

# centre lines

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## issuing forth

The place of alcohol research in the overall drug and alcohol field



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## edspace

It's been a long time coming but earlier this month we finally saw the official opening of the new NDARC building. The Hon Trish Worth, Parliamentary Secretary to the Minister for Health and Ageing was invited to officially open the new building in recognition of the Commonwealth Government's contribution to the establishment of NDARC at the new premises.

The Commonwealth has provided core funding to NDARC since 1985-1986, with the current contract being in place since 1998-99 and continuing through until June 2003. NDARC receives additional project funding through a range of funding sources such as State Government, the Australian Council on Drugs (ANCD), the National Health and Medical Research Council and the Department of Employment, Science and Training, amongst others.

During her visit, Ms Worth was shown around the building and introduced to the staff. She was also provided with a brief overview of NDARC's past and current research. Three projects in particular were highlighted – the National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD), the Illicit Drug Reporting System (IDRS) and the Adolescent Cannabis Check-up.

In this issue of *CentreLines* we have included edited copies of both Ms Worth's and Director of NDARC, Richard Mattick's speeches from the official opening.

All previous Directors of the Centre were represented at the event. Professors Ian Webster (the original Acting Director of the Centre) and Wayne Hall both attended the evening and Professor Nick Heather sent his regards via a short speech which was read by the Hon Kevin Rozzoli, the Chairman of the NDARC Board of Management.

It was a great night with guests representing State and Commonwealth health and law enforcement, the non-government treatment sector as well as many academics in the alcohol and other drug field.

NDARC has always been an exciting place to work. Currently we are so busy conducting new and interesting projects that we often don't have the time to sit back and reflect and see just how our research findings impact on policy decisions. Our official opening has given us that time.

**Paul Dillon**

*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.

**Prof Richard Mattick**

**Speech by the Hon Trish Worth MP  
Parliamentary Secretary to the Minister for  
Health and Ageing**

## Official Opening of the Centre National Drug and Alcohol Research Centre (NDARC) Thursday 4 September 2002

I am pleased to have been invited to preside today over the official opening celebrations of the National Drug and Alcohol Research Centre (NDARC) and I am delighted to see so many distinguished guests here who are also highly regarded, recognised experts who have made and continue to make enormous contributions in the alcohol and other drugs and related fields.

The drugs and alcohol field is one of the most challenging for our society. Drugs in their various forms affect all ages and all sections of the population. As many of you would be aware, in my position as Parliamentary Secretary to the Commonwealth Minister for Health and Ageing, I deal with a number of areas within the Health portfolio, including alcohol, tobacco and illicit drugs.

As a trained nurse and midwife I have been involved with the health sector throughout my professional life. I have seen at first hand the effect of the misuse of drugs on families and communities. I am proud to say that Australia has led the world in collaborative approaches to the prevention and treatment of drugs over the past 20 years.

We cannot rest on our laurels and must continue our efforts and diversify our approach. International research is showing that many serious health and social problems are related and have common causal pathways. There is a growing body of international evidence that preventive investment in the early years of life pays off.

The path to substance abuse is complex and subsequently our response must recognise and reflect the broader environmental factors. There is a role for all disciplines and sectors of the Australian community to influence the social and structural determinants of health and well being.

A focus on the broader environmental influences of problem behaviours and attention to healthy childhood development could help to minimise or indeed prevent, the increase in substance abuse problems.

The Commonwealth Government understands the importance of tackling the drug problem and has committed over \$625 million to the National Illicit Drug Strategy since its inception, for a range of supply reduction, demand reduction and harm reduction measures.

Over \$400 million of this investment has been provided for demand and harm reduction measures in the areas of prevention, treatment, education and research.

NDARC has been an important player in ensuring that the demand and harm reduction measures reflect evidence-based practice by undertaking rigorous research and evaluation, including assessment of the cost-effectiveness of interventions.

A project funded through the National Illicit Drug Strategy that I would particularly like to acknowledge is the National Evaluation of Pharmacotherapies for Opioid Dependence. It is testament to NDARC's expertise in this area that you were able to undertake such a comprehensive research program of trials of new approaches to the treatment of opioid dependence in all states and territories.

Another major initiative is the Illicit Drug Reporting System (IDRS) – another example of NDARC's commitment to understanding drug-related harm. The IDRS is a valuable tool for keeping Commonwealth, State and Territory governments, and the community, well informed about trends in illicit drug use in Australia.

NDARC's current work program includes research in the areas of licit drugs. I am very pleased to see that you are also focussing on alcohol and tobacco as it is these licit drugs that continue to be largely responsible for drug related mortality and morbidity.

NDARC's research program is extensive and is largely premised on a collaborative approach and guests here today have contributed to, and benefited from, the results of NDARC's diverse research projects.

The Commonwealth Government recognises the importance of continuing research and innovation. Under the National Drug Strategic Framework, the Government has contributed more than \$2 million to NDARC last financial year to facilitate its core program of research. This financial commitment is continuing and I look forward to the further application of this valuable research to the alcohol and other drugs field.

It is evident that NDARC continues to provide valid, balanced and accurate research to a high standard of medical, scientific and social integrity. I congratulate NDARC on its extensive achievements in increasing the effectiveness of the Australian treatment response to drug-related problems. NDARC are experts in the field and most deservedly recognised nationally and internationally as a Research Centre of Excellence.

When I was reflecting on the opening of this new building I started to consider the development of the National Drug and Alcohol Research Centre both in terms of its physical capacity but also its intellectual capacity. The Centre, initially directed by Professor Webster, but subsequently by Professor Heather and then Professor Hall, commenced in an unused ward on the Prince of Wales grounds with approximately 10 or 12 staff.

By 1988, when the Centre moved to its new accommodation, purpose built on the Prince of Wales site, there were approximately 15 staff which quickly grew to 20. In the early 90's the staffing grew to 30 to 35 and by the year 2000 we had between 40 and 50 staff involved in the Centre.

At that time, the staff of the Centre split into two buildings.

Pressure to move premises was brought to bear by the Prince of Wales Hospital because of their need to use the accommodation and with the commencement of Professor Dowton in the position of Dean, work was commenced to seek a new site. The process of determining that this was the appropriate site for the National Centre took some time. However, with assistance from a number of individuals and groups, the current building now houses 50 and up to 60 staff.

The physical building houses the real capital of the National Centre which is its intellectual capacity, the extensive knowledge base of the harms and effective interventions problems associated with various drug and alcohol use patterns, and a broad expertise.

The Centre has the capacity to undertake extensive work with more than 50 staff and strong collaborations locally, nationally and internationally. The National Centre itself boasts 10 academic positions, NH&MRC Clinical Research Fellows, Post-Doctoral Researchers, 5 conjoint Academic positions, health economists, senior research officers and research officers. We also have over 10 PhD candidates currently enrolled. Supporting the staff are an important resource in the administrative personnel. One important feature of the staffing is that it is made up of enthusiastic young people who have bright ideas and the energy and willingness to pursue them.

Over the years the Centre has undertaken reviews of treatment effectiveness, documenting the range of appropriate interventions in alcohol problems, nicotine dependence, opiate dependence, amphetamine problems and reviewing extensive bodies of literature on methadone maintenance treatment. The Centre developed a basis for scholarly understanding of the existing literature and without much fear or favour tended to present this information to governments and other bodies to help to develop policy and to foreshadow important research directions where research evidence was lacking.

Through the 1990s the Centre did develop a national and international profile. We developed

a number of collaborations with local groups including state and territory departments of health and collaborating research centres. The Centre has been influential in work internationally at the level of the World Health Organisation. It has also contributed to research in the UK, Europe and North America.

Most recently the Centre has been successful in its National Evaluation of Pharmacotherapies for Opioid Dependence which relied on good strong collaboration with national groups, and its ongoing work in the Australian Treatment Outcomes Study, understanding the impact of intervention on heroin dependence.

Mapping the work along the way has been the Illicit Drug Reporting System (IDRS) which has been very helpful in mapping the changes in drug use patterns across time.

Through that period we have also been helped in our work by the excellent dissemination of information from the Centre through the work of our Media Liaison Manager, but also through the large number of publications with well in excess of 600 or 700 peer reviewed articles, and many more book chapters or books. By all accounts, and by all reviews, the Centre has been successful in achieving the goals set out in the mission statement and its key objectives.

The future holds important and interesting work including focus on the reasons for the shortage of heroin over recent time, continuing work through the IDRS, health economic analyses and a refocus on alcohol and nicotine dependence, and continued work in a vast number of areas which are too great to document here.

The building which houses the intellectual capacity is a great environment. The Centre has been very productive in the past and the new building can only benefit the productivity of the Centre's staff. We look forward to the ongoing support from the Commonwealth Government but also from the University of New South Wales. In particular I think it is important when recognising the development of this building to thank the funding body, the Dean, the architects involved and the NDARC staff who contributed to the development of the plans. The University of New South Wales needs to be recognised more generally and particularly the Facilities Department for its assistance. Finally, my personal thanks to the Board of Management chaired by the Honorable Kevin Rozzoli for its commitment to finding NDARC new and appropriate premises.

These premises will help to see us through the next 10 to 15 years, although it is possible that we will relocate prior to that time if the faculty is successful in its determination to build a biohub building between the University and the Prince of Wales Hospital campuses.

Finally, I thank Trish Worth for coming to Sydney today, and making time in her busy schedule to fly here for this special occasion as I and all the Centre Staff are grateful and honoured that she has taken the time to understand our work and to open this building. **cl**

# issuing forth

## Alcohol Research: Know Thyself

**Anthony Shakeshaft**

In the spirit of the Delphic injunction to "Know thyself", delivered by Apollo in response to Chilon of Sparta's inquiry "What is best for man?", a brief examination of empirical data and research output may well be best for alcohol research.

Table One shows that, relative to a range of other drugs, alcohol is the most widely used in the community and results in levels of mortality and morbidity second only to tobacco<sup>1,2</sup>.

Although these types of data are usually quoted as justification for continued investment in alcohol research, it is likely, and most probably

is impacted by drugs differently to the way in which burden of harm is measured by those in the scientific arena, such that the real burden of harm is hidden, or at least is not fully explicated. There may be some acknowledgement of this issue from social costs and health economics data, for example, which are usually presented with explicit acknowledgement of the lack of, and difficulty in measuring, a range of factors that contribute to drug related social morbidity and resultant economic costs<sup>4,5</sup>.

Secondly, it may be that these groups endeavour to prioritise in line with the burden of

Table One: Prevalence of drug use <sup>1</sup> , and resultant harm <sup>2</sup> (%)				
Drug	Use in past 12 months	Mortality	Morbidity <sup>a</sup>	PYLL <sup>b</sup>
Alcohol	81	2,065 <sup>c</sup>	43,032	21,147
Tobacco	26	19,019	142,525	184,579
All illicit	23	1,023	14,471	25,375

<sup>a</sup> Hospital separations

<sup>b</sup> Potential years of life lost

<sup>c</sup> To age 65 only due to subsequent protective effect

desirable, that such empirical justification not be the sole determinant of priorities in the allocation of resources aimed at reducing drug-related harm in the community. Indicative of competing priorities in the distribution of such resources are rankings from experts, politicians and members of the general community regarding their respective perceived drug research priorities. Table Two delineates experts' perceived priorities as alcohol, tobacco and narcotics, in descending order of importance, whereas both politicians and the community prioritised narcotics first and alcohol third<sup>3</sup>.

Perhaps two points are most noteworthy. Firstly, none of the three groups prioritised tobacco first, despite its overwhelming contribution to the drug related burden of harm. Secondly, politicians and the community prioritised narcotics first, despite their relatively negligible contribution to drug-related harm.

There are a number of possible explanations for the apparent disjuncture between mortality and morbidity data and perceptions of various sub-groups in the community regarding research priorities. Reasons for this discrepancy would likely vary over time and as a function of a multiplicity of factors, only some of which are discussed here.

Firstly, it may be that experts', politicians' and the general community's perceptions of harms associated with different drugs is consistent with the information they gain from the mass media and their own experience and the data in Table One do not reflect these harms with sufficient accuracy. That is, it could be that the community

harm, as measured in the scientific arena, but their perceptions of what contributes to drug related harm across the whole community are inaccurate. However, data from the 1998 National Household Survey suggest the extent of such misperceptions is unlikely to be substantial, at least with regard to mortality: about 40% of respondents correctly identified tobacco as the leading cause of drug-related death, followed by alcohol (27%) and narcotics (about 22%)<sup>1</sup>.

Thirdly, it may be that experts, politicians and members of the general community are aware of the relative contributions of specific substances to the overall drug-related burden of harm, but they do not endeavour to prioritise drug research in proportion to the contribution of each substance. That is, each of these groups may perceive competing, alternative desirable outcomes from research. For example, experts may perceive greater potential for research to impact on the burden of harm from alcohol misuse, relative to smoking, primarily due to a perception that the potential for research to further reduce tobacco-related harm is less than for alcohol. With regard to the use of narcotics, similarly, members of the general community may perceive greater potential for harm to others in the community, as opposed to the users themselves, relative to alcohol and tobacco. Finally, politicians are likely to take a host of factors into account in deciding their priorities, not the least of which would be their perceptions as to which priorities are most likely to be politically expedient.

All three of these possible explanations are likely to have some validity. Rather than being an

Table Two: Perceived priorities in drug research, 1990<sup>3</sup>

Drug	Experts	Politicians	Community
Alcohol	1	3	3
Tobacco	2	4	6
Narcotics	3	1	1

exercise in idle syncretism, however, accepting the legitimacy of alternative priorities to reducing empirical estimates of drug-related harm highlights the importance of identifying points of convergence between priorities implied by available empirical data and views of different groups in the community. Indeed, a confluence of empirical data and pragmatic experience approaches an ideal for evidence-based practice espoused by Sackett et al<sup>6</sup>.

Accordingly, it is clear that alcohol is ranked second in terms of empirical indicators of mortality and morbidity (Table One), is ranked third by both politicians and the general community in terms of priorities for drug research and ranked first by experts (Table Two).

Highlighting the relative importance of continued investment in the implementation and methodologically rigorous evaluation of alcohol harm reduction strategies does, of course, provide little indication as to where and how alcohol resources would be distributed to optimally impact upon the alcohol-related burden of harm. As a normative principle, a reasonable argument is that the distribution of resources ought to closely reflect the nature of alcohol-related harm. Specifically, the majority of resources ought to be directed toward the areas from which the greatest alcohol-related harm derives. This is not to claim that this should be the only guiding principle, or even that it is necessarily the most legitimate. Analogous to explanations for different perceptions of priorities in drug research, there are likely to be legitimate reasons for distributing alcohol harm reduction resources in a manner that does not, or at least does not with any great accuracy, reflect the distribution of alcohol-related harm identified by epidemiologically derived data.

At least two such reasons for this are immediately apparent. Firstly, measures from which epidemiological estimates of alcohol-related harm tend to derive are problematic, in terms of their reliability and validity, and the epidemiological nature of these data inevitably brings them into conflict with clinical practice. It is not easy to persuade families and practitioners who are faced, on a daily basis, with the direct consequences of drug or alcohol abuse, of the merit of favouring epidemiological numbers over their perceptions of best clinical care for their relative or patient, particularly when the epidemiological data derive from measures of uncertain reliability and validity. Throw in some media attention and political bravado and resources may well begin to shift away from attempts to minimise epidemiologically identified harms.

Secondly, the need to simultaneously consider principles of equity represents something of an ethical imperative. Rather than defining

equity as a concept of equivalent distribution across a whole community, the WHO's Alma-Ata declaration of 1978 espoused a notion of equity by which a core set of services, available to all, are complemented by resources targeted at those who are at increased health risk. This notion of equity implies resources may be directed at specific sub-populations at increased risk, even though, in epidemiological terms, they may contribute disproportionately low levels to aggregate harm in the community in general. In Australia, a striking example of this is the necessity of targeting resources at reducing the alarming rates of at-risk alcohol consumption among indigenous groups, even though such groups do not contribute high levels of alcohol-related harm in the general community since, at approximately 2%, they comprise a small proportion of the Australian population<sup>7</sup>.

Bearing in mind such caveats, enunciating the normative principle that the distribution of resources ought to reflect the nature of alcohol-related harm, begs the question as to where the majority of this harm resides. The relatively recent formulation of the preventive paradox suggests that the greatest proportion of alcohol-related harm emanates from problem drinkers who are unlikely to be highly alcohol dependent, rather than the minority who are, due to the relatively larger numbers of low-dependent drinkers<sup>8,9</sup>. Although this idea has met with some controversy, the general principle can be illustrated by the 1998 National Household Survey data: approximately 80% of respondents were current drinkers and of these, 10% drank everyday while 69% drank between once a month and 4-6 days per week<sup>10</sup>. This likelihood is also reflected in the recently updated Australian drinking guidelines, endorsed by the National Health and Medical Research Council (NHMRC) of Australia<sup>4</sup>: perhaps the most marked way in which this update differs from its predecessor is in its emphasis on patterns of drinking, rather than consumption *per se*, resulting in separate consumption guidelines for short-term and long-term risk.

To the extent that most alcohol-related harm emanates from low-dependent, problem drinkers, it might reasonably be expected that specific types of alcohol-related mortality and morbidity would predominantly reflect the harms most commonly experienced by low-dependent problem drinkers. The major difficulty with empirically illustrating this point is uncertainty in identifying which harms might reasonably be associated with low dependent problem drinking. For example, whether regular alcohol consumption in the low range of the NHMRC defined risky category for long-term harm (say 5 standard drinks per day for men) induces

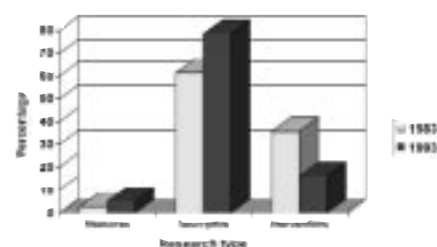
greater organic pathology over time than episodic high risk drinking (say 12 standard drinks once a fortnight) is largely unknown.

Recognising that a level of sophistication that would explicate a relatively direct association between low dependent problem drinking and resultant harms does not yet exist, does little to threaten the likelihood that, at least in general terms, there is a relatively robust positive correlation between the high prevalence of low dependent problem drinking and the prevalence of harms particular to that type of drinking pattern. Undoubtedly, as is always the case in epidemiology, greater sophistication will reveal exceptions to this relationship that will be raised in objection to the general principle. Although such exceptions are often the impetus for scientific debate and advancement, they do not generally threaten the validity of robust relationships. In any case, as the British clinical epidemiologist Geoffrey Rose once remarked, certainty is not a prerequisite for action<sup>11</sup>.

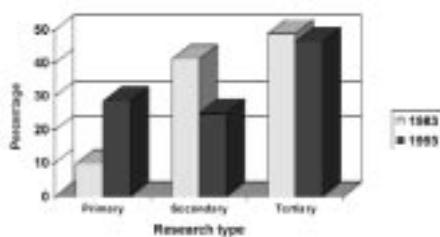
In identifying what action might be most appropriate, two main points have been raised thus far. Firstly, alcohol is the second greatest contributor to drug-related mortality and morbidity (Table One) and, in terms of priorities for drug research, is ranked third by politicians and the general community and first by experts (Table Two). Secondly, the majority of alcohol-related harm most likely emanates from low-dependent problem drinkers. The first point implies that the majority of drug research efforts would focus around the development, implementation and evaluation of interventions aimed at reducing alcohol-related harm. The second point implies that the majority of interventions would target, and be appropriate for, the sub-populations likely to comprise low dependent problem drinkers, rather than more highly dependent chronic drinkers. Figures One and Two demonstrate reasonably clearly that this is not the case<sup>12</sup>. Figure One shows the majority of published behavioural alcohol research is descriptive and, more alarming, that the proportion of intervention research is falling over time.

This is not to decry the value of descriptive and measures research, but to point out that the type of research most likely to reduce alcohol-related harm, namely intervention research, is relatively poorly represented. Similarly, Figure Two shows that the majority of intervention research being conducted is at the tertiary end of the intervention spectrum, among those that

Figure One: Distribution of published behavioural alcohol research, in 1983 (n=142) and 1993 (n=174)<sup>12</sup>



**Figure Two: Distribution of published behavioural intervention alcohol research in 1983 (n=51) and 1993 (n=28)<sup>12</sup>**



most likely contribute least to the overall burden of alcohol-related harm. Reasons for these apparent anomalies are presented elsewhere<sup>12</sup>.

In recognition of this imbalance, a current study at NDARC aims to assess the feasibility and cost-effectiveness of computerised screening and intervention for alcohol problems among general practice patients. Although it is just commencing, this study is both exciting and challenging in drawing together expertise from a number of Disciplines within the Faculty of Medicine at the University of NSW, including Community Medicine (A/Professor Robyn Richmond), General Practice (Professor Mark Harris) and the Centre for Medical Informatics (Professor Enrico Coiera), as well as clinical expertise from St Vincent's Hospital Drug and Alcohol Service (Dr Alex Wodak). Although this study represents an initial move toward interventions likely to optimally reduce drug related harm in the community, it is limited in a number of ways. Principal among these is the under-representation in general practice of sub-groups likely to contribute substantially to harm resulting from patterns of alcohol consumption characterised by low dependent episodes of drinking to intoxication: young, single, males of low socio-economic status<sup>13</sup>. Given the difficulties encountered in initial attempts at workplace interventions, alternatives such as community action approaches and internet-based interventions may be promising. However, without methodologically rigorous intervention studies in Australia, aimed particularly at those who contribute most to alcohol and tobacco-related harm, significant reductions in drug-related harm will be difficult to both achieve and demonstrate. **cl**

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## project notes

### Drug Information Short Course: Indonesia Australia Specialised Training Project (IASTP) II

**Paul Dillon, Libby Topp, Annie Bleeker and Kerri Lawrence**

Within the past three years, there has been a massive increase in injecting drug use in Indonesia, with more than 1 million injecting drug users (IDUs) now estimated in its population of more than 200 million. Risk behaviours for HIV transmission such as the sharing of needles and syringes were identified in rapid situation assessments carried out according to WHO methodology in eight Indonesian provinces last year. Also, in Jakarta, the HIV epidemic among IDUs appears to be expanding, reaching a seroprevalence of about 20% in early 2000.

The AusAid funded Indonesia Australia Specialised Training Project (IASTP) II has been requested to provide workshops for a range of helping professionals and community leaders in selected cities. Workshops are planned to include strategies and best practice interventions to generate vigorous prevention programs, development and coordination of responses to the problem, and to study the impact of drug use on the health of the whole community. Best practice in treatment of drug abuse also needs to be covered.

The Drug Information Short Course will continue to help local authorities and program facilitators

to develop practical ways of addressing the many problems associated with drugs in Indonesia. It will assist participants from varied backgrounds to understand the impact of drug-related problems on Indonesian society and to address issues related to drug use in their community, especially among young people. The multi-faceted nature of these problems, including medical, psychosocial, legal, economic and cultural aspects at the individual, group, community and societal level, means that responses need to include a variety of strategies and be inclusive of many sectors of government and community to be effective. This will involve workshops in Bandung and Mataran for community leaders, relevant government staff, health professionals and NGO staff working on drug use and HIV/AIDS in these cities.

This program is designed to provide practical support to participants to develop and implement successful plans to respond to drug-related problems, using evidence-based approaches that have proved effective in other countries. Best practice examples from Australia and from other Asian nations, as well as those viewed in Indonesia during field visits conducted during previous training courses will be used to illustrate these approaches.

The Drug Information Short Course in Indonesia will be managed by the National Drug and Alcohol Research Centre (NDARC) in association with the Manly Drug Education and Counselling Centre (MDECC). The workshops will be held at the end of October. **cl**

# abstracts

## Determining a diagnostic cut-off on the Severity of Dependence Scale (SDS) for cocaine dependence

*Addiction 97, 727-731*

**Sharlene Kaye and Shane Darke**

**Aim.** The study aimed to assess the efficacy of the Severity of Dependence Scale (SDS) as a diagnostic measure of cocaine dependence and determine the cut-off score that best discriminates between the presence and absence of a DSM-IV diagnosis of cocaine dependence.

**Design.** Cross-sectional survey.

**Setting.** Sydney, Australia.

**Participants.** One hundred and forty-two cocaine users.

**Measurements.** The diagnostic performance of the SDS was measured via ROC analysis against DSM-IV diagnoses of cocaine dependence, as measured by Composite International Diagnostic Interview (CIDI).

**Findings.** ROC analysis revealed the SDS to be a test of high diagnostic utility for the measurement of cocaine dependence. The cut-off point on the SDS at which there is optimal discrimination between the presence and absence of a DSM-IV diagnosis of cocaine dependence was found to be 3 (i.e. a score of 3 or more).

**Conclusions.** The study statistically validated the utility of the SDS as a diagnostic measure of cocaine dependence and has determined an appropriate cut off point. The SDS is recommended as a brief screening instrument for cocaine dependence that can be used in addition to more comprehensive measures such as the CIDI.

## Cannabis and psychosis

*Current Psychiatry Reports 4, 191-196*

**Louisa Degenhardt and Wayne Hall**

There has been considerable debate about the reasons for the association observed between cannabis use and psychosis in both clinical and general population samples. Among the hypotheses proposed to explain the association are the following: 1) common factors explain the co-occurrence; 2) cannabis causes psychosis that would not have occurred in the absence of cannabis use, 3) cannabis precipitates psychosis among persons who were vulnerable to developing the disorders; 4) cannabis use worsens or prolongs psychosis among those who have already developed the disorder; and 5) that persons with psychosis are more likely to become regular or problematic cannabis users than persons without

psychosis. This article evaluates the evidence on each of these hypotheses, including recent research on the role of the cannabinoid receptor system in schizophrenia. The evidence suggests that common factors do not explain the comorbidity between cannabis use and psychosis, and it is unlikely that cannabis use causes psychosis among person who would otherwise not have developed the disorder. The evidence is more consistent with the hypotheses that cannabis use may precipitate psychosis among vulnerable individuals, increase the risk of relapse among those who have already developed the disorder, and may be more likely to lead to dependence in persons with schizophrenia.

## Cocaine use in New South Wales, Australia, 1996-2000: 5 year monitoring of trends in price, purity, availability and use from the illicit drug reporting system

*Drug and Alcohol Dependence 6, 81-88*

**Shane Darke, Sharlene Kaye and Libby Topp**

This paper describes trends in the price, purity availability and use of cocaine in Sydney, Australia monitored by the Illicit Drug Reporting System (IDRS) between 1996-2000. The IDRS monitors illicit drug trends by means of triangulation of data from interviews with injecting drug users (IDU), reports of key informants, and analysis of indicator data. The price of a 'cap' of cocaine fell from A\$80 in 1997 to A\$50 in 1998, and remained at the lower price in subsequent years. Cocaine purity was high in all years (range 50-64%), and was highest in the 1997-1998 period. The availability of cocaine and its use by IDU increased substantially, 1997 and 1998, and remained high in subsequent years. The median number of cocaine use days also increased substantially between 1997 (4 days) and 1998 (25 days), and remained at higher levels than prior to 1998 in subsequent years. Cocaine use was primarily of powder, by injection, and strongly associated with existing heroin injectors. The availability and use of crack remained rare in Sydney. Use of cocaine among IDU was associated with more frequent injections, more injection-related health problems, higher levels of needle sharing, and higher levels of criminality. It is concluded that the use and availability of cocaine in Sydney increased substantially between 1997 and 1998, and has remained entrenched in the Sydney illicit drug market. The regular and formal monitoring of illicit

drug trends enabled substantial changes in the cocaine market in Sydney to be detected, and the information to be fed back to the health and law enforcement sectors.

## Accidental fatalities among heroin users in South Australia, 1994-1997: toxicological findings and circumstances of death

*Addiction Research and Theory 10, 335-346*

**Catherine McGregor, Robert Ali, Robert Lokan, Paul Christie and Shane Darke**

A total of 101 accidental deaths were identified among heroin users in South Australia for the period 1994-1997. Mean age at death was 29.9 years. Cases typically involved a single, unemployed, Caucasian male in his late twenties with a history of heroin and other drug use. Two or more drug types were detected in 80% of cases. The total number of substance types identified increased significantly with age. In comparison to younger fatalities, alcohol and benzodiazepines were identified in more of those 27 years of age and over. Thirteen deaths occurred within four weeks of release from prison and in nine cases tricyclic anti-depressants were found. The majority of deaths occurred in a private home and in the presence (or near proximity) of others. Identified risk factors included: being male, being a long-term heroin user; recent release from prison; use of tricyclic antidepressants and/or other central nervous system depressants.

## Results from the 4th National Clients of Treatment Service Agencies census: changes in clients' substance use and other characteristics

*Australia and New Zealand Journal of Public Health 26, 352-357.*

**Fiona Shand and Richard Mattick**

**Objective:** The 2001 Clients of Treatment Service Agencies (COSTA) census, the fourth since 1990, was conducted to enable a comparison of the drug and alcohol-related problems being treated over an 11-year period.

**Method:** The 24-hour census was conducted on Wednesday 2 May 2001 in all Australian States and Territories. All agencies providing treatment for drug and alcohol problems in Australia were asked to provide demographic, treatment and substance use information about all clients treated on census day. The data were analysed with frequencies and basic descriptive statistics.

**Results:** Of the agencies surveyed, 90.3% responded. The census suggests that, among the treatment population, the mean age of substance users has decreased and the proportion of clients who are women has increased. Treatment for opiate, cannabis and amphetamine problems increased; treatment for alcohol problems decreased. Substance use patterns differed according to sex, age, size of the population centre, and Indigenous status.

**Conclusions and Implications:** Changes among the treatment population reflect changes in demographics and substance use among the broader drug-using community, with the exception of the presentation of alcohol problems for treatment. The reasons for the apparent decline in treatment for alcohol problems are not clear, although a number of factors, such as changes in treatment strategies and facilities and relative increases in other substance use problems, are considered. Any decrease in treatment for a significant health problem such as alcohol use disorder will have considerable public health implications.

## Hair morphine concentration of fatal heroin overdose cases and living heroin users

*Addiction* 97, 977-984

**Shane Darke, Wayne Hall, Sharlene Kaye, Joanne Ross and Johan Duffou**

**Aims.** To compare heroin and other opiate use of heroin overdose fatalities, current street heroin users and drug-free therapeutic community clients.

**Design.** Hair morphine concentrations that assess heroin use and other opiate use in the 2 months preceding interview or death were compared between heroin overdose fatalities diagnosed by forensic pathologists (FOD) (n = 42), current street heroin users (CU) (n = 100) and presumably abstinent heroin users in a drug-free therapeutic community (TC) (n = 50).

**Settings.** Sydney, Australia.

**Findings.** The mean age and gender

breakdown of the three samples were 32.3 years, 83% male (FOD), 28.7 years, 58% male (CU) and 28.6 years, 60% male (TC). The median blood morphine concentration among the FOD cases was 0.35mg/l, and 82% also had other drugs detected. There were large differences between the three groups in hair morphine concentrations, with the CU group (2.10 ng/mg) having concentration approximately four times that of the FOD group (0.53 ng/mg), which in turn had a concentration approximately six times that of the TC group (0.09 ng/mg). There were no significant differences between males and females in hair concentrations within any of the groups. Hair morphine concentrations were correlated significantly with blood morphine concentrations among FOD cases ( $r=0.54$ ), and self-reported heroin use among living participants ( $r=0.57$ ).

**Conclusions.** The results indicate that fatal cases had a lower degree of chronic opiate intake than the active street users, but they were not abstinent during this period. **cl**

## recent publications

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

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