

DRUGS, CRIME AND CRIME REDUCTION

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Introduction

The use of illicit drugs and high rates of crime are strongly associated. Under drug prohibition, drug-consumption and drug trafficking are inevitably defined as offences. Drug-related offences — especially income-generating property crime — are also common although psychopharmacological offences and violence between drug traffickers are less prevalent. Drugs and crime are also linked by many common causal factors such as poverty and unemployment although these associations are often more difficult to unravel. As a result of the many associations between drug use and crime, most drug users around the world spend large proportions of their drug using careers behind bars. This is true in most countries, but especially in countries relying predominantly on law enforcement responses to illicit drugs. Despite vigorous efforts to detect and prevent the entry of illicit drugs to correctional centres, and the imposition of extremely severe penalties for those caught and convicted of bringing drugs into prisons, the use of illicit drugs is a major problem in prisons worldwide. Although prison inmates are only a small proportion of the total population at any time, large numbers of individuals circulate in and out of prison over a period. In addition, much of the harm associated with illicit drugs in the community is linked to drug use during episodes of incarceration.

The high cost, limited effectiveness and severe unintended negative consequences of drug supply control measures is increasingly acknowl-

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edged and has led to growing interest in recent years in alternative approaches.

Support for harm reduction approaches was stimulated a quarter century ago by the realisation that HIV associated with drug injecting was a clear and present danger to the general population in many countries. Furthermore, increasing evidence demonstrated that this threat could be controlled effectively, inexpensively and safely using needle syringe programs, methadone programs and explicit, peer-based education of drug users while in some other countries, expansion of supply control measures exacerbated the public health problems of HIV among injecting drug users. There is now growing interest in many countries in the application of harm reduction measures first developed in community settings to correctional centres.

Harm reduction is an evidence-based and pragmatic response to public health problems

The International Harm Reduction Association defines 'Harm reduction' as 'efforts to reduce the health, social and economic costs of mood altering drugs without necessarily reducing drug consumption'.² Research over more than two decades has shown consistently that while many drug users are unable or unwilling to discontinue their drug use in the short term, they are generally keen to maintain their health.

In recent years, interest in evidence-based interventions has been growing among health practitioners. Many health practitioners working to reduce the health problems of illicit drug users have been keen to see a similar evidence-based approach increasingly inform drug policy and drug treatment. The strong tradition in medicine is to test hypotheses: if evidence demonstrates that a particular hypothesis can be refuted, that hypothesis is then rejected. The application of this approach to clinical medicine and public health during the last half-century has revolutionised the outcomes for many common health conditions. Life expectancy in many developed countries has increased from about 45 years at the dawn of the 20th century to about 75 years at the close of the century.

Although the majority of this increase in life expectancy arose from enhanced public health measures and only a minority from improved clinical interventions, progress **in** both settings was based on scientific evidence and a rigorous approach to scientific research.

In the case of injecting drug users, the evidence demonstrates consistently that when provided with appropriate and timely information about the risks of HIV, the means to change behaviour and the encouragement to do so, risk behaviour generally declines and HIV incidence and prevalence also decline. In contrast, zero tolerance is an ideological position that assumes individual drug users cannot or will not make healthy deci-

2. <<http://www.ihra.net/index.php?option=articles&Itemid=3&topid=0&Itemid=3#>>

sions. Experience has shown that the application of zero tolerance often results in continuing high levels of illicit drug use, increasing numbers of drug overdose deaths, high rates of disease among drug users (such as HIV infection), high rates of crime and rampant corruption among police and other officials.

Harm reduction is effective, safe and cost effective

Harm reduction is supported by compelling evidence of effectiveness, safety and cost effectiveness. For example, comprehensive reviews of the international evidence for needle syringe programs have been carried out by or on behalf of the following US government agencies:

1. General Accounting Office;³
2. National Commission on AIDS;⁴
3. Centres for Disease Control and Prevention, Atlanta;⁵
4. Office of Technology Assessment of the US Congress;⁶
5. National Institutes of Health Consensus Panel;⁷
6. Satcher D, Surgeon General, US Dept of Health & Human Sciences, Washington DC;⁸
7. Institute of Medicine of the National Academy of Science.⁹

All of these reviews concluded that:

- a) needle syringe programs are effective in reducing HIV infection among injecting drug users;
- b) needle syringe programs do not increase illicit drug use.

Additional evidence demonstrates that needle syringe programs are cost-effective.

Likewise, methadone treatment programs have been found consistently to be effective, safe and cost effective.¹⁰ In some countries,

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3. General Accounting Office GA, *Needle Exchange Programs: Research Suggests Promise as an AIDS Prevention Strategy*, US Government Printing Office, Washington DC, 1993.
 4. National Commission on AIDS, *The Twin Epidemics of Substance Use and HIV*, Washington DC, 1991.
 5. Lurie P, and Reingold A L (eds), *The public health impact of needle exchange programs in the United States and abroad*, Vol 1, Centres for Disease Control and Prevention, Atlanta, 1993.
 6. Office of Technology Assessment of the US Congress, *The Effectiveness of AIDS Prevention Efforts*, US Government Printing Office, Washington DC, 1995.
 7. National Institutes of Health Consensus Panel, *Interventions to prevent HIV risk behaviours*, NIH, 1997.
 8. D Satcher, Surgeon General, *Evidence-based findings on the efficacy of syringe exchange programs: an analysis of the scientific research completed since April 1998*, US Dept of Health & Human Sciences, Washington DC, 2000.
 9. Institute of Medicine of the National Academy of Science, *No Time to Lose: Getting More from HIV Prevention*, National Academies Press, Washington DC, 2001.
 10. J Ward, R Mattick, W Hall, *Methadone Maintenance Treatment and other Opioid Replacement Therapies*, Harwood Academic Publishers, Amsterdam, the Netherlands, 1998.

authorities were willing to accept this evidence and allow policy to be modified accordingly. In other countries, such as the United States, there has been implacable resistance to accepting even harm reduction measures supported by incontrovertible evidence.

The impressive benefits of harm reduction programs

A study commissioned by the Commonwealth Department of Health in Australia¹¹ estimated that by 2000 needle syringe programs cost Australia's governments \$AUS130 million (\$US90 million) but prevented 25,000 HIV and 21,000 hepatitis C infections and by 2010 will have prevented 4500 AIDS deaths and 90 deaths from hepatitis C. Needle syringe programs saved Australian governments at least \$AUS2.4 billion (\$US1.7 billion) allowing for a 5 per cent annual discount for future benefits (as is conventional in government accounting). If this discount is not deducted, the savings were estimated to be as much as \$AUS7.7 billion (\$US5.4 billion). This major evaluation was based on a study of data from 103 cities around the world. Cities with needle syringe programs had an average annual 18.6 per cent decrease in HIV, compared with an average annual 8.1 per cent increase in HIV in cities without such programs.

The United States has explicitly and repeatedly rejected harm reduction and embraced zero tolerance. Consequently, federal funding is not available for needle syringe programs and these have had to rely on meagre state and city resources. Thus, needle syringe programs in the United States have a fraction of the coverage of their counterparts in other countries such as Australia. In the year 2000, there were almost 15 new AIDS cases for every 100,000 Americans compared to just one new AIDS case for every 100,000 Australians. Between one-third and one-half of all new AIDS cases in the US are attributed to injecting drug use compared to about 5 per cent in Australia. The United States has today the highest AIDS incidence in the developed world and by a large margin. In July 2002, President Clinton acknowledged publicly that he had erred in declining an opportunity to introduce federal funding for needle and syringe programs in the United States in April 1998. Clinton explained that he had taken political rather than public health advice at the time.

Harm reduction: a well-established approach in clinical medicine and public health

As far back as 1926 in the United Kingdom, a high-level official committee concluded:

11. M Drummond, *Return on Investment in Needle and Syringe Programs in Australia*, *Health Outcomes International Pty Ltd, National Centre for HIV Epidemiology and Clinical Research*, Commonwealth Department of Health and Ageing, Canberra, 2002.

... indefinite administration of morphine or heroin would be permitted for those ... who are 'capable of leading a fairly normal and useful life so long as they take a certain quantity, usually small, of their drug of addiction but not otherwise'.¹²

Almost 80 years ago, this committee regarded efforts to facilitate a normal and useful life as an even higher priority than concerns to ensure the achievement and maintenance of a drug free state.

In 1974, long before the recognition of AIDS, a WHO Expert Committee noted a 'concern for preventing and reducing problems rather than just drug use'.¹³ A debate about the relative primacy of harm reduction or use reduction has been raging for decades but there is now recent evidence of growing support for harm reduction. The influential Advisory Committee on the Misuse of Drugs in the United Kingdom commented in 1984 that 'prevention includes both the prevention of drug use and the prevention of drug related harm'.¹⁴ Harm reduction should embrace evidence-based efforts to reduce drug consumption where such efforts are motivated primarily by a desire to reduce harm, rather than just a single-minded concern to diminish drug use.

Harm reduction is a universal framework long applied to other mood altering drugs. More than 20 years ago, the need was recognised¹⁵ for making 'the world safe for drunks' by 'modifying environments so that when drinking or drunken activities occur, they are less likely to cause or exacerbate damage'. This is the same spirit as the 'harm reduction' response to illicit drug use today. Nicotine replacement for cigarette smokers is comparable with providing methadone for heroin injectors. In both cases, a safer drug formulation is substituted for a more dangerous form of a mood-altering drug. Harm reduction advocates judge the effectiveness of these kinds of interventions by their success in reducing adverse health, social and economic consequences compared to the side effects and financial cost of the intervention. In contrast, zero tolerance supporters are more interested in a reduction (or elimination) of drug consumption and the moral stance projected.

There are many practical examples of harm reduction in action involving a wide range of different drugs. After all, efforts have been made to minimise the number and severity of car crashes including those due to alcohol, car safety belts reduce the risk of death or serious injury for drivers and other vehicle occupants. Helmets for motorcycle riders and their passengers are based on similar principles and the recognition that motorcycles cannot be prohibited even though they are far more dangerous than cars. Similarly, traffic authorities attempt to relocate dangerous roadside poles wherever possible but find that some roadside poles can-

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12. *Rolleston Report*, Ministry of Health, Departmental Committee on Morphine and Heroin Addiction, HMSO.
 13. WHO Expert Committee on Drug Dependence, 'Twentieth report' (1974) 551 *World Health Organ Tech Rep Ser* 1-89.
 14. Advisory Committee on the Misuse of Drugs, United Kingdom, 1984.
 15. *Alcohol and Public Policy*, National Academy Press, 1981.

not be relocated. These are replaced by frangible poles which, giving a little on impact, thereby reduce the risk of death or serious injury in the event of a crash. Condom promotion is intended to reduce the incidence of sexually transmitted infections and unwanted pregnancies by complementing other efforts to reduce the rate of sexual partner change. They are based on an acceptance of the reality that some irreducible level of sexual partner change will inevitably still continue notwithstanding all efforts.

The widespread and growing acceptance of harm reduction

The world changed irrevocably with the recognition on 5 June 1981 of HIV/AIDS. The Scottish Home and Health Department concluded in 1986:

... the gravity of the problem is such that on balance the containment of the spread of the virus [HIV] is a higher priority in management than the prevention of drug misuse ... On balance, the prevention of spread should take priority over any perceived risk of increased drug use.¹⁶

The Advisory Committee on the Misuse of Drugs in the United Kingdom argued in 1988 that 'the spread of HIV is a greater danger to individual and public health than drug misuse. Accordingly, services that aim to minimise HIV risk behaviour by all available means, should take precedence in development plans'.¹⁷

With the passage of time, expressions of support for harm reduction have become both more frequent and more unambiguous as is demonstrated by the conclusion of a recent parliamentary committee in the United Kingdom which noted:

If there is any single lesson from the experience of the last 30 years, it is that policies based wholly or mainly on enforcement are destined to fail ... [therefore] ... harm reduction rather than retribution should be the primary focus of policy towards users of illegal drugs.¹⁸

Harm reduction is now well-accepted in almost all Western Europe countries, and Canada, Australia and New Zealand. Support for harm reduction is increasing in many populous Asian countries including China, Indonesia, Malaysia and Vietnam. Many United Nations organisations have recently declared unambiguous support for harm reduction. The communiqué of the United Nations General Assembly Special Session on Drugs in 1998 referred to the need for 'a balanced approach' and the need for 'reducing adverse consequences' [of drugs] while the communiqué of the United Nations General Assembly Special Session on HIV/AIDS in 2001 determined that by 2005 'harm reduction' would be made available' by member states. In 2000, the Director General of WHO declared: 'The key to limiting the spread of HIV lies in harm reduction among intravenous drug users'.¹⁹ Even the International Nar-

16. *McClelland Report*, Scottish Home and Health Department, September 1986.

17. The Advisory Committee on the Misuse of Drugs, United Kingdom, 1988.

18. *The Mullins Report*, The Home Affairs Select Committee, The United Kingdom, 2002.

cotics Control Board, which has often been a zealous critic of harm reduction, conceded in 2004 that 'The ultimate aim of the conventions is to reduce harm'.²⁰ UNICEF, the World Bank and the International Federation of Red Cross-Red Crescent Societies²¹ are among other major international organisation to have endorsed harm reduction. At the request of the International Narcotics Control Board, the United Nations Drug Control Programme developed²² a legal position on the flexibility of the treaty provisions as regards harm reduction approaches. This reported that few, if any, harm reduction interventions breached the international treaties.

Harm reduction supporters base their judgments on data and the actual and potential benefits and adverse consequences of an intervention. They are less concerned by possible perceptions of their approach. Zero tolerance supporters judge interventions on moral factors regarding the messages considered inherent in policy to be more important than the consequences of that policy.

What is drug-related crime?

Crime is an important association of illicit drug consumption. It is often in the news and is the source of much community anxiety. Yet public discussion rarely involves consideration of the most effective, least expensive and least counter-productive ways of reducing crime, including especially crime associated with illegal drugs. For a multitude of reasons discussed below, understanding the relationship between drug use and crime lags far behind our understanding of the relationship between drug use and health problems.

Although crime associated with illegal drugs is a matter of great concern to the public and has a very important influence on the development of drug policy, trying to determine what is, and what is not, classified as a 'drug-related crime' is difficult for many reasons. There is no standard, widely accepted definition of what constitutes a 'drug-related crime'. Some authors attribute certain crimes to consumption of illegal drugs while others argue that the same crimes are more reasonably attributed to the arrangements adopted by society with the primary intention of reducing drug consumption. Criminal activity is influenced by multiple factors including family background, education, employment and psychosocial characteristics. Self-reported drug use is sometimes exaggerated and at other times under reported. Most property crimes are

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19. Dr Gro Harlem Brundtland, Director General, World Health Organization, address to the Russian Academy of Medical Science, Moscow, 2 November, 2000.
 20. Report of the International Narcotics Control Board for 2003, 2004.
 21. The International Federation of Red Cross-Red Crescent Societies, *Spreading the light of science — Guidelines on harm reduction related to injecting drug use*, <http://www.ifrc.org/what/health/tools/harm_reduction.asp>.
 22. Legal Affairs Section, UNDCP, *Flexibility of treaty Provisions as regards Harm Reduction Approaches*, Vienna, October–November 2002, E/INCB/2002/W.13/SS.5.

not reported to authorities. Of those property crimes that are reported, usually fewer than five per cent are ever solved. Only a small proportion of crimes that are solved ever result in arrests and charges being laid. Some charged with crimes are not convicted and often only a quarter of solved crimes end up in a custodial sentence. Research is usually only ever carried out on the minority of solved crimes, often only those involving a custodial sentence. Research on illicit drugs, an illegal and highly stigmatised behaviour, is more difficult than research on legal and well-accepted behaviours. Urine drug tests are often used to establish drug use but these usually only indicate drug consumption within the previous 24–48 hours.

There is abundant evidence demonstrating a strong association between the use of prohibited drugs and increased criminal activity. People arrested for drug-related offences are many times more likely to report also having been arrested for property and violent crimes including theft, breaking and entering, assault and motor vehicle theft. In many studies, the majority of male and female arrestees have tested positive to prohibited drugs. Many incarcerated inmates report that they were under the influence of prohibited drugs at the time of committing their offence. Many inmates report committing offences to generate income to pay for drugs. Prison records tend to underestimate the extent to which illicit drugs contribute to incarceration because only the most serious offence is recorded rather than factors which may have contributed substantially to the crime. Robbery committed to raise income to pay for drug use is recorded as ‘robbery’, as this is regarded as a more serious crime than drug possession or drug use even though the drug dependence may have led to the crime being committed.

The relationship of drug use and crime often changes over time with changes in consumer preferences, consumer behaviour and target hardening. Only a few years after theft of recently introduced consumer goods in high demand constituted much of drug-related crime, the market for that consumer good may have become saturated, consumer behaviour may now be more protective and the manufacturer of the consumer product may now make it much harder to steal or sell.

The association between drug use and crime is conventionally divided into:

- Drug-defined offences (production; distribution; sale; purchase; use; possession and financial administration).
- Drug-related offences (resulting from the pharmacological effects of drugs; income generation to support drug use; violent offences related to drug distribution).
- Drug-using lifestyle (lack of employment; exposure to criminals, illegal markets and illegal methods of income generation).

Data on drug-defined offences are copious. Data on drug-related offences and drug-using lifestyles are limited as there is much less agreement about definitions and attribution.

Does illicit drug use cause crime?

Drug-defined offences

Most of the data presented in discussions of drugs and crime involves drug-defined offences. These include data on drug seizures, arrests, and convictions and incarceration. Drug-defined offences are examples of *mala prohibita*, that is, victimless behaviours or acts regarded as criminal because society at that time defines them as evil. In contrast, *mala in se* acts involve an obvious victim and are universally regarded as criminal (such as murder, rape or property crime). Immutable laws forbid *mala in se* offences while *mala prohibita* acts are proscribed by laws that are often contentious, and influenced by social, political, moral and religious factors. Consequently, *mala prohibita* laws are often modified over time and sometimes even repealed. Activities such as prostitution, gambling, homosexual intercourse and illicit drug consumption are generally victimless, consensual activities. The controversial nature of many of these prohibitions and the lack of witnesses often make prosecution extremely difficult. Consequently, police investigating possible *mala prohibita* offences find that they can only arrest suspects if they breach ethical practice.

Many drugs regulated today were prohibited previously. The smoking and chewing of tobacco was prohibited several times during the last 400 years. In the 1600s, Pope Urban VIII threatened excommunication for those who smoked or took snuff in holy places. In 1633, Sultan Murad IV in Turkey ordered tobacco smokers to be executed although in 1647 this ban was lifted as tobacco was considered — along with coffee, wine and opium — one of the four ‘cushions on the sofa of pleasure’. The Greek Church in 1634 banned tobacco use and Governor Kieft in 1639 outlawed smoking in New Amsterdam (later to become New York City). Alcohol has been prohibited in a number of countries including briefly in Finland, some states in India but the best known example is the United States (1920–1933). Increasing violence, organised crime and corruption led to repeal of alcohol prohibition in the United States. Alcohol is prohibited in a handful of countries in the Persian Gulf today. Prohibition often results in more dangerous drugs driving out less dangerous drugs. During alcohol prohibition in the United States, consumption increased of spirits — often contaminated with dangerous quantities of methyl alcohol — at the expense of beer.

Drug-related offences

Although most of the public anxiety about drugs and crime involves drug-related offences, it is difficult to find data covering these crimes. Only a small proportion of the population uses illicit drugs such as heroin, amphetamine and cocaine. A minority of this group use substantial quantities of these drugs and engage in high levels of crime accounting for a disproportionate share of the drug-related crime in that community. A much larger proportion of the community consume cannabis but the

association between drug-related crime and cannabis use is much weaker than for drugs such as heroin. Drug-related offences are dominated by:

1. Income generating non-violent property crime to support drug use.
2. Violence associated with drug distribution. More than half the homicides in a study in New York City were attributed to drug-related factors and almost three quarters of these were directly credited to drug trade systemic disputes.²³

Direct pharmacological effects of drugs make only a modest contribution to illicit drug-related offences. Most drug-related 'psychopharmacological' violence is associated with the use of alcohol, cocaine and amphetamine with almost no psychopharmacological violence attributed to heroin, cannabis or tobacco. Systemic violence is less common when drug markets are growing and demand exceeds supply. As a new drug market matures, traffickers compete for market share and conflicts often become more violent. Income generating crime generally involves property crime and rarely involves violent crime. Violence associated with income generation for illicit drugs is uncommon.

Criminal activity related to drug distribution often involves violence, as traffickers have no recourse to legal means of resolving commercial disputes. The 1929 St Valentine's Day Massacre in Chicago, involving the murder by Al Capone of seven men involved in bootleg liquor distribution, is an excellent example of criminal activity related to illicit drug commerce. Assaults and homicides are used to enforce normative codes within trafficking groups. Robbery of drug supplies from other traffickers is not uncommon and often triggers violent reprisals. Violence is often used against informers or those unable to service their debts. Many drug users become involved in drug dealing and thus became drawn into a world where perpetrating or being victim to violence is commonplace. Another common crime in drug distribution is corruption of police, other law enforcement officials and elected officers.

On a larger scale, international drug production and trafficking now depends on several major 'narco-states' (Afghanistan, Burma and Colombia) with extensive involvement of narco-terrorist organizations for transport and distribution. Afghanistan now produces more than 70 per cent of global opium with opium production accounting for about half of the nation's GDP. The extent of illicit drug commerce in Burma and Colombia is such that most major national institutions can be assumed to have some involvement in drug trafficking. Many terrorist organizations today are believed to rely heavily on illicit drug trafficking as an important source of funding. Again, these observations can only be explained as unintended negative consequences of the present international arrangements for illicit drugs. There is no pharma-

23. P Goldstein, 'The drugs/violence nexus: A tripartite conceptual framework' (1985) 15(4) *Journal of Drug Issues* 493-506.

cological property of the prohibited drugs which can explain these serious adverse consequences.

Drugs which depress the nervous system, such as heroin, rarely increase the propensity to commit violence. An association between violence and excessive alcohol consumption among perpetrators and victims is clear but it is also complex. Alcohol depresses inhibitory parts of the brain even more than stimulatory centres so the net result can be apparent stimulation. High doses of stimulant drugs, such as amphetamine and cocaine, can increase aggression through direct and predictable pharmacological effects and thereby result in violence. However, only a small proportion of inmates incarcerated for violent crime were under the influence of cocaine or heroin at the time of committing their crime.

Methadone, a legal synthetic opioid used to treat heroin dependence, has been shown in numerous studies to substantially reduce crime. A recent ecological study in New South Wales, Australia, estimated allowing for unreported crimes, that 100 heroin users receiving methadone treatment for one year would commit 12 fewer robberies, 57 fewer break and enter offences and 56 fewer motor vehicle thefts.²⁴ In a recent well-conducted study in the Netherlands, the decline in crime committed by treatment refractory, severely dependent heroin users receiving prescribed heroin as part of their treatment was greater than in the control group receiving oral methadone.²⁵ After this treatment was withdrawn, outcomes — including crime rates — relapsed to baseline levels. The reduction in crime when street heroin users are provided with legal heroin (or methadone) suggests that drugs like heroin or methadone do not cause criminal activity because of their pharmacological properties. Rather, the association between heroin use and crime results from a black market distribution system emerging inevitably when heroin demand and supply are only incompletely suppressed under a policy of total prohibition. The association between drug use and drug-related offences raises the question whether ‘drugs are prohibited because they are dangerous or dangerous because they are prohibited’? The decline in criminal activity among heroin users during treatment with methadone or prescription heroin suggests that it is more a case of drugs being dangerous because they are prohibited than prohibited because they are dangerous. No pharmacological property of heroin can explain the property or violent crime committed by heroin users or traffickers or corruption of law enforcement or elected officials.

24. B Lind, S Chen, D Weatherburn, R Mattick, *The Effectiveness of Methadone Maintenance Treatment in Controlling Crime: An Aggregate-Level analysis*, NSW Bureau of Crime Statistics and Research, 2004; <[http://www.lawlink.nsw.gov.au/bocsar1.nsf/files/BB24.pdf/\\$file/BB24.pdf](http://www.lawlink.nsw.gov.au/bocsar1.nsf/files/BB24.pdf/$file/BB24.pdf)>.

25. W Van den Brink, VM Hendriks, P Blanken, MWJ Koeter, BJ Van Zwieten, JM Van Ree, ‘Medical prescription of heroin to treatment resistant heroin addicts: two randomised controlled trials’ (2003) 327(7410) *BMJ* 310; <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=169643>>.

It is conceivable that prohibition may also inadvertently increase crime. Indeed alcohol prohibition in the United States clearly increased crime. Drug-related violence today may reflect the vigour of illicit drug law enforcement. The homicide rate in the United States during the 20th century peaked at almost 10 per 100,000 per year during alcohol prohibition (1920–1933) and again following the commencement of the War Against Drugs in 1971. After controlling for other potential determinants of the homicide rate including age composition of the population, incarceration rate, economic conditions, gun availability, and the death penalty, alcohol and later drug prohibition appears to have substantially raised the homicide rate in the United States during much of the 20th century.²⁶

Drug-using lifestyle

The use of illicit drugs and criminal activity is also linked by other important but more nebulous factors. Some drug users never commit drug-related crimes (although all commit drug-defined offences). About half the drug users who also commit property or violent crimes commenced criminal activity before starting illicit drug use. It is generally accepted that illicit drug use considerably intensifies and prolongs criminal behaviour after criminals have begun to use illicit drugs. Many illicit drug users not only commit crime but also smoke cigarettes. It would be preposterous to explain the high crime rates in this population on the high prevalence of smoking. A more likely explanation is that there are common social causal factors contributing to high rates of smoking, illicit drug use and crime including poverty, limited education and unemployment.

What measures of drug-related crime are available?

Statistics on drug-related offences are not particularly informative. Crime statistics represent just the tip of the iceberg: only a minority of offences are ever reported, only some reported crimes ever result in charges, only some of those charged and arrested are convicted of whom only some are sentenced and only some of those convicted and sentenced go on to serve a prison sentence. Abundant statistics on drug-defined offences report the number and place of seizures, the quantities seized, the types of drugs seized and the numbers of individuals arrested, convicted and sentenced. Statistics on income generating drug crime are harder to identify because of the definitional problems discussed above. Drug consumers are easier to detect than providers and may sometimes lead to providers. The majority of law enforcement and government expenditure is exhausted on minor cannabis user offences and petty drug consumer possession or administration offences.

26. J Miron, *Violence and US Prohibitions of Drugs and Alcohol*, National Bureau of Economic Research, NBER Working Paper No W6950, 1999; <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=150070>.

How can drug-related crime be reduced?

Reducing crime by more vigorous law enforcement

Although crime reduction through more vigorous policing and more severe sentencing often appeals to the community, evidence of effectiveness and cost effectiveness is scant. A study in New South Wales, Australia found that a 100 per cent increase in the prison population would result in a 10 per cent reduction in crime through incapacitation.²⁷ A US study found that most of the benefits of incarcerating cocaine traffickers were derived early in the sentence: longer sentences were considerably more expensive but provided minimal additional benefit.²⁸ The law of diminishing returns also appears to apply to the duration of prison sentences. It is generally accepted that law enforcement reduces criminal behaviour when the risk of detection is high, punishment is severe and the duration between offending and the imposition of punishment is short. The risk of detection of either drug provision or consumption is low. Also, there is often a long delay before the imposition of punishment while all legal avenues are exhausted. Punishment of drug offences is often severe. However, one of the major defining characteristics of drug dependence is the continuation of drug consumption notwithstanding the presence of severe negative consequences. It should therefore come as little surprise that severe punishment meted out to drug users has such limited impact on their criminal activities including their continuing illicit drug consumption notwithstanding the loss of health, family, wealth, self-respect, freedom, career and education.

Are efforts to reduce drug availability by drug supply reduction effective? Most countries rely heavily on illicit drug law enforcement to reduce the uptake, maintenance and consequences of drug use including crime. However, several decades of this approach have shown that these efforts have been, with rare exceptions, expensive, relatively ineffective and often accompanied by serious unintended negative consequences, including widespread police corruption.

During the 20th century, global drug prohibition developed from a series of international meetings which led to three major international drug treaties (1961, 1971, 1988) and the establishment of several major UN organizations charged with the implementation and monitoring of these treaties. Almost all countries actively take part in this system. Signatory countries are required to pass legislation prohibiting the use of specified drugs for purposes other than scientific or medical use. The 1961 treaty is regarded as the foundation of global drug prohibition and

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27. J Chan, 'The Limits of Incapacitation as a Crime Control Strategy: Crime and Justice Bulletin', (1995) 25 *Contemporary Issues in Crime and Justice*, <[http://www.lawlink.nsw.gov.au/bocsar1.nsf/files/cjb25.pdf/\\$file/cjb25.pdf](http://www.lawlink.nsw.gov.au/bocsar1.nsf/files/cjb25.pdf/$file/cjb25.pdf)>.
 28. J Caulkins, C P Rydell, W L Schwabe, J Chiesa, *Mandatory minimum drug sentences: throwing away the key or the taxpayers' money?*, Drug Policy Research Centre, Rand Corporation, 1997; <<http://www.rand.org/publications/MR/MR827>>.

this begins 'Concerned with the health and welfare of mankind ...'. Law enforcement is intended to restrict the availability of specified drugs with increasing prices and decreasing purity of street drugs regarded as indicative of successful supply control and a deterrent to experimentation and maintenance of illicit drug use. However, it is also recognised that increasing prices of street drugs may inadvertently increase crime if drug consumption is relatively price inelastic and if most drug use is paid for by property crime. Several decades of empirical research have failed to establish clearly that law enforcement generally increases the price of street drugs and generally reduces the number of drug users, the quantity of drugs consumed or the incidence of property crime.

Despite ever-increasing emphasis during the last quarter century on more vigorous national and international law enforcement to reduce the production and distribution of illicit drugs, the number of countries reporting illicit drug use and serious problems with illicit drugs has increased steadily. Indeed, in many countries, the price of street drugs has continued to decline while the concentration of street drugs, the number of drug users, the quantity of drugs consumed and the incidence of property crime have all continued to increase for many decades. Data on government expenditure in response to illicit drugs are hard to come by. Where these data are available, government expenditure in response to illicit drugs is allocated overwhelmingly to law enforcement (for customs, police, courts and prisons) with only a small proportion allocated to health and social interventions.

A survey of 91 countries in 1999–2000 by the UNODCCP²⁹ found that more countries reported increasing abuse for 14 out of the 16 drug categories: 45 countries reporting increasing heroin abuse compared to 18 reporting decreasing heroin abuse, 50 countries reporting increasing cocaine abuse compared to 13 reporting decreasing cocaine abuse, 56 countries reporting increasing amphetamine type stimulant abuse compared to 11 reporting decreasing amphetamine type stimulant abuse and 64 countries reporting increasing cannabis abuse compared to 11 reporting decreasing cannabis abuse. In summary, the available evidence indicates strongly that global drug production, consumption and drug-related problems have continued to increase inexorably notwithstanding a steadfast international commitment to ever more vigorous drug supply control.

Data from individual countries is no more reassuring. Heroin seizures had no effect on the price, purity or perceived availability of heroin at the street level in a study of a major law enforcement exercise in south-west Sydney.³⁰ Admissions into methadone treatment were not affected by the price, perceived availability of heroin or the rate of contact with

29. United Nations Office for Drug Control and Crime Prevention, *UNODCCP Global Illicit Drug Trends, 2002*, New York, 2002.

30. D Weatherburn, B Lind, 'The impact of law enforcement activity on a heroin market' (1997) 92 *Addiction* 557–569.

police. However, two-thirds of new admissions into methadone treatment identified increasing price as a reason for seeking treatment.

A recent study found³¹ that the effect of the seizure of approximately 100 kg of heroin, one of Canada's largest-ever seizures of this drug, was no difference in reported daily use of heroin, frequency of non-fatal overdoses or effect of law enforcement on the source of street drugs or the types of drugs available on the street. The median reported price of heroin declined after the seizure. This massive heroin seizure appeared to have no measurable public health benefit. Although more than 93 per cent of the nearly \$C500 million spent annually by Canadian governments in response to illicit drugs is allocated toward measures to reduce the illicit drug supply, little is known about the benefits of this expenditure.

A more recent study found³² that a major police crackdown in Vancouver, Canada, did not alter the price of drugs, the frequency of use or enrolment in methadone treatment programs. There was some evidence of displacement of injection drug use from the area of the crackdown into adjacent areas of the city. If confirmed, this would have implications for recruitment of initiates into injection drug use and HIV prevention.

One of the few studies to attempt to compare the cost benefit of supply control and demand control concluded that the social benefit for US citizens of a \$US 1.00 investment was 15 cents for coca plant eradication in South America, 32 cents for interdiction of cocaine between south and north America, 52 cents for customs and domestic law enforcement, \$2.60 for drug education and \$7.46 for drug treatment for severely dependent cocaine users.³³ Another study found³⁴ that a \$US1 million investment in mandatory minimum sentences reduced cocaine use in the United States by 13 kg compared to a 26 kg reduction from investment in conventional sentences and a 103 kg reduction from investment in drug treatment for severely dependent cocaine users.

Numerous major reviews have concluded that supply control is relatively ineffective. In Australia, a senior parliamentary committee concluded³⁵ unambiguously:

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31. E Wood, M W Tyndall, P M Spittal, K Li, A H Anis, R S Hogg et al, 'Impact of supplyside policies for control of illicit drugs in the face of the AIDS and overdose epidemics: investigation of a massive heroin seizure' (2003) 168(2) *CMAJ* 165-9; <<http://www.cmaj.ca/cgi/content/full/168/2/165>>.
 32. E Wood, P M Spittal, W Small, T Kerr, K Li, R S Hogg, M W Tyndall, J S G Montaner, MT Schechter, 'Displacement of Canada's largest public illicit drug market in response to a police crackdown' (2004) 170(10) *CMAJ*.
 33. C P Rydell, J P Caulkins, S S Everingham, Enforcement or Treatment? Modeling the Relative Efficacy of Alternatives for Controlling Cocaine, (1996) 44(5) *Operations Research* 687-95.
 34. J P Caulkins, C P Rydell, W L Schwabe, J Chiesa, *Mandatory Minimum Drug Sentences: Throwing Away the Key or the Taxpayers' Money?*, Rand, 1997.
 35. Parliamentary Joint Committee on the National Crime Authority, *Drugs, Crime and Society*, Australian Government Publishing Service, Canberra, 1989.

Over the past two decades in Australia we have devoted increased resources to drug law enforcement, we have increased the penalties for drug trafficking and we have accepted increasing inroads on our civil liberties as part of the battle to curb the drug trade. All the evidence shows, however, not only that our law enforcement agencies have not succeeded in preventing the supply of illegal drugs to Australian markets but that it is unrealistic to expect them to do so.

A senior judge in Australia concluded³⁶ after conducting a Royal Commission into police corruption, 'It is fanciful to think that drug addicts can be prevented from obtaining and using prohibited drugs'. Similar conclusions have often been reached in the United States in high-level enquiries. In a series of reviews, the US General Accounting Office has reported that:

Despite increased U.S. assistance to cooperating countries' crop control and law enforcement efforts and increased eradication, narcotics production remains at high levels and supplies available to the United States remain plentiful.³⁷ Our review of the Defence Department's detection and monitoring programs concluded that these costly efforts have limited benefits in helping the U.S. government to interdict drug shipments at a level that would begin to make a difference.³⁸ However, U.S. and Mexican interdiction efforts have had little, if any, impact on the overall flow of drugs through Mexico to the United States.³⁹ Over the past 10 years, the United States has spent about \$20 billion on international drug control and interdiction efforts to reduce the illegal drug supply ... Despite long-standing efforts and expenditures of billions of dollars, illegal drugs still flood the United States.⁴⁰ ... despite U.S. and Mexican counternarcotics efforts, the flow of illegal drugs into the United States from Mexico has not significantly diminished⁴¹ Although U.S. and host nation counternarcotics efforts have resulted in the arrest of major drug traffickers and the seizure of large amounts of drugs, they have not materially reduced the availability of drugs in the United States.⁴²

36. J R T Wood, *Royal Commission into the NSW Police Service*, The Government of the State of New South Wales, 1997.
37. United States General Accounting Office Report to the Congress Drug Control, *US International Narcotics Control Activities, March 1988*, GAO/NSIAD-88-114, Washington DC; <<http://archive.gao.gov/d34t11/135305.pdf>>.
38. United States General Accounting Office, Testimony Before the Legislation and National Security Subcommittee, Committee on Government Operations, House of Representatives Drug Control, US Drug Interdiction Issues in Latin America Statement of Joseph E. Kelley, Director-in-Charge, International Affairs Issues, National Security and International Affairs Division, 7 October 1994, GAO/T-NSIAD-95-32 Washington DC; <<http://archive.gao.gov/d34t11/135305.pdf>>.
39. United States General Accounting Office, Report to Congressional Requesters, DRUG CONTROL, Counternarcotics Efforts in Mexico GAO/NSISD-96-163, 12 June 1996, Washington DC, 20548; <<http://www.gao.gov/archive/1996/ns96163.pdf>>.
40. United States General Accounting Office, Report to the Chairman, Subcommittee on National Security, International Affairs and Criminal Justice Committee on Government Reform and Oversight, House of Representatives, Drug Control: Long-Standing Problems Hinder US International Efforts, GAO/NSIAD-97-75, February 1997, Washington DC, 20548; <<http://www.gao.gov/archive/1997/ns97075.pdf>>.
41. United States General Accounting Office, Testimony Before the Subcommittee on National Security, International Affairs, and Criminal Justice, Committee on Government Reform and Oversight, House of Representatives; and the Caucus on International Narcotics Control, US Senate, Drug Control: Status of Counternarcotics Efforts in Mexico, 18 March 1998, GAO/T-NSIAD-98-129, Washington DC, 20548; <<http://www.gao.gov/archive/1998/ns98129t.pdf>>.

A review of cocaine and heroin trafficking and prices in Europe over a decade, produced under the auspices of the UN International Drug Control Program (UNDCP), concluded:

... the nature of the trafficking, and the mechanism by which enforcement of trafficking laws is intended to impact upon the problem, suggest that the rapid substitution of interdicted traffickers and routes is highly likely, and that present levels of enforcement will have little deterrent or preventive impact.⁴³

A parliamentary committee in the United Kingdom concluded recently:

There are no easy answers to the problems posed by drug abuse, but it seems to us that certain trends are unmistakable. If there is any single lesson from the experience of the last 30 years, it is that policies based wholly or mainly on enforcement are destined to fail. It remains an unhappy fact that the best efforts of police and Customs have had little, if any, impact on the availability of illegal drugs and this is reflected in the prices on the street which are as low as they have ever been. The best that can be said, and the evidence for this is shaky, is that we have succeeded in containing the problem.⁴⁴

In a recent major rigorous and comprehensive review⁴⁵ of the international published evidence of effectiveness of alcohol and drug prevention strategies, supply control interventions including border protection by police, border protection by customs, a heroin signature program, control of cultivation, manufacture and supply of illicit drugs within Australia and asset confiscation were ranked 'Warrants further research'. This was the fourth ranking in a six-point scale and was below the following rankings: 'Evidence for implementation', 'Evidence for outcome effectiveness' and 'Evidence for effective dissemination'.

Reducing drug use by demand reduction

Demand for drugs can be reduced by education of the general community or young people and drug treatment. Although community expectations of drug education are unrealistically high, the benefits demonstrated⁴⁶ in rigorous evaluation are usually modest and dissipate over time. Evidence that drug treatment results in a reduction in drug use is more impressive, especially pharmaceutical treatments such as methadone.⁴⁷

42. United States General Accounting Office letter report B-284626 to The Honorable Charles E Grassley Chairman, Caucus on International Narcotics Control United States Senate on the Subject of Drug Control, US Efforts in Latin America and the Caribbean, Washington DC, 18 February 2000, 20548; <<http://archive.gao.gov/f0302/163258.pdf>>.
43. G Farrell, K Mansur, M Tullis, 'Cocaine and Heroin in Europe, 1983-93: a Cross-National Comparison of Trafficking and Prices British' (1996) 36 *Journal of Criminology* 255-81.
44. Select Committee on Home Affairs, *The Government's Drugs Policy: Is It Working?* House of Commons, United Kingdom, 2002; <www.publications.parliament.uk/pa/cm/cmhaff.htm>.
45. The National Drug Research Institute and the Centre for Adolescent Health, *The Prevention of Substance Use, Risk and Harm in Australia: A review of the evidence*, 2003.
46. D White, M Pitts, 'Educating young people about drugs: a systematic review' 1998 93(10) *Addiction* 1475-87.

Thinking outside the square

The results of conventional drug policy are consistently poor. Some consideration must therefore be given to other options. The overwhelming majority of community members reject the use of illicit substances such as heroin, cocaine and amphetamine. However, in most countries, a minority are determined to obtain and use these illicit substances notwithstanding the high risk of detection and the severe punishments meted out to convicted offenders.

Strong and continuing demand for these drugs in the absence of any legal supply and an inability to completely suppress production inevitably results in the emergence of illegal forms of supply. Lucrative profits for drug traffickers drive the illicit drug market. Although increasing the risk of detection or the severity of penalties should logically increase street drug prices and thereby deter potential drug users from initiating or current drug users from continuing consumption, empirical evidence of a relationship between supply control activity and increased street prices of drugs, or evidence that supply control activity reduces the number of drug users is unimpressive. While governments in many countries have expanded resources for drug law enforcement and introduced Draconian penalties for offenders, the estimated quantity and range of illicit drugs and the estimated numbers of drug users have generally continued to increase inexorably. Current arrangements have resulted in a situation where, regardless of the intent of policy, the outcome is that criminals and corrupt police end up regulating the illicit drug market. Drug prohibition has often resulted in poor and declining health, social and economic outcomes for drug users, their families and communities.

There are many reasons to believe that drug prohibition is likely to generally fail. Vigorous application of drug law enforcement often results in the geographical, demographic or pharmacological displacement of drug markets to evade detection by law enforcement. Geographical displacement refers to drug cultivation, production or trafficking moving from one location or country to another when supply control is intensified. Demographic displacement refers to the often-observed phenomenon of drug trafficking or consumption moving from one demographic group to another to avoid law enforcement. Thus an unintended negative consequence of increasing the severity of punishment for adults found to be trafficking in drugs, is often a growing problem of trafficking by children below the cut-off age. Pharmacological displacement refers to the replacement of somewhat dangerous bulky drugs by more concentrated and more dangerous drugs. Pharmacological displacement was observed in

47. W Hall, J Ward, R P Mattick, 'The effectiveness of methadone maintenance treatment 1: Heroin use and crime' in J Ward, R P Mattick and W Hall (eds), *Methadone Maintenance Treatment and Other Opioid Replacement Therapies*, Harwood Academic, Amsterdam, 1998.

Asia when 'anti opium policies were noted to have pro heroin effects'.⁴⁸ The smoking of opium by elderly men disappeared but heroin injecting by young, sexually active men appeared and prepared the fertile soil for an evolving catastrophic HIV epidemic in the world's most populous region.

Most long-standing conflicts are ultimately resolved by identifying compromises acceptable to all parties. A realistic and more effective drug policy would require compromises from all citizens. The majority of citizens who reject illicit drugs will need to accept that all citizens are better off if the drug-seeking minority can legally obtain some drugs, while the drug-seeking minority will need to accept that they can obtain lawfully only some drugs that they desire and only under certain conditions. For the foreseeable future, the sale and consumption of some drugs under some conditions will continue to remain illegal and attract criminal sanctions. For example, the retail sale of substantial quantities of highly concentrated heroin, cocaine or amphetamine attracts virtually universal criticism in all countries. This is unlikely to ever change.

Principles of a modern drug policy

Some basic principles for moving forward are:

1. Recognising that illicit drug use, like legal drug use, is primarily a health and social issue (with an important complementary role for law enforcement).
2. Increasing funding for health and social interventions to the current level of funding for illicit drug law enforcement; interventions should be funded on the basis of evidence of effectiveness and safety and increasing the return on substantial government investment.
3. Accepting that illicit drugs are likely to be available increasingly in most countries for the foreseeable future but that a realistic goal for policy is to regulate as much of the market as is possible. As with legal drugs, criminal sanctions should continue to be applied against individuals who operate outside the law. Thus, the production, sale, purchase, possession and consumption of unsanctioned quantities or unsanctioned types of mood altering drugs should continue to attract criminal sanctions. The threshold levels and severity of penalties for offences, likely to remain controversial indefinitely, should attempt to maximise community benefits and minimise community costs. Where penalties are used to attempt to modify behaviours, these should be swiftly imposed, certain and severe.

48. J Westermeyer, 'The pro-heroin effects of anti-opium laws in Asia' (1976) 33 *Archives of General Psychiatry* 1135-9.

4. Recognising that the least-worst option for cannabis⁴⁹ is to control demand and supply by taxation and regulation, introduce strict proof-of-age measures for all sales, ban all cannabis advertising, mandate that all cannabis packaging must include government health warnings and information about availability of assistance and prohibit all donations to political parties from the cannabis industry.
5. Expanding and improving drug treatment to maximize the number of drug users attracted, retained and benefited by effective, safe and cost effective drug treatment. This will require expansion of capacity, broadening of options and enhancement of quality. Drug treatment quality should be raised to reach the same level as other forms of health care.
6. Accepting the central role played by rigorous, independent, scientific research in continuous quality improvement for health, social, educational and law enforcement interventions. Research in drug treatment is required to identify new and more effective interventions to attract drug users not previously attracted by conventional treatments as well as for a small but important minority of treatment-refractory, severely-dependent drug users. Research should drive efforts to identify the least expensive, most effective and safest means of reducing drug-related harm. This would include educational and other efforts to discourage drug initiation and continuing use, drug law enforcement and all forms of drug treatment.
7. Recognising that some individuals will inevitably continue to seek drugs outside the drug treatment system. Therefore policy should return to that adopted in many developed countries a century ago where retail sale of small quantities of low concentration, oral formulations of drugs was sanctioned, such as edible opium, wine containing cocaine (Vin Mariani) and Coca Cola containing cocaine. Small quantities of cocaine are lawfully available in Peru and Bolivia today in the form of tea bags. While the illicit drug market under current conditions in many countries is at present extremely dynamic, a drug market where profits have been substantially undermined is likely to be much smaller. The illicit drug market will need to be monitored and the future introduction of new or revised formulations will need to be considered with the aim of balancing benefits and risks as well as can be.
8. Acknowledging that while the community of nations has long embraced a drug policy largely formulated in the 1961, 1971 and 1988 international drug treaties, these only require prohibition of nominated drugs where in the opinion of 'a party' (that is, 'a country'), prohibition provides 'the most appropriate means of protecting the public health and welfare' (Single Convention, [art 2.5b](#)). Coun-

49. A Wodak, A Cooney, 'Should cannabis be taxed and regulated?' (2004) 23(2) *Drug and Alcohol Review* 139–41.

tries adopting a modern drug policy would continue to honour the letter and spirit of all international drug policy commitments and treaty obligations.

Drugs, crime and prisons

Drug-defined offences are increasingly reported worldwide. There is also increasing acknowledgement in more and more countries that the impact of law enforcement is only marginal. At best, only low-level users are usually caught. If more senior drug traffickers are ever arrested, convicted and sentenced, they are usually soon replaced. Prison populations are increasing rapidly in many countries. Increasingly, prisons accommodate a growing numbers of inmates who have ever used drugs or are serving sentences for drug-related offences. Many continue to use and inject illicit drugs while incarcerated. The injection of drugs during incarceration has serious health consequences, including blood-borne viral infections (HIV, hepatitis B and hepatitis C) and also contributes considerably to violence between inmates. The cost of jails and prisons is high while benefits are difficult to identify. There is little evidence that incarceration results in a reduction of drug use. Yet incarceration is costly and has many severe negative consequences.

In contrast, there is considerable evidence that drug treatment in the community, especially methadone maintenance treatment, substantially reduces drug use. Yet in most countries, drug treatment in prisons is scarce.

Drug injecting and sharing of injection equipment is common in prison systems in many countries. Infection with HIV, hepatitis B or hepatitis C associated with sharing of injection equipment has been documented in prison inmates in many countries. The risk of blood-borne viral infection in this population is difficult to estimate and is likely to vary considerably in different countries. Strategies to prevent such blood-borne viral infections, though well accepted and now widely implemented in many countries around the world, are found in prisons in only a few European countries. Unofficial tattooing is also common in prisons in many countries and carries similar risks to sharing of injection equipment while non-consensual sex, other forms of violence and self-harm are also prevalent in correctional systems in most countries. Drug overdose death is a leading cause of death in many prison systems and is also a major risk within the first few days following release. Risk behaviour varies with the level of security classification. Drug injecting occurs more frequently in minimal security prisons but tattooing and non-consensual sex are more common in medium and maximum security prisons.

Methadone maintenance was introduced to the corrections system in New South Wales, Australia in 1986 and has now spread to most other states in the country. Prison methadone programs are now found in a dozen countries and are slowly spreading to new countries. Initially, the New South Wales program was a pre-release program conducted by the

Corrections Department with the aim of reducing recidivism. Inmates can now also continue treatment initiated in the community or can initiate treatment inside prison. A randomised, controlled study was conducted⁵⁰ with the aim of examining the impact of the prison methadone program on the incidence of HIV and hepatitis C (as measured by serology), the prevalence and frequency of heroin use (as measured by the presence of morphine in scalp hair analysis) and the prevalence and frequency of injecting and sharing (as measured by self report). All subjects were interviewed (and hair and blood samples were collected) and then re interviewed and samples collected again after four months. Of the 933 consecutive applicants for prison methadone who were assessed, 330 (35 per cent) applicants did not meet study criteria, 221 (24 per cent) declined to participate, leaving 382 inmates (63 per cent eligible) to be randomly allocated to methadone maintenance treatment (n=191) or a four month wait list control (n=191).

Prison methadone treatment significantly reduced heroin use (assessed by hair analysis and self report) and syringe sharing (assessed by self report). There was a trend towards reduced HCV incidence. This study showed that randomized controlled trials of prison methadone are possible. Four year follow up of these inmates showed reduced recidivism with a 70 per cent reduction in incarceration for inmates continuing methadone for eight months following release. Seventeen deaths occurred during follow up. All of these individuals had suspended methadone treatment. There were no deaths among former inmates currently receiving methadone treatment.

Summary

The extraordinary global expansion and worsening of the consequences of illicit drug use during the last quarter century has occurred at a time of increasingly vigorous global application of severe law enforcement measures intended to reduce the availability of illicit drugs. These measures have proved expensive, relatively ineffective and have often been accompanied by severe unintended negative consequences. The increasing importance of HIV transmission associated with injecting drug use demands that more realistic and effective responses to illicit drug use are made. Global drug prohibition has failed. It is clear that a supply of drugs will almost always emerge while ever demand remains strong. The only sustainable alternative to prohibition is some form of regulated availability of drugs. Great benefit is derived from applying harm reduction measures in the community and within prisons.

50. K A Dolan, J Shearer, M Macdonald, R P Mattick, W Hall, A D Wodak, 'A randomised controlled trial of methadone maintenance treatment versus wait list control in an Australian prison system' (2003) 72(1) *Drug and Alcohol Dependence* 59-65.

