

issuing forth

Suicide among heroin users:
the silent killer

Funded by the
National Drug Strategy

Registered by Australia Post –
Print Post Publication No
PP236697/00013
ISSN 1034-7259

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For those of you who do not live in NSW one of the most contentious issues around drug policing in this state at the moment is the use of sniffer dogs. For roughly the past 18 months these animals have generated a great deal of controversy and people have been prosecuted, usually in the form of a cannabis caution, as a result of the sniffer dog patrols.

Recently there was a major new sniffer dog initiative launched in Kings Cross. A number of the dogs, their handlers and other police officers moved through the area, entering nightclubs and bars. The dogs were used and where reasonable doubt was established, people were searched and a few minor arrests were made – mainly for small amounts of cannabis.

The story received a reasonable amount of coverage from the media and there appeared to be a slight backlash from many areas of the community who saw the initiative as having little effect and not cost-effective.

The use of sniffer dogs to target the supply of drugs is not being questioned here. However, police report that they are responding to intelligence information that drug dealing is occurring in the venues they target. However, anybody who works in the alcohol and drug field knows that very few, if any, dealers are going to carry large supplies of drugs with them into a club or bar setting. If police catch anyone in these settings it will usually be users – exactly the people they say they are not targeting.

NSW Council for Civil Liberties, Redfern Legal Centre, the NSW Council of Social Service and ACON are working together to address some of the problematic elements associated with the use of sniffer dogs in drug policing, such as: aspects relating to unlawful search and unlawful detaining; use of profiling to target particular community groups; inappropriate targeting of small quantities (contrary to the recommendations of the NSW Drug Summit); and adverse health impact (people are compelled to take all their drugs at once, risking overdose to avoid detection, and are less likely to return used equipment to safe disposal for fear of being caught with it).

A website has been created to provide people with information on the use of the dogs and concerns about some aspects of their use. The address of this website is www.sniffersdogs.info. Take a look – the debate is really hotting up!

Paul Dillon
Editor

CentreLines is a joint publication
from the National Drug and
Alcohol Research Centre, Sydney
and the National Drug Research
Institute, Perth. It is published
bi-monthly and produced
alternately by each Centre.

Now that we have settled into our new building, it is a suitable time to look to the future. NDARC has been a World Health Organization Collaborating Centre since 1994. Collaborating Centres have four main tasks. These are: 1) to provide necessary technical co-operation to reduce problems related to alcohol and drug abuse in the region; 2) to provide training for overseas nationals on the nature of alcohol and drug problems and culturally relevant measures to reduce these problems; 3) to participate in collaborative research projects on substance abuse organised by WHO and make contributions as required; and 4) to collect and provide necessary information and data on alcohol and drug abuse in the region.

While we have taken on a number of projects for the WHO in the past, we are now in a position to expand our international work. To date our international work has comprised training and research. Specific recent activities undertaken for WHO have included; two chapters for a comprehensive book called *Evidence for Action*. One of these chapters focused on HIV prevention programs for vulnerable IDU groups such as indigenous people, gay men, sex workers and those in prison. The second chapter focused on youth and HIV prevention program specifically targeting them. A third book chapter reviewed the literature on agonist pharmacotherapies for the treatment of drug dependence in prisoners. These books will be launched later in the year and WHO believes that they will be a useful resource for many countries.

Paul Dillon has been involved in the delivery of training in Drug Information courses in Indonesia since 2001. He has been contracted to do two courses in 2002. These courses provide information to a range of professionals who work in the health, law enforcement and education fields. This is part of the Indonesia Australia Specialised Training Project Phase II, which is partly funded by AusAID.

Dr Bijan Nassirimanesh, from Iran, visited NDARC and spent a day discussing work we hope to undertake with him. Dr Nassirimanesh runs a GP surgery in South Iran and operates a drop-in centre for drug users at his clinic. This setting provides the ideal opportunity to study drug problems and the prevalence and incidence of blood borne viral infections among his patients. Another area that NDARC is keen to be involved in is GP training. With the assistance of Dr Nassirimanesh we will survey GPs in Iran to gain an insight in their level of knowledge in dealing with patients with drug and alcohol problems. If there is a need for widespread training, NDARC plans to work with the Medical School in Shiraz to assist with training GPs.

Dr Kate Dolan, Ms Carolyn Day and myself met with a representative from the World Health

Organization to discuss the possibility of conducting research in Asia and the Middle East. One problem that has restricted NDARC from applying for funding is our lack of experience with international funding bodies. We anticipate that in a very short timeframe we will be in a position to apply for major funding from these groups.

Obviously, the region most in need of assistance is Asia. The explosion of HIV in numerous countries is Asia is a major concern. The epidemic is being fuelled primarily by injecting drug use. HIV is spreading among sex workers, which will, in turn, spread to heterosexuals. The tragic thing is that the mechanisms to prevent HIV transmission are well known and documented. Urgent action is required to avert a major public health disaster. We hope to play a role in the control of HIV transmission in Asia. NDARC has held discussions with Australian consultants who are already working in this region to avoid any major overlaps with their work. We intend to develop a 3 to 5 year plan of international research and training where a large part of it will focus on Asia.

I recently visited Indonesia to give a presentation to doctors about the use of buprenorphine. The presentation was very well received and their interest in drug treatment was encouraging. This is one area where the experience gained from the National Evaluation of Pharmacotherapies for Opioid Dependence will be invaluable.

On a final note, NDARC will be reviewed this year. I am confident that NDARC's successes over the past 5 years will meet with approval in this review process. We expect that our 1000th peer reviewed journal article will be published this year. I think you will agree this is a major milestone in our 12 year history. I would like to take this opportunity to thank current and past staff for this achievement. **cl**

Richard P. Mattick



Suicide among heroin users: the silent killer

Shane Darke

Since the establishment of the National Campaign Against Drug Abuse (later National Drug Strategy) in the mid-1980s, which dramatically increased the profile of drug and alcohol problems in this country, a great deal of research has been conducted into the harms associated with heroin use. Initially a great deal of the focus concerned blood borne viruses. In the 1990s however, due in no small part to a sustained program of research conducted by the National Drug and Alcohol Research Centre, overdose rose to prominence as a major issue. A tendency to focus on these two phenomena has some justification as overdose and blood born viruses are, in that order, the two major killers of heroin users around the world. However, the next biggest killer of heroin users, suicide, has received scant research or clinical attention. This is curious, as there has been considerable research into psychiatric comorbidity in Australia and elsewhere, which consistently shows depression to be a serious problem among heroin users. To date, a quarter of entrants into treatment for heroin dependence in the NSW arm of the Australian Treatment Outcome Study (ATOS, a major longitudinal study of heroin users being coordinated by NDARC), have met criteria for a *current* diagnosis of Major Depression. It is estimated that Major Depressive illness is associated with a 20 fold increased risk of completed suicide¹.

Mortality amongst heroin users is very high, with heroin users dying at a rate 13 times that of non-heroin using peers². The extent of this mortality is shown by longitudinal studies, which report that a half of heroin users die by the age of fifty³. The rates of mortality among heroin users are not seen in the general population until people are in their seventies. When the international literature is systematically reviewed, as we have recently done, it becomes apparent that nearly one in ten deaths among heroin users is due to suicide³. This alone would make suicide a major clinical issue for heroin users and those treating them.

The rates of attempted suicide, however, drive home the salience of the problem. As with overdose, fatalities are the tip of the iceberg. Very little research has been conducted on attempted suicide amongst this group, and there is only one published Australian study⁴. In that study Joanne Ross and myself interviewed methadone maintenance patients about their history of attempted suicide. The results were startling. Forty percent of patients reported at least one suicide attempt, 8% had attempted suicide in the past 12 months, and 10% had done so in the course of their present drug treatment. As in the broader population, females were more likely to have attempted suicide, with 50% of females reporting attempts compared to 31% of males. Preliminary results from ATOS treatment entrants in NSW confirm these high rates across all treatment modalities, with a third

of treatment entrants having a history of attempted suicide, and one in seven having done so in the preceding 12 months. In interpreting such high rates, two things should be born in mind. Firstly, one of the strongest predictors of completed suicide is a previous attempt. Secondly, as with non-fatal overdose, there may be substantial physical and psychological consequences of suicide attempts.

Suicide then is a major problem facing treatment agencies that deal with heroin users. One point that should be made, however, is that it is a different problem to that of overdose. It is frequently assumed that many, if not most, overdoses are *de facto* suicide attempts. The evidence, however, is strongly against this proposition. Whilst suicide is common among heroin users, deliberate overdose is unusual as a method for both attempted and completed suicide^{3,4}. Drug poisoning is commonly employed as a method, but typically using pharmaceuticals such as benzodiazepines and antidepressants^{3,4}. Violent methods are also common, as the high rates of wrist slashing among the methadone patients in our initial study indicated. The evidence, both in Australia and overseas, strongly indicates that most overdoses are accidental, and that most suicidal behaviour amongst heroin users employs means other than heroin. As such, we need different approaches to these important, but disparate problems. Responses to reduce overdose include education for heroin users on the now recognised risk factors such polydrug use, and improving responses at overdose. Such an approach was successfully implemented in the innovative DASC/NDARC intervention conducted in South Australia⁵. Suicide, however, presents a different range of risk factors and, therefore, of potential interventions.

In attempting to respond clinically to suicide risk, the screening of entrants to treatment for suicide history, suicidal ideation and suicidal intent becomes of major importance. For instance, a high degree of hopelessness has been shown to be a strong predictor of future suicidal behaviour, as has the existence of previous attempts. Such information needs to be collected and utilised in case management.

Responses to detected suicide risk may well involve case management of heroin users between drug and alcohol agencies and psychiatric/psychological services. This is, of course, an old chestnut of comorbidity management. However, the new data on suicide among heroin users reinforce the importance of adequate case management of drug problems as well as serious psychopathology. Such interventions may include psychological treatments, and/or antidepressant medication. In the case of the latter, it is essential that prescribers are aware of the increased risk of heroin overdose related to tricyclic

antidepressant use⁶. It is recommended that if antidepressants are prescribed, that they be SSRIs, which do not appear to increase overdose risk. Monitoring and intervention at crisis points, such as relationship break-ups, homelessness or impending incarceration, is warranted. In the majority of cases of suicide attempts by heroin users, there is a stressful event that occurred immediately prior to it.

It is important to note that there appear to be substantial differences between male and female clients in their suicide histories, that may require different interventions. Most males first attempt suicide *after* the commencement of heroin use, whilst most females do so *prior* to the initiation of heroin use. This may indicate that females are responding to long-term problems, such as childhood abuse, whilst males react more to the situational stresses of the heroin lifestyle. For example, among male heroin users, incarceration is a major suicide risk factor⁴.

Research into this field in Australia has only just commenced. As with overdose, the apparent extent of the problem indicates that this is a priority research area. For example, what is the risk of suicide among those not in treatment? Does drug treatment make a difference to suicide rates? Can additional suicide specific interventions in drug treatment reduce suicide risk? What percentage of fatal suicides in Australia are related to heroin use? ATOS will provide data on the natural history of suicide among treatment entrants at 3-month and 12-month post treatment entrance. Indeed, the problem was deemed of sufficient concern in NSW and SA to add additional questions to the 12 month follow-up questionnaire in these jurisdictions. However, it is not the primary purpose of ATOS to specifically examine suicide: specialised studies are required. Clearly, also, the prevalence of suicide and associated risk factors amongst primary users of drugs other than heroin needs to be ascertained.

To date, the severity of the suicide problem for heroin users has remained virtually unrecognised. It is for this reason I have used the term "silent killer". It need not remain so. Reducing the risk of suicide among a group for whom this is a clear and present danger is part of the duty of care of those in the drug and alcohol field. This is clearly a national problem, and one which should involve national response in both research and clinical intervention. **cl**

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project notes

Comments invited on Alcohol Treatment Project

Fiona Shand

The National Drug and Alcohol Research Centre has been commissioned by the Commonwealth Department of Health and Ageing to develop new evidence-based clinical guidelines for managing alcohol dependence and problems. Earlier guidelines, *An Outline for the Management of Alcohol Problems: Quality Assurance Project* were developed in 1993. The new guidelines will take into account the most recent research, including that on pharmacotherapies such as naltrexone and acamprosate. Specific summary guidelines will be aimed at general practitioners, generalist hospital workers, and specialist alcohol and drug workers. Consumer guidelines will also be available.

The guidelines will be based upon a systematic review of relevant research and literature, and upon the experience of those working in clinical settings. A panel of subject matter experts will steer the development of the guidelines.

The review of the literature is now underway. The development of the clinical guidelines will begin in June/July 2002, to be concluded by the end of 2002.

If you would like to tell us about research which is relevant to this project and not published to date, please contact Fiona Shand by email, fionas@unsw.edu.au, or by telephone, 02 9385 0333.

Prison Opiate Dependence Treatment Trial

Kate Dolan, Margaret MacDonald, James Shearer and Alex Wodak

It is now recognised that increasing the range of treatment options in the management of opiate dependency contributes to improved outcomes for heroin users. The New South Wales Drug Summit (May 1999) found that heroin use is a chronic relapsing condition for which several courses of treatment may be necessary before abstinence may be achieved. A key recommendation of the Drug Summit was to fund clinical trials of alternative pharmacotherapies within the New South Wales Prison System, including this evaluation of naltrexone maintenance, methadone maintenance and drug-free counselling. The National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD), a national collaboration of 13 treatment outcome studies involving 1,425 patients, also found that patients may require different forms of treatment at different stages of their drug-use career and that new pharmacotherapies were associated with reductions in opioid-related harms. NEPOD

accordingly recommended the promotion of diversity of treatment options including methadone, buprenorphine and naltrexone from the perspective both of treatment effectiveness and cost effectiveness.

Fifty percent of NSW prison inmates have a history of injecting heroin and fifty percent of these continue to inject heroin while in prison. The risk of hepatitis C and HIV transmission is increased by high rates of reuse and sharing of injecting equipment between inmates. However, fewer treatment options have been available to heroin users in prison settings compared to community settings and evaluations of their effectiveness have been rare. Methadone maintenance has been available in the NSW prison system since 1986. A randomised controlled trial in 1998 indicated that the NSW prison methadone program reduced heroin injection and syringe sharing in prison. Prison methadone programs have expanded both in NSW and other jurisdictions but remain less available than in the community due to operational and resource constraints. Naltrexone is a long acting opioid receptor antagonist with no agonist properties. It blocks the analgesic and euphoric affects of opiates with few side effects. It is non-addictive, produces no mood altering affects and has no value as a traded drug. Studies among parolees and work release programs have suggested that a prison environment may provide patients the motivation and support necessary for optimal outcomes.

This randomised controlled trial aims to compare naltrexone maintenance, methadone maintenance and drug-free counselling among a sample of 450 heroin dependent inmates in the NSW prison system equally randomised to each treatment option. Induction onto naltrexone occurs after opiate detoxification is confirmed by a negative urine test and negative naloxone challenge. Naltrexone will be administered daily under supervision at a dose of between 25 mg and 50 mg. Methadone will be administered daily under supervision starting at 20 mg increasing to a stable dose (average of 80 mg). All participants will receive three drug counselling programs including a Health Promotion Workshop, AOD Awareness and Relapse Prevention. Outcomes include hepatitis C and HIV incidence, heroin use measured by hair analysis and self-report, treatment retention, reincarceration, overdose, mortality and other health and psycho-social outcomes. Data and hair and finger prick blood samples will be collected through interviews at baseline and six months and record checks at 12 months. Risks associated with naltrexone maintenance include precipitated opiate withdrawal and opiate overdose once naltrexone treatment ceases. These risks are managed by the availability of a drug-free wing during induction for inmates assigned to the naltrexone and drug-free

counselling groups, three regular warnings, supervised dosing and compliance monitoring, symptom check-lists and free placement in post prison naltrexone programs.

Induction onto naltrexone can be a difficult and drawn out process and this has contributed to slower than anticipated progress. Inmates have been recruited at five prisons and randomised to naltrexone maintenance, methadone maintenance and drug-free counselling.

The causes, effects and implications of the heroin shortage in the ACT, NSW and VIC

Louisa Degenhardt, Carolyn Day, Libby Topp, Linette Collins and Clare Thetford

In late 2000 and early 2001, reports arose in several Australian jurisdictions of a marked reduction in the availability of heroin. In 2002, as a result of a number of specific studies of the shortage, as well as the information provided through Australia's routine drug surveillance systems, the Illicit Drug Reporting System and Drug Use Monitoring Australia, the reduced availability of heroin is accepted as a valid phenomenon, and clearly provides a unique opportunity to examine the dynamics of Australia's heroin markets and factors which impact on both the supply of and demand for the drug.

Despite the widespread publicity that the heroin shortage has received, little information has been systematically collected or evaluated about its cause(s) and the long terms consequences. To address this gap in our knowledge, this project aims to:

- examine the context and parameters of the heroin shortage – when it occurred and how long it lasted;
- examine the possible causes of the heroin shortage;
- determine the effect of the shortage on heroin's price, purity, availability and the distribution practices of dealers and users;
- assess the effect of the heroin shortage on heroin and other drug use, public health, and police and other emergency service; and
- examine the characteristics of those who left the heroin market as a result of the shortage.

To achieve these aims, the project will utilise a number of methods. Initially, the existing research on the shortage will be reviewed and the available data will be analysed to determine the peaks and troughs in the availability of heroin.

In each of the three jurisdictions, injecting drug users (IDU) will be interviewed regarding their patterns of drug use prior to, during and subsequent to the heroin shortage. Data will also be collected on treatment seeking behaviour, overdose, presentation to emergency services and criminal behaviour.

In NSW, an additional cohort of IDU who did not inject heroin for at least one month during the peak period of the shortage, will be interviewed about issues such as their reasons for leaving the heroin market, the ways in which they achieved changes to their drug use which allowed them to exit the market, and the ways in which they differ from those more committed users who stayed in the market despite its fundamental changes. This group will be drawn from two existing cohorts of IDU recruited prior to and during the peak period of the shortage. Snowballing techniques and advertisements will also be used. In VIC, such issues will be examined by drawing on a cohort of heroin users who entered methadone maintenance treatment during the peak period of the shortage, and in the ACT, attempts will be made to recruit from an equivalent population.

A range of key informants will be interviewed in each of the three jurisdictions. Key informants will include those from drug treatment and detoxification agencies, NSP services, and ambulance and law enforcement officers. Efforts will also be made to recruit key informants knowledgeable about Australia's supply reduction activities, such as senior officials from the Australian Customs Service, the Australian Federal Police, and the Australian Bureau of Criminal Intelligence.

Indicator data will be collected to provide information on trends over time in drug use, the harms associated with heroin and other drug use (e.g., fatal and non-fatal opiate overdose), and trends in other areas such as criminal activity, treatment seeking and presentations to hospital accident and emergency departments.

To examine the causes of the heroin shortage, plausible theories will be collated. Each theory is likely to involve a number of factors, which will be tabled and assessed according to the available evidence. Following this process, the most plausible model(s) will be developed based on the identified factors.

It is anticipated that the study will provide a better understanding of the heroin market in Australia, as well as the relationship between the supply, demand and harm reduction components of Australia's National Drug Strategic Framework. This work will clearly be important to Australia's health and law enforcement policy makers, but the unique natural experiment is likely to attract international interest and be of value to all countries that suffer widespread illicit heroin use.

The project is funded by the National Drug Law Enforcement Research Fund and is coordinated by NDARC, in collaboration with Turning Point Drug and Alcohol Centre Inc, and the Australian Institute of Criminology is coordinating the ACT arm. The project also involves two external consultants: Professor Wayne Hall, now with the University of Qld, and Professor Peter Reuter from the RAND Corporation and University of Maryland in the United States. In NSW, we are lucky enough to be able to draw on the

expertise of Dr Lisa Maher, Senior Lecturer in the School of Medical Education at the University of New South Wales.

We are heartened by the interest in and support for the project demonstrated at an early stage by numerous officials in the health and law enforcement sectors from around Australia. Clearly, taking advantage of all that this unique

abstracts

Heroin use in New South Wales, Australia, 1996–2000: 5 year monitoring of trends in price, purity, availability and use from the Illicit Drug Reporting System (IDRS)

Addiction, 97, 179–186

Shane Darke, Libby Topp, Sharlene Kaye and Wayne Hall

Aims. To document trends in the price, purity, availability and use of heroin in New South Wales detected by the Illicit Drug Reporting System (IDRS) between 1996–2000, and to demonstrate the utility of the IDRS in identifying such trends. **Design.** The IDRS compares information derived from interviews with injecting drug users, key informants who work in the illicit drugs field, and key indicator data on illicit drug trends. **Setting.** New South Wales, Australia. **Findings.** The price of heroin approximately halved over this period, from a median of A\$400 per gram in 1996 to A\$220 per gram in 2000. While the price of heroin fell dramatically over the study period, the purity of police seizures of the drug was high across all years, ranging between 62% and 71%. In all years heroin was considered easy to obtain by both heroin users who purchased the drug, and by key informants from the law enforcement and health fields. Concurrent with large fall in heroin prices, there appeared to have been an increase in the number of heroin users. Between 1997 and 1998 there was a sharp increase in the injecting use of cocaine by heroin users in NSW, a pattern that has persisted. **Conclusions.** Regular and formal monitoring of illicit drug trends provides timely data in a systematic way to inform health and law enforcement policies towards current and emerging illicit drug problems.

Australian Drug Trends 2001: Findings of the Illicit Drug Reporting System (IDRS)

NDARC Monograph No 48

opportunity can teach us about the dynamics of an established Western illicit drug market will require cooperation and collaboration between countless people with expertise in various aspects of the supply and demand sides of the market. We look forward to establishing these mechanisms and providing a template that will enable better communication and transfer of information between all relevant parties. **CI**

Libby Topp, Sharlene Kay, Raimondo Bruno, Kim Hargreaves, Marie Longo, Paul Williams, Birdie O'Reilly, Craig Fry, Graeme Rose, and Shane Darke

The complete Illicit Drug Reporting System (IDRS) consists of three components: (1) interviews with injecting drug users (IDU); (2) interviews with key informants who, by the nature of their work, have regular contact with illicit drug users; and (3) an examination of extant data sources related to illicit drug use, such as National Household Survey data on drug use, opioid overdose data, purity of seizures of illicit drugs made by law enforcement agencies, and so on. The Australian Drug Trends 2001 report presents a summary of the findings of the second year in which the complete IDRS has been conducted in every Australian jurisdiction. Detailed reports on drug trends within each jurisdiction can be obtained from the National Drug and Alcohol Research Centre (NDARC).

The IDRS monitors the price, purity, availability and patterns of use of the four main illicit drug classes: heroin, methamphetamine, cocaine and cannabis. Drug trends in this publication are cited by jurisdiction, although they primarily represent trends in the capital city of each jurisdiction, from which new drug trends typically emerge.

Key findings from the 2001 IDRS

1. There was a dramatic reduction in the availability of heroin observed in all jurisdictions in which heroin had for some years been freely available. It began in late 2000/early 2001, and was sustained throughout the first half of 2001, with the greatest magnitude experienced between January and March 2001. The change in availability was associated with increases in the price, marked decreases in the prevalence and frequency of use, and moderate declines in purity. Changes in the patterns of use of other drugs were associated with the shortage, particularly of the stimulants, methamphetamine and cocaine.

2. The methamphetamine markets continued to demonstrate their dynamic nature in 2001. Both prevalence and/or frequency of recent methamphetamine use increased in every jurisdiction between 2000 and 2001.

This was particularly the case with the potent forms of methamphetamine that were detected by the 2000 IDRS to have increased in availability and use. There were apparent large increases in the price of a gram of methamphetamine powder in VIC, the ACT and QLD, but these may reflect a change in the form of methamphetamine purchased; powder remained cheapest in SA at \$50 per gram. The cost of a 'point' (approximately 0.1 gram) of potent methamphetamine remained relatively stable in all jurisdictions and cheapest in SA at \$30.

The average purity of seizures of methamphetamine analysed across Australia remained stable between 1999/00 and 2000/01 at 22%, an increase from 1998/99 (16%). Both methamphetamine powder and the more potent forms were described as easy to obtain in all jurisdictions, and availability of both forms was considered to have remained stable or increased. In TAS and SA, the prevalence of recent use of the potent forms of methamphetamine was higher than the prevalence of recent use of methamphetamine powder, and it is likely that methamphetamine powder is no longer the most available nor sought-after form of methamphetamine in these jurisdictions.

3. Cocaine use remained predominantly an issue in NSW, where marked increases between 2000 and 2001 in prevalence of recent use and dramatic increases in frequency of use were recorded. However, 2001 is the first year in which the IDRS has documented early indicators of a potential diffusion of cocaine from NSW to other jurisdictions, notably the ACT, QLD, VIC, SA and WA, including: a higher proportion of IDU able to comment on cocaine, increases in prevalence of recent use, higher proportions of IDU reporting the recent purchase of grams of cocaine and the purchase of cocaine 'caps'. Although the magnitude of the increases were small, together, they suggest that the availability and use of cocaine may be increasing outside Sydney, the traditional focus of Australia's illicit cocaine market. Purity of cocaine seizures remained relatively stable, and decreases in the price of a gram were recorded in VIC, SA and QLD. The price of both grams and caps remained stable in NSW.

4. As in previous years, the cannabis market proved the most stable of Australia's illicit drug markets. The price of an ounce of cannabis varied between \$200 and \$320; increases of \$20 per ounce were recorded in NSW and QLD, whereas decreases of the same magnitude were reported in SA, VIC, the ACT, WA and TAS. As in all previous years of the IDRS, the potency of cannabis was considered high or medium to high, and stable, in all jurisdictions. Cannabis was considered very easy to obtain in all jurisdictions, and availability was perceived to have remained stable. Hydroponically grown cannabis 'heads' remained the most commonly used form of the drug, although high proportions of IDU also reported the recent use of outdoor crop cannabis (69%) and hashish

(33%). Waterpipes ('bongs') remained the preferred means of cannabis administration.

Cannabis dependence in young adults: an Australian population study

Addiction 97, 187–194

Carolyn Coffey, John B. Carlin, Louisa Degenhardt, Michael Lynskey, Lena Sanci and George C. Patton

Objectives. The symptomatology of cannabis dependence remains ill-defined and its importance controversial. Compared with alcohol dependence, the symptom profile of cannabis dependence has received little attention. We aimed to (a) report cannabis use in a representative population of young adults, (b) examine cannabis dependence symptoms according to frequency in the dependence syndrome, and (c) contrast the symptomatology of cannabis and alcohol syndromes. **Methods.** 1601 young adults (mean age 20.7 years) from an Australian longitudinal cohort study (N=2032) were surveyed in 1998. Regular substance users were assessed for DSM-IV cannabis and alcohol dependence. Prevalence estimates allowed for sampling variation and attrition. **Results.** Fifty-nine per cent reported life-time use of cannabis, 17% used at least weekly and 7% (11% males, 4% females) met criteria for cannabis dependence. Symptom prevalence in dependent cannabis users was: persistent desire 91%; unintentional use 84%; withdrawal 74%; excessive time obtaining/using 74%; continued use despite health problems 63%; tolerance 21%; and social consequences 18%. The combination of withdrawal, persistent desire and unintentional use was reported by 57%. Dependent cannabis users reported compulsive and out-of-control use more frequently than dependent alcohol users, withdrawal similarly and tolerance considerably less often. **Conclusions.** Cannabis use appears to be normative behaviour in young Australians. Progression beyond weekly use of cannabis carries a significant risk of dependence that should be considered in the public health response. The differing profiles of cannabis and alcohol dependence, particularly with regard to craving, draws attention to the need for further study of cannabis dependence as an important and distinct disorder in young adults.

The injection of methadone and benzodiazepines among Sydney injecting drug users 1996–2000: 5-year monitoring of trends from the Illicit Drug Reporting System

Drug and Alcohol Review 21, 27–32

Shane Darke, Libby Topp and Joanne Ross

Trends in the injection of methadone and benzodiazepines by injecting drug users (IDU) recruited in Sydney for the Illicit Drug Reporting System over the period 1996–2000 were examined. A total of 788 IDU were interviewed over the 5-year period. The proportion of IDU reporting recent methadone injecting declined significantly over the study period, from a peak of 31% in 1997 to 13% in 2000. Unlike the injection of methadone, there was no significant difference between the proportions of IDU reporting recent benzodiazepine injecting over the study period, which ranged between 10% and 16%. A consistent minority (range 5–7%) of IDU reported having injected both methadone and benzodiazepine in any individual year. Both methadone and benzodiazepine injecting were independently associated with higher levels of injection related health problems. Given the substantial harms associated with these practices, continued monitoring of their prevalence is warranted.

Public policy and the prevention of substance-use disorders

Current Opinion in Psychiatry 2002, 15: 235–239

Catherine Spooner and Wayne Hall

Drug prevention has traditionally focused on influencing individual attitudes and behaviours. In particular, efforts have been directed towards adolescents in the school setting. However, evaluations of school-based drug education have identified limited success. There is increasing recognition that drug abuse is one of a number of risk behaviours, including truancy, delinquency and mental health problems, which share common antecedents that begin in the early years of childhood. Furthermore, these behaviours are shaped by macroenvironmental influences including the economic, social, cultural and physical environment. Drug prevention needs to adopt a broader perspective: with greater attention to the macroenvironmental influences on problem behaviours: and with greater attention to healthy development in the first years of childhood.

International survey of supervised injecting centres (1999–2000)

NDARC Technical Report 126

Jo Kimber, Kate Dolan and Alex Wodak

Supervised injecting centres (SICs) enable the consumption of pre-obtained drugs under hygienic and lower risk conditions. The main objectives are reducing the health and public order problems associated with injecting drug use. With little information available about these Centres in the English language, we conducted a survey of SICs in Europe in 1999–2000.

Contact information was obtained for 39 centres across the Netherlands, Germany, Switzerland and Spain. Information about the existence of an additional six centres was obtained but no contact information was available. The aim of this study was to collate information about these facilities and to identify common and unique elements of service delivery.

recent publications

For more information on or copies of these publications, please contact the relevant researcher

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