

# centre lines

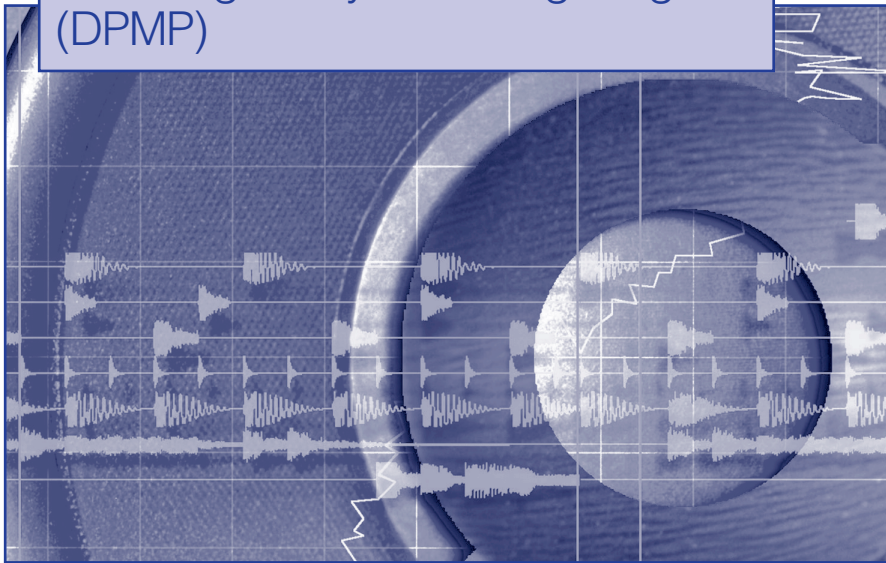
NDARC (20)

November 2006

A bi-monthly newsletter from the National Centres for Drug and Alcohol Research  
Published this issue by the National Drug and Alcohol Research Centre, Sydney

## issuing forth

The Drug Policy Modelling Program (DPMP)



Funded by the  
National Drug Strategy

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

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## edspace

You may have recently read comments about the plans for a \$30 million mass media campaign being proposed by the Australian Government intended to "terrify Australians about the dire consequences" of using ice, or crystal. According to media reports the government will look to the notorious Grim Reaper anti-AIDS television campaign of the mid-1980s for inspiration.

There is great debate over whether shock tactics have a place in drug education. Shock tactics encompass a variety of different techniques. Many will remember a police officer coming into their school and showing them pictures of terrible car accidents in an effort to prevent speeding and/or drinking and driving. Photographs of diseased lungs and other body parts were often used in health lessons to dissuade young people from smoking and can now be found on cigarette packets. Yes, these images shocked and horrified – but do they really stop users or potential users from partaking in the risk-taking behaviour?

Creating a media campaign specifically for ice/crystal is attempting to deal with the drug in isolation. No drug, no matter how risky it may be, can be dealt with in that way. You must not only look at the substance itself, but also how, when and where it is used, and also what other drugs are taken at the same time. It is rare to find an exclusive ice user, most people who take the drug are polydrug users. It is important to remember that many of the people that we are seeing on the various current affairs shows who are having problems with ice have also had extensive problems with other drugs in the past.

Talking to people who have been through Crystal Meth Anonymous (CMA), when they make the decision to stop using crystal, they stop taking all drugs, including alcohol. Ice use is linked to a range of behaviours, whether it be sex, other drug use or partying and you can't hope to fix the ice problem without dealing with the other things as well. Saying the drug is bad, without looking and dealing with triggers and reasons behind use is most likely to be fairly useless. As a community we must start examining this drug in a context of other drug use and that is a point that appears to have been overlooked in the current debate.

Shock tactics have a place in public health education. They obviously work in preventing some people from taking part in risky behaviour. The question needs to be asked though – would those people have ever partaken in that activity in the first place?

**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.*

**Maree Teesson**

NDARC has a clear focus on working with the alcohol and other drug field to systematically and expertly increase the knowledge regarding harms and treatment response to drug and alcohol problems both nationally and internationally.

One of the key issues in doing this is to address the gap between research, practice and policy. A new program of research at NDARC, called the Drug Policy Modelling Program (DPMP), led by A/Professor Alison Ritter will focus on reducing this gap.

With a new program of research beginning at the Centre, and the end of another year of research at NDARC it is timely to reflect on activities which have sought to improve the link between research policy and practice. The impact of the Centre's research output on knowledge and/or practice in the past has included the following:

**National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD)**

The findings from the National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD) resulted in a number of recommendations to the IGCD and Ministerial Council on Drug Strategy with respect to the provision of pharmacotherapies for heroin dependence. This multi-trial, multi-site study facilitated by NDARC provided a number of clear recommendations that detoxification therapies must be linked to continuing treatment and that, of all the pharmacotherapies for detoxification, buprenorphine was the most cost effective as well as flexible to post detoxification treatment linkage. Other recommendations that have direct policy implications include ensuring there is a role for general practitioners in a shared care model, and that methadone should be continued to be used as a key method of maintenance therapy given that it was the most cost effective option of those available. Key among the recommendations was that a number of treatment options should be available.

The published work of NDARC on the prevalence and harms of the injection of methadone syrup in NSW was a major factor in the decision of the NSW Health Department to withdraw 10 and 20ml syringes from distribution in NSW needle and syringe programs, in order to reduce the prevalence of this harmful practice.

**Registration and PBS listing of buprenorphine**

The investigation of buprenorphine as a pharmacotherapy for the management of opioid dependence was a significant activity for NDARC. NDARC staff conducted the largest randomised controlled trial of buprenorphine against methadone. This trial has had a major role in the registration of the medication in Australia; NDARC staff wrote the Expert Report for the registration of the medication via the Therapeutic Goods Administration.

**National Minimum Dataset for Clients of Alcohol and Other Drug Treatment Agencies (NMDS-AODTS)**

NDARC staff developed the methodology, conducted the feasibility study and lobbied the Australian Government Department of Health and Ageing (AGDHA) to fund the development and pilot testing of the specialist alcohol and other drug items for the National Health Data Dictionary. This national collection is now in its third year.

**The National Comorbidity Project**

This project reflects the high levels of comorbidity between alcohol and other drug use disorders and mental disorders and was undertaken as a joint initiative between the AGDHA and NDARC with the purpose of informing policy. It is a unique initiative, bringing together policy-makers in both mental health and the drug and alcohol fields to develop an evidence-based response.

**Mortality**

NDARC has led the research in Australia and internationally into the patterns, correlates and causes of opioid overdose deaths. The extensive work of the Centre on the causes and circumstances of heroin overdose resulted directly in the first specific intervention to reduce the morbidity and mortality associated with heroin overdose, the 'Don't Slow it Alone' campaign. This campaign, conducted conjointly by the South Australian Drug and Alcohol Services Council and NDARC, was the first specific intervention on overdose in the world. A major component of this campaign was a change in police protocols for attendance at overdoses in South Australia, and subsequently in NSW. The materials have subsequently been distributed in all Australian jurisdictions, and in the United

Kingdom. Specific state-based overdose campaigns have also arisen out of NDARC work in this field. More recent work at NDARC has been investigating cocaine-related deaths.

**Benzodiazepines**

NDARC has published extensively on the prevalence and harms of the injection of benzodiazepine tablets by injecting drug users. Just one of the outcomes of this area of research has been the introduction of a requirement of an Authority to Prescribe for temazepam 10mg capsules, in order to reduce the harm associated with the injection of these capsules.

**The Illicit Drug Reporting System**

Since 1996, NDARC has coordinated the Illicit Drug Reporting System (IDRS), Australia's strategic early warning system designed to detect emerging trends in illicit drug markets. On an annual basis and across every state /territory, data from a number of sources relating to illicit drug use and associated harms are triangulated to provide comparable 'snapshots' of illicit drug markets.

Since its inception, the IDRS has successfully broadened the knowledge base from which evidence-based policy decisions and drug control strategies can be developed. For example, the IDRS has provided detailed information on recent patterns and trends in drug use at the jurisdictional level, for which there is demand from policy-makers in the health and law enforcement sectors.

The Ecstasy and Related Drugs Reporting System (EDRS, formerly known as the PDI) now monitors the ecstasy and related drugs markets and the National Illicit Drug Indicators Project (NIDIP) systematically tracks changes in heroin and psychostimulant use and related harms using comprehensive, timely and reliable information.

The Centre is committed to bridging the gap between research and policy/practice. One of our major strategies to address this includes the innovative use of approaches for the dissemination of knowledge to the broader scientific community and the public, of which *CentreLines* is one of our key tools. In addition to this we now have a new comprehensive study of drug policy in the DPMP outlined by A/Prof Ritter in the following section. **cl**

**issuing forth****Alison Ritter**

In 2002, Prof Margaret Hamilton was asked to provide advice to a philanthropic funding body about the relative priorities that it should follow in allocating resources to the best drug policy interventions. It was apparent that in fact there was little research to answer such a 'big picture'

question. No-one in Australia had conducted research on the relative dynamic investments between drug treatment, law enforcement responses, harm reduction initiatives or prevention programs. Thus, the Drug Policy Modelling Program, or DPMP, was born. An initial funding application to the Colonial Foundation Trust

resulted in an allocation of \$1.2m to conduct initial research on the topic, and examine the feasibility of a major new drug policy program that would explicitly study these questions. This first stage of DPMP was a collaboration between Turning Point Alcohol and Drug Centre, the Australian National University, and Griffith

University. The first stage concluded at the end of 2005 and resulted in 13 monographs.

A subsequent application to the funding body for continuation of the research program, that now included the National Drug and Alcohol Research Centre (NDARC) as the auspice organisation for the second stage, was successful. Stage Two commenced in July 2006.

Illicit drugs, their use and the associated harms are not going to be eliminated, but their impact can be significantly reduced. The ways in which drug policy is developed and implemented can have a major influence (both positively and negatively) on drug use, drug users and those around them. Throughout public policy, the use of best available evidence to inform decision-making is being actively sought. At the same time the provision of evidence alone can be insufficient to produce policy change.

The DPMP is concerned with both research and practice in illicit drug policy. It's goal is to create valuable new drug policy insights, ideas and interventions that will allow Australia to respond with alacrity and success to illicit drug use.

DPMP focuses on enabling a more comprehensive approach to drug policy; exploring dynamic interactions between law enforcement, prevention, treatment and harm reduction. It also integrates research and policy practice, examines national, state and local levels of policy-making, is concerned with all illicit drugs, and uses new methods and tools.

The results of the feasibility stage of DPMP 2004 – 2005) are described in detail in the Stage One Monograph Series which are available at the following link on the NDARC website.

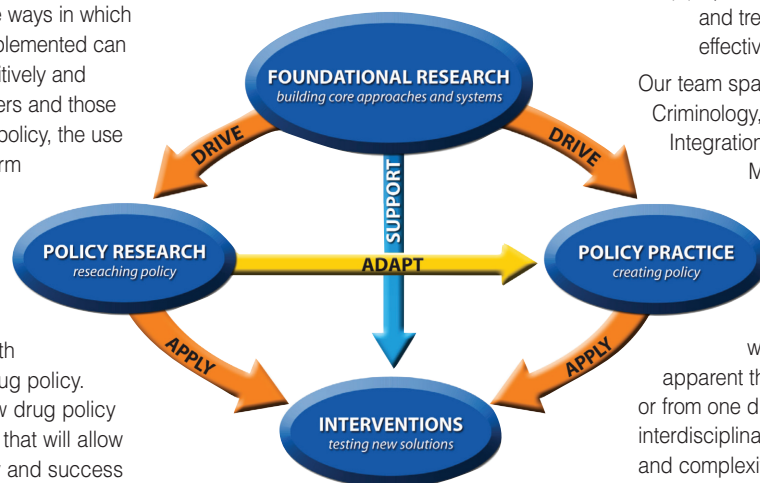
Over the next five years, DPMP will conduct rigorous research that provides independent, balanced, non-partisan policy analysis. The areas of work include:

- developing the evidence-base for policy;
- developing, implementing and evaluating dynamic policy-relevant models of drug issues; and
- studying policy-making processes in Australia.

One of the questions asked about the project is – ‘why modelling?’ The answer is quite simple. Models are tools to aid thinking and to facilitate thoughtful policy debate. We use the term ‘modelling’ because we see the use of models as core integrating tools – capable of synthesising across drug policy domains, across disciplines and across stakeholder perspectives. The modelling approaches we are using include agent-based models, system dynamics, participative systems models, cost-benefit models, and hybrid models: combining two or more of these and other approaches. The models will allow policy-makers to explore the impacts of a range of policy options.

The models are tools to enable better evidence and better use of the evidence in policy-making. However, policy-making is not always a rational, systematic process that is driven by scientific evidence. DPMP acknowledges that research evidence is but one ‘input’ to the complex policy-making process, and will be studying policy-making in concert with the development of models as evidentiary tools.

There are four elements to DPMP:



1. Policy Research – undertaking quantitative and qualitative policy analyses that accommodate the complexity of multiple domains, levels, drugs and outcomes. This will also involve studying the policy-making process. Projects include:
  - (i) Quantitative policy analysis of returns on investment across policy domains
  - (ii) Research into hybrid models that can explore complex dynamics
  - (iii) Study of the uptake of research evidence into policy, and the research-policy nexus
  - (iii) Study of how drug policy has been and is made in Australia
2. Policy Practice – engaging with policy-makers and providing them with policy analysis and solutions for the problems currently facing them. Projects include:
  - (i) Consultancy to governments on specific policy problems
  - (ii) The application and evaluation of dynamic models to decision-making processes (testing scenarios with policy makers)
  - (iii) Evaluation of the utility and relevance of DPMP information to policy-making processes
3. Interventions – conducting demonstration projects of new policy options under experimental conditions. Projects include:
  - (i) Three demonstration projects of new law enforcement approaches at the local, state and federal levels
  - (ii) Working with treatment, prevention and harm reduction researchers to add policy analyses to existing trials

4. Foundational Research – developing and maintaining policy relevant data, systems and approaches. Projects include:
  - (i) A record linkage study – longitudinal cohort of injectors;
  - (ii) Working with economic data, such as drug prices, government spending, costs of interventions, cost savings and so on, for use in policy analyses
  - (iii) Updating estimates of the prevalence and trends in drug use, harms and the effectiveness of interventions

Our team spans Complex Systems Science, Criminology, Economics, Epidemiology, Integration and Implementation Sciences, Medicine, Political Science, Public Health, Public Policy, Sociology and Systems Thinking. We aim to facilitate new drug policy insights, ideas and interventions that would not have been possible or apparent through the study of one aspect, or from one disciplinary perspective. Our interdisciplinary approach reflects the richness and complexity of the real world of drug use and drug policy.

DPMP includes the following team members:

A/Prof Alison Ritter, National Drug and Alcohol Research Centre, UNSW

Prof Gabriele Bammer, National Centre for Epidemiology and Population Health, Australian National University (ANU)

A/Prof Lorraine Mazerolle, School of Criminology and Criminal Justice, Griffith University

A/Prof Paul Dietze, Turning Point Alcohol and Drug Centre & Monash Institute of Health Services Research

A/Prof Pascal Perez, Research School of Pacific & Asian Studies, ANU, and HEMA Consulting Pty Ltd

Prof Gerald Midgley, Institute of Environmental Science and Research, New Zealand

Dr Wendy Gregory, Institute of Environmental Science and Research, New Zealand

Prof Peter Reuter, School of Public Policy, Department of Criminology, University of Maryland, USA

Prof Jonathan P. Caulkins, H. John Heinz III School of Public Policy and Management, Carnegie Mellon University, Pittsburgh, USA.

Prof Margaret Hamilton, University of Melbourne (Chair, DPMP Advisory Group)

The DPMP is a collaboration between the National Drug and Alcohol Research Centre (which houses the core team), the Australian National University, Griffith University and Turning Point Alcohol and Drug Centre.

The DPMP is funded by the Colonial Foundation Trust. Team members are also funded by NHMRC Researcher Support Schemes, and other sources.

For further information, contact Alison Ritter at NDARC or by email ([alison.ritter@unsw.edu.au](mailto:alison.ritter@unsw.edu.au)).



## project notes

## High levels of social anxiety amongst opioid dependent group

**Fiona Shand, Richard Mattick and Louisa Degenhardt**

As part of the Comorbidity and Trauma Study (CATS), opioid dependent participants and a group of non-opioid dependent controls have been assessed for social anxiety. CATS is a large scale case-control study (N = 3000) examining genotypes associated with opioid dependence, the influence of childhood trauma on opioid dependence, and patterns of comorbidity associated with opioid dependence. Opioid dependent cases are being recruited through public and private methadone clinics in the greater Sydney area. Controls are being recruited to match cases on age, gender and socio-economic status.

The first analysis of the social anxiety data has shown that a significant proportion of both groups are experiencing significant clinical anxiety, as measured by the Social Interaction Anxiety Scale (SIAS) and the Social Phobia Scale (SPS). Rates of social anxiety were similar across both groups, with 33 per cent of cases and 30 per cent of controls exhibiting high levels of social anxiety on one or both measures. Social interaction anxiety (the SIAS) was more common at 29 per cent of the whole sample, compared to 10 per cent for social performance anxiety (the SPS). However, cases exhibited different patterns of social anxiety symptoms to controls, and cases had higher mean scores on both scales compared to controls, suggesting that their social anxiety is more severe.

Factors linked to emotional rejection in childhood, either by parents or peers, were most strongly associated with social anxiety. Predictors of social anxiety varied only slightly across the two groups. On all measures and analyses, experience of bullying during childhood or adolescence was associated with higher levels of social anxiety. Childhood emotional neglect and abuse, sexual abuse, and lack of a close relationship with an adult were also associated with elevated social anxiety. Somewhat surprisingly, sexual abuse was only significant for cases and only on one measure (the SPS). Physical abuse was not associated with increased social anxiety, a finding which is not consistent with previous research. However, previous studies have not included emotional abuse and neglect in the analysis. One possibility is that the effects of childhood physical and sexual abuse are mediated by emotional abuse.

Data collection for CATS is continuing through to November 2007. To date, interviewers have completed research with approximately 1000 cases and 450 controls.

## The development of guidelines for detoxification and drug dependency treatment in closed settings in China, Vietnam and Malaysia

**Program of International Research and Training: Bradley Mathers, Sarah Larney and Kate Dolan**

In countries such as China, Vietnam and Malaysia, people found to be drug users can be detained in compulsory drug treatment centres. In these centres, drug dependent individuals undergo detoxification and participate in a program that can range in duration from six months (as in Chinese compulsory detoxification centres) to five years (as in Ho Chi Minh City's '06 Centres'). Usually, the same government department that administers prisons is responsible for compulsory drug treatment centres. Staff are thus predominantly police or public security officers rather than health workers and at present, the programs provided in compulsory drug treatment centres are typically based in a conceptualisation of drug dependence as a moral weakness or crime. Often only minimal medical support is provided for inmates experiencing drug withdrawal. Treatment programs include education about morality and citizenship, daily exercise and labour. Counselling and therapeutic groups are also available to residents of compulsory treatment centres. However, few staff have been trained in counselling techniques.

In an effort to improve service provision in compulsory treatment centres, the World Health Organization has funded the Program of International Research and Training (PIRT) to produce two sets of guidelines. The first will focus on the provision of detoxification services to individuals withdrawing from various drugs, while the second will outline treatment approaches to drug dependence. It is envisioned that these guidelines will be appropriate for use within prisons as well as compulsory treatment centres. Also, while the guidelines are being formulated specifically for China, Vietnam and Malaysia, they will be easily adaptable for use in other South-East Asian countries.

Earlier this year, Sarah Larney and Bradley Mathers undertook a field visit to compulsory treatment centres in China, Vietnam and Malaysia. This visit yielded valuable information regarding the feasibility of providing various detoxification and treatment interventions in these centres. With this information in mind, draft guidelines are being written. The drafts will be subjected to review by a panel of drug treatment experts and key staff from compulsory treatment centres in each country. In early 2007, PIRT staff will again travel to compulsory

treatment centres to provide training in using the guidelines. Following this training centre staff will use the guidelines for a trial period and provide feedback to PIRT. After a final revision, the guidelines will be submitted to the World Health Organization for publication and are expected to be available by mid-2007.

## Analysis of illicit drug-related hospital stays in Australia

**Amanda Roxburgh and Louisa Degenhardt**

The National Illicit Drug Indicators Project (NIDIP) was established at the National Drug and Alcohol Research Centre (NDARC) in 2002 for the purposes of providing a comprehensive monitoring system for illicit drug-related harms across Australia. This involves analysis of national data sources such as the Australian Bureau of Statistics causes of death database, the Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) and the National Hospital Morbidity Database (NHMD). NIDIP publishes annual bulletins on the numbers of amphetamine, cocaine and opioid-related deaths in Australia, as well as journal articles and reports on more specific issues of interest. This analysis provides the basis of a report as well as the first of an annual series of bulletins on illicit drug-related hospital stays. The first bulletin is available on NDARC's website.

Utilising the NHMD, analysis of illicit drug-related hospital stays in Australia was conducted for the period 1993 to 2005, documenting trends for opioids, amphetamine, cannabis and cocaine. Changes in hospital stays were evident across all four drug types.

Numbers of hospital stays were highest for opioids, followed by amphetamines, cannabis and cocaine. There was a dramatic drop in opioid-related hospital stays in 2001/02, which was consistent with the reduction in heroin supply in Australia at this time. They have remained lower over the past few years.

Numbers of amphetamine-related hospital stays have continued to increase over the twelve-year period and this is consistent with reported increases in; the prevalence of methamphetamine use among various sub-populations of users in Australia, the number of border detections (particularly of crystalline amphetamine) by the Australian Customs Service (ACS); and the number of police detections of clandestine laboratories manufacturing methamphetamines in several jurisdictions. At their peak, however, amphetamine-related stays only represented one-quarter of the highest number recorded for opioids.

Cannabis-related hospital stays also increased. Interestingly, although cannabis is one of the most commonly used illicit drugs in Australia,

use in the general population has declined over the past seven years. The prevalence of cannabis use among sub-populations such as regular injecting drug users, however, has remained relatively stable across time. The highest number of cannabis-related hospital stays represented less than one-fifth of the highest number recorded for opioids.

Cocaine-related hospital stays were lower than 300 per year, which is consistent with research suggesting that the cocaine market in Australia,

particularly outside the Sydney metropolitan area, is relatively small, and that only a small number of cocaine users report presenting for treatment for their cocaine use. There were peaks in cocaine-related hospital stays in both 1998/99 and 2001/02 (primarily in NSW), with the later increase coinciding with the reduction in heroin supply, and increased reports among injecting drug users of cocaine-related harms at this time. These stays have increased again over the past two years. The highest number of

cocaine-related hospital stays represented less than 5% of the highest number recorded for opioids.

The NHMD is a useful data source for monitoring illicit drug-related harms in Australia, and it maps well to other data sources, such as seizure and arrest data, and reports from injecting drug users. Continued monitoring of this data would provide invaluable information about trends in drug-related harms in Australia, as well as the context within which emerging trends can be understood. **cl**

## abstracts

### Reasons for cannabis use in psychosis

*Australian and New Zealand Journal of Psychiatry* 40, 570-574

**David Schofield, Chris Tennant, Louise Nash, Louisa Degenhardt, Alison Cornish, Coletta Hobbs, and Gail Brennan**

**Objective:** To examine the reasons for cannabis use among individuals with psychotic disorders.

**Method:** Forty-nine people with psychotic disorders in treatment with community health centres in Northern Sydney were interviewed to collect information about their experience of antipsychotic side-effects and their influence on cannabis use. Other information collected on cannabis use included: amount and frequency, effects of use and other general reasons given for use.

**Results:** It was found that boredom, social motives, improving sleep, anxiety and agitation and symptoms associated with negative psychotic symptoms or depression were the most important motivators of cannabis use. Positive symptoms of psychosis and antipsychotic side-effects that were not associated with anxiety, were not important motivators of cannabis use.

**Conclusions:** As cannabis use may precipitate relapse in this population, it is important to reduce these motivators of use. Clinicians must assess and treat these problems, thus reducing the need for patients to self-medicate with cannabis, and therefore reducing the risk of relapse.

### The rise of Viagra among British illicit drug users: 5 year survey data

*Drug and Alcohol Review* 25, 111-113

**Jim McCambridge, Luke Mitcheson, Neil Hunt and Adam Winstock**

Viagra use among British nightclubbers, a sentinel population of illicit drug users, was first

reported in 1999. There has since been little attention paid to the evolution of patterns of non-prescribed use, apart from among men who have sex with men. Beginning in 1999 an annual survey has been conducted with a specialist dance music magazine, permitting cross-sectional comparisons over time. Rising levels of lifetime and current use prevalence and data on patterns of both male and female use are reported, along with elevated prevalence levels among both gay men and women. Experimentation with Viagra appears increasingly to have become established among British nightclubbers who use recreational drugs. Ethnographic and epidemiological study and monitoring of adverse consequences is now needed to fully appreciate reasons for use and the extent of possible harms.

### Using intervention time series analyses to assess the effects of imperfectly identifiable natural events: a general method and example

*BMC Medical Research Methodology*, 6, 16

**Stuart Gilmour, Louisa Degenhardt, Wayne Hall and Carolyn Day**

**Background:** Intervention time series analysis (ITSA) is an important method for analyzing effect of sudden events on time series data. ITSA methods are quasi-experimental in nature and validity of modelling with these methods depends upon assumptions about the timing of intervention and the response of the process to it.

**Method:** This paper describes how to apply ITSA to analyse the impact of unplanned events time series when the timing of the event is not accurately known, and so the problems of ITSA methods are magnified by uncertainty in the point of onset of the unplanned intervention.

**Results:** The methods are illustrated using the example of the Australian Heroin Shortage of 2001, which provided an opportunity to study the health and social consequences of an

abrupt change heroin availability in an environment of widespread harm reduction measures.

**Conclusion:** Application of these methods enables valuable insights about the consequences unplanned and poorly identified interventions while minimising the risk of spurious results.

### Documenting the heroin shortage in New South Wales

*Drug and Alcohol Review* 25, 297 – 305

**Carolyn Day, Louisa Degenhardt and Wayne Hall**

Australian heroin markets have recently undergone dramatic change, sparking debate about the nature of such markets. This study aimed to determine the onset, peak and decline of the heroin shortage in New South Wales (NSW), using the most appropriate available methods to detect market level changes. The parameters of the heroin shortage were determined by reviewing: reports of heroin users about availability and price (derived from the existing literature and the Illicit Drug Reporting System); qualitative interviews with injecting drug users, and health and law enforcement professionals working in the illicit drug field; and examining data on heroin seizures over the past decade. There was a marked reduction in heroin supply in NSW in early 2001. An increase in the price of heroin occurred in 2001, whereas it had decreased steadily since 1996. A reduction in purity also occurred, as reported by drug users and heroin seizures. The peak period of the shortage appears to have been January to April 2001. The market appears to have stabilised since that time, although it has not returned to pre-2001 levels: heroin prices have decreased in NSW for street grams, but not to former levels, and the price of 'caps' (street deals) remain elevated. Heroin purity in NSW has remained low, with perhaps a 10% increase above the lowest recorded levels. These data support the notion that the heroin market in NSW underwent significant changes, which appear to have involved a lasting shift in the nature of the market.

## Changes in the initiation of heroin use after a reduction in heroin supply

*Drug and Alcohol Review 25, 297 – 305*

**Carolyn Day, Louisa Degenhardt and Wayne Hall**

Increasing heroin use in Australia over the past 30 years has been associated with a decline in the age of initiation to heroin use. The 2001 Australian heroin shortage was used to assess the effects of a reduction in heroin supply on age of initiation into heroin injecting. Data collected from regular injecting drug users (IDU) over the period 1996 – 2004 as part of the Australian Illicit Drug Reporting System were examined for changes in self-reported age of first heroin use after the onset of the heroin shortage. Estimates were also made of the number of young people who may not have commenced injecting heroin during the heroin shortage. The proportion of IDU interviewed in the IDRS who were aged 24 years decreased from 46% in 1996 to 12% in 2004, with the most marked drop in 2001, the year in which there was an abrupt and marked reduction in heroin availability. Of those who reported first injecting between 1993 and 2000, similar proportions reported heroin and amphetamine as the first drug injected. After 2000, methamphetamine was the drug most often reported as being the first injected. Estimates suggested that between 2745 and 10 560 young people may not have begun to inject heroin in 2001 as a result of reduced heroin supply. If around one in four of these young users had progressed to regular or dependent heroin use, then there may have been a reduction of between 700 and 2500 dependent heroin users. There was an increase in amphetamine injecting but it is unclear to what extent any reduction in heroin injecting has been offset by increased amphetamine injecting. Reduced heroin availability probably resulted in a reduction in the number of new heroin injectors in Australia. Efforts need to be made to reduce the chances that young people who have initiated methamphetamine injecting do not move to heroin injecting when the heroin supply returns.

## Reflections on the development and implementation of an early warning system for ecstasy and related drug markets in Australia

**Stuart Kinner and Louisa Degenhardt**

Regular and systematic monitoring of drug markets provides the basis for evidence-based policy. In Australia, trends in ecstasy and related drug (ERD) markets have been monitored in selected jurisdictions since 2000 and nationally since 2003, by the Party Drugs Initiative (PDI). The PDI maximises the validity of conclusions by triangulating information from (a)

interviews with regular ecstasy users (REU), (b) interviews with key experts and (c) indicator data. There is currently no other system in Australia for monitoring these markets systematically; however, the value of the PDI has been constrained by the quality of available data. Difficulties in recruiting and interviewing appropriate consumers (REU) and key experts have been experienced, but largely overcome. Limitations of available indicator data from both health and law enforcement continue to present challenges and there remains considerable scope for enhancing existing routine data collection systems, to facilitate monitoring of ERD markets. With an expanding market for ecstasy and related drugs in Australia, and in the context of indicator data that continue to be limited in scope and detail, there is a strong argument for the continued collection of annual, comparable data from a sentinel group of REU, such as those recruited for the PDI.

## Identification and quantification of change in Australian illicit drug markets

*BMC Public Health 6, 200*

**Stuart Gilmour, Inge Koch, Louisa Degenhardt and Carolyn Day**

**Background:** In early 2001 Australia experienced a sudden reduction in the availability of heroin which had widespread effects on illicit drug markets across the country. The consequences of this event, commonly referred to as the Australian 'heroin shortage', have been extensively studied and there has been considerable debate as to the causes of the shortage and its implications for drug policy. This paper aims to investigate the presence of these epidemic patterns, to quantify the scale over which they occur and to estimate the relative importance of the 'heroin shortage' and any epidemic patterns in the drug markets.

**Method:** Key indicator data series from the New South Wales illicit drug market were analysed using the statistical methods Principal Component Analysis and SiZer.

**Results:** The 'heroin shortage' represents the single most important source of variation in this illicit drug market. Furthermore the size of the effect of the heroin shortage is more than three times that evidenced by long-term 'epidemic' patterns.

**Conclusion:** The 'heroin shortage' was unlikely to have been a simple correction at the end of a long period of reduced heroin availability, and represents a separate non-random shock which strongly affected the markets.

## Systemic disease among cases of fatal opioid toxicity

**Shane Darke, Sharlene Kaye and Johan Duflou**

**Aims:** To determine levels of systemic disease among cases of death due to opioid toxicity.

**Design:** Analysis of coronial cases.

**Setting:** Sydney, Australia.

**Cases:** A total of 841 cases of death due to opioid toxicity (1 January 1998–31 December 2002).

**Findings:** Ventricular hypertrophy was present in 5.9% of cases and severe coronary artery atherosclerosis in 5.7%. Severe coronary pathology was more pronounced among older cases. Pre-existing bronchopneumonia was present in 13.2% of cases. Hepatic pathology was the most common type of pathology, and was far more marked among older cases. Cirrhosis was present in 25.3% of those aged > 44 years. Levels of renal pathology were comparatively low, but were related significantly to increasing age. Systemic disease in more than one organ system was present in 24.4% of cases, and was related to increasing age (44% of those aged > 44 years). The only pathology for which gender was an independent predictor among opioid cases was ventricular hypertrophy, more common in males.

**Conclusions:** Systemic disease, most prominently liver disease, is common among fatal opioid toxicity cases, and may be a factor in understanding the dynamics and age demographics of opioid-related death.

## Prevalence of injecting drug use and associated risk behaviour among regular injecting ecstasy users in Australia

**Bethany White, Carolyn Day, Louisa Dehenhardt, Stuart Kinner, Craig Fry, Raimondo Bruno and Jen Johnston**

**Background:** The aim of the study was to investigate the prevalence of injecting drug use and associated risk behaviour among a sentinel sample of ecstasy users.

**Methods:** Cross-sectional surveys were conducted with regular ecstasy users as part of an annual monitoring study of ecstasy and related drug markets in all Australian capital cities.

**Results:** Twenty-three percent of the sample reported having ever injected a drug and 15% reported injecting in the 6 months preceding interview. Independent predictors of lifetime injection were older age, unemployment and having ever been in prison. Completion of secondary school and identifying as heterosexual was associated with a lower likelihood of having ever injected. Participants who had recently injected typically did so infrequently; only 9% reported daily injecting. Methamphetamine was the most commonly injected drug. Prevalence of needle sharing was low (6%), although half (47%) reported sharing other injecting equipment in the preceding 6 months.

**Conclusions:** Ecstasy users who report having injected a drug at some time appear to be demographically different to ecstasy users who have not injected although neither are they typical of other drug injectors. The current investigation suggests that ongoing monitoring of injecting among regular ecstasy users is warranted. **cl**



# recent publications

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