

# centre lines

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## issuing forth

Child Protection and Mothers in Substance Abuse Treatment study



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E-health requires us to move from evidence-based practice to practice-based evidence thus helping services to find ways to enable organisational-wide implementation of new technologies. We are not there yet but there are exciting times ahead so fasten your seat belt and watch this space, writes NDARC's Director Professor Michael Farrell

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Overseas research has found that families in which alcohol or other drug use is present are more likely to be involved with the child protection system than families without these issues. But there has been little Australian data and little research into the parenting practices of substance using mothers and the factors influencing involvement with the child protection system. A new study by Dr Stephanie Taplin and Professor Richard Mattick addresses this gap.

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## edspace

### Child protection and substance use: coordinating multi-agency service delivery is crucial

Breaking down the silos between the many agencies that may be involved in an individual's care was an important theme in this year's NDARC Annual Symposium. A majority of those being treated in the drug and alcohol sector have at least one other condition: comorbid mental health conditions; homelessness; lack of social supports; a history of childhood abuse.

Yet, for a variety of reasons, the many agencies which are involved in the care of these individuals with complex needs have difficulties coordinating service provision. The result for many is sub-optimal treatment outcomes and for some a revolving door scenario of individuals returning for treatment because their other issues are not being dealt with.

The cover feature of this issue of *CentreLines* describes the results of an extensive and groundbreaking study into one such group. For four years Dr Stephanie Taplin, Research Fellow at NDARC, has worked on the Child Protection and Mothers in Substance Abuse Treatment study, a project jointly funded by NSW Community Services and the University of NSW.

Mothers with drug and alcohol problems are overrepresented in the child protection system compared with families where substance misuse is not present. But to date there has been little Australian data on the parenting practices of substance using mothers or the factors which may increase the likelihood of their being involved with child protection.

The results of in depth structured interviews with 171 mothers receiving opioid treatment in clinics throughout Sydney are published in an NDARC report released this month. The overwhelming conclusion is that the majority of these mothers have problems which are of greater significance than the severity of their substance use, in particular mental health issues and a lack of social supports. Around 65 per cent had been abused as children.

A focus on treating substance using mothers' other issues, particularly their mental health problems and social isolation, is vital if we are to reduce the high rates of intergenerational abuse, trauma and disadvantage among these women, concludes Taplin. Equally, early intervention among victims of childhood abuse, particularly sexual abuse, ideally before they become mothers themselves may further reduce the cycle of intergenerational harm.

**Marion Downey, Manager Media and Communications**

*CentreLines is a joint publication from the National Drug and Alcohol Research Centre, Sydney and the National Drug Research Institute, Perth.*

# headspace

## Exciting times and opportunities in the rapidly changing field of e-health

**Professor Michael Farrell**

The new NDARC website has a selection button for e-health and you should have a look at it. It's not that we are speeding ahead of technological change but we have attempted to keep abreast of a rapidly changing field.

What is the role for evidence and research in this complex and changing field? A recent Kings Fund report from the UK reported on three years' experience of 12 health innovator sites in the WSD Action Network Project. They concluded that a positive evidence base for particular interventions was only one small part of what was required to bring about wide scale adoption of new technologies.

Overall there is a need for wide scale collaboration across a wide range of organisations, strong leadership, shared vision and a capacity to undertake a fundamental shift in how health care is delivered. This is a big ask. But the opportunities for change and innovation expand by the day. Indeed the role and type of research in health and social care will also be shaped by new information platforms.

In the alcohol and drug field there is a major challenge to ensure wider access for the population to screening, brief interventions and stepped care to the level of severity that is needed. A good systems-wide approach to this has proved elusive. New opportunities now exist but may well remain elusive.

Some exciting e-health projects are underway at NDARC with Maree Teesson heading up an e-health research group, within her research directorate. Frances Kay-Lambkin along with Maree Teesson, Amanda Baker and Mark Dedy have undertaken The SHADE Project, looking at possible web based interventions for heavy drinkers with depression and anxiety. They have found positive results and now have a series of new projects to build the evidence base for brief and extended interventions for substance use related disorders. As well Maree Teesson, Nickie Newton, Emma Barrett and Patricia Conrod are developing and trialling a major drug prevention based internet study in schools titled CAP, which follows on from the highly successful CLIMATE Schools program. The NDARC portal "Clearing the Cloud" will also soon be live.

In addition, Sally Rooke, Jan Copeland and the team at NCPIC have completed a study of an internet-based intervention for cannabis cessation and reported positive results.

So there is significant potential for new research and for old interventions to be delivered in new bottles.

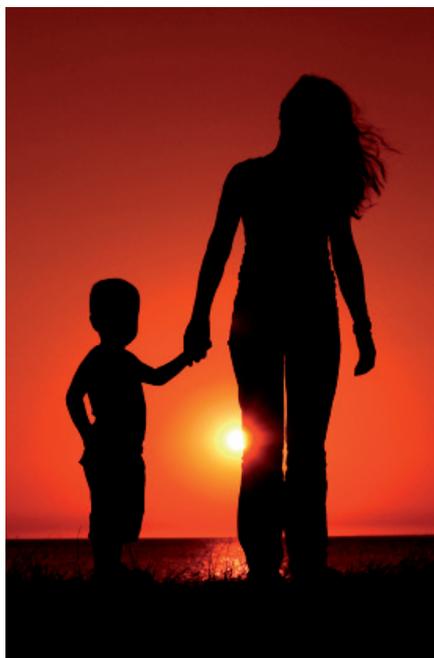
However, there is a need for caution, and a need for serious consideration of context. Many individual programs are being developed and trialled in different countries. It is likely that most will be shaped around social learning theories and cognitive behavioural interventions. They may find a role in assisting and helping core staff in treatment programs to improve skills.

The overall context is however critical.

Without a clear vision and strategic approach to how new interventions fit into, support and are supported by existing services, there could be major problems and major lost opportunities. It is likely that the initial approach of 'let a thousand flowers bloom' will be productive. But this will give rise to a phase where discussions on how to develop and promote quality standards, how to invest in professional development and the integration of new approaches into traditional services will need to be developed.

The Kings Fund argues that e-health requires us to move from evidence-based practice to practice-based evidence thus helping organisations to find ways to enable organisational-wide implementation of new technologies. We are not there yet but there are exciting times ahead so fasten your seat belt and watch this space. **cl**

## issuing forth



## Child Protection and Mothers in Substance Abuse Treatment study

**By Dr Stephanie Taplin**

Parental substance use is one of the major concerns for the child protection system when the ability of parents to safely care for their children is being determined.

A number of studies have found that parental substance misuse is associated with high rates of child maltreatment (for example, Smith & Testa, 2002; Fuller & Wells, 2003; Walsh, MacMillan & Jamieson, 2003; Scannapieco & Connell-Carrick 2007). Yet, research has also found that substance use by a parent does not necessarily mean that they are abusing or neglecting their children (Dawe et al., 2007; Grella, Hser & Huang, 2006).

Overseas research has found that families in which alcohol or other drug use is present are more likely to be involved with the child protection system than are families where substance use is not present, with reports, re-reports and placements in out-of-home care all more likely (Smith, 2003; Barth, Gibbons & Guo, 2006). Yet the reasons for this are not always clear.

Little research has been undertaken with substance-using mothers about their parenting practices and the contributors to their becoming involved with the child protection system. The few studies that have conducted research in this area have all found that factors other than substance use were of greater importance in child protection involvement, predominantly mental health problems and other disadvantages (Nair et al., 1997; Grella, Hser & Huang, 2006; Gilchrist & Taylor, 2009). The extent to which these findings can be applied to an Australian context, is, however, unknown.

The *Child Protection and Mothers in Substance Abuse Treatment* study was funded by NSW Community Services under a collaborative research scheme with the University of NSW (2008-2010), and was aimed at addressing this gap in the research evidence.

Women who had at least one child under 16 years of age were recruited between May 2009 and May 2010 from nine Opioid Treatment Program (OTP) clinics located throughout Sydney. Women who consented completed an interview, the results from which are discussed here. One hundred and seventy one women participated, an estimated 59% response rate.

## Characteristics of the mothers

The women who participated in the study exhibited many of the characteristics found in previous research with illicit drug users in treatment. They were mostly in their mid to late thirties and were greatly disadvantaged, having little formal education (median 10 years of schooling), living on government benefits (87.1%), experiencing financial problems (80.6% reported at least one financial problem in the previous three months) and tending to live in public housing (58.3%).

Similar to previous studies of opioid-using women in treatment, many women had:

- A history of criminal involvement (41.9% reported a prison history);
- Mental health problems (54.2% had been diagnosed with psychiatric problems in the previous 12 months and 38.5% were taking some form of psychiatric medication at the time of the interview);
- Been physically and/or sexually abused during their childhood (64.5%), with sexual abuse the most common type of abuse; and
- Extensive substance use histories.

Somewhat different from previous studies, 22.2% of the women were Aboriginal.

## Motherhood and children

The 171 women had 400 children, most of whom were under 16 years of age and were the focus of the study. The number of children each woman had varied from one to eight.

Most women were very young when they had their first child, and a much higher proportion were teenage mothers (38.6%) than among the general Australian population (8.0%: Hayes, Weston, Qu & Gray, 2010). Because young mothers have been identified as “one of the most disadvantaged groups in Australian society” (Bradbury, 2006), some analyses were conducted to determine whether there were any differences in the characteristics of the teenage mothers compared to the rest of the sample. The only difference found was that the women who had their first child as a teenager were more likely to have completed fewer years of school than the older first time mothers.

Interestingly, a significant number of women (37.7%) started using opioids after they had had their first child.

Behavioural and health problems were relatively common among the children (21.2%) and fourteen women reported that they had had a child who had died. Some of these children had died many years ago, but all the women reported significant feelings of loss and grief as a result of losing their child.

Women were asked a number of questions about their parenting. They were relatively confident about their parenting ability, a third describing themselves as ‘average’ parents while more than half (56.2%) considered themselves to be ‘better than average’ or a ‘very good parent’. Half the women (52.1%) said that their substance use had affected their ability to parent their children and described themselves as being unwell and preoccupied, and that money and time were directed towards drugs rather than the children. Those who said their drug use did not affect their parenting reported that they had always put the children’s needs first, and that they used drugs only when the children were being cared for by other family and not when they had children with them. Some women reported going to great lengths to ensure that their children did not find out about their substance use and/or treatment.

## Supports and community

Among this sample of women more were single than is usually reported with this population: 41.8% were not in a relationship at all and only 32.4% were married or in a de facto relationship. Nearly half of the women (46.8%) were the only adult in a household living with children.

Understandably, support provided by parents and other family members was of great importance to women in the study. Nearly two-thirds (60.1%) had frequent contact with their own parents, in most cases their mother, with more than a third (36.9%) having daily contact. When help was needed with their children women were more likely to seek it from their parents and other family members (60.1%) than from anyone else. One in five women, however, said they had problems getting help when they needed it.

These women also tended to be less trusting of their neighbours and to feel less safe in their neighbourhoods than do other women from the most disadvantaged areas in NSW.

## Child protection system involvement

Most of the women in the study had had some contact with the child protection system, with most (63.7%) having been reported to child protection services at some stage. Many of these reports were made by a health service most commonly for substance use.

One-third of the women (32.7%) had at least one child in out-of-home care (OOHC) at the time of interview. Of the 99 children in care, two-thirds were in kinship care either living with their grandparents or other extended family. Almost half (42.4%) of these children had been removed from their mothers at birth or immediately after, this proportion being much higher among children under five years of age.

Another 57 children were not living with their mother for other reasons, either because of Family Court orders or informal arrangements for the children to live with grandparents. Some women said they sent their children to live with grandparents to prevent them being removed involuntarily by the child protection system.

## Results of the multivariate analyses – identifying important outcomes

One of the major research questions for this study was: *Are mothers in drug treatment services who are involved with child protection services different in terms of parenting and other characteristics to those mothers who are not involved?*

To answer this question, comparisons were undertaken between two groups of women – those currently involved with child protection services (n = 66) and those who were not (n = 105). These comparisons, the bivariate analyses, produced some interesting results which revealed some areas of difference between the two groups of mothers.

Outlined here are the characteristics which, on their own, increased the likelihood of a woman being involved with child protection (p < 0.01). Firstly, not completing Year 12; not having a driver’s licence; having a greater number of children; criminality (that is, being in trouble with the police in the previous six months and having a prison history); a lack of social supports (that is, **not** having daily contact with their parents and **not** being able to get help when needed); and a more extensive substance use history (as indicated by having been in a greater number of substance use treatments, having their first substance use treatment at a younger age, and a younger age of first heroin use).

In the logistic regression model, those variables found to significantly increase the likelihood of being involved with child protection services (while controlling for other variables) were:

- *The number of children* the woman had increased the odds of child protection involvement: for each additional child the odds increased by 1.4, compared with a woman who had no more children (p < 0.05).
- *Mental health problems*, as indicated by being on a prescribed psychiatric-type medication, increased the odds of being involved with child protection by three times, compared with a woman who was not on this type of medication (p < 0.05).

■ *Contact with parents* was also significant in the model. Seeing her parents every day, usually her mother, reduced the odds of a woman being involved with child protection by 78% in comparison to women who had no contact or saw their parents less often ( $p < 0.01$ ).

Other variables that were significant in the bivariate analyses, including the severity of substance use, were no longer significant when other variables were accounted for in the multivariate analyses.

## Discussion

The findings discussed above have implications for child protection and drug treatment policy and practice in relation to substance use by parents. These mothers have significant problems which are of greater importance in terms of child protection involvement than the severity of their substance use, when all factors are considered. Mental health issues and a lack of supportive relationships are of particular concern.

From previous research we know that having been abused as a child increases the risk of substance-use problems, mental health problems and other adverse outcomes as an adult, particularly among women (Berlin, Appleyard & Dodge, 2011; Widom, Marmorstein & White, 2006; Lansford, Dodge, Pettit & Bates, 2010). The women recruited into this study exhibit many of these characteristics. Some authors have suggested that we should be "treating" maltreated girls, especially those who have been sexually abused, and assisting them to develop constructive strategies for coping with the experiences of stressful life events (White & Widom, 2008; Gilchrist & Taylor, 2009). Others have suggested that we should be providing targeted services to substance-misusing women even before they become mothers, particularly as most have their children at a young age, in order to reduce intergenerational harm (Gilchrist & Taylor, 2009).

For mothers who have been victims of physical abuse, the importance of reducing their social isolation is essential to break the cycle of child maltreatment (Berlin, Appleyard & Dodge, 2011). In order to do this, service providers need a good understanding of women's abuse histories and the ability to coordinate services and tailor interventions to their specific needs.

A recent study by Grella and colleagues (2009) found that mothers who were treated in programs providing a "high" level of family-related or education/employment services were approximately twice as likely to reunify with their children as those who were treated in programs with "low" levels of these services. Their findings support the importance of addressing a broad range of treatment needs of child-welfare-involved mothers, particularly their need to obtain skills to achieve economic stability and to improve their parenting ability, which are requisites to successful reunification with their children. Mothers' participation in substance

abuse treatment may afford them a critical opportunity to address these needs, which may ultimately yield beneficial outcomes for themselves and their children.

Rees and colleagues (2011) have recently called for services to better assist women who have experienced gender-based violence, and for women-only treatments to be provided. They comment that the shortage of dedicated women-only treatment services and services that specifically cater to substance-misusing women and their children has long been an issue of concern.

This research supports a focus on interventions which treat substance-using women's mental health problems and improves their social supports. It is important that such services are provided if we are to reduce the high rates of intergenerational abuse, trauma and disadvantage among these women and their children. **cl**

## Acknowledgements

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*Child Protection and Mothers in Substance Abuse Treatment; NDARC Technical Report No. 320*

<http://ndarc.med.unsw.edu.au/resources>

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## Investigating the relationship between cannabis and other drug use, mental health, early-life factors and life-course outcomes: integrative analyses of data from four Australasian cohort studies

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*A full list of associate investigators is on the NDARC website:  
<http://ndarc.med.unsw.edu.au/project/cannabis-cohort-research-consortium-ccrc>*

This innovative project is the first study to bring together data from several large and long-running Australasian cohorts to strengthen the evidence on relationships between the use of cannabis and a wide range of psychosocial and drug use factors including anxiety, depression, educational attainment, income, employment, welfare dependence, criminal offending, conduct disorder, internalising behaviours, nicotine dependence, alcohol use disorders, cannabis dependence and other illicit drug use. The study integrates data from four Australasian cohort studies involving over 12,000 young people, to:

- develop integrative analyses across four long-running cohort studies;
- provide better estimates of the relationships between cannabis use and particular life-course outcomes;
- provide better estimates of the relationships between early-life child behaviour problems and later cannabis use; and
- to more fully utilise existing cohort data.

Data will be integrated from the following cohort studies which span early childhood, adolescence and young adulthood:

1. The Australian Temperament Project (ATP) is a longitudinal study of a representative sample of Australian children born between September 1982 and January 1983. The ATP cohort of 2,443 infants was recruited when the children were 4-8 months old. The fifteenth wave of data collection (participants at age 27-28 years) is currently being finalised.
2. The Christchurch Health and Development Study (CHDS) is a longitudinal study of a birth cohort of 1265 children born in the Christchurch (New Zealand) urban region in 1977. The cohort has been studied on a total of 22 occasions from birth to age 30 years.
3. The Mater Hospital and University of Queensland Study of Pregnancy (MUSP) commenced in January, 1981. Pregnant women attending for their first clinic visit (at approximately 18 weeks' gestation) were invited to participate. Of those, 8458 agreed to participate in the study and 7,223 gave birth to a live singleton child. These women were re-interviewed at 3 to 5 days after delivery. Additional assessments were conducted when the children were 6 months, 5 years, 14 years, and 21 years old.
4. The Victorian Adolescent Health Cohort Study (VAHCS) is a longitudinal study of a representative sample of 2032 mid-secondary adolescents resident in Victoria, Australia. In 1992, participants were recruited at the end of Year 9 (wave 1) or the start of Year 10 (wave 2), and were reviewed on four occasions during adolescence (waves 3-6), with a further three follow-ups in young adulthood to age 29 years (waves 7-9).

The study overcomes some of the common limitations of traditional meta-analysis by integrating data from four well designed cohort studies and ensuring as far as possible comparable measures of exposure to cannabis and a range of outcomes and covariate factors. The study will focus on three key research areas: (1) the young adult outcomes of early onset cannabis use and potential causal relationships; (2) the course of cannabis dependence in young adulthood; and (3) child behaviour problems which predict the onset of cannabis use. A pilot study will investigate the relationship between genetic factors and age of first cannabis use. Together, these investigations will produce more robust estimates of the relationships between biological and early-life factors and later cannabis use, and the relationships between cannabis use and adverse life-course outcomes. In an environment of debate, dramatically improved knowledge of these relationships will create a clearer picture of the interventions which are required to reduce the harms associated with cannabis use. This study is funded by the NHMRC and is due for completion in 2013.

## The extent of 'not-for-profit' supply of illicit drugs in social networks in the Sydney marketplace for ecstasy

**David Bright and Alison Ritter**

The current project is concerned with elucidating a little known phenomenon in retail level illicit drug markets: the supply of illicit drugs within social networks. There is very little published empirical research in this area. Drug policy including law enforcement, harm reduction, and prevention policy can be informed by exploring this poorly understood arena.

While economic theories suggest that dealers will balance the financial rewards with the risks (measured in pecuniary terms), the not for profit marketplace suggests the operation of alternate processes which have not been measured in a systematic manner. User-dealers who supply ecstasy within their own social network, may not be balancing risks with reward (financial profit) but against social capital profit or the social exchange value (e.g., status, likeability) they receive from others in exchange for their brokerage or supply of drugs. The rewards or gains may be social status, connectedness, being needed, or power.

In the absence of clear understanding of the structure and functioning of the not for profit/social supply market, it is difficult for policy makers and for law enforcement to develop effective strategies. For example the current exchange relationships may shield users from direct interaction with more risky elements of illicit drug markets (e.g., members of organised crime groups). The current closed network-based marketplace may offer protection from potential harms and a reversal of this situation, or a move to open markets may be ill-advised.

Project aims:

- To determine the role of social networks in the supply of ecstasy at the retail level
- To investigate the social processes which facilitate the supply of illicit drugs at retail level.
- To determine the characteristics of suppliers and brokers within retail markets
- To document the character of non-financial transactions and exchanges for ecstasy at retail level

Participants will be recruited from typical recruitment sites using traditional methods (advertisements in local newspapers, free press, flyers, websites, and snowball sampling). We will recruit two groups: a group of non-dealing users and a group of user-dealers.

Participants will be administered two sets of questions. The first is a social network interview which maps out their network of friends and acquaintances; and the second is a questionnaire focused on drug use and drug dealing.

## Supply, demand and harm reduction strategies in Australian prisons: an update

**Ana Rodas, Kate Dolan and Alex Wodak**

A review of the prevalence of alcohol and/or drug use problems among prisoners and the range and availability of supply, demand and harm reduction programs and services in prisons is being conducted on behalf of the Australian National Council on Drugs (ANCD). The focus of the review is adult prisoners and remand inmates.

The project has two broad aims:

- Collate current data on the number and proportion of prisoners reporting problematic alcohol, tobacco and/or illicit drug use, and place these data in context by comparing to previous years.
- Assess the availability, access and extent of use of the range of demand, harm and supply reduction programs and services in prisons. Attention will be given to the extent to which these programs and services

adhere to the principles of the National Correctional Drug Strategy.

A literature review of publicly available data through medical and criminal justice databases as well as reports produced by the respective Departments of Corrective Services/Justice will be reviewed for data and will focus on alcohol and drug use and information about demand, supply and harm reduction programs.

A questionnaire will also extract routinely collected data by health and prison departments on supply, demand and harm reduction strategies.

Data has been extracted and is currently being analysed. A report will be made available on the Australian National Council on Drugs (ANCD) website on completion.

## The conservative shift in drug policy (?): evidence and implications

**Kari Lancaster and Alison Ritter**

It has been argued that the increased influence of conservative advocacy groups and the impact of the political social conservatism of 'The Howard Years' has led to a conservative shift in Australian drug policy, away from harm minimisation and towards a zero tolerance model (Mendes, 2001, 2007). While some commentators have argued that Howard's 'Tough on Drugs' policy 'overturned' the harm minimisation framework (Bessant, 2008), others

suggest that there has been a 'disconnect' between the political strategy of zero tolerance, and the policy practice of harm reduction (Wodak, 2004). The situation is far from clear-cut. Understanding the extent of a conservative shift in either the political strategy (rhetoric) or in policy decision-making (practice) has important implications for the future of drug policy and the interventions and responses that are funded by government.

This project, run by the Drug Policy Modelling Program (NDARC), will systematically examine if there has been a conservative shift in Australia's approach to drug policy since 1985. In doing so, we will explore how drug policy is understood, the narratives which shape policy development over time, what the 'problem of drugs' is represented to be and the role of stakeholders in shaping these understandings.

Using discourse analysis, we will examine whether the construction of meaning in Australia's drug policy has differed over time, from 1985 to the present. We take all of the iterations of the National Drug Strategy, as well as all drug-related federal parliamentary inquiries and associated reports and submissions, from 1985 to the present as our texts for analysis. This allows for systematic tracking of the issue over time, with a particular focus on discursive elements which have come to be understood as characteristic of the 'Australian approach' to drug policy, including harm minimisation, balance, partnerships and evidence-informed policy. **cl**

# abstracts

## Post-marketing surveillance of buprenorphine-naloxone in Australia: diversion, injection and adherence with supervised dosing

*Drug and Alcohol Dependence, 118, 265-273*

**Briony Larance, Louisa Degenhardt, Nick Lintzeris, James Bell, Adam Winstock, Paul Dietze, Richard Mattick, Robert Ali and Danielle Horyniak**

**Background:** These studies compared the diversion and injection of buprenorphine-naloxone (BNX), buprenorphine (BPN) and methadone (MET) in Australia.

**Methods:** Surveys were conducted with regular injecting drug users (IDUs) (2004–2009, N = 881–943), opioid substitution treatment (OST) clients (2008, N = 440) and authorised OST

prescribers (2007, N = 291). Key outcome measures include the unsanctioned removal of supervised doses, diversion, injection, motivations, drug liking and street price. Levels of injection among IDUs were adjusted for background availability of medications. Doses not taken as directed by OST clients were adjusted by total number of daily doses dispensed.

**Results:** Among regular IDUs, levels of injection were lower for BNX relative to BPN, but comparable to those for MET, adjusting for background availability. Among OST clients, fewer BNX clients (13%) reported recently injecting their medication, than BPN (28%) and MET clients (23%). Fewer MET clients (10%) reported removal of supervised doses, than BPN (35%) and BNX clients (22%). There were no differences in prevalence of recent diversion (28% of all OST clients). Adjusting for the total doses dispensed, more BPN was injected (10%), removed (12%) and diverted (5%), than MET (5%, <1% and 2% respectively) and BNX (5%, 9% and <1% respectively). In 2009, the median street price of BNX was equivalent to that for BPN.

**Conclusions:** BNX was less commonly and less frequently injected than BPN, but both sublingual medications were diverted more than liquid MET.

## Prescription of opioid analgesics and related harms in Australia

*Medical Journal of Australia, 195, 280-284*

**Amanda Roxburgh, Raimondo Bruno, Briony Larance and Lucy Burns**

**Objective:** To document trends in: (i) prescribing of morphine and oxycodone; (ii) hospital separations for overdose; (iii) presentations for treatment of problems associated with these drugs; and (iv) oxycodone-related mortality data in Australia.

**Design and setting:** Cross-sectional study analysing prescriptions for morphine and oxycodone based on figures adjusted using

Australian Bureau of Statistics estimated resident population and prospectively collected data from: (i) the National Hospital Morbidity Database on hospital separations primarily attributed to poisoning with opioids other than heroin ("other opioids"); (ii) the Alcohol and Other Drug Treatment National Minimum Data Set for treatment episodes where morphine or oxycodone were the primary or other drugs of concern; (iii) the National Coronial Information System on deaths where oxycodone was the underlying cause of death or a contributory factor.

**Main outcome measures:** Population-adjusted numbers of (i) prescriptions for morphine and oxycodone by 10-year age group, (ii) hospital separations for "other opioid" poisoning, and (iii) treatment episodes related to morphine or oxycodone; and (iv) number of oxycodone-related deaths.

**Results:** Prescriptions for morphine declined, while those for oxycodone increased. Prescriptions for both were highest among older Australians. Hospital separations for "other opioid" poisoning doubled between the financial years 2005–06 and 2006–07. Treatment episodes for morphine remained stable, while those for oxycodone increased. There were 465 oxycodone-related deaths recorded during 2001–2009.

**Conclusions:** Oxycodone prescriptions in Australia have increased, particularly among older Australians. The increase may, in part, reflect appropriate prescribing for pain among an ageing population. However we are unable to differentiate non-medical use from appropriate prescribing from this data. In comparison to heroin, the morbidity and mortality associated with oxycodone is relatively low in Australia. There is a continued need for comprehensive training of general practitioners in assessing patients with chronic non-malignant pain and prescribing of opioids for these patients, to minimise the potential for harms associated with use of these medications.

## A systematic review of methamphetamine precursor regulations

*Addiction, Advance Online Publication*

**Rebecca McKetin, Rachel Sutherland, David A. Bright and Melissa M. Norberg**

**Aims:** To assess the effectiveness of methamphetamine precursor regulations in reducing illicit methamphetamine supply and use.

**Methods:** A systematic review of 12 databases was used to identify studies that had evaluated the impact of methamphetamine precursor regulations on methamphetamine supply and/or use. The guidelines of the Effective Practice and Organization of Care Group (EPOC) of The Cochrane Collaboration were used to determine

which study designs were included and assess their quality.

**Results:** Ten studies met the inclusion criteria. These studies evaluated 15 interventions (13 regulations and two related interdiction efforts), all of which were located in North America. Interventions had consistent impacts across various indicators of methamphetamine supply and use. Seven of the 15 interventions produced reductions in methamphetamine indicators (ranging from 12% to 77%). Two of the largest impacts were seen following interdiction efforts, involving the closure of rogue pharmaceutical companies. There was no evidence of a shift into other types of drug use, or injecting use, although the impact on the synthetic drug market was not examined. Null effects were related largely to the existence of alternative sources of precursor chemicals or the availability of imported methamphetamine.

**Conclusions:** Methamphetamine precursor regulations can reduce indicators of methamphetamine supply and use. Further research is needed to determine whether regulations can be effective outside North America, particularly in developing countries, and what impact they have on the broader synthetic drug market. Improved data on precursor diversion are needed to facilitate the evaluation of precursor regulations.

## Major depression among methamphetamine users entering drug treatment programs

*Medical Journal of Australia 2011; 195: S51–S55*

**Rebecca McKetin, Daniel Lubman, Nicole Lee, Joanne Ross and Tim Slade**

**Objective:** To determine the prevalence of major depression among people entering treatment for methamphetamine use.

**Design, setting and participants:** The study was a cross-sectional survey involving 41 specialised drug and alcohol treatment agencies in Brisbane and Sydney. Services provided by these agencies included residential rehabilitation, detoxification and counselling. Participants were 400 people entering treatment for methamphetamine use who were recruited from participating treatment agencies between January 2006 and November 2007. Participants underwent a structured, face-to-face, 1.5-hour interview. Assessment instruments included the Composite International Diagnostic Interview and the Short Form 12.

**Main outcome measure:** Diagnosis of a major depressive episode in the year prior to the study.

**Results:** The prevalence of major depression in the year prior to the study was 40% (95% CI, 35%–44%). A noteworthy post-hoc observation was that a further 44% of participants met the symptom criteria for major depression but were

excluded from a diagnosis because their symptoms were better accounted for by psychoactive substance use. Both major depression and these latter cases of "substance-induced depression" were associated with severe symptoms of depression, high levels of disability and suicidal ideation.

**Conclusion:** Most people entering treatment programs for methamphetamine use have levels of depression that require clinical management. Making a diagnosis of major depression in the context of heavy methamphetamine use is problematic because of substance-induced symptoms of depression.

## Acceptability of a clinician-assisted computerised psychological intervention for comorbid mental health and substance use problems: treatment adherence data from a randomised controlled trial

*Journal of Medical Internet Research 2011, 13(1)*

**Frances Kay-Lambkin, Amanda Baker, Terry Lewin and Vaughan Carr**

**Background:** Computer-delivered psychological treatments have great potential, particularly for individuals who cannot access traditional approaches. Little is known about the acceptability of computer-delivered treatment, especially among those with comorbid mental health and substance use problems.

**Objective:** The objective of our study was to assess the acceptability of a clinician-assisted computer-based (CAC) psychological treatment (delivered on DVD in a clinic-setting) for comorbid depression and alcohol or cannabis use problems relative to a therapist-delivered equivalent and a brief intervention control.

**Methods:** We compared treatment acceptability, in terms of treatment dropout/participation and therapeutic alliance, of therapist-delivered versus CAC psychological treatment. We randomly assigned 97 participants with current depression and problematic alcohol/cannabis use to three conditions: brief intervention (BI, one individual session delivered face to face), therapist-delivered (one initial face-to-face session plus 9 individual sessions delivered by a therapist), and CAC interventions (one initial face-to-face session plus 9 individual CAC sessions). Randomisation occurred following baseline and provision of the initial session, and therapeutic alliance ratings were obtained from participants following completion of the initial session, and at sessions 5 and 10 among the therapist-delivered and CAC conditions.

**Results:** Treatment retention and attendance rates were equal between therapist-delivered and CAC conditions, with 51% (34/67) completing all 10 treatment sessions. No significant differences existed between participants in therapist-delivered and CAC conditions at any point in therapy on the majority of therapeutic alliance subscales. However, relative to therapist-delivered treatment, the subscale of Client Initiative was rated significantly higher among participants allocated to the BI ( $F_{2,54} = 4.86, P = .01$ ) and CAC participants after session 5 ( $F_{1,29} = 9.24, P = .005$ ), and this domain was related to better alcohol outcomes. Linear regression modelled therapeutic alliance over all sessions, with treatment allocation, retention, other demographic factors, and baseline symptoms exhibiting no predictive value.

**Conclusions:** Participants in a trial of CAC versus therapist-delivered treatment were equally able to engage, bond, and commit to treatment, despite comorbidity typically being associated with increased treatment dropout, problematic engagement, and complexities in treatment planning. The extent to which a client feels that they are directing therapy (Client initiative) may be an important component of change in BI and CAC intervention, especially for hazardous alcohol use.

## Psychometric performance of DSM-IV alcohol use disorders in young adulthood: evidence from an Australian general population sample

*Journal of Studies on Alcohol and Drug, 72, 811-822*

**Louise Mewton, Maree Teesson, Tim Slade and Linda Cottler**

**Objective:** The current study investigates the performance of alcohol use disorders in young adults using item response theory and differential item functioning (DIF).

**Method:** The 1997 National Survey of Mental Health and Wellbeing (Australia) sample was based on a stratified, multistage area probability sample of people ages 18 years and older in the Australian population. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), alcohol use disorders were assessed in all current alcohol users ( $N = 7,746$ ; 44.2% female). The psychometric properties of the DSM-IV alcohol use disorder criteria in young adults were assessed using item response theory. Age-based DIF was also assessed in each of the DSM-IV criteria for alcohol use disorders. The presence of age-based DIF in subgroups defined by sex and consumption was also examined.

**Results:** Overall, problems were identified in the use in hazardous situations, persistent

desire/inability to quit/cut down, and tolerance criteria in young adults. However, the DIF identified at the criterion level had little impact on total information provided by the criteria across the two age groups. Subgroup analyses indicated that for the female-only and non-heavy using subgroups, DIF was no longer detected in the use in hazardous situations criterion. The alcohol use disorder criteria were found to provide maximum information about moderate to severe pathology among young adults. There was little evidence for the DSM-IV abuse/dependence distinction in young adulthood.

**Conclusions:** Some of the DSM-IV alcohol use disorder criteria appear problematic when applied to young adults, and future research needs to focus on clarifying young adults' understanding of these problematic criteria. Although DIF was identified in three of the alcohol use disorder criteria, the total information provided by these criteria was largely the same among younger and older groups.

## The cannabis withdrawal scale development: patterns and predictors of cannabis withdrawal and distress

*Drug and Alcohol Dependence, 119 (1-2), 123-1129*

**David J. Allsop, Melissa M. Norberg, Jan Copeland, Shanlin Fu and Alan J. Budney**

**Background:** Rates of treatment seeking for cannabis are increasing, and relapse is common. Management of cannabis withdrawal is an important intervention point. No psychometrically sound measure for cannabis withdrawal exists, and as a result treatment developments cannot be optimally targeted. The aim is to develop and test the psychometrics of the Cannabis Withdrawal Scale and use it to explore predictors of cannabis withdrawal.

**Methods:** A volunteer sample of 49 dependent cannabis users provided daily scores on the Cannabis Withdrawal Scale during a baseline week and 2 weeks of abstinence.

**Results:** Internal reliability (Cronbach's alpha = 0.91), test-retest stability (average intra-class correlation = 0.95) and content validity analysis show that the Cannabis Withdrawal Scale has excellent psychometric properties. Nightmares and/or strange dreams was the most valid item (Wald  $\chi^2 = 105.6, P < 0.0001$ ), but caused relatively little associated distress (Wald  $\chi^2 = 25.11, P = 0.03$ ). Angry outbursts were considered intense (Wald  $\chi^2 = 73.69, P < 0.0001$ ) and caused much associated distress (Wald  $\chi^2 = 45.54, P < 0.0001$ ). Trouble getting to sleep was also an intense withdrawal symptom (Wald  $\chi^2 = 42.31, P < 0.0001$ ) and caused significant associated distress (Wald  $\chi^2 = 47.76, P < 0.0001$ ). Scores on the Severity of Dependence Scale predicted cannabis withdrawal.

**Conclusions:** The Cannabis Withdrawal Scale can be used as a diagnostic instrument in clinical and research settings where regular monitoring of withdrawal symptoms is required.

## The effect of a change in drug markets on drug-free treatment admissions, retention and program completion, 2003 to 2008

*Addictive Disorders & Their Treatment, 10 (3), 105-110*

**Gabrielle Campbell, Shane Darke, Garth Popple and Barbara Toson**

**Objectives:** To ascertain whether changes in the heroin and methamphetamine markets were associated with changes in the profile of admissions and completion rates of a drug-free residential rehabilitation admission.

**Methods:** Admission and treatment completion data for 2519 clients admitted to a therapeutic community between 2003 and 2008 were analysed.

**Results:** There was a significant decrease in heroin as the principal drug of concern (33% to 19%) and a corresponding increase in the proportion of clients nominating methamphetamine as a primary drug problem (21% to 34%). Despite these changes, treatment completions remained stable, and length of stay increased. Methamphetamine dependence was not associated with either treatment completion or length of stay. There was a significant increase in the proportion of repeat admissions (13% to 24%), again unrelated to methamphetamine use.

**Conclusions:** A major change in the case mix was observed, reflecting the broader methamphetamine epidemic. Despite this, treatment completion and retention were not adversely affected. Although community drug trends are dynamic, fundamental alterations in case mixes does not necessarily translate into major disruptions in treatment efficacy.

## Self-harm and attempted suicide among therapeutic community admissions

*Drug and Alcohol Review, Advance online publication*

**Shane Darke, Gabrielle Campbell and Garth Popple**

**Introduction and Aims:** The study aimed to determine the histories of self-harm and attempted suicide among therapeutic community entrants by primary presenting substance problem, and to determine predictors of these behaviours.

**Design and Methods:** One hundred and eighty-eight consecutive new treatment admissions to We Help Ourselves drug-free treatment services were administered a structured interview.

**Results:** Lifetime histories of self-harm were reported by 34% (9% within the preceding year), and 20% had done so on multiple occasions. Just over one-third reported a lifetime history of attempted suicide (15% within the preceding year), and 17% reported multiple attempts. There were no significant bivariate associations between primary drug and either behaviour. Multivariate analyses indicated that the alcohol and opioid groups were significantly more likely than the cannabis group to have a history of self-harm, but did not differ from each other or the psychostimulant group. Other independent correlates of self-harm were female gender, lifetime PTSD diagnosis, younger age at first intoxication and a history of attempted suicide.

**Discussion and Conclusions:** Both self-harm and suicide attempts were highly prevalent, and strongly associated with each other. Moreover, there were few differences between primary drug problems. All entrants should be screened for these behaviours, and appropriate responses implemented.

## Examining supply changes in Australia's cocaine market

*Drug and Alcohol Review, advance online publication*

**Caitlin E. Hughes, Jenny Chalmers, David A. Bright, Francis Matthew-Simmons and Natasha Sindichich**

**Introduction and Aims:** Media attention to cocaine use and supply has increased following some of the largest cocaine seizures in Australia's history. Whether there has been an expansion in supply remains unclear. This paper examines the evidence behind assertions of increased supply in Australia and the scale and nature of any apparent increase, using proxy indicators of cocaine importation, distribution and use.

**Design and Methods:** Eight proxies of cocaine importation, distribution and use were adopted, including amount of importation, mode of importation and supply flows to Australia. Each proxy indicator was sourced using publicly available and Australia-wide data, including information on the total weight of border seizures, mode of detection and country of embarkation of individual seizures. Data permitting, trends were examined for up to a 12 year period (1997–1998 to 2009–2010).

**Results:** Since 2006–2007 there was evidence of increased cocaine importation, albeit less than between 1998–1999 and 2001–2002. There were further signs that the 2006–2007

expansion coincided with a diversification of trafficking routes to and through Australia (beyond the traditional site of entry—Sydney) and shifts in the geographic distribution of use.

**Discussion and Conclusions:** The congruity between indicators suggests that there has been a recent expansion in cocaine supply to and distribution within Australia, but that the more notable shift has concerned the nature of supply, with an apparent growth in importation and distribution beyond New South Wales. The diversification of cocaine supply routes may increase risks of market entrenchment and organised crime throughout Australia.

## The influence of depression on treatment for methamphetamine use

*The Medical Journal of Australia, 195 (3), S38-S43*

**Frances J. Kay-Lambkin, Amanda L. Baker, Nicole M. Lee, Linda Jenner and Terry J. Lewin**

**Objective:** To determine whether the presence of comorbid depression influences response to psychological treatment for methamphetamine use.

**Design:** Randomised controlled clinical trial.

**Setting and participants:** Our study was conducted between 2001 and 2005 at two sites in Australia: the Hunter Region of New South Wales and the city of Brisbane, Queensland. The 214 participants, who were all using methamphetamine at least once a week in the month prior to the study, were self-referred or referred from health services or drug and alcohol clinical services. Participants were divided into two groups based on whether or not they had depressive symptoms at baseline.

**Interventions:** The control group received only a self-help booklet; the two treatment groups received either two or four counselling sessions involving cognitive behaviour therapy and motivational interviewing techniques to manage methamphetamine use.

**Main outcome measures:** Changes in methamphetamine use and depression at 5 weeks and 6 months after baseline.

**Results:** Over 70% of participants met criteria for depression at baseline, and depression was associated with significantly greater severity of methamphetamine use and related issues. Benzodiazepine use was significantly higher among depressed than non-depressed participants. Reductions in methamphetamine use between baseline and 5 weeks were independently predicted by comorbid depression, in favour of increased change among those with baseline depression. Depressed participants who received three or four counselling sessions showed a significant reduction in depression at 5 weeks. However,

reductions in methamphetamine use and depression compared with baseline were no longer evident at 6 months.

**Conclusions:** Over the short term, comorbid depression did not negatively affect response to treatment, with some evidence of a dose-response treatment effect for reduction in depression. This was not maintained at 6 months, indicating that methamphetamine-focused treatment may not enable people with comorbid depression to make sustained improvement at the level of their counterparts without depression.

## Global epidemiology of hepatitis B and hepatitis C in people who inject drugs: results of systematic reviews

*The Lancet, 378, August 13, 2011*

**Paul K. Nelson, Bradley M. Mathers, Benjamin Cowie, Holly Hagan, Don Des Jarlais, Danielle Horyniak and Louisa Degenhardt**

**Background:** Injecting drug use is an important risk factor for transmission of viral hepatitis, but detailed, transparent estimates of the scale of the issue do not exist. We estimated national, regional, and global prevalence and population size for hepatitis C virus (HCV) and hepatitis B virus (HBV) in injecting drug users (IDUs).

**Methods:** We systematically searched for data for HBV and HCV in IDUs in peer-reviewed databases (Medline, Embase, and PsycINFO), grey literature, conference abstracts, and online resources, and made a widely distributed call for additional data. From 4386 peer-reviewed and 1019 grey literature sources, we reviewed 1125 sources in full. We extracted studies into a customised database and graded them according to their methods. We included serological reports of HCV antibodies (anti-HCV), HBV antibodies (anti-HBc), or HBV surface antigen (HBsAg) in studies of IDUs with more than 40 participants (<100% HIV-positive) and sampling frames that did not exclude participants on the basis of age or sex. With endorsed decision rules, we calculated prevalence estimates with anti-HCV and anti-HBc as proxies for exposure and HBsAg as proxy for current infection. We combined these estimates with IDU population sizes to calculate the number of IDUs with positive HBV or HCV statuses.

**Findings:** We located eligible reports with data for prevalence of anti-HCV in IDUs for 77 countries; midpoint prevalence estimates suggested 60–80% of IDUs had anti-HCV in 25 countries and more than 80% of IDUs did so in 12 countries. About 10.0 million (range 6.0–15.2) IDUs worldwide might be anti-HCV positive. China (1.6 million), USA (1.5 million),

and Russia (1.3 million) had the largest such populations. We identified eligible HBsAg reports for 59 countries, with midpoint prevalence estimates of 5–10% in 21 countries and more than 10% in ten countries. Worldwide, we estimate 6.4 million IDUs are anti-HBc positive (2.3–9.7 million), and 1.2 million (0.3–2.7 million) are HBsAg positive.

**Interpretation:** More IDUs have anti-HCV than HIV infection, and viral hepatitis poses a key challenge to public health. Variation in the coverage and quality of existing research creates uncertainty around estimates. Improved and more complete data and reporting are needed to estimate the scale of the issue, which will inform efforts to prevent and treat HCV and HBV in IDUs.

## Developing the Climate Schools: alcohol and cannabis module: a harm-minimisation, universal drug prevention program facilitated by the internet

*Substance Use & Misuse, early online publication, 1–13*

**Nicola Clare Newton, Laura Vogl, Maree Teesson and Gavin Andrews**

**The Climate Schools:** Alcohol and Cannabis Module is a universal harm-minimisation school-based prevention program for adolescents

aged 13–15 years. The core content of the program is delivered over the Internet using cartoon storylines to engage students, and teacher-driven activities reinforce the core information.

The program is embedded within the school health curriculum and is easy to implement with minimal teacher training required. The program was developed in 2007 through extensive collaboration with teachers, students, and health professionals (N = 24) in Sydney, Australia and has since been evaluated (N= 764). This article describes the formative research and process of planning that formed the development of the program and the evidence base underpinning the approach. The study's limitations are noted. **cl**

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For more information or for copies of the report please go the NDARC website.

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# staff list

## National Drug and Alcohol Research Centre

Staff as of 4 November 2011

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Alison Ritter – Associate Professor, Assistant Director; Director, DPMP  
Anthony Shakeshaft – Associate Professor, Assistant Director  
Maree Teesson – Professor, Assistant Director  
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Natacha Carragher – Post-Doctoral Research Fellow  
Jenny Chalmers – Senior Research Fellow  
Catherine Chapman – Senior Research Fellow  
Shane Darke – Professor, Convenor Research Staff Professional Development Program  
Kate Dolan – Professor  
John Howard – Senior Lecturer, NCPIC/NDARC  
Caitlin Hughes – Research Fellow  
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Sharlene Kaye – Research Fellow  
Frances Kay-Lambkin – Senior NHMRC Research Fellow  
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Tim Slade – Senior Research Fellow  
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Wendy Swift – Senior Lecturer

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Lucy Albertella – Research Officer, NCPIC  
Dion Alperstein – Research Officer, NCPIC

Sheena Arora – Research Officer  
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Chiara Bucello – Research Officer  
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Crisanta Corpus – Finance Manager  
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Morag Millington – Communications Officer, NCPIC  
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Jemma Sale – Administrative Assistant  
Carla Santos – Administrative Officer  
Barbara Toson – Statistician/Biostatistician

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Amy Johnston – Research Associate/Doctoral Candidate  
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Kristie Mammen – Doctoral Candidate  
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