law enforcement actually prevented this number of hospital episodes. The point is rather that quite small deterrent effects may produce large public health benefits, a fact easily obscured when most of the visible harm associated with heroin is induced harm.

Demand-side drug law enforcement rests on firmer ground, nonetheless, where the measure of its success is not the number of people deterred from ever using heroin but the quantities of heroin consumed by those who have. Weatherburn, Lind and Forsythe (1999) obtained evidence that drug law enforcement encourages entry into treatment, at least for some groups of heroin users. This can be seen both from the reasons heroin users give for entering treatment and from the factors which distinguish those who want or have been in treatment from those who do not want or have not had treatment.

Figure 3 shows the pattern of response in the Weatherburn, Lind and Forsythe (1999) study when heroin users were asked to rate the importance of various reasons for seeking methadone treatment. It shows the proportion of respondents who rated each of the

Figure 3: Reasons for seeking treatment

specified reasons as either 'important' or 'very important'.

It can be seen that three factors associated with drug law enforcement were highly rated. Nearly 90 per cent indicated that the desire to spend less money on heroin was 'important' or 'very important' (this is evidence that drug law enforcement influences entry into treatment because the cost of heroin is directly related to the threat posed to heroin importers and distributors by drug law enforcement). In addition, 61 per cent indicated that the desire to reduce their involvement in crime was 'important' or 'very important' while 63 per cent indicated that their desire to avoid more trouble with police/courts was 'important' or 'very important'.

Bammer and Weekes (1993) also provide evidence of the deterrent effect of drug law enforcement. They interviewed a number of heroin users in a variety of different treatment settings and asked them (amongst other things) what influenced their 'final' decision to stop. Many of the respondents in that study described the decision to stop as the outcome of progressive fatigue with a lifestyle made very unpleasant by the threat of imprisonment, the poverty associated with maintaining a heroin habit, the guilt associated with stealing from friends and the dangers associated with obtaining heroin.

If drug law enforcement encourages heroin users into treatment we should expect to find those who have tried

treatment to have had more contact with police or the justice system than those who have not tried it. Weatherburn, Lind and Forsythe (1999) also found three lines of evidence consistent with this hypothesis.

Firstly, respondents not in MMT were more likely to say that they wanted MMT if they had been previously imprisoned for a drug offence. Secondly, Caucasian respondents who had been arrested or imprisoned were significantly more likely to have had some experience of MMT than those who had not been arrested or imprisoned. Thirdly, respondents in the study who had had a friend imprisoned for a drug-related offence were more likely to have been in MMT themselves. These three effects held up in the presence of other factors which predicted wanting MMT or previous MMT experience.⁵

Weatherburn, Lind and Forsythe (1999) also found evidence that supply-side law enforcement indirectly encourages entry into treatment through its effects on the monetary cost of heroin. As we noted earlier the cost of heroin at street level is determined in part by the activities of police engaged in supply-side drug law enforcement. Evidence that the higher levels of expenditure on heroin are associated with a greater likelihood of having tried MMT would therefore tend to support the hypothesis that (supply-side) law enforcement encourages entry into treatment. Weatherburn, Lind and Forsythe (1999) found that an

individual's level of expenditure on heroin exerted a significant and substantial effect on the probability of ever having entered MMT.⁶

What is the benefit, in terms of harm reduction, of encouraging heroin users into MMT? The principal benefit of MMT is that it has been shown in rigorously controlled trials to reduce an individual's consumption of heroin and their level of involvement in crime (Hall 1996). So by encouraging heroin users into MMT, drug law enforcement and contact with the justice system could be said to limit the consumption of heroin and limit the amount of crime committed to purchase it. Far from being contradictory approaches to harm minimisation, then, coercion and treatment may in fact rely to some extent on each other for their beneficial effects. Without drug law enforcement fewer heroin users would enter or remain in treatment. Without treatment drug law enforcement would exert less effect on heroin consumption and drug-related crime.

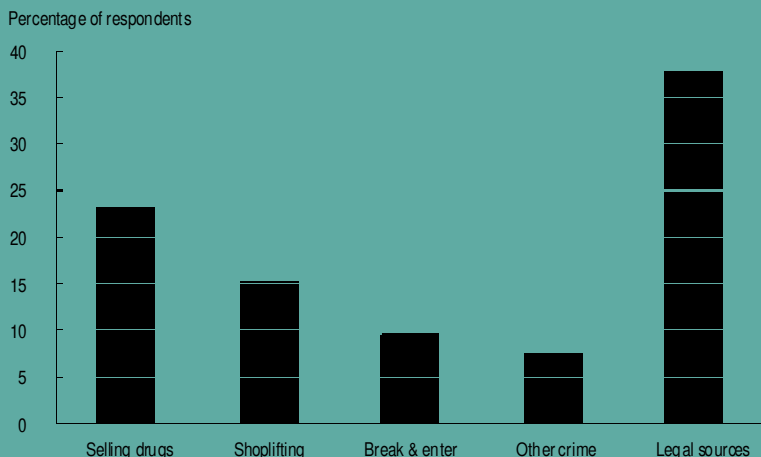
THE UNINTENDED EFFECTS OF DRUG LAW ENFORCEMENT

So far we have examined the effect of drug law enforcement on what we earlier defined as the direct harm caused by heroin use. What of its effect on induced harm? Here we strike what might be called the paradox of prohibition. Many of the things which help to reduce the direct harm caused by heroin also increase the level of induced harm associated with it.

To begin with, the fact that heroin is worth more than its weight in gold might act as a constraint on its use but it also acts as an inducement to corruption and, more importantly, as an amplifier of crime. The contribution drug law enforcement makes to police corruption is impossible to quantify but the fact that it is substantial is amply documented in the Report of the Wood Royal Commission (Wood 1997).

The amplifying effect drug law enforcement has on drug sales and property crime is also substantial. Figure 4 shows the main source of income to purchase heroin amongst Weatherburn, Lind and Forsythe's sample of heroin users.

Figure 4: Main source of income to buy heroin



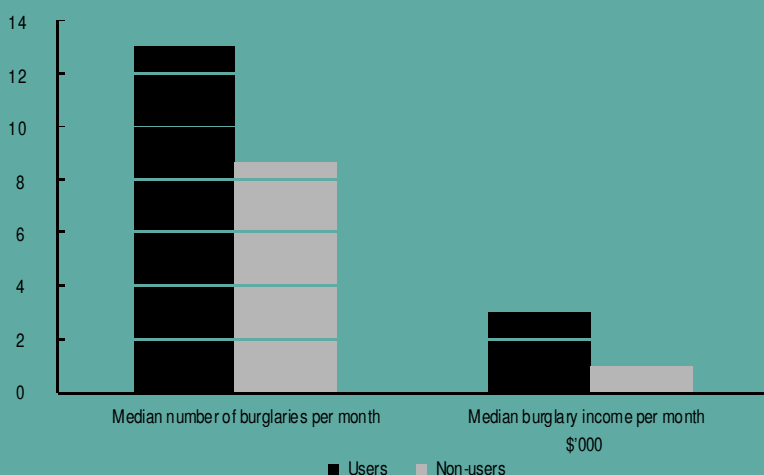
Nearly a quarter of those interviewed sold drugs to raise income to buy drugs and substantial proportions funded their addiction through property crime. Of course, heroin addiction is not the sole reason for involvement in crime. Most heroin users commence their involvement in crime prior to dependence on heroin (Dobinson & Ward 1984, p. 48). There is little doubt, however, that addictive drugs amplify the rate of offending amongst those already involved in crime (Blumstein, Cohen, Roth & Visher 1986, pp. 74-75). This amplifying effect can be seen in the results of an interview study recently conducted with 267

imprisoned burglars in NSW by Stevenson and Forsythe (1998).

Figure 5, below, shows the relative contribution to the burglary rate of burglars who used heroin as against those who did not in the six months prior to entering custody.

As can be seen from Figure 5, the median number of burglaries committed by heroin users was 13 a month, whereas the median number committed by non-users of heroin was only 9 a month. Furthermore, whereas the median income per week for heroin-using burglars was \$21.00 an hour (i.e. \$3,000

Figure 5: Monthly number of burglaries and burglary income



per month) for non-users of heroin it was only \$7.00 an hour (i.e. \$1,000 per month).⁷ These differences may be attributable in part to factors other than the cost of maintaining a heroin habit. Given the high cost of maintaining such a habit, however, it seems likely that they are in large measure attributable to the cost of purchasing heroin. That cost, in turn, is directly influenced by the effect of supply-side drug law enforcement on the retail price of heroin. So, paradoxically, supply-side drug law enforcement increases the amount of property crime individual heroin users commit to purchase heroin.

There are also health risks associated with demand-side drug law enforcement. These have been documented in south-western Sydney by Maher, Dixon, Lynskey and Hall (1998) and Maher, Dixon, Swift and Nguyen (1997). They include the use of unclean syringes by heroin users, the unsafe secretion of heroin (inside body cavities), rapid and careless injection of heroin and needle sharing.⁸ These harmful behaviours have been attributed to demand-side drug law enforcement because users allege that fear of detection prompts them.

Weatherburn, Lind and Forsythe (1999) confirmed the probable effect of drug law enforcement on these risks. Respondents in their survey were asked if they usually use heroin in a place where they feel safe from police. Of the 499 who answered the question, 85 per cent said that they did. Table 1 shows the responses cross-tabulated by the respondent's usual method of using heroin.⁹

Respondents were also asked about the frequency of various unsafe injection practices, namely how often they:

- injected without using a swab
- injected without using a tourniquet
- discarded the syringe quickly
- used a syringe before or after someone else.

For those who said they did not usually use heroin in a place where they felt safe from police, the questions were prefaced with the words 'to avoid being caught by police'. The possible responses were 'often', 'sometimes' or 'never'.

Tables 2 to 5 show the responses for each of the injection practices, disaggregated by whether or not the

Table 1: Whether use where safe by usual method of heroin use

	<i>Inject</i>		<i>Smoke/chase/inhale</i>		<i>Other</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
<i>Usually use where safe from police?</i>						
Yes	376	84.9	44	89.8	2	66.7
No	67	15.1	5	10.2	1	33.3
Total	443	100.0	49	100.0	3	100.0

Table 2: Frequency of injecting without a swab

<i>Inject without swab</i>	<i>Use where safe</i>		<i>Don't use where safe</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Often	70	18.0	12	18.8
Sometimes	176	45.4	31	48.4
Never	127	32.7	16	25.0
Don't use / never use	15	3.9	5	7.8
Total	388	100.0	64	100.0

Table 3: Frequency of injecting without a tourniquet

<i>Inject without tourniquet</i>	<i>Use where safe</i>		<i>Don't use where safe</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Often	48	12.4	3	4.7
Sometimes	43	11.1	5	7.8
Never	125	32.4	22	34.4
Don't use / never use	170	44.0	34	53.1
Total	386	100.0	64	100.0

Table 4: Frequency of discarding the syringe quickly

<i>Discard syringe quickly</i>	<i>Use where safe</i>		<i>Don't use where safe</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Often	43	11.2	7	11.1
Sometimes	56	14.6	18	28.6
Never	284	74.2	38	60.3
Total	383	100.0	63	100.0

Table 5: Frequency of sharing a syringe

Share syringe	Use where safe		Don't use where safe	
	No.	%	No.	%
Often	4	1.0	2	3.1
Sometimes	71	18.3	18	28.1
Never	312	80.6	44	68.8
Total	387	100.0	64	100.0

respondent usually uses heroin in a place where they feel safe from police.

Overall 18 per cent of respondents said they *often* injected without using a swab and a further 46 per cent said they *sometimes* injected without using a swab. The pattern of responses is similar, regardless of whether the respondents use heroin where they feel safe. There is no statistically significant difference between the two groups in the frequency of injecting without a swab.

A substantial proportion of respondents said that they didn't use or didn't need to use a tourniquet. Overall 45 per cent of respondents fell into this category.

About a third of respondents said they *never* injected without a tourniquet: 32 per cent of those who use where they feel safe and 34 per cent of those who don't use where they feel safe. There is no statistically significant difference in the pattern of responses between the two types of users.

There is, however, a statistically significant difference in the pattern of response relating to discarding syringes.¹⁰ Seventy-four per cent of those who usually use heroin where they feel safe from police said they *never* discarded syringes quickly, compared with 60 per cent of those who don't usually use heroin where they feel safe from police.

There was no significant difference in the relative frequency of sharing syringes. However, only a very small number of respondents said they *often* used a syringe before or after someone else. If these responses are included with the *sometimes* category, there is a significant difference for the resulting two by two contingency table. The proportion who never share syringes is higher for those who use heroin where they feel safe (81%) than for those who don't (69%).

Although the vast majority of heroin users inject heroin in a place where they feel safe from the police there clearly are significant differences between those who inject in a safe place and those who do not in the frequency with which they shared and discarded syringes. Those who inject in a place where they do not feel safe from the police were more likely to discard and share injection equipment. The finding concerning needle sharing is of particular concern since prevention of needle sharing lies at the heart of efforts to control the spread of blood-borne viruses.¹¹

So while drug law enforcement can be said to reduce *direct* harm caused by heroin, the tactics which make it effective in achieving this goal unfortunately also increase the amount of *induced* harm associated with heroin. The high price of heroin acts as an inducement to corruption and increases the amount of crime heroin users commit to fund their addiction. The fear associated with being caught by police encourages unsafe injection practices thereby increasing the threat to public health.

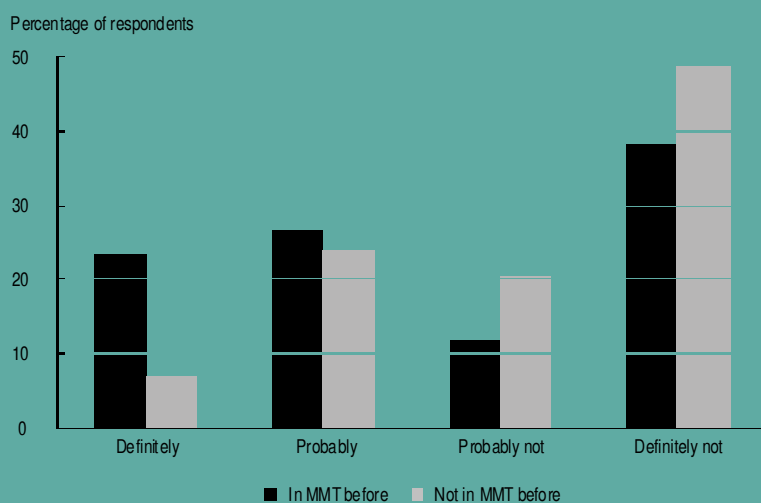
GETTING THE RIGHT BALANCE BETWEEN LAW ENFORCEMENT AND TREATMENT

The arguments and evidence presented above suggest that the prohibition against heroin use and supply probably helps keep the level of direct harm associated with heroin lower than it would otherwise be, but this kind of 'harm minimisation' comes at a price. The price is a higher level of induced harm. Recognising this, some have suggested that the costs associated with drug law enforcement so

far outweigh its benefits that we would be better off taking drug law enforcement out of the policy equation. On this argument most of the harm associated with heroin could be eliminated if the prohibition against heroin use were removed and heroin itself made available on prescription to dependent users.

There is little doubt that *if* the partial legalisation of heroin successfully removed a large proportion of heroin users from the illegal market the price of heroin would fall and this would almost certainly bring about a significant reduction in the level of induced harm associated with heroin. What remains unclear is whether this reduction in induced harm could be purchased without a corresponding increase in the level of direct harm associated with heroin. Examination of the direct harms associated with legal drugs suggests that this is not an issue to be lightly dismissed. Typically, legal drugs generate far less induced harm than illegal drugs but also generate far more direct harm.

Few people, for example, engage in crime or corruption to obtain alcohol. In 1992, however, over 76 per cent of the population used alcohol and 28 per cent of those who drank consumed alcohol at hazardous or harmful levels (Commonwealth Department of Health and Family Services 1996, Williams 1997). The direct cost associated with this level of alcohol consumption is, as one might expect, quite substantial. In 1992 there were 3,660 alcohol-related fatalities and 731,169 hospital bed days directly attributable to alcohol consumption. By way of comparison, in 1992 there were only 488 deaths and 40,522 bed days attributable to consumption of *all* illicit drugs (Collins & Lapsley 1996).

Figure 6: Willingness to start MMT

Alcohol, then, is a drug which generates relatively little induced harm compared with heroin but which clearly generates a great deal more direct harm. If the partial legalisation of heroin led to an increase in consumption one might also expect higher levels of direct harm associated with the drug. This is true even if the induced harm associated with it declined.¹² The dilemma for policy, then, is to find a way to reduce the induced harm associated with heroin without increasing the amount of direct harm caused by the drug.

The only way to thoroughly assess whether an alternative to prohibition might be more effective in minimising the harm associated with heroin is to try that alternative and measure the levels of direct and induced harm it produces. Note, however, that while the proposed heroin trial in the ACT (Bammer & Douglas 1996; Bammer 1995) would allow us to make a rigorous assessment of the scope for reducing some of the key direct and induced harms associated with heroin, it would not allow us to determine whether providing heroin to dependent users results in an increase in the prevalence of use or the number of dependent users. This could only be properly determined by running a heroin trial large enough to accommodate most dependent heroin users in a particular market.

Whether or not such a trial eventuates there is clearly room for improvement in

current policy. To begin with it is obviously imperative to make it as easy as possible to leave the heroin market. Given the benefits which treatment brings and the fact that the benefits produced by drug law enforcement depend in no small measure on the ready availability of treatment, we ought to be aiming to make treatment as readily available as possible. It is clear from both our data and other evidence that many users simply cannot obtain or afford access to treatment. Weatherburn, Lind and Forsythe (1999) asked the sub-sample of heroin users who were not in methadone treatment whether they would start tomorrow if they could.

Figure 6 shows the pattern of response to this question for both those who had been in MMT before and those who hadn't. Fourteen per cent of all heroin users (those not in treatment at the time of interview) said they would 'definitely' start methadone treatment tomorrow if they could. A further 25 per cent said they would 'probably' start methadone treatment tomorrow if they could, making a total of 39 per cent who wanted treatment. Figure 6 shows that those who had previously been in treatment were more likely to want treatment; 50 per cent of those who had previously been in treatment said they would 'definitely' or 'probably' start methadone treatment tomorrow, compared with 31 per cent of those who had never been in treatment.

Why don't heroin users enter treatment? The main problem is limited access to the public methadone program. Amongst those who said they would 'definitely' or 'probably' start methadone treatment tomorrow, 56 per cent said that the waiting list was stopping them. For those who had never been in treatment this proportion was substantially higher at 65 per cent.¹³ Given what we know about the effectiveness of methadone treatment in reducing health-related harms associated with heroin use it is clear that the shortage of treatment places is a constraint on the effectiveness of drug law enforcement policy. This shortage was acknowledged in the recent NSW Drug Summit and in response the NSW Government has made a commitment to expanding the methadone program (NSW Government 1999, p. 43).

The waiting list, however, is clearly not the only factor keeping heroin users off methadone treatment (given that less than 50 per cent of those not in treatment wanted to be in treatment). Many heroin users in Weatherburn, Lind and Forsythe's study, when asked to state the worst thing about methadone treatment, commented on the problem of being 'chained' to the (MMT) clinic. Many also commented on the problem of becoming addicted to another drug (particularly one seen by many to be more addictive than heroin).

The development of longer-acting alternatives to methadone, such as buprenorphine and LAAM, should reduce the frequency with which people seeking treatment for heroin dependence need to make contact with treatment providers. These drugs should therefore alleviate the problem of being 'chained to the clinic' and might, for this reason be expected to encourage more heroin users into treatment. An additional advantage conferred by these treatments is that they help obviate the need for 'take-aways' and therefore reduce the opportunities for illegal trading in methadone.

It is more difficult to identify an effective way of encouraging people to reduce their heroin consumption which does not, at least in the short run, involve substituting heroin for another addictive drug. Of late there has been considerable public discussion about the alleged benefits of naltrexone, which theoretically provides an avenue out of heroin use without having to substitute

one form of drug dependence for another. The published research in Australia to date, however, suggests that the benefits of naltrexone may have been exaggerated (Foy, Sadler & Taylor 1998). One of the problems with naltrexone is that it greatly increases the susceptibility of heroin users to overdose. Further research will be needed before its potential contribution to minimising the harm associated with heroin can be fully determined.

One way in which to promote entry into MMT is to make the treatment program more attractive to heroin users. This is particularly important for Aboriginal and Asian heroin users whom Weatherburn, Lind and Forsythe (1999) found to make much less use of MMT than Caucasian heroin users. Bell et al. (1995) have suggested several improvements to the MMT program. These include the provision of professional counselling with MMT and ensuring that MMT patients get adequate doses of methadone. More culturally sensitive or appropriate treatment options may also be of assistance, as might more flexible arrangements for the provision of methadone treatment, such as those recently announced by the NSW Government in the wake of the NSW Drug Summit (NSW Government 1999).

If using heroin is to remain a criminal offence the tactics and strategies employed by police involved in demand-side drug law enforcement clearly need to be designed not to disrupt initiatives designed to reduce the risk to public health created by injecting drug use. The research by Maher and her colleagues suggests that some of these tactics and strategies are threatening both to the health of heroin users, and by extension, to the general community. Weatherburn, Lind and Forsythe's research supports this conclusion, even if it also shows that most heroin users inject in a place they feel safe from police. Tactics such as aggressive drug law enforcement around methadone clinics should be avoided because they only serve to discourage heroin users from entering treatment. Likewise, tactics such as needle confiscation or destruction only serve to discourage safe injection practices.

There may be other ways in which demand-side drug law enforcement might be made less threatening to public health. One approach is to create official 'safe injection rooms', that is, places

where heroin itself is not provided but where heroin use is allowed to occur under supervision. 'Safe injection rooms' are undoubtedly an effective way of reducing the risks associated with injecting heroin. One potential problem with restricting self-administration of heroin to 'safe injection rooms' is that, unless they are very widespread, they may attract congregations of heroin users. This, in turn, is likely to create problems of public order and threaten the social amenity of places where 'safe injection rooms' are located. If heroin dealers follow in the wake of heroin users these problems will be further exacerbated. Once again, the relative importance of these costs and benefits can really only be assessed with proper research.

It is more difficult to critically assess the tactics employed by police engaged in supply-side heroin law enforcement. The media characterisation of supply-side drug law enforcement depicts it as an activity directed primarily at stemming the supply of heroin into the country. Police engaged in supply-side enforcement encourage this characterisation of their work by parading the quantities of heroin they seize in front of the media as evidence of their success in combating the trade in heroin. The research conducted by Weatherburn and Lind (1997) suggests that the quantity of heroin seized appears to exert no measurable effect on the price, purity or availability of heroin. If this is true, then maximising the quantities of heroin seized is probably the wrong goal to pursue in supply-side drug law enforcement.

What is the right goal?

It could be argued that, since risk compensation is the primary mechanism through which such enforcement influences the street-price of heroin, supply-side drug law enforcement ought to concentrate on maximising the risks faced by heroin importers, distributors and suppliers. Here, however, we strike one of the most significant impediments to the formulation of a rational drug policy: it is impossible on current evidence to be sure whether increasing the street-price of heroin would increase the harm caused by the drug or reduce it.

If the demand for heroin is price-elastic (i.e. a one per cent increase in the price of the drug produces a greater than one per cent decrease in demand for it) then

increasing the price of heroin can be expected to reduce many of the direct and induced harms associated with the drug. This is because the benefits of a drop in heroin consumption more than offset the adverse effects of an increase in its price. If, however, demand for heroin is inelastic or only weakly elastic (i.e. a one per cent increase in the price of the drug leads to a fall in demand of less than one per cent), increasing the price of heroin will only drive up revenues to drug dealers and increase the aggregate amount of crime committed by heroin users to purchase the drug.

Efforts to determine the price-elasticity of demand for heroin have unfortunately produced rather inconclusive effects. It used to be thought that, since heroin is an addictive drug, the demand for heroin is likely to be price-inelastic. Evidence from short-run studies of the relationship between illicit drug prices and drug consumption supports this view (Wagstaff & Maynard 1988). However Caulkins and Reuter (1998) provide evidence supporting the thesis that the demand for addictive drugs, such as heroin, is quite price-elastic over the long-term because in the long run price affects not just consumption levels among existing users but also the prevalence of drug use. Clearly this is an area, once again, where further research is needed to advance policy.

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REFERENCES

- Australian Bureau of Criminal Intelligence 1996, *Australian Illicit Drug Report, 1995-96*, Commonwealth of Australia, Canberra.
- Australian Bureau of Criminal Intelligence 1999, *Australian Illicit Drug Report, 1997-98*, Commonwealth of Australia, Canberra.
- Australian Institute of Health and Welfare 1999, *1998 National Drug Strategy Household Survey: First results*, AIHW cat. no. PHE 15, Canberra.
- Bammer, G., 1995, *Report and Recommendations of Stage 2 Feasibility*

- Research into the Controlled Availability of Opioids, Canberra: National Centre for Epidemiology and Population Health, Australian National University and Australian Institute of Criminology, Canberra.
- Bammer, G. & Douglas, R. M. 1996, 'The ACT heroin trial proposal: An overview', *Medical Journal of Australia*, vol. 164, pp. 690-692.
- Bammer, G. & Weekes, S. 1993, *Becoming an ex-user: Would the controlled availability of heroin make a difference?* Stage 2 Working Papers, Feasibility research into the controlled availability of opioids, National Centre for Epidemiology and Population Health, Australian National University and Australian Institute of Criminology, Canberra.
- Bell, J., Ward, J., Mattick, R., Hay, A., Chan, J. & Hall, W. 1995, *An evaluation of private methadone clinics*, National Drug Strategy, Report No. 4, Commonwealth of Australia, Canberra.
- Blumstein, A., Cohen, J., Roth, J. A. & Visser, C. A. 1986, *Criminal Careers and Career Criminals*, vol. 1, Panel on Research on Criminal Careers, National Academy Press, Washington, DC.
- Caulkins, J. P. & Reuter, P. 1997, 'Setting goals for drug policy: harm reduction or use reduction?', *Addiction*, vol. 92, no. 9, pp.1143-1150.
- Caulkins, J. P. & Reuter, P. 1998, 'What price data tell us about drug markets', *Journal of Drug Issues*, vol. 28, no. 3, pp. 593-612.
- Collins, D. J. & Lapsley, H. M. 1996, *The social costs of drug abuse in Australia in 1988 and 1992*, National Drug Strategy Monograph Series No. 30, Australian Government Publishing Service, Canberra.
- Commonwealth Department of Health and Family Services 1996, *National Drug Strategy Household Survey, Survey Report, 1995*, Commonwealth Department of Health and Family Services, Canberra.
- Criminal Justice Commission 1994, *Report on Cannabis and the Law in Queensland*, Queensland Government, Brisbane.
- Dobinson, I. & Ward, P. 1984, *Drugs and Crime: A Survey of Prison Property Offenders*, NSW Bureau of Crime Statistics and Research, Sydney.
- Dore, M. M., Doris, J. M., & Wright, P. 1995, 'Identifying substance abuse in maltreating families: A child welfare challenge', *Child Abuse and Neglect*, vol. 19, no. 5, pp.531-543.
- English, D., Homan, C. D., Milne, E., Winter, M., Hulse, G., Codde, J., Bower, C., Corti, B., de Klerk, N., Knuiiman, M., Kurinczuk, J., Lwein, G. & Ryan, G. 1995, *The quantification of drug caused morbidity and mortality in Australia*, Department of Human Services and Health, Canberra.
- Foy A., Sadler C. & Taylor A. 1998, 'An open trial of naltrexone for opiate dependence', *Drug and Alcohol Review*, vol. 17, no. 2, pp. 167-174.
- Hall, W. 1996, *Methadone Maintenance Treatment as a Crime Control Measure*, Crime and Justice Bulletin no. 29, NSW Bureau of Crime Statistics and Research, Sydney.
- Jaudes, P. K., Ekwo, E., & Van Voorhis 1995, 'Association of drug abuse and child abuse', *Child Abuse and Neglect*, vol.19, no. 9, pp. 1065-1075.
- MacCoun R. J. 1993, 'Drugs and the law: A psychological analysis of drug prohibition', *Psychological Bulletin*, vol. 113, no. 3, pp. 497-512.
- Maher, L., Dixon, D., Swift, W., & Nguyen, T. 1997, *Anh hai: Young Asian Background People's Perceptions and Experiences of Policing*, University of New South Wales Faculty of Law Research Monograph Series, Sydney.
- Maher, L., Dixon, D., Lynskey, M., & Hall, W. 1998, *Running the Risks: Heroin, Health and Harm in South Western Sydney*, National Drug and Alcohol Research Centre, University of NSW, Monograph no. 38, Sydney.
- Marks, R.E. 1994, 'Cannabis laws: An analysis of costs', *Drug and Alcohol Review*, vol. 13, pp. 341-346.
- Nagin, D. S., 1998, 'Criminal deterrence at the outset of the twenty-first century', in *Crime and Justice: A Review of Research*, vol. 23, ed. M. Tonry, University of Chicago Press, Chicago, pp. 1-42.
- NSW Government 1999, *NSW Drug Summit, Government Plan of Action*, Sydney.
- Stevenson R. J. & Forsythe, L. M. V. 1998, *The Stolen Goods Market in New South Wales*, NSW Bureau of Crime Statistics and Research, Sydney.
- Tomison, A. M. 1996, *Child Maltreatment and Substance Abuse*, Child Abuse Prevention, Discussion Paper No. 2, Australian Institute of Family Studies, Melbourne.
- Wagstaff, A. & Maynard, A. 1988, *Economic Aspects of the Illicit Drug Market and Drug Enforcement Policies in the United Kingdom*, Home Office Research and Planning Report No. 95, HMSO, London.
- Weatherburn, D. & Lind, B. 1997, 'The impact of law enforcement activity on a heroin market', *Addiction*, vol. 92, no. 5, pp.557-569.
- Weatherburn, D., Lind, B. & Forsythe, L. 1999, *Drug law enforcement: Its effect on treatment experience and injection practices*, NSW Bureau of Crime Statistics and Research, Sydney.
- Williams, P. 1997, *Progress of the National Drug Strategy: Key National Indicators*, Evaluation of the National Drug Strategy 1993-1997, Commonwealth of Australia, Canberra.
- Wood, J. R. T. 1997, *Royal Commission into the NSW Police Service*, NSW Government, Sydney.

NOTES

- 1 A 'cap' is approximately 0.02 g.
- 2 In fact if the latter were sold in the form of 'caps', it would sell for just 40 cents a 'cap'.
- 3 Some argue that since decriminalisation of cannabis use seems to have had little or no effect on the prevalence of cannabis use, prohibition probably has little effect on the prevalence of heroin use (Marks 1994). The difficulty with this argument is that decriminalisation of cannabis use has often occurred only after the use of cannabis has become very widespread and/or begun to decline (MacCoun 1993). Removal of sanctions for use and/or possession at this point would not be expected to exert much effect.
- 4 We obtain this figure on the assumption that hospital episodes are a linear function of the prevalence of heroin use. Thus, 2,835 hospital separations in 1996/97 were attributable to opiate consumption by the estimated 0.7% of the population who used heroin in that year. Ex hypothesis 99.3% of the population were not recent users of heroin. We want to factor up the 2,835 hospital separations by a number which reflects the presumed effect of prohibition and drug law enforcement. Assume that five per cent of the non-users are deterred by drug law enforcement and/or prohibition. Five per cent of 99.3 is 4.965. The scale up factor is $4.965/0.7 = 7$. If we multiply 2,835 by 7 we obtain 19,845.
- 5 All respondents, regardless of ethnicity, were included in the logistic regression models used to test for the effects of arrest and imprisonment in the presence of controls (ethnicity was included as a control variable in the model). Neither arrest nor imprisonment for a drug-

- related offence exerted any significant effect on MMT experience when age, and period of time spent as a regular heroin user, were included as controls in the relevant regression model. However, the likelihood of arrest and imprisonment increases with age and/or the period of time spent regularly using heroin and these variables could have masked the effect of arrest and imprisonment. When age and period of time spent regularly using heroin were dropped as controls from the relevant regression model, the arrest or imprisonment of a respondent for a drug-related offence did predict MMT experience.
- 6 Note the consistency between this finding and the earlier finding that spending less money on heroin was endorsed by 90 per cent of respondents as an important or very important reason for entering treatment.
 - 7 These figures are based on a 35 hour week over a 4 week period.
 - 8 Some might be tempted to dismiss these risks because they are carried by heroin users themselves and may help discourage heroin use. This would be a mistake. The health risks posed by drug law enforcement may act to discourage heroin use but the health risks themselves are shared by everyone in the community.
 - 9 Method of usual use of heroin was unknown for 4 of the 499 respondents.
 - 10 $\chi^2 = 7.8$, 2 d.f., $p = 0.020$.
 - 11 One could argue that the tendency to use heroin in a place where there is a risk of apprehension by police and the tendency not to take basic health precautions when injecting are simply two different manifestations of risk-taking behaviour (causally unrelated to one another). Given the response of police to those they catch injecting heroin and the ethnographic evidence of Maher and her colleagues (Maher et al. 1997, Maher et al. 1998), however, the more plausible interpretation of the data would seem to be that those who inject on the street often share and discard needles to reduce their chances of being caught by police.
 - 12 Of course, a partial legalisation scheme with very restrictive eligibility requirements would probably avoid this risk but, for this same reason, would not do much to reduce the induced harm associated with heroin.
 - 13 The comparable statistic for those who had previously been in treatment was 51 per cent (i.e. the waiting list was considered to be stopping access to MMT for 51 per cent of those who had previously been in treatment, but were not in treatment at the time of interview, and who said they would 'definitely' or 'probably' start methadone tomorrow if they could).

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