NDARC (17)
October 2005

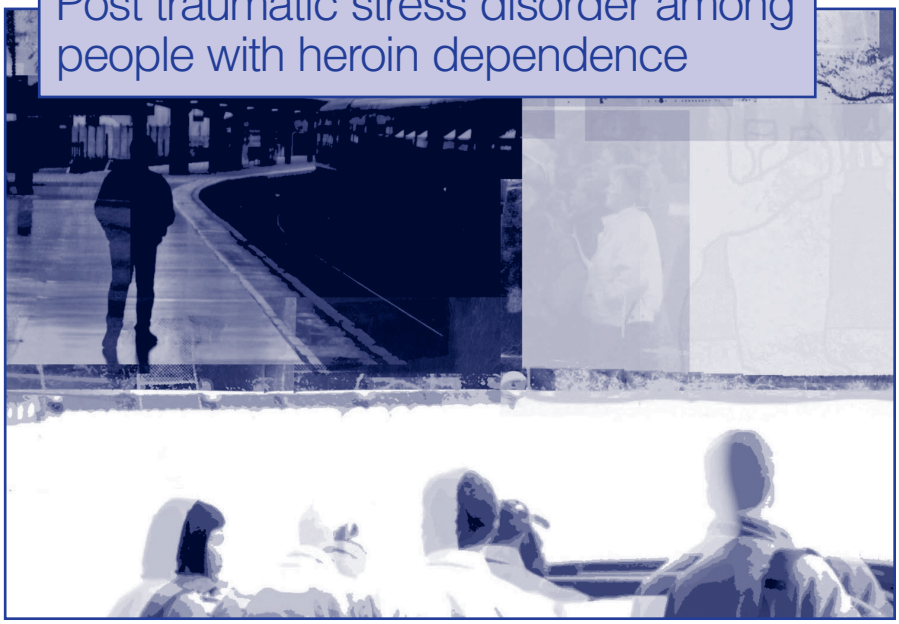
centre lines

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

Funded by the National Drug Strategy
Registered by Australia Post – Print Post Publication No PP236697/00013
ISSN 1034-7259

issuing **forth**

Post traumatic stress disorder among people with heroin dependence



ed**space**

Studying for a postgraduate degree is strongly encouraged at NDARC. The involvement of the Centre staff in the supervision of postgraduate students has grown steadily over the years and NDARC offers both PhD and Masters Degrees by research in a wide variety of topic areas, depending on student background and interest.

Since 1994, when Nadia Solowij became the first NDARCian to be awarded her doctorate, there have been 21 other postgraduate students who have submitted their theses. This includes Carolyn Day and Peter Lawrinson who were both awarded their doctorates earlier this year.

Some examples of current PhD projects include:

- Reducing alcohol related harm in rural communities in NSW
- Heroin dependence and personality disorders
- Evaluation of the health impacts of a medically supervised injection centre
- Brief interventions for adolescent cannabis users
- Health Service Evaluation: The regulation of injecting behaviour in Kings Cross
- CLIMATE schools alcohol module: Evaluating the efficacy of a computer based preventative alcohol module for schools
- Comorbid cocaine and heroin dependence

The important contribution that students make to the intellectual life of the Centre is recognised in this issue of *CentreLines* by having Katherine Mills write this month's *Issuing Forth*. Here she is discussing some of the issues contained within her thesis which examines post traumatic stress disorder among people with heroin dependence.

Many of our PhD students continue to work with us long after they have been awarded their doctorates. Some of these include some of our senior academic staff including Dr Jan Copeland, Dr Louisa Degenhardt and Dr Kate Dolan. These staff members, as well as other academics, continue to offer support and guidance to our current 'crop' of PhD candidates.

Paul Dillon, Editor

contents

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.

headspace

National Cannabis Strategy

Richard Mattick

The Centre has recently been engaged by the Australian Government Department of Health and Ageing (AGDHA) to work on the development of what will be Australia's first National Cannabis Strategy. Cannabis is by far the most widely used illicit drug in Australia; this widespread use means that the National Cannabis Strategy will be a particularly important component of the National Drug Strategy.

The current National Drug Strategy aims to prevent the uptake of harmful drug use and minimise drug-related harm. In keeping with this underlying philosophy, the National Cannabis Strategy will need to focus on reducing the harm associated with cannabis use in this country. In order to develop a strategy that will aim to minimise cannabis-related harm, a wide variety of issues need to be addressed that involve a range of sectors in the community. For example, the education sector has an important role to play in preventing the use of cannabis by informing young people about the harmful aspects of the drug. The law enforcement sector is responsible for disrupting the supply of cannabis. The health sector needs to be involved in providing adequate treatment to those who are dependent on cannabis. Additionally, researchers provide reliable and up-to-date information on a wide variety of cannabis-related issues that help inform government policy and initiatives.

I have been appointed as the chair of the Project Management Group (PMG), which has been established to lead the development of the Strategy. The PMG includes members of the Australian National Council on Drugs, and representatives from the health, education and law enforcement sectors. Four Reference Groups have also been established to provide advice to the PMG throughout the development of the Strategy. These Reference Groups include people with knowledge and experience in four areas that are particularly relevant to cannabis: Mental Health; Treatment; Law Enforcement; and Research.

A Background Paper is currently being developed by staff at NDARC that provides an overview of the cannabis situation in Australia at the present time. This paper will provide the context for the National Cannabis Strategy. It draws on existing research and policy documents and is guided by input from the National Cannabis Strategy Reference Groups.

Given the range of issues that need to be addressed, the development of the National Cannabis Strategy needs to include a broad consultation process. Representatives from a range of sectors have been invited to attend consultation forums that are currently occurring around the country. Attendees will have the opportunity to express their views on what should be considered when developing the National Cannabis Strategy during these forums.

Consultation forums are broad and inclusive. Forums are being held in all capital cities as well as in at least one regional area in each state and territory. Invitations to attend the forums will be extended to: drug and alcohol workers; criminal justice professionals including police; representatives from all levels of government; researchers; educators; Indigenous representatives; drug user groups; health professionals; parent groups; and other relevant stakeholders. A special forum for canvassing the views of young people is also being planned.

In addition to the face-to-face consultation forums, organisations and members of the general community are able to submit their views in written form. Information about the National Cannabis Strategy, including how to submit your views in written form, can be found on the NDARC web site (http://ndarc.med.unsw.edu.au/ndarc.nsf/website/News).

The final National Cannabis Strategy will be presented to the Ministerial Council on Drug Strategy in May 2006 for their consideration. **cl**

issuing forth

Post traumatic stress disorder among people with heroin dependence

Katherine Mills

Post traumatic stress disorder (PTSD) is an anxiety disorder that may develop following exposure to extreme trauma, such as combat experience, physical and sexual assault, being involved in a life threatening accident or natural disaster, or any other event where the person perceives their own life or the life of another to be at risk. PTSD is characterised by a number of distressing symptoms including re-experiencing the event, avoidance of reminders of the event, increased arousal, and numbing of general responsiveness.

In the general population it is estimated that approximately 70% of adults will experience at least one traumatic stressor during their lifetime, between 1-8% will meet DSM-IV criteria for lifetime PTSD, and between 1-4% will meet DSM-IV criteria for current PTSD[1, 2]. The prevalence of trauma exposure and PTSD is however, much higher among people with substance use disorders, in particular heroin dependence. Both disorders independently are chronic debilitating conditions. In combination they are associated with considerably greater harm and poorer treatment outcomes compared to those with either disorder alone. This article outlines the extent of the problem, the harms associated with this comorbidity and its impact on substance abuse treatment outcomes, and describes the development of an intervention to treat this comorbidity.

Background

There is a growing epidemiologic and clinical literature documenting the frequent co-occurrence of PTSD among people with heroin dependence. The Australian National Survey of Mental Health and Wellbeing (NSMHWB) found that one third of individuals with an opioid use disorder met criteria for current PTSD, compared to 1% of the general population[3]. The prevalence of PTSD was higher among individuals with an opioid use disorder compared with all other drug classes. Similarly, the St Louis Epidemiologic Catchment Area (ECA) study found that PTSD was higher among individuals who had ever used heroin or cocaine compared to any other drug class[4].

Among clinical samples of people undergoing methadone maintenance therapy (MMT) in the United States the rate of lifetime PTSD is estimated to be between 14-29% and the rate of current PTSD to be 20-31%[5-8]. The only study to examine the prevalence of PTSD among clinical samples in Australia has been the Australian Treatment Outcome Study (ATOS)[9]. Almost all of the 615 participants (92%) had experienced at least one extreme trauma, with the majority (81%) experiencing multiple traumas. Forty one percent of the sample received a lifetime diagnosis of PTSD. Although an average of 12 years had passed since experiencing their most stressful event, 75% of those with PTSD had experienced symptoms in the preceding year. These proportions represent a significant number of people with heroin dependence who may require additional treatment compared to those with heroin dependence alone.

A number of hypotheses have been proposed to explain why elevated rates of PTSD are found among those with opioid and other substance use disorders. The self-medication hypothesis purports that following exposure to trauma,

people use psychoactive substances to relieve the symptoms of PTSD, with many people preferring opiates and other substances that suppress the central nervous system. Alternatively, heroin use and the lifestyle associated with it may increase the risk of trauma exposure, indirectly increasing the likelihood of subsequent PTSD. It is also possible that there is no direct causal pathway between PTSD and heroin dependence. It may be that both disorders share common antecedents. For example, the presence of conduct problems and antisocial behaviour increases the risk of SUDs, trauma exposure, and PTSD. Both disorders could also share common genetic causes or common neuropsychologic systems.

Regardless of which disorder came first, once comorbid heroin dependence and PTSD has been established, they may both act to maintain or exacerbate the other. For example, PTSD symptoms could promote and maintain the repeated use of heroin to ameliorate the symptoms of PTSD. Repeated heroin use may concomitantly serve to maintain, prolong, or intensify PTSD symptoms by interfering with the natural processing of trauma reactions or increasing the likelihood of re-traumatisation.

Harms associated with comorbid PTSD

PTSD places a significant burden on individuals with heroin dependence and presents a significant challenge to treatment providers. Individuals with PTSD present to substance abuse treatment with a more severe clinical profile compared to those without PTSD. Specifically, individuals with PTSD are less likely to be employed, have more extensive polydrug use histories, report poorer general physical and mental health, suffer greater psychiatric comorbidity, and are more likely to have a history of overdose and attempted suicide[5, 8, 9]. Given this clinical profile it is unsurprising that clinicians view this dual diagnosis as more difficult to treat than either disorder alone. The harms associated with this comorbidity highlight the need for the assessment of PTSD among treatment entrants so that they may receive appropriate treatment and referral.

Impact of PTSD on treatment outcomes

Given the clinical profile described above it is also unsurprising that PTSD has consistently been associated with poorer substance use treatment outcomes. These include higher relapse and readmission rates, more ongoing drug use, and poorer psychosocial outcomes[6, 10-12]. Moreover, it appears that the poorer treatment outcomes found are specific to PTSD rather than to greater psychopathology in general[10]. The majority of these studies have however, been limited to small samples with very brief follow-up periods (e.g., 3-6 months).

ATOS is the only study to examine the impact of PTSD on treatment outcomes for heroin dependence over a two year period. Consistent with previous research[6, 13], preliminary analysis found no relationship between current PTSD and retention in maintenance therapy or the completion of detoxification. Current PTSD did however, impact on treatment retention/completion in the short term for those in residential rehabilitation. It is possible that some people with current PTSD find the confrontation of issues that begins during the early months of residential rehabilitation too challenging, resulting in higher drop out rates. Individuals with current PTSD were however, equally as likely to complete the program once past this point. Individuals with current PTSD may need added support during the early stages of rehabilitation.

Current PTSD did not impact on any other treatment outcomes; the pattern of change and degree of change over time was the same for those with and without PTSD. However, those with PTSD were more disabled at baseline and continued to be more disabled across the entire two year follow-up in terms of their physical and mental health, and their occupational functioning. These findings are remarkable and a compliment to treatment providers; despite starting off with a far sicker group of people they are able to achieve the same improvements with both those with and without PTSD. Nonetheless, the fact that individuals remain more disabled across some areas indicates that the symptoms of PTSD and its associated disability remain, and suggest a need for the development of an integrated treatment that addresses both disorders.

Development of an integrated treatment for PTSD

Despite PTSD being most prevalent among people with heroin dependence compared to any other drug class, and a consensus in the literature that both disorders should be treated concurrently, there are currently no treatment protocols available for the treatment of comorbid heroin dependence and PTSD. Although there are a small number of treatment options available for the treatment of SUDs and PTSD more broadly, many have been developed in the United States to treat specific populations such as women[14], combat veterans[15], or individuals with alcohol[16] or cocaine dependence[17]. Additionally, these protocols have not been well researched. To date, only "Seeking Safety" has been evaluated in a randomised controlled trial, and two other protocols have undergone uncontrolled pilot testing. Other treatments have been developed but have not been empirically tested. Nonetheless, these psychotherapies have offered an insight into which treatments may be effective and demonstrate that it is possible to implement treatments for PTSD among people with substance use disorders.

A group of researchers from NDARC (Katherine Mills, Maree Teesson, and Claudia Sannibale) and the PTSD Unit at Westmead Hospital (Sally Hopwood and Prof Richard Bryant) are currently developing a treatment for PTSD, "Treating Traumatic Stress," among people who are heroin dependent. The CBT based intervention will be designed for delivery alongside MMT. The intervention will combine successful elements of existing psychological treatments for heroin dependence, PTSD, and combined treatments. By addressing the symptoms of PTSD it is hoped that the outcomes of those with PTSD could be improved. **cl**

References

1. **Kessler, R.C., Sonnega, A., Bromet, E., & Nelson, C.B.** (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry 52*, 1048-1060.

2. **Creamer, M., Burgess, P. & McFarlene, C.** (2001). Post-traumatic stress disorder: Findings from the Australian National Survey of Mental Health & Well-being. *Psychological Medicine 31*, 1237-1247.

3. **Mills, K.L., Teesson, M., Ross, J., & Peters, L.** (In press). Trauma, post traumatic stress disorder and substance use disorders: Findings from the Australian National Survey of Mental Health and Wellbeing. *American Journal of Psychiatry In press.*

4. **Cottler, L.B., Comptom, W.M., Mager, D., Spotznagel, E.L., & Janca, A.** (1992). Posttraumatic stress disorder among substance users from the general population. *American Journal of Psychiatry 149*, 664-670.

5. **Clark, H.W., Masson, C.L., Delucchi, K.L., Hall, S.M., & Sees, K.L.** (2001). Violent traumatic events and drug abuse severity. *Journal of Substance Abuse Treatment 20*, 121-127.

6. **Hien, D.A., Nunes, E., Levin, F.R., & Fraser, D.** (2000). Posttraumatic stress disorder and short-term outcome in early methadone maintenance treatment. *Journal of Substance Abuse Treatment 19*, 31-37.

7. **Milby, J.B., Sims, M.K., Khuder, S., Schumacher, J.E., & Huggins, N.** (1996). Psychiatric comorbidity: Prevalence in methadone maintenance treatment. *American Journal of Drug & Alcohol Abuse 22*, 95-107.

8. **Villagomez, R.E., Meyer, T.J., Lin, M.M., & Brown, L.S.** (1995). Post-traumatic stress disorder among inner city methadone maintenance patients. *Journal of Substance Abuse Treatment 12*, 253-257.

9. **Mills, K.L., Lynskey, M., Teesson, M., Ross, J., & Darke, S.** (2005). Post traumatic stress disorder among people with heroin dependence in the Australian Treatment Outcome Study (ATOS): Prevalence and correlates. *Drug and Alcohol Dependence 77*, 243-249.

10. **Ouimette, P.C., Finney, J.W. & Moos, R.H.** (1999). Two-year posttreatment functioning and coping of substance abuse patients with posttraumatic stress disorder. *Psychology of Addictive Behaviors 13*, 105-114.

11. **Brown, P.J., Recupero, P.R. & Stout, R.** (1995). PTSD substance abuse comorbidity and treatment utilization. *Addictive Behaviors 20*, 251-254.

12. **Brown, P.J., Stout, R.L. & Mueller, T.** (1999). Substance use disorder and posttraumatic stress disorder comorbidity: Addiction and psychiatric treatment rates. *Psychology of Addictive Behaviors 13*, 115-122.

13. **Ouimette, P.C., Ahrens, C., Moos, R.H., & Finney, J.W.** (1998). During treatment changes in substance abuse patients with posttraumatic stress disorder: The influence of specific interventions and program environments. *Journal of Substance Abuse Treatment 15*, 555-564.

14. **Najavits, L.M.** (2002). *Seeking safety: A treatment manual for PTSD and substance abuse.* New York: Guildford Press.

15. **Donovan, B., Padin-Rivera, E. & Kowaliw, S.** (2001). "Transcend": Initial outcomes from a posttraumatic stress disorder/substance abuse treatment program. *Journal of Traumatic Stress 14*, 757-772.

16. **Abueg, F. & Fairbank, J.A.** (1992). Behavioral treatment of posttraumatic stress disorder and co-occurring substance abuse. In: **Saigh, P.A.**, (editor) *Posttraumatic stress disorder: A behavioral approach to assessment and treatment.* New York: Macmillan Publishing Company.

17. **Back, S.E., Dansky, B.S., Carroll, K.M., Foa, E.B., & Brady, K.T.** (2001). Exposure therapy in the treatment of PTSD among cocaine-dependent individuals: Description of procedures. *Journal of Substance Abuse Treatment 21*, 35-45.

project notes

The Methamphetamine Treatment Cohort Study

Richard Mattick, Rebecca McKetin, Joanne Ross, Erin Kelly, Grace Ho, and Sarah Stewart (NDARC), Robert Ali (Drug and Alcohol Services South Australia and the University of Adelaide), Dan Lubman (University of Melbourne), Jake Najman and Shelley Cogger (Queensland Alcohol and Drug Research and Education Centre (QADREC), University of Queensland), Amanda Baker (University of Newcastle), Sharon Dawe (Griffith University), Nicole Lee (Turning Point Alcohol and Drug Centre), and Matthew Law (National Centre for HIV Clinical Epidemiology and Research, UNSW)

Australia has a substantial and growing population of dependent methamphetamine users who inject or smoke the drug. In 2003/04 there were 14,208 treatment episodes for 'amphetamines' (including methamphetamine and amphetamine), placing the drug class in fourth place after alcohol, heroin and cannabis. Despite the number of treatment admissions for methamphetamine use in Australia, there is a dearth of information about the effectiveness of treatment provided for methamphetamine use, and little research has examined the characteristics of people who enter treatment for methamphetamine dependence. The existence of comorbid mental health problems among this population is a particular concern. These problems impact on treatment outcome and require treatment in their own right.

NDARC has recently received funding from the National Health and Medical Research Council (NHMRC) to investigate mental health comorbidity and treatment outcomes among people who enter treatment for methamphetamine use in Australia. The methodology of the study is based on that employed successfully by the Australian Treatment Outcome Study (ATOS) to examine treatment outcomes for heroin dependence. The methodology involves interviewing a cohort of 300 people entering treatment for methamphetamine use in Sydney and an out-of-treatment comparison group of 100 methamphetamine users from the same geographic region. Treatment outcomes (i.e., abstinence, methamphetamine dependence, poly-drug use, psychiatric status and other drug-related harms) will be examined 3 months and 12 months post-treatment and compared with baseline measures taken on entry to treatment. Specific outcomes from the project will include:

- the prevalence of Major Depression, Panic Disorder, Agoraphobia, Social Phobia, Generalized Anxiety Disorder and psychotic symptoms among methamphetamine users entering treatment;
- measurement of improvements in drug use and functioning following treatment for methamphetamine use by level of treatment exposure; and
- identifying factors predictive of positive outcomes, such as reduced drug use, improved mental health status, and reduced criminal involvement.

The research project is a joint effort of researchers from NDARC, the Queensland Alcohol and Drug Research and Education Centre (QADREC), the Drug and Alcohol Services Council, Turning Point Alcohol and Drug Centre, the University of Melbourne, the University of Newcastle, and Griffith University. The Australian Government Department of Health and Ageing have recently provided funding to expand the study and include Brisbane as an additional recruitment site. This arm of the study will be conducted in collaboration with QADREC. The study was initiated in June 2005 and will be carried out over four years, with an expected completion date of June 2009.

Evaluating the feasibility and effectiveness of a computerised school-based prevention program aimed at reducing harmful alcohol consumption and related harms: A cluster-randomised controlled trial

Laura Vogl, Maree Teesson, Paul Dillon and Bronwyn Steadman

Alcohol features prominently in Australian society. This is reflected by the 90% of Australians who report having consumed alcohol in their lifetime and just over 80% in the past year. Most young Australians (i.e., 74% of 14 -19 year olds) also report having consumed alcohol in their lifetimes. Of concern is the level of alcohol related harm, to which many of these young people expose themselves. Specifically, 10% of 14-19 year olds report that in the previous 12-months they consumed alcohol at levels that placed them at greater than "low-level risk" of long-term alcohol related harms. More staggeringly, for those who had consumed alcohol in the previous 12 months, over 50% have consumed enough alcohol to place them at risk of short term harms, such as blackouts, hangovers, violence or unsafe sex. These figures underscore the need for prevention programs targeting risky levels of alcohol consumption and alcohol related harms.

Obviously, the ideal time for alcohol prevention is in early adolescence, which for most, is prior to the experience of harm and the establishment of harmful patterns of alcohol consumption. The ideal location is in schools, where it is possible to capture large groups of adolescents at one time. Although effective alcohol prevention programs have been developed for schools there have been major obstacles encountered in their dissemination and implementation. Such obstacles include:

- Poor packaging and marketing of evidence-based programs resulting in low use in comparison to other commercial (unevaluated) programs.
- Insufficient resources and teacher training to implement evidence-based programs.
- Incomplete and incorrect implementation.

The aim of the current project was to develop and evaluate a computer driven prevention program based on a harm minimisation approach, which would overcome the many obstacles to implementation and dissemination in schools.

The interactive, computer-driven alcohol prevention module, *Climate Schools: Alcohol Module* was developed in collaboration with teachers, adolescents and experts in the field of drug and alcohol. *Climate Schools: Alcohol Module* was designed as an interactive computer driven package which ensures complete and correct implementation without the necessity of extensive teacher training. The evidence-based program consists of six lessons designed to alter norms about the acceptability and prevalence of alcohol use and teach skills to actively resist hazardous alcohol consumption or manage the deleterious consequences. *Climate Schools: Alcohol Module* was designed to be embedded in the Personal Development, Health and Physical Education (PDHPE) curriculum to eradicate the need for extra time and resources existing outside the teaching of the standard curriculum. To capture the student's attention and ensure the relevance, the educational material and practical activities are presented within the context of a teenage drama. In response to teacher's requests, this module also includes an extensive selection of pre-prepared worksheets and group activities to ensure that the learning and application of the material is interactive and is applied to real life situations. The development of *CLIMATE Schools: Alcohol Module* was completed in March 2004.

The cluster randomised controlled trial to assess the effectiveness of *Climate Schools: Alcohol Module* was commenced in April 2004. This trial involved the random allocation of 16 Catholic and Independent schools (n=1435 Year 8

students) to either receive the program or "drug education as usual". Measures to assess efficacy included (1) regular alcohol consumption, (2) hazardous levels of alcohol consumption, (3) harmful consequences associated with alcohol consumption, (4) alcohol related expectancies and (5) alcohol related knowledge. Measures that could potentially mediate the effectiveness of this program such as other drug use, depression, anxiety and perception of peer alcohol use were also taken. The sample of 1438 students was surveyed on four occasions at pre, post, 6 and 12-month follow-up. The 24- month follow-up of these students remains to be conducted in June 2006. Currently, the data is being entered and analysed. Should *Climate Schools: Alcohol Module* be found to be effective in reducing alcohol consumption and related harms, it will prove to be an invaluable cost-effective resource which will overcome some of the current obstacles to effective alcohol and other drug prevention in schools.

Examining drug use in pregnancy using linked administrative data

Lucy Burns and Richard Mattick

Substance use in pregnancy is associated with poor obstetric and perinatal outcomes including significantly higher rates of stillbirth, foetal growth retardation, prematurity, first trimester spontaneous abortion, premature delivery, meconium staining, maternal/neonatal infections, neonatal withdrawal and neonatal mortality. Because of this, and as many of the negative outcomes associated with the continued use of 'street' drugs such as poor health and nutrition and susceptibility to blood borne viruses can also transmitted to the foetus, pregnant women are considered a priority subgroup to many treatment programs.

Despite being considered a priority group for treatment there is only limited population level information about the characteristics and needs of pregnant drug dependent women and those of their infants. To date most research has been based on case studies/series reports or small selective samples from single sites. Drawing inferences and generalisations from these studies is problematic for a number of reasons. With respect to case reports and series, although useful in the formulation of questions and hypotheses the small number of cases examined means statistical associations cannot be tested. Studies from specific treatment agencies are limited in their generalisability due to differences in the services provided by agencies and the different characteristics and drug use patterns of their clients. These studies also often lack the statistical power to detect significant associations due to the small number of pregnant drug dependent women seen in these agencies.

An alternative method of examining the impact of substance use during pregnancy at the population level is to use record linkage of large-scale population health databases. Record linkage involves bringing together records from different sources, but relating to the same individual. Previous studies using record linkage have examined topics such as death and hospitalisation rates associated with the use of illicit drugs. The present project aims to expand that body of work by using linked administrative health data to describe the perinatal and obstetric outcomes associated with substance use in pregnancy. Linked datasets being examined are the NSW Midwives Data Collection, the NSW Emergency Department Data Collection, the NSW Pharmaceutical Drugs of Addiction System (PHDAS) and the NSW Inpatients Statistics Collection. All the data has been linked by NSW Health under strict privacy conditions and supplied to NDARC as de-identified unit record files. This project is funded by HERON (Health Evaluation and Research Outcomes Network), a collaborative program auspiced by the Sax Institute with The University of Sydney, The University of New South Wales, University of Technology Sydney, The Cancer Council NSW and NSW Health through NH&MRC grant # 262121.

To date the project has examined the outcomes associated with the use of alcohol, cannabis, stimulants and opioids in pregnancy and work is currently underway examining maternal and neonatal outcomes for women on the NSW methadone program from 1992-2002. By increasing our knowledge of these outcomes the project will assist in the identification of risk factors and treatment needs of this most disadvantaged group of women and infants. **cl**

abstracts

Survey of Australians using cannabis for medical purposes

Harm Reduction Journal 2, 18

Wendy Swift, Peter Gates and Paul Dillon

Background: The New South Wales State Government recently proposed a trial of the medical use of cannabis. Australians who currently use cannabis medicinally do so illegally and without assurances of quality control. Given the dearth of local information on this issue, this study explored the experiences of medical cannabis users.

Methods: Australian adults who had used cannabis for medical purposes were recruited using media stories. A total of 147 respondents were screened by phone and anonymous questionnaires were mailed, to be returned by postage paid envelope.

Results: Data were available for 128 participants. Long term and regular medical cannabis use was frequently reported for multiple medical conditions including chronic pain (57%), depression (56%), arthritis (35%), persistent nausea (27%) and weight loss (26%). Cannabis was perceived to provide "great relief" overall (86%), and substantial relief of specific symptoms such as pain, nausea and insomnia. It was also typically perceived as superior to other medications in terms of undesirable effects, and the extent of relief provided. However, nearly one half (41%) experienced conditions or symptoms that were not helped by its use. The most prevalent concerns related to its illegality. Participants reported strong support for their use from clinicians and family. There was almost universal interest (89%) in participating in a clinical trial of medical cannabis, and strong support (79%) for investigating alternative delivery methods.

Conclusions: Australian medical cannabis users are risking legal ramifications, but consistent with users elsewhere, claim moderate to substantial benefits from its use in the management of their medical condition. In addition to strong public support, medical cannabis users show strong interest in clinical cannabis research, including the investigation of alternative delivery methods.

The impact of changes to heroin supply on blood-borne virus notifications and injecting related harms in New South Wales, Australia

BMC Public Health 5, 84

Carolyn Day, Louisa Degenhardt, Stuart Gilmour and Wayne Hall

Background: In early 2001 Australia experienced a sudden and unexpected disruption to heroin availability, know as the 'heroin shortage'. This 'shortage has been linked to a decrease in needle and syringe output and therefore possibly a reduction in injecting drug use. We aimed to examine changes, if any, in blood-borne viral infections and presentations for injecting related problems related to injecting drug use following the reduction heroin availability in Australia, in the context of widespread harm reduction measures.

Methods: Time series analysis of State level databases on HIV, hepatitis B, hepatitis C notifications and hospital and emergency

department data. Examination of changes in HIV, hepatitis B, hepatitis C notifications and hospital and emergency department admissions for injection-related problems following the onset of the heroin shortage; non-parametric curve-fitting of number of hepatitis C notifications among those aged 15–19 years.

Results: There were no changes observed in hospital visits for injection-related problems. There was no change related to the onset heroin shortage in the number of hepatitis C notifications among persons aged 15–19 years, but HCV notifications have subsequently decreased in this group. No change occurred in HIV and hepatitis B notifications.

Conclusion: A marked reduction in heroin supply resulted in no increase in injection-related harm at the community level. However, a delayed decrease in HCV notifications among young people may be related. These changes occurred in a setting with widespread, publicly funded harm reduction initiatives.

Recent trends in heroin supply to markets in Australia, the United States and Western Europe

International Journal of Drug Policy 16, 293-299

Amy Gibson, Louisa Degenhardt, Carolyn Day and Rebecca McKetin

Heroin causes its users and the community a disproportionate amount of harm, and evidence suggests that heroin markets have increased in scale over recent decades. Most of the world's heroin is produced in South West (SW) Asia (Afghanistan in particular) and South East (SE) Asia (especially Myanmar), with a much smaller proportion produced in South America. The ban on opium production in Afghanistan in 2000 resulted in a substantial decrease in global opium production for the following year and a sharp increase in the wholesale price of opium in Afghanistan. The current paper examines the price of wholesale and retail heroin in the context of general heroin market conditions in Western Europe, the United States and Australia over the time that this reduction in opium supply occurred. Little evidence was found of a price shift in these three heroin markets as a consequence of the decrease in opium production in Afghanistan. There was no consequent shift in the overall price of heroin in either Europe or the United States. Although Australia did experience dramatic disruption to its heroin supply in 2001, and a large increase in the price of heroin, this change was not directly attributable to the reduction in opium production in Afghanistan. Australian heroin markets are supplied predominantly by SE Asia and the shortage of heroin and consequent price rise was related to regional drug supply factors including local law enforcement activities. In conclusion, the drastic reduction in global opium production witnessed in 2000 did not directly impact on the prices of heroin in these three established heroin markets. This observation highlights the complexity of factors influencing drug prices in destination heroin markets and suggests caution in anticipating clear retail level impacts following changes in drug production.

Patterns of illicit drug use in NSW, Australia following a reduction in heroin supply

International Journal of Drug Policy 16, 300-307

Louisa Degenhardt, Carolyn Day, Stuart Gilmour and Wayne Hall

Objective: To examine whether a reduction in the availability of heroin in New South Wales (NSW) in 2001 was associated with community level changes in heroin and other drug use.

Method: Data from the NSW Alcohol and Drug Information Service (ADIS) on the number of persons calling about different drug types were used to examine NSW trends in calls of concern about heroin and other drugs. ADIS is a 24-h telephone information and counselling service in NSW; data from ADIS has previously been shown to be related to trends in drug use. Data from an inner Sydney needle and syringe program on drugs injected by clients were also used to examine time trends among a sentinel group of injecting drug users (IDU). Time series analysis was used to model the series.

Results: There was a significant reduction in calls regarding heroin associated with the reduction in heroin supply. Increases in calls about cocaine and methamphetamine were also associated with the heroin shortage. The reduction in calls about heroin appeared to be sustained, whereas the increases in calls about cocaine and methamphetamine were not.

Conclusions: Decreases in heroin supply were associated with sustained decreases in the use of heroin at a community level. Substitution of other drugs probably occurred among some users, such substitution did not appear to be sustained, as the number of calls returned to pre-shortage levels.

Implications: Drug supply reduction may lead to increases in use of other drug types. The health implications of such changes need to be borne in mind by law enforcement and health services.

Public opinion towards supervised injecting centres and the Sydney Medically Supervised Injecting Centre

International Journal of Drug Policy 16, 275-280

Hla-Hla Thein, Jo Kimber, Lisa Maher, Margaret MacDonald and John M. Kaldor

Objective: To describe public opinion towards supervised injecting centres (SICs) and the Sydney Medically Supervised Injecting Centre (MSIC) before and after the opening of the MSIC.

Methods: In 2000 and 2002, telephone interviews were conducted with 515 and 540 residents and 209 and 207 businesses in Kings Cross, Australia, 7 months before and 17 months after the MSIC opened in Kings Cross. Information was obtained on respondents' characteristics, knowledge of the MSIC, and agreement with SICs. Differences in public opinion before and after the MSIC opened were assessed using the chi-square statistical test.

Results: Two-thirds of the businesses and half the residents knew the correct location of the Sydney MSIC in 2002. The level of support for establishment of a MSIC in Kings Cross (68–78%, $p < 0.001$) and other areas of high-drug use (71–80%, $p = 0.003$) increased significantly among residents between 2000 and 2002. Both groups were more likely to disagree than agree that SICs would encourage illicit drug injection.

Conclusion: Public opinion towards SICs and the establishment of the MSIC generally was supportive in the short-term. Assessing whether this level of support is sustained over time will involve further research that demonstrates the benefits and effectiveness of such facilities.

The impact of the Sydney Medically Supervised Injecting Centre (MSIC) on crime

Drug and Alcohol Review 24, 173-184

Karen Freeman, Craig Jones, Don Weatherburn, Scott Rutter, Catherine J Spooner and Neil Donnelly

The current study aimed to model the effect of Australia's first Medically Supervised Injecting Centre (MSIC) on acquisitive crime and loitering by drug users and dealers. The effect of the MSIC on drug-related property and violent crime was examined by conducting time series analysis of police-recorded trends in theft and robbery incidents, respectively. The effect of the MSIC on drug use and dealing was examined by (a) time series analysis of a special proxy measure of drug-related loitering; (b) interviewing key informants; and (c) examining trends in the proportion of Sydney drug offences that were recorded in Kings Cross. There was no evidence that the MSIC trial led to either an increase or decrease in theft or robbery incidents. There was also no evidence that the MSIC led to an increase in 'drug-related' loitering at the front of the MSIC after it opened, although there was a small increase in 'total' loitering (by 1.2 persons per occasion of observation). Trends in both 'drug-related' and 'total' loitering at the front of the MSIC steadily declined to baseline levels, or below, after it opened. There was a very small but sustained increase in 'drug-related' (0.09 persons per count) and 'total' loitering (0.37 persons per count) at the back of the MSIC after it opened. Key informant interviews noted an increase in loitering across the road from the MSIC but this was not attributed to an influx of new users and dealers to the area. There was no increase in the proportion of drug use or drug supply offences committed in Kings Cross that could be attributed to the opening of the MSIC. These results suggest that setting up an MSIC does not necessarily lead to an increase in drug-related problems of crime and public loitering.

Twelve-month outcomes for heroin dependence treatments: does route of administration matter?

Drug and Alcohol Review 24, 165-171

Shane Darke, Joanne Ross and Maree Teesson

A sample of 442 heroin users (394 injecting heroin users: IHU, 48 non-injecting heroin users: NIHU) recruited for the Australian Treatment Outcome Study were reinterviewed at 12 months after entrance to treatment for heroin dependence. Route of administration was stable over the follow-up period with 4% of NIHU having made a transition to heroin injecting, and 0.3% of IHU having made a transition to non-injecting. Given the clinical profile of NIHU presented in the literature, it might be expected that they would exhibit better treatment retention and 12-month outcomes than IHU. At 12 months, however, there were no differences between NIHU and IHU in heroin use, heroin dependence symptoms, polydrug use, criminality, current self-reported physical health or psychopathology. The only group differences at 12 months were that NIHU were more likely to be employed and had fewer injection-related problems. It is concluded that, among those presenting for treatment, route of administration is not an indicator of likely outcome.

Age differentials in the impacts of reduced heroin: Effects of a "heroin shortage" in NSW, Australia

Drug and Alcohol Dependence 79, 397-404

Louisa Degenhardt, Carolyn Day, Elizabeth Conroy, Stuart Gilmour and Wayne Hall

Background: This paper uses a unique event, the Australian heroin shortage, to see whether an abrupt, substantial and sustained change in heroin supply had different effects on harms related to heroin use among younger and older heroin users.

Method: Indicator data were examined by age group on the number of persons entering treatment for heroin and amphetamine dependence, arrests for heroin use/possession and number of drug related deaths in NSW, Australia. Data were analysed using times series analysis.

Results: There was a 41% reduction in the number of new registrations for opioid pharmacotherapy per month among 25–34 year olds, and a 26% reduction among 15–24 year olds, but no apparent changes among older age groups. Similarly, reductions in the number of non-pharmacological heroin treatment episodes were most pronounced among younger age groups. There was a 49% reduction in the number of heroin possession/use offences among those aged 15–24 years, compared to declines of 31–40% among older age groups. Declines in heroin related deaths were greatest among 15–24 year olds (65% reduction). There was no change in other drug related deaths in any age group.

Conclusions: A reduction in heroin supply was followed by greater reductions in heroin related harms among younger than older people, across a number of outcome domains. **cl**

recent **publications**

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

Technical Reports and Monographs

Gibson, A. & Degenhardt, L. (2005). *Mortality related to naltrexone in the treatment of opioid dependence – a comparative analysis.* Technical Report 229. Sydney: National Drug and Alcohol Research Centre.

McKetin, R., McLaren, J., Kelly, E., Hall, W., & Hickman, M. (2005). *Estimating the number of regular and dependent methamphetamine users in Australia.* Technical Report 230. Sydney: National Drug and Alcohol Research Centre.

Published Articles, Chapters & Books

Copeland, J. (2005). Addiction and Life Course (book review). *Addiction 100*, 1032-1033.

Copeland, J. (2005). Cannabis problems and their management. *Drugs and Alcohol Today 5(2)*, 20-25.

Darke, S., Ross, J. & Teesson, M. (2005). Twelve-month outcomes for heroin dependnce treatments: does route of administration matter? *Drug and Alcohol Review 24*, 165-171.

Day, C., Degenhardt, L., Gilmour, S., & Hall, W. (2005). The impact of changes to heroin supply on blood-borne virus notifications and injecting related harms in New South Wales, Australia. *BMC Public Health 5*:84.

Degenhardt, L. (2005). Illicit drug users respond to price changes (book review). *Nordic Studies on Alcohol and Drugs 22*, 185-188.

Degenhardt, L., Conroy, E., Day, C., Gilmour, S., & Hall, W. (2005). The impact of a reduction in drug supply on demand for and compliance with treatment for drug dependence. *Drug and Alcohol Dependence 79*, 129-135.

Degenhardt, L., Copeland, J. & Dillon, P. (2005). Recent trends in the use of 'club drugs': An Australian review. *Substance Use & Misuse 40*, 1241-1256.

Degenhardt, L., Day, C., Conroy, E., Gilmour, S., & Hall, W. (2005). Age differentials in the impacts of reduced heroin: effects of a 'heroin shortage' in NSW, Australia. *Drug and Alcohol Dependence 79*, 397-404.

Degenhardt, L., Day, C., Gilmour, S., & Hall, W. (2005). Patterns of illicit drug use in NSW, Australia following a reduction in heroin supply. *International Journal of Drug Policy 16*, 300-307.

Degenhardt, L., Day, C., Dietze, P., Pointer, S., Conroy, E., Collins, L., & Hall, W. (2005). Effects of a sustained heroin shortage in three Australian states. *Addiction 100*, 908-920.

Degenhardt, L., Hall, C., Day, C., Dietze, P., Collins, L., & Pointer, S. (2005). Mapping the consequences of an unanticipated drug supply change of uncertain origins: responses to the commentaries. Addiction 100, 930-932.

Degenhardt, L., Roxburgh, A. & Barker, B. (2005). Underlying causes of cocaine, amphetamine and opioid related deaths in Australia. *Journal of Clinical Forensic Medicine 12*, 187-195.

Dillon, P. (2005). Over The Influence, The Harm Reduction Guide for Managing Drugs and Alcohol (book review). *Drug and Alcohol Review 24*, 290-291.

Freeman, A., Jones, C.G.A., Weatherburn, D.J., Rutter, S., Spooner, C.J., & Donnelly, N. (2005). The impact of the Sydney Medically Supervised Injecting Centre (MSIC) on crime. *Drug and Alcohol Review 24*, 173-184.

Gibson, A., Degenhardt, L., Day, C., & McKetin, R. (2005). Recent trends in heroin supply to markets in Australia, the United States and Western Europe. *International Journal of Drug Policy 16*, 193-299.

Lawrinson, P., Copeland, J. & Indig, D. (2005). Development and validation of a brief instrument for routine outcome monitoring in opioid maintenance pharmacotherapy. *Drug and Alcohol Dependence 80,* 125-134.

Martin, G., Copeland, J. & Swift, W. (2005). The Adolescent Cannabis Check-up: feasibility of a brief intervention for young cannabis users. *Journal of Substance Abuse Treatment 29*, 207-213.

O'Brien, S. & Swift, W. (2005). *Mental health and adolescent cannabis use.* Sydney: NSW Department of Education and Training.

Shewan, D., Stover, H. & Dolan, K. (2005). Injecting in prisons. In: **Pates, R., McBride, A. & Arnold, K.** (eds), *Injecting illicit drugs*, (pp 69-81). London: Blackwell Publishing.

Spooner, C. (2005). Structural determinants of drug use – a plea for broadening our thinking (Editorial). *Drug and Alcohol Review 24*, 89-92.

Swift, W., Gates, P. & Dillon, P. (2005). Survey of Australians using cannabis for medical purposes. *Harm Reduction Journal 2*:18.

Thein, H., Kimber, J., Maher, L., MacDonald, M., & Kaldor, J. (2005). Public opinion towards supervised injecting centres and the Sydney Medically Supervised Injecting Centre. *International Journal of Drug Policy 16*, 275-280.

staff **list**

National Drug and Alcohol Research Centre

Staff as of 1 October, 2005

Richard Mattick	Director, Professor
Maree Teesson	Deputy Director, Associate Professor
Shane Darke	Associate Professor
Jan Copeland	Senior Lecturer
Louisa Degenhardt	Senior Lecturer
Kate Dolan	Senior Lecturer
Lucy Burns	Lecturer
Joanne Ross	Lecturer
Wendy Swift	Lecturer
Delyse Hutchinson	Research Fellow
Peter Lawrinson	Research Fellow
Rebecca McKetin	Research Fellow
Claudia Sannibale	Research Fellow
Anthony Shakeshaft	Research Fellow
Eva Congreve	Archivist
Paul Dillon	Media Liaison/Information Manager
Stuart Gilmour	Statistical Officer
Marian Shanahan	Health Economist
Heli Wolk	Professional Officer
Courtney Breen	Senior Research Officer
Elizabeth Conroy	Senior Research Officer
Cathy Finney Lamb	Senior Research Officer
Amy Gibson	Senior Research Officer
Cherie Kam	Senior Research Officer
Sharlene Kaye	Senior Research Officer
Greg Martin	Senior Research Officer
Etty Matalon	Senior Research Officer
Jen McLaren	Senior Research Officer
Susannah O'Brien	Senior Research Officer
Heather Proudfoot	Senior Research Officer
Amanda Roxburgh	Senior Research Officer
Fiona Shand	Senior Research Officer
James Shearer	Senior Research Officer
Jenny Stafford	Senior Research Officer
Kate Hetherington	Doctoral Candidate
Devon Indig	Doctoral Candidate
Laura Vogl	Doctoral Candidate
Maria Agaliotis	Research Officer
Emma Black	Research Officer
Matthew Dunn	Research Officer
Peter Gates	Research Officer
Alys Havard	Research Officer
Grace Ho	Research Officer
Erin Kelly	Research Officer
Briony Larance	Research Officer
Sarah Larney	Research Officer
Elizabeth Maloney	Research Officer
Caitlin McCue	Research Officer
Katherine Mills	Research Officer
Edmund Silins	Research Officer
Sarah Stewart	Research Officer
Michelle Torok	Research Officer
Anna Williamson	Research Officer
Elissa Wood	Research Officer
Cate Wallace	Public Health Officer Trainee
Rox DeLuca	Administrative Assistant
Julie Hodge	Administrative Assistant/ Receptionist
Josephina Kim	Personal Assistant to Director
Carla Santos	Administrative Assistant/ Receptionist

Conjoint Appointment

Wayne Hall	Visiting Professor
James Bell	Associate Professor
Andrea Mant	Associate Professor
Catherine Spooner	Senior Lecturer
Adam Winstock	Senior Lecturer
Alex Wodak	Senior Lecturer
Mark Montebello	Lecturer

Visiting Fellows

Robert Ali	Visiting Fellow
John Howard	Visiting Fellow
John Lewis	Visiting Fellow
Ingrid Van Beek	Visiting Fellow

feedback & **subscriptions**

We welcome your feedback on all issues discussed in *CentreLines*. If you would like to write to us please address all correspondence to:

The Editor, National Drug and Alcohol Research Centre,
University of New South Wales, Sydney NSW 2052

If you currently subscribe to *CentreLines* and require future issues to be sent to a new address please fill out the Change of Address form.

If you would like to be included on the *CentreLines* subscription list, fill out the New Subscriber form below. Please note that if you wish to receive NDRI's *CentreLines*, you will need to fill out the form below.

These forms should be returned to:

National Drug and Alcohol Research Centre
University of New South Wales, Sydney NSW 2052

New Subscriber Details

Please add me to the mailing list for my free copies of *CentreLines*.

Name: Ms / Mr / Dr

Title:

Organisation:

Department:

Address:

Postcode:

Phone No:

Fax No:

Issues Required: ☐ NDARC ☐ NDRI ☐ Both

Change of Address

Please alter my details on the mailing list for my free copy of *CentreLines*.

Name: Ms / Mr / Dr

Title:

Organisation:

Department:

Address:

Postcode:

Phone No:

Fax No:

Issues Required: ☐ NDARC ☐ NDRI ☐ Both