



prevent practice...

Annual Report 2012

National Drug and Alcohol Research Centre

Medicine

National Drug and Alcohol Research Centre

A blurred photograph of a city street at night, with numerous out-of-focus lights from cars and street lamps creating a bokeh effect.

treat understand intervene



policy

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ABOUT THE CENTRE

The National Drug and Alcohol Research Centre (NDARC) is a premier research institution in Sydney, Australia and is recognised internationally as a Research Centre of Excellence. NDARC was established at the University of New South Wales (UNSW) in May 1986 and officially opened in November 1987. It is funded by the Australian government as part of its National Drug Strategy.

Our mission

To conduct and disseminate high quality research and related activities that increases the effectiveness of responses to alcohol and other drug related harm.

Our values

To achieve our mission and carry out our purpose we are committed to:

- Maintaining intellectual independence and acting in the public interest
- Scientific rigour
- Originality and creativity
- Public accountability, communicating evidence openly
- Ethical behaviour
- Articulating and reflecting on the assumptions in Alcohol and Other Drugs (AOD) research and public discourse
- Contributing to closing the gap in avoidable AOD related morbidity and mortality and service access for Aboriginal and Torres Strait Islander peoples and people living in rural and remote settings
- Producing research that maintains a consumer, community, policy and scientific focus
- Meaningful engagement with research participants
- Contributing to both Australian and international efforts to reduce alcohol and other drug related harm
- Building an organisational culture that supports professional development and the generation of new ideas.

Key outcome areas

The areas of work in which we seek to achieve outcomes are:

- The development and testing of new and existing interventions
- Improving the understanding of the nature and extent of AOD use and harm
- Building research capacity in the sector
- Conducting policy research
- Communicating the outcomes of research

Executive Committee/Office of the Director

The Executive Committee was the major decision-making body in NDARC until June 2012. In June 2012, the governing structure changed, and the Executive Committee was replaced with the Office of the Director.

Executive Committee Members

Director

Professor Michael Farrell

Assistant Directors

Professor Maree Teesson

Professor Jan Copeland

Professor Alison Ritter

Associate Professor Anthony Shakeshaft

Office of the Director members

Director

Professor Michael Farrell

Deputy Directors

Professor Alison Ritter

Associate Professor Anthony Shakeshaft

Centre Operations Manager

Karen Hill

Media Communications Manager

Marion Downey

Strategic Advisory Committee

The Strategic Advisory Committee is a group of senior academic staff whose function is to provide strategic advice to the Office of the Director, relating to research directions. The Committee was formed in June 2012. In 2012 the members of the Committee were:

Professor Michael Farrell

Dr Lucy Burns

Professor Jan Copeland

Professor Shane Darke

Professor Louisa Degenhardt

Professor Kate Dolan

Ms Marion Downey

Ms Karen Hill

Professor Richard Mattick

Professor Alison Ritter

Associate Professor Anthony Shakeshaft

Associate Professor Tim Slade

Professor Maree Teesson

NDARC Advisory Board

In 2012 the members of the NDARC Advisory Board were:

Mr Bob Mansfield AO, FCPA,
Chair of NDARC Advisory Board
Director, Investec Bank (Australia) Limited

Professor Michael Farrell MB, BCh, BAO,
LRCP&SI Honours in Medicine, FRCP, FRC
Psych

Director, National Drug and Alcohol
Research Centre
Faculty of Medicine, University of
New South Wales

Professor Denis Wakefield, MBBS, MD, DSc,
FRACP, FRCPA Associate Dean (Research),
Faculty of Medicine, University of New South
Wales

Professor Les Field BSc, PhD, DSc, CChem,
FRACI, FAA Deputy Vice Chancellor
(Research) & Professor of Chemistry,
University of New South Wales

Dr Don Weatherburn BA (Hons), PhD, PSM,
FASSA
Director, NSW Bureau of Crime Statistics and
Research

Mr David McGrath, BSc, MBA
Director, Mental Health and Drug & Alcohol
Programs NSW Health

Professor Mel Miller, BA (Hons) Psychology,
MAppPsych, PhD
Director, Siggins Miller (joined board 15th
August 2012)

CHAIRMAN'S REPORT



Mr Bob Mansfield AO

The future lies in collaborative networks across multiple - disciplines - mental health, addiction, psychiatry, psychology, epidemiology, neurobiology

When I was given the opportunity to become Chairman of the Advisory Board of NDARC in 2011 I jumped at the chance. NDARC enjoys a well deserved reputation within the University, within Australia and internationally.

As well I recognised that the misuse of alcohol, illicit drugs and tobacco is a major problem in Australia leading to significant preventable ill health, premature death and sizeable social and economic costs. I doubt there is a single individual or family in Australia who have not been affected directly or indirectly by their own or someone else's drinking or substance misuse.

The economic story is also extremely compelling. A conservative estimate of the cost of illicit drug and alcohol use is around \$25 billion. The figure more than doubles when tobacco is included. Yet to even begin to make a dent into that sizeable cost to the public purse we need to know the size of the problem, the causes of the problem and importantly what treatment responses and policy responses have the greatest chance of success.

This is never more crucial than in a field subject to intense media focus like drug and alcohol. A single incident, like a footballer getting into strife as a result of substance use, or the death of a young person like the tragic death of teenager Thomas Kelly on a night out in King Cross, can dominate the media agenda for days and weeks. The danger is that governments may feel the need to deliver instant responses to satisfy the public's demand for action while the real problem remains undefined and the solution elusive.

Drug and alcohol, like climate change and obesity, to name but a few, fall into the category of what social planners and economists call "Wicked Problems" - that is, they are messy, hard to define and do not have a single solution. As the pages of this report amply demonstrate the focus of the research team at NDARC is to ask the questions and provide the evidence via rigorously designed research trials, which in turn can inform government policy and clinical practice.

That in many ways is the easy bit. The far harder task is integrating that evidence into policy and practice - particularly when the answers cannot be packaged into neat solutions to be placed in the "problem solved" box, accompanied by glowing headlines and digestible sound bites. Indeed NDARC has an entire research program, the Drug Policy Modelling Program, which has as a major focus the translation of research and how to optimise evidence uptake in policy and practice. If only it were as simple as "here is the result of our study and now here are the policy and clinical guidelines".

Nevertheless, despite the complexity of incorporating research evidence into practice, governments continue to see the value of research in our field. This was demonstrated by the announcement mid-year of \$24 million in federal research funding over three years to a collaborative network comprising the three national centres - NDARC, the National Drug Research Institute (NDRI) in Perth and the National Centre for Education and Training on Addiction (NCETA) in Adelaide - as well as the data collection agencies the Australian Institute of Health and Welfare (AIHW) and the National Coronial Information Service (NCIS).

In the meantime the Advisory Board has its own "Wicked Problem" to solve -- that is to find suitable accommodation for the Centre, which will not only provide a 21st century building for its expanding staff but will crucially help to integrate it more fully with the main University by placing it on main campus.

At present NDARC is housed in what has been "temporary" accommodation for more than 10 years in two buildings a few kilometres from the main campus. Its leadership team maintains strong working relationships with the Faculty of Medicine and the Vice-Chancellor's Office. But that is not the same as being where the action is. The future of the field lies in collaborative networks across multiple disciplines - mental health, addiction, psychiatry, psychology, epidemiology, neurobiology and clinical trials. Physical proximity is not everything but it does help, particularly when it comes to fuelling the engine room of research, which begins with creative ideas generated by some of our greatest minds working together. Over the coming year the Advisory Board has set as a key objective the sourcing and funding of new accommodation for NDARC. We hope to report back on our progress in next year's report.

Finally, I would like to thank Professor Michael Farrell and all the energetic staff at NDARC for their excellent work and results during the year.

A handwritten signature in black ink that reads "R. Mansfield".

Mr Bob Mansfield AO
Chairman, NDARC Board of Management

DIRECTOR'S REPORT

NDARC continues to develop and focus on areas of strength and priority. We are now nearly half way through the three year cycle of core funding from the Drug Strategy Branch of the Australian Government Department of Health and Ageing (DOHA). The range of work published in this report covers most of the major areas of concern of the National Drug Strategy.

There are major projects on prevention in young people and parental and family factors influencing young people's drinking. We are also well advanced with the study of the impact of parental substance use on infant development and family functioning. As well we have new projects to further study cohorts of adolescents to assess resilience and vulnerability factors in relation to social development and substance use and mental health. This work has been complemented this year by the funding of a new Centre for Research Excellence on Mental Health and Substance Use, led by Professor Maree Teesson. We are also part of a new Centre of Research Excellence in Suicide Prevention at the Black Dog Institute, led by Professor Helen Christensen. The Centres will officially open in 2013.

Professor Louisa Degenhardt is collaborating with the Centre of Research Excellence for Evidence-based Mental Health Planning: Translating Evidence into Policy led by Professor Harvey Whiteford at the University of Queensland. Professor Alison Ritter is an investigator on the Centre for Research Excellence into Injecting Drug Use (CREIDU), led by Professor Paul Dietze at the Burnet Institute in Melbourne.

Professor Richard Mattick and Dr Delyse Hutchinson have a number of cohorts and have been well along with the developmental cohort study, Triple B (Bumps, Babies and Beyond) which is following the development of 2,000 young people from birth to assess the impact of exposure to tobacco, alcohol and other drugs on development.

Associate Professor Anthony Shakeshaft is leading a range of projects exploring options for interventions to support Indigenous youth with alcohol problems.

Dr Lucy Burns leads the DOHA funded national drug trends monitoring program which includes the Illicit Drugs Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting System (EDRS). This year she has established an early warning internet monitoring project to assess the rapidly evolving problem of new psychoactive drugs.

The Drug Policy and Monitoring Program under the leadership of Professor Alison Ritter continues to be involved in collaborations with a large network of international drug policy researchers. Her program of research is grappling with the challenging issues of how governments use research to shape rational and sensible drug policy.

Professor Jan Copeland's steady directorship of the National Cannabis Prevention and Information Centre (NCPI) provides a national focus on the use and harms related to cannabis and she is developing innovative technical responses to enhance access to young cannabis users through new technologies.

Over the past year, NDARC and our collaborating centres the National Drug Research Institute (NDRI) and the National Centre for Education and Training on Addictions (NCETA) have worked strategically, in consultation with senior officials at the Drug Strategy Branch in DOHA. This collaboration of the three research centres continues to feed into the federal government's progress on responding to and developing the National Drug Strategy and ensuring good links with the Inter-Governmental Council on Drugs.

All of this work is consistent with an approach that focuses on both national and international collaboration with key researchers to help the field develop its capacity to respond to the challenges of addictions and to find new ways of responding to these problems.

The broader University funding environment continues to be uncertain. But the Dean and the Vice Chancellor of UNSW have given strong support to NDARC in its aim to establish a new building for the Centre. Our work into the future requires a state of the art research facility within the main UNSW campus that is aligned to the other disciplines with which we work closely.



Professor Michael Farrell

NDARC is a unique centre covering an important range of research from prevention through to treatment and, through this, contributing to the National Drug Strategy as well as improving understanding globally. The pages of this report present a broad picture of the prolific output of all our staff this year. We have publicised nearly 250 reports and peer reviewed journal articles and made over 200 presentations at local and international conferences. Our success in obtaining new grants and progressing current projects is evident and I would like to thank all our staff for their continued hard work.

I would in particular like to thank Colleen Krestensen and her staff at the Drug Strategy Branch in DOHA for their unstinting support and for the opportunity to work closely to enable ongoing translation of research into practice and action at all levels of society.

A handwritten signature in black ink that reads "Michael Farrell".

Professor Michael Farrell
Director, NDARC

THE YEAR IN REVIEW

The past year has been one of achievement, growth and consolidation for NDARC.

Under the stewardship of the Director of NDARC Professor Michael Farrell the Centre completed its strategic review for the five years to 2017. The whole of the NDARC staff, our Advisory board and a range of stakeholders contributed to the planning process.



Dr David Allsop

In June the federal government announced \$24 million to fund the three national research centres - NDARC, the National Drug Research Institute (NDRI) in Perth and the National Centre for Education and Training on Addiction in Adelaide - as well as the invaluable data collection of the Australian Institute of Health and Welfare (AIHW) and the National Coronial Information System. Securing this funding supports the infrastructure of the Centre for the next three years which enables us to attract further funding through competitive grant bodies such as the National Health and Medical Research Council (NHMRC). The long term funding of the National Research Centres has enabled Australia to achieve some of the highest and most productive outputs in drug and alcohol research outside of the United States, where over 80% of the world's drug and alcohol research is undertaken.



Dr Emma Barrett

In 2012 the Centre attracted over \$7.1 million in grants and fellowships from the NHMRC. Funded projects that will commence next year include \$1.7 million to develop and evaluate internet based programs to help prevent mental health and substance use problems in adolescents; \$950,000 for a clinical trial of internet based treatment for binge drinking and depression in young Australians; \$700,000 for a study of behavioural activation therapy in treating depression among opioid dependent individuals; and \$500,000 to investigate the cost benefit of health interventions for heroin use.



Dr Deborah Bradford

Another exciting development was the awarding of \$2.5 million to establish a new Centre of Research Excellence in Mental Health and Substance Use, a debilitating comorbidity which affects over 300,000 Australians every year. The Centre will commence next year in collaboration with the University of Sydney, Macquarie University, the University of Newcastle, the University of Birmingham in the UK, Northwestern University Medical School in the USA and the Medical University of South Carolina in the USA.



Dr Courtney Breen

Below we present some highlights for the year organised by research area. More detail on each of the projects is given in the Current and Completed Projects section of this report.



Dr David Bright

who hurt people: Anger and violence among individuals with substance use disorder and post traumatic stress disorder'. Ms Philippa Ewer completed her Master's of Clinical Psychology (MACQ) thesis that examined treatment outcomes of exposure-based therapy for post traumatic stress disorder amongst individuals with substance dependence and a history of child sexual assault.

Comorbidity

- An estimated 35% of Australians with alcohol and other drug (AOD) problems have a co-occurring mental illness and in some treatment populations the rate reaches 85%. NDARC has an active program of research in this area. In 2012 a consortium led by Professor Maree Teesson received funding for \$2.5 million from the National Health and Medical Research Council, to establish a Centre of Research Excellence (CRE) in Mental Health and Substance. The CRE is a world first, bringing together the largest concentration of nationally and internationally recognised comorbidity researchers.

TREATMENT AND INTERVENTION

Post traumatic stress disorder

- Dr Katherine Mills and colleagues published the findings of their world-first randomised controlled trial examining the efficacy of an integrated exposure-based treatment for substance use and post traumatic stress disorder (PTSD) in the *Journal of the American Medical Association*. The treatment manual used in this study, Concurrent Treatment of PTSD and Substance Use Disorders Using Prolonged Exposure (COPE), was also published as an NDARC Technical Report. Two research theses were also completed using data from this study. Dr Emma Barrett was awarded her PhD (UNSW) for her dissertation entitled 'Hurt people

Depression and opioid use

- Dr Joanne Ross won NHMRC funding to conduct a clinical trial of individual behavioural activation treatment for depression among opioid replacement therapy clients. The trial will be informed by the results of a pilot randomised controlled trial, funded by the NSW Department of Health, which tested the feasibility of an outpatient group intervention (BATD-R) for depressed, opioid dependent clients. The study found that behavioural activation therapy shows promise among this group.

Around 35% of Australians with AOD problems have **comorbid** mental illness, rising to 85% in some groups

- PhD student Sonja Memedovic continued examining depression in individuals with opioid dependence. Amy Johnston is close to completion of her doctoral thesis, which is investigating suicidal thoughts and behaviours in the general population, with a focus on the relationship between these phenomenon and alcohol and drug use and disorders.

Opioid Treatment

- The Drug Policy Monitoring Program (DPMP) commenced studying the processes surrounding the establishment of the naloxone program in the ACT. Naloxone is a drug which reverses the effects of opioids for people who use drugs, such that it can be administered rapidly at the point of an overdose, preventing death. It has been introduced in a number of Australian jurisdictions in 2012.
- Professor Alison Ritter continued to chair the Expert Reference Group for the national planning model for drug and alcohol treatment services (DA-CCP). This important project, due for completion in early 2013, will inform all jurisdictions about the extent of unmet demand for treatment services.
- The project to develop an opioid aberrant drug behaviour scale was completed following three years of development and testing led by Dr Briony Larance. The scale is a tool to help clinicians identify behaviours related to prescribed opioids, which may reflect problems with treatment.
- Professors Mattick and Degenhardt and Dr Larance completed the data collection for their project on the extent of diversion and injection of pharmaceutical opioids used in opioid substitution treatment, and the harms associated with this diversion. A technical report summarising the main trends is underway. The findings will build on the post-marketing studies of buprenorphine-naloxone (Suboxone® sublingual tablets) conducted by NDARC over the period 2006 – 2008.

Cannabis

In 2012 the National Cannabis Prevention and Information Centre (NCPIC) continued its exciting work around cannabis withdrawal and pharmacological interventions.

- Dr David Allsop and Professor Jan Copeland are leading a world first trial of SATIVEX® for the management of cannabis withdrawal. Recruitment of 51 DSM-IV dependent cannabis smokers who were seeking treatment for their cannabis use was completed in October 2012 and data collection completed the following month. The data are currently being cleaned and analysed ready for publication in 2013. The work was presented at the November 2012 APSAD meeting in Melbourne and at the 2012 conference for Drug and Alcohol Nurses of Australia.
- Dr Allsop and colleagues published an extension to their work developing the cannabis withdrawal scale. Dr Allsop's work has demonstrated a potential link between the level of functional impairment experienced during cannabis withdrawal and the likelihood of relapse to cannabis during a quit attempt. This work adds

scale, published in 2011, was voted in the top 10 publications for 2011 that impact on clinical practice by the American Society of Addiction Medicine.

- In 2012 Dr Allsop completed the analysis of a small pilot dataset consisting of Electroencephalogram (EEG) recordings from 10 DSM-IV dependent cannabis users as they went through cannabis withdrawal. Previous work has shown that EEG band power does not significantly increase during cannabis abstinence, suggesting that cerebral perfusion deficits associated with cannabis use persist after abstinence. Dr Allsop will use his dataset to test these ideas and explore possible neural signatures for recovery during cannabis withdrawal. He hopes to publish the work in 2013.
- Dr Allsop is working with Professor Copeland to analyse the Australian Institute of Health and Welfare's National Minimum Dataset on use of AOD treatment services in NSW, to explore the impact of NSW 'cannabis only' treatment clinics initiative on cannabis treatment seeking behaviour in NSW. The work is intended for publication in 2013.



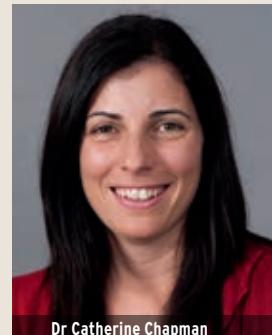
Dr Lucy Burns



Dr Natacha Carragher



Dr Jenny Chalmers



Dr Catherine Chapman



Dr Nicole Clement

A growing evidence base on cannabis withdrawal syndrome is driving the push for new treatments

to the growing evidence base on cannabis withdrawal and will support current proposals to include the cannabis withdrawal syndrome as a distinct condition in the next revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The manuscript arising from this work received an immense amount of interest from the public. The work was voted number two in the list of top substance abuse research findings of 2012 by *About.com* (a specialist knowledge resource website owned by *The New York Times*). The initial work on the

Methamphetamine treatment

- Lynne Magor-Blatch, PhD student, with Professor Jan Copeland and Dr John Howard from NCPIC, completed her study on the characteristics of methamphetamine users entering treatment in therapeutic communities. The study investigated whether there is a difference in outcomes between clients who have undertaken a treatment intervention in the therapeutic community setting and those who have received 'treatment as usual', rather than the intervention.



Prof. Jan Copeland



Dr Ryan Courtney



Prof. Shane Darke



Prof. Louisa Degenhardt



Prof. Kate Dolan

- Dr John Howard is supervising a Forensic Masters project which aims to examine whether a legal mandate to enter residential AOD treatment and related factors such as motivation and perceived coercion from legal as well as other sources impact upon treatment engagement and retention.

Indigenous communities

- Indigenous Australians experience a disproportionately high burden of alcohol-related harm relative to non-Indigenous Australians. These alcohol-related harms are typically cumulative, extending beyond the individual to the family and community. A unique study being led by Bianca Calabria and Associate Professor Anthony Shakeshaft aims to assess the acceptability, feasibility and likely cost-effectiveness of family-focused Community Reinforcement and Family Training (CRAFT) for Indigenous Australians with alcohol use problems compared with a program focussed on the individual. Counsellors have been trained in the delivery of the modified interventions and the project is in active recruitment phase. Three papers have been published in the peer-review literature and the project was presented at several conferences in 2012.
- In another Indigenous community project, PhD student Ansari Bin Jainulabdeen continued his evaluation of the cost-effectiveness of a community-based program to reduce binge drinking among young Indigenous Australians, as well as the cost-effectiveness and cost-benefit of providing treatment in an Indigenous-specific residential rehabilitation facility. The findings of the project will strengthen the evidence base required to develop appropriate and effective Indigenous health policy in Australia. It will also provide policy makers with evidence about a suitable mix of policies for a given set of budget constraints.
- Dr John Howard led an ongoing NCPIC funded project that aims to provide up-to-date, evidence-

Low income Australians are smoking at double the rates of people from higher socio-economic groups

based information to young people, and Aboriginal and Torres Strait Islander peoples, and rural and/or remote communities. The project is identifying the resources currently being used by these communities to deal with cannabis-associated concerns among the target groups, and aims to ensure awareness of the range of NCPIC options. To date, presentations and workshops have been held at: Charleville, Cunnamulla and Cherbourg in Queensland, and Griffith, Temora, Wagga and Macquarie Fields in NSW, yielding rich data and ideas for resource development and partnerships.

Tobacco

- A four year NHMRC-funded project investigating a novel approach to improving smoking cessation outcomes among low socioeconomic status (SES) smokers, led by Professor Richard Mattick, commenced in 2012. The aim of this randomised-controlled trial is to examine whether the provision of counselling support about the financial implications of smoking, in addition to Nicotine Replacement Therapy and quit support, reduces financial stress and improves quit rates among low-income smokers. Following recruitment of key project staff and the establishment of recruitment protocols with Quitline Victoria and the Department of Human Services, pilot testing was successfully completed at the end of 2012. Recruitment of over 1,000 daily low-income smokers for this study will commence from early 2013.

Fetal Alcohol Spectrum Disorders

- Dr Courtney Breen and Dr Lucy Burns completed a number of projects aimed at furthering community understanding of Fetal Alcohol Spectrum Disorder. Research found that FASD carers are often stigmatised and find it difficult to obtain a diagnosis and

to access appropriate services and professionals in health and education. Dr Breen presented her findings at APSAD in Melbourne and the final report was published by the funders the Foundation for Alcohol Research and Education (FARE).

- Dr Lucy Burns coordinated the update of the 2009 Monograph of Fetal Alcohol Spectrum Disorders in Australia. The 2009 monograph edited by Dr Burns et al was released in June 2012.

e-Health

- NDARC is leading a number of projects evaluating treatments and interventions delivered online. Dr Frances Kay Lambkin and Professor Maree Teesson secured NHMRC funding for a randomised clinical trial of internet-based treatment for binge drinking and depression in young Australians. The project will commence in 2013 and will form the basis for Mark Deady's PhD research. Other e-health projects commenced recruitment throughout the year, including one that targets psychostimulant users and another trialling computerised treatment in an early psychosis service. Recruitment was completed and a paper published on computer-based depression and substance use interventions within residential substance abuse programs. Finally, the 'Clearing the Cloud' online portal, which links the general community, health professionals and researchers to the evidence produced by the e-health group at NDARC, was finalised. It can be viewed at: www.clearingthecloud.org.au/

- The NCPIC is also developing a number of exciting interventions designed to be delivered online and has developed an innovative smartphone app for young people wanting feedback on their cannabis use. For more information see: ncpic.org.au/ncpic/treatment-studies/

Marginalised and vulnerable groups

- Dr Lucy Burns continued her study of homelessness and related issues, undertaking evaluations of numerous programs for the homeless including the NSW Government's Platform 70 initiative, the Inner City Assertive Outreach Service and the Inner City Youth at Risk Project. An evaluation of Mission Australia's long-term housing program, 'the MISHA project', is ongoing. A study on homeless women's reproductive health issues as perceived by service providers was completed, with the final report due to be published in 2013. A contract evaluation of Drug and Alcohol Consultation Liaison Services in NSW progressed, with a draft document on models of care submitted to NSW Health in May. The final analysis is due to the department in December 2013.
- Dr John Howard worked with Youth Off The Streets to transform the previously developed Clear Youth Vision print resource into a web-based intervention for young people experiencing cannabis use-related difficulties. There are plans to further develop the print resource into a version for those with lower literacy.

Cognitive neuroscience

- Dr Janette Smith, aided by a UNSW Vice-Chancellor's Postdoctoral Research Fellowship, extended the reach of NDARC's research in neuroscience. She has almost completed data collection on a study of cognitive deficits associated with heavy drinking and cannabis use in young adult university students. Results suggest poorer memory, poorer behavioural control and poorer monitoring of ongoing performance, in binge-drinkers compared to non-bingeing controls. Recruitment of cannabis users is still ongoing and journal articles relating to the study are in preparation.
- Together with colleagues in the UNSW School of Psychology (Dr Jacqueline Rushby and Honours student Dr Bronwyn Hegarty), as well as collaborators at the University of Wollongong, Dr Smith has

investigated whether brief inhibitory training can reduce alcohol consumption immediately after, and in the week following, performance of the inhibitory task. Some variations of the protocol produced similar levels of alcohol consumption to a brief alcohol intervention, as well as producing changes in the brain's frontal approach/avoidance rhythms when participants viewed pictures of beer. Other variations that did not produce the desired effect have nonetheless narrowed the research space, and plans for follow-up studies are underway.

- Dr Smith won the prestigious International Society for Neuroimaging in Psychiatry Award and travelled to Bristol Tennessee in the United States to collect her award and present her research on the use of event-related potentials to auditory stimuli in the Go/NoGo task.

Detailed findings regarding burden attributable to mental disorders and illicit drug use are being prepared for publication in 2013. Seven papers reporting on the overall findings were published in December, forming the first ever triple issue of *The Lancet*. The study found mental illness is now the largest contributor to disability worldwide, with drug and alcohol use disorders contributing the most to mental disability after depression and anxiety. A paper on the illicit drug use findings, with detailed country by country analysis is under preparation.

Alcohol

- Professor Shane Darke undertook four projects examining various aspects of morbidity and mortality among drug users in 2012. Among them was an examination of sudden or unnatural deaths involving very high alcohol concentrations that had presented to the Department of

Mental illness is the largest contributor to disability worldwide. Drugs and alcohol are the third largest cause of mental health disability

PATTERNS OF ALCOHOL AND DRUG USE

Global burden of disease

- After five years of work, and with 487 authors contributing to papers and many more contributing via their membership on 47 expert groups, findings from the 2010 Global Burden of Disease (GBD 2010) study were launched in London in December 2012. GBD 2010 was the largest effort to date to systematically describe both global and regional causes of 291 diseases and injuries, and risk factors for health problems. Professor of Epidemiology at NDARC, Louisa Degenhardt, co-chaired the Expert Group for the study on Mental Disorders and Illicit Drug Use (along with Professor Harvey Whiteford from The University of Queensland).
- Forensic Medicine in Sydney between 2007 and 2011. Characteristics and circumstances of death were determined for 264 cases, and two papers have been submitted.
- Professor Darke also led a project that aimed to determine the strength of association between national per capita alcohol consumption with homicide and suicide rates in Australia in the 30 years to 2009. Results show beer consumption was positively correlated with homicide rates while the relationship of alcohol consumption to suicide was narrower than that observed for homicide. A paper has been submitted.
- Dr Wendy Swift and Professor Louisa Degenhardt are chief investigators on a study analysing data from Dr George Paton's Victorian Cohort



Natasha Gisev



Dr John Howard



Dr Caitlin Hughes



Dr Delyse Hutchinson



Dr Sharlene Kaye



Dr Frances Kay-Lambkin



Dr Jo Kimber



Dr Sarah Larney



Dr Christina Marei



Dr Francis Matthew-Simmons

Study '2,000 stories'. One paper is under review and one in draft. Dr Swift has also commenced work on a paper examining the adolescent predictors of alcohol use disorder symptoms in young adulthood, which was accepted as an oral presentation at the upcoming meeting of the International Federation of Psychiatric Epidemiology in Leipzig, Germany in 2013.

- In late 2012 Associate Professor Tim Slade was appointed Director of the Epidemiology stream for the newly appointed NHMRC Centre of Research Excellence in Mental Health and Substance Use, led by Professor Maree Teesson. This program of research aims to carry out epidemiological studies, both cross-sectional and longitudinal, examining the prevalence, correlates and natural history of mental health and substance use disorders. Research will address the following questions: How has the prevalence of risky alcohol use and alcohol use disorders changed over time? How has the gender gap in risky alcohol use changed in more recent decades? What is the extent of the delay between the onset of a substance use disorder and the onset of treatment seeking? Does this delay differ depending on different demographic characteristics? Are the proposed changes to the DSM-IV diagnosis of alcohol use disorder valid?
- Throughout 2012 Associate Professor Tim Slade, Professor Maree Teesson, Dr Catherine Chapman and colleagues continued to lead national and international collaborative projects using data from the 2007 National Survey of Mental Health and Wellbeing (NSMHWB). These included projects examining the relationship between pre-existing mental disorders and the subsequent development of substance use disorders, with a specific focus on different risk profiles for men and women; the transition from onset of first drinking to alcohol dependence; predictors of the transition from first cannabis use to cannabis

use disorder; and the relationship between intimate interpersonal trauma and PTSD symptom endorsement.

- Professor Richard Mattick and collaborators from the National Drug Research Institute (NDRI) and from Turning Point Alcohol and Drug Centre in Melbourne began work on the Young Australians Alcohol Reporting System (YAARS). This project will be trialled in Western Australia, Victoria and New South Wales. It combines information from existing data sources with annual data gathering, targeting at risk young people (16 - 19 years old) to provide: an early warning system on risky patterns of alcohol consumption, contexts of use and related harms that will also allow tracking of changes in use and harm over time.

Mental Health

- Dr Natacha Carragher continued her collaborations with colleagues in Australia and abroad investigating the underlying structure of mental disorders and the implications for classification and diagnosis, including post traumatic stress disorder, major depression and ADHD. Dr Carragher, Dr Matthew Sunderland and colleagues at the Australian National University were successful in receiving funding to examine age-related bias in the diagnostic criteria for major depression and to develop population-based hierarchical adaptive mental health screening measures. This work will commence early in 2013.
- Professor Degenhardt led a longitudinal analysis of the relationship between alcohol use and mental disorders as individuals move from adolescence to young adulthood. By December 2012 two papers were under review, another two were about to be submitted, and work was proceeding on another four papers.

Attention deficit hyperactivity disorder and substance use disorders

- Dr Sharlene Kaye, in collaboration with colleagues from the National Drug Research Institute, completed recruitment for an international study of the prevalence of attention deficit hyperactivity disorder (ADHD) among people with substance use disorders (SUD). The International ADHD in Substance use disorders Prevalence (IASP) study is a multi-site study, conducted in eight European countries, Australia and the United States. The Australian arm of the IASP study aims to assess current ADHD symptoms among adults entering alcohol and other drug treatment, the relationship between ADHD symptoms and the onset and course of SUD, and the nature and level of risk-taking behaviour associated with ADHD symptoms. Four hundred and eighty nine participants were successfully recruited across 12 treatment agencies in Sydney and Perth. Three scientific papers based on the overall international findings have been submitted to international journals and several more are currently in preparation. Papers reporting the Australian findings are in preparation pending final data analysis.

Opioids

- Professor Shane Darke continued his longstanding research on heroin dependence, reviewing the literature to determine the efficacy of self-medication as a theory of heroin dependence. Professor Darke presented his findings at the NDARC Annual Symposium and had a paper accepted by *Addiction*.
- Professors Maree Teesson, Shane Darke and colleagues continued their NHMRC-funded project following up the original 2001 cohort of the Australian Treatment Outcome Study (ATOS), Australia's first large-scale longitudinal treatment outcome study of those with heroin dependence. With this extension, ATOS is aiming to examine the long-term trajectory

of heroin dependence, in addition to predictive factors of mortality, remission, criminality and levels of psychopathology among heroin users over the 11 years since cohort entrance. Of the 615 in the original cohort, just over 53% (326) have been recontacted and reinterviewed, and interviews will continue into 2013.

- Professor Louisa Degenhardt is also leading the five-year NHMRC-funded Pain and Opioids in Treatment (POINT) study. This is the first Australian study to examine the patterns of prescribing of pharmaceutical opioids for individual patients and the outcomes for these patients in the long term. Recruitment of participants

Cannabis

- Dr Wendy Swift's project on cannabis potency, funded by NCPIC and conducted with the University of Sydney, was completed this year and a paper is in preparation. Analysis of urban and rural seizures from the NSW Cannabis Cautioning Scheme and indoor and outdoor seizures from the NSW Cannabis Eradication Program have revealed high THC levels and low cannabidiol (CBD) levels, consistent with data internationally. These findings have potentially important implications for the mental health impacts of cannabis. Dr Swift presented a keynote address on this work at the 2nd National Cannabis Conference in Brisbane.

Neuroscience: young people and term heroin users

- Professor Maree Teesson commenced recruitment of 16 and 17 year olds in Sydney to take part in an Australian-first study of the impact of binge drinking on the brain structure of young people. It will provide the first empirical evidence of whether bingeing in adolescence results in neurobiological alterations in the brain.
- Professor Shane Darke assessed the cognitive performance of former heroin users. Opioid maintenance patients, abstinent opioid users and non-opioid users each completed neuropsychological tests measuring executive function, working memory, information processing speed, verbal learning and non-verbal learning. Poorer cognitive performance was seen amongst maintenance patients, regardless of their maintenance drug. Papers have been accepted by three journals.

Community action can cut, by a fifth, alcohol **consumption**.

The AARC project was a landmark RCT trial

commenced in August, with 238 baseline interviews conducted by the close of 2012. Three papers have been accepted for publication and an additional three are under review.

Morbidity and mortality

- Deaths involving the antidepressant drug citalopram were studied by Professor Shane Darke and Michelle Tye. Nearly half of all deaths were deemed to be suicide. Citalopram was contributory to deaths in 21% of cases and incidental in 79%. A paper is in press.
- Novel data on Australian fatalities involving steroids was presented in another project by Professor Shane Darke and Michelle Tye. Most commonly, deaths were due to accidental drug toxicity. The most commonly detected steroid was nandrolone. A paper has been drafted and submitted.

- Dr Richard Mattick, Dr Delyse Hutchinson, Dr Wendy Swift Dr Ed Silins and colleagues continued their work on the cannabis cohort research consortium. The consortium is a multi-organisational and multi-disciplinary international collaboration of researchers investigating the relationship between cannabis, other drug use, life-course outcomes and mental health in children and young adults. Dr Ed Silins completed his doctorate using data from the consortium. Five papers are in preparation, including one on genetic prediction of early onset cannabis use and one looking at childhood behaviour problems.
- The final papers from Dr Wendy Swift and Professor Louisa Degenhardt's secondary analysis of the relationship between cannabis use, dependence, mental health and associated outcomes in the Victorian Adolescent Cohort study were published. The study investigated the impact of adolescent cannabis use on mental health in young adulthood and the findings attracted significant media coverage.

PREVENTION AND EARLY INTERVENTION

Community-based interventions

- The landmark Alcohol Action in Rural Communities project (AARC) was completed in 2012.
- The project aimed to quantify the effectiveness of community action in reducing risky alcohol consumption and harm, including the first benefit-cost analysis ever undertaken internationally. The results were officially launched by the Hon. Kevin Humphries, the NSW Minister of Mental Health, Western NSW and Healthy Lifestyles. Compared to the control communities, the active communities experienced a 20% reduction in average alcohol consumption. The AARC project successfully supported five PhD students, two Masters students and produced in excess of 30 papers published in the international peer review literature.



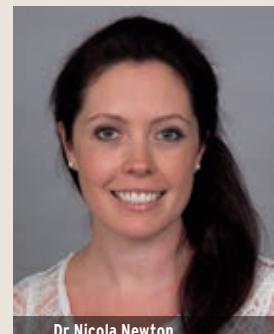
Prof. Richard Mattick



Dr Louise Mewton



Dr Katherine Mills



Dr Nicola Newton



Dr Melissa Norberg



Dr Sally Rooke



Dr Joanne Ross



A/Prof Anthony Shakeshaft



Dr Marian Shanahan



Dr Fiona Shand

Schools

- 2012 was a highly successful year for the prevention and early intervention research teams led by Professor Maree Teesson and Dr Nicola Newton. The team obtained over \$2 million in competitive research funding including \$1.7 million from the NHMRC targeted scheme to test the effectiveness of combining universal internet-based prevention for anxiety, depression and substance use across Australian schools; and over \$500,000 from the Department of Health and Ageing to develop resources on illicit drugs and related harms for teachers, parents and students to complement the National Drugs Campaign. This work is being carried out by research assistant Daniel Rodriguez in collaboration with the National Drug Research Institute (NDRI) in Perth.
- The NHMRC-funded 'Climate Schools and Prevention' (CAP) study, which is evaluating the effectiveness of combining universal prevention programs in schools with programs targeting students with potentially high risk personality types, moved into its second year. Dr Emma Barrett managed the trial with the help of research assistant Katrina Champion and clinical psychologists Erin Kelly and Julia Rosenfeld. More than 3,000 students from 27 schools are participating. All students completed baseline and immediate post-intervention surveys during 2012 and will continue to complete yearly follow-up assessments until 2015.
- Dr Nicola Newton returned to NDARC after spending two years of her post-doctorate research fellowship at the Institute of Psychiatry, Kings College London, in the United Kingdom with A/Professor Patricia Conrod. During this time, she adapted the *Climate Schools: Alcohol and Cannabis* course for use in the United Kingdom and successfully ran a pilot trial with 400 students from schools in London. Work is currently underway to adapt the programs for use in the United States.

Cohorts

- A longitudinal study coordinated by Professor Richard Mattick and Dr Delyse Hutchinson, with Dr Lucy Burns, continued to investigate the impact of parental alcohol, tobacco and other substance use on infant development and family functioning. Improved knowledge in these under-researched areas will provide evidence-based direction to the development of public health policy and community interventions. The study has recruited 1,600 participants to date. Published and submitted papers in 2012 included one on the psychosocial characteristics and obstetric health of women attending a specialist substance use antenatal clinic. Another looked at clinical features and predictors of outcomes of mothers and newborn infants engaged with a specialist perinatal and family health service. Preliminary findings were presented at the 2012 Australasian Professional Society on Alcohol and Other Drugs (APSAD) Conference.

Teenage alcohol use

- Professor Richard Mattick, PhD student Monika Wadolowski and colleagues from The University of Queensland, University of Newcastle, Curtin University and the University of Tasmania progressed with their investigation into the impact of parental supply of alcohol on drinking trajectories in Australian adolescents. The drinking and teens project aims to answer a number of questions including how parental supply of alcohol relates to the acceleration or deceleration of harmful drinking trajectories, and how other related factors may mediate and moderate
- Associate Professor Tim Slade together with Dr Wendy Swift received a Goldstar award from UNSW to fund a pilot project examining the emergence of alcohol use disorders (AUD) in late adolescence. Drawing on an existing cohort of adolescents (recruited as part of the Drinking and Teens project) the aims of this project are to address critical gaps in the current knowledge base: How soon after the onset of alcohol use do the symptoms of AUD begin to emerge? What is the symptomatic course of AUD once the initial symptoms are experienced? What factors predict the transition from alcohol use to symptom onset? Are there predictable sequences in the development of AUD?

the relationship. Nearly 2,000 parent-child dyads have been recruited from Year 7 in schools across NSW, Tasmania and Western Australia. Families will be followed up every 12 months for four years, regularly completing surveys online or via mail. The first wave of follow-up data has now been completed. The second follow-up commenced in October 2012, and will continue through to late 2013. Preliminary baseline findings have been presented at several academic events and analyses are ongoing with several publications in preparation. Some interesting findings from baseline data have emerged on the prevalence of adolescents who sip alcohol as opposed to consuming a full serve. The lack of distinction between a sip and a full serve, it is argued, may have distorted the current picture of adolescent drinking in Australia. These data have been presented at NDARC and APSAD.

Targeting prevention programs in schools to at risk personality types has been shown to cut alcohol consumption

The unmet need for OTP treatment in NSW ranges from 18% to half of opioid dependent people

DRUG POLICY

Most drug policy research at NDARC is carried out by the Drug Policy Modelling Program (DPMP) headed by Professor Alison Ritter. Significant achievements in 2012 include:

Policing and law enforcement

- Within illicit drug policy, law enforcement and the criminal justice system receive the lion-share of government funding. Yet, this is the policy area where the evidence base is most limited. Dr Caitlin Hughes and colleagues conducted an evaluation of the ACT drug and alcohol diversion system, encompassing five different diversion programs (three police and two court programs). In another project PhD student Timothy McSweeney continued his evaluation of the NSW Court diversion program, Magistrates Early Referral Into Treatment (MERIT), and a comparison program from the United Kingdom known as Tough Choices. Developed under very different political climates and contexts they both have the central goal of reducing crime.
- Dr Caitlin Hughes, Professor Alison Ritter and Nicholas Cowdery also undertook a series of projects examining the design and impacts of Australian drug trafficking thresholds, legislative tools that specify a quantity of drugs over which it is presumed an offender has committed an offence of 'trafficking' rather than 'possession for personal use'. A central theme of this work has been assessing whether the thresholds place Australian drug users at risk of erroneous sanction for an offence of trafficking.

Drug markets

- A new National Drug Law Enforcement Research Fund grant attained at the end of 2012 will enable examination of Australia's poly-drug and poly-crime networks. Australian Federal Police data will be used to assess the scale of poly-drug

trafficking at Australian borders and the frequency of links between trafficking and other crime.

Treatment policy

- Some opioid dependent people experience long delays when trying to get into opioid treatment programs (OTP). In 2012 DPMP undertook two projects, both developed in cooperation with and funded by the NSW Ministry of Health, to assist them with OTP service system planning. The first, led by Professor Alison Ritter, estimated that unmet need for OTP in NSW ranged from about 18% to 50% of the opioid dependent population, based on available knowledge. The second project, led by Dr Jenny Chalmers, used focus groups to speak to opioid dependent people about their experiences of accessing OTP through a NSW-wide survey of people who had successfully entered OTP.

Price signals

- Throughout 2012 DPMP continued its work on the use of taxation and price signals to reduce alcohol-related harm. Although there is clear evidence that harmful consumption will be muted by increasing the price of alcohol, we need more evidence about how people will respond to, for example, raising the price of the cheapest alcohol. Dr Jenny Chalmers is leading a project examining how pricing policies influence young adults' choices on a night out.

Public opinion

DPMP has an ongoing program of research aimed at accurately measuring public opinion on drug policy to better inform policy, service provision and media reporting on the issues.

- Projects in this area in 2012 included commissioned research on behalf of the Australian National Council on Drugs (ANCD) to gain a more accurate picture of 16-25 year old

Australians' attitudes to drug use and drug policy. The project, led by Francis Matthew-Simmons, involves an online survey of over 2,000 young people, and will provide a comprehensive understanding of what young Australians think about drug use, and how best to respond.

- In a separate project DPMP has been working to determine recent trends in public opinion across a wide range of drug policy questions, such as drug legalisation, alcohol policy and harm reduction. The project also aims to determine the demographic factors that influence particular attitudes. The project is due for completion in February 2013. A published Bulletin with initial findings gained wide coverage in Fairfax Media outlets.

Gay, Lesbian, Bisexual and Transexual (GLBT) community

- DPMP was commissioned by the NSW Ministry of Health to undertake a review of the existing literature on the relationship between sexual orientation and drug use, mental health disorders (including anxiety and depression) and suicidality.
- This review uncovered that a majority of studies found relationships between sexual orientation and these disorders, with GLBT individuals at an overall greater risk. Bisexual women appear to be at a particularly greater risk of mental health and alcohol-related problems, compared with their heterosexual counterparts. However, the review also noted that most of the literature that exists on this topic comes from the United States. A DPMP Monograph detailing the findings of the review was published in December 2012.

Policy processes

- Studying the processes of policy and policy making is arguably as important as generating new data upon which policy can be formed. One project led by Kari Lancaster and Professor Alison Ritter examined the stability of Australian drug policy, as represented in the formal national drug strategy documents, since 1985. Understanding the extent



Dr Tim Slade



Dr Janette Smith



Dr Matthew Sunderland



Dr Wendy Swift



Dr Judy Wilson

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.

- A related project on the Australian 'ice epidemic' has analysed how alcohol and other drug policy issues emerge and develop, with a particular interest in the implications for evidence-informed policy. A third project is exploring the 'affected community' notion that suggests that policy should be directly informed by the people who it affects - that is the people who use drugs.

Alcohol

- Dr Natacha Carragher continued her program of research on alcohol policies to reduce excessive alcohol consumption and related harms. In collaboration with A/Professor Anthony Shakeshaft and A/Professor Christopher Doran, she published a paper examining changing patterns of cider consumption due to loopholes in the alcohol taxation systems. They also developed an evidence-based, quantitative measure for gauging the strength of national alcohol control policies. This novel toolkit will be especially useful to researchers, public health advocates and policymakers who want to review and strengthen extant regulations and strategies aimed at reducing alcohol-related harm. A number of papers are currently being written up.
- In collaboration with colleagues at Curtin University, Dr Natacha Carragher secured funding to examine public opinion on minimum pricing for alcohol. The federal government is currently exploring the feasibility of introducing minimum pricing to reduce harmful use of alcohol. The project will commence early in 2013 and will be the first major project of its kind conducted in Australia.

CRIMINAL JUSTICE

Prisons

- Professor Kate Dolan is part of a group studying opioid substitution treatment in NSW prisons. The group is examining reasons why some inmates decide to stop treatment or not to start treatment in prison. The project consists of two studies: a quantitative study of program activity, and a qualitative study of patient motivations, perceptions and experiences of the program.
- Professor Dolan's new study will address the issues around opioid substitution treatment in prisons. With Paul Nelson, she has been examining the incidence of hepatitis C virus (HCV) infection over the last decade in prison and the community.
- NDARC continued its involvement, through Professor Dolan, with the Hepatitis C Incidence and Transmission Study (HITS), an ongoing cohort of drug injectors in NSW Prisons. HITS is studying the transmission and treatment of HCV in NSW prisons. The HITS study has joined the InC3 Cohort, an international collaboration of HCV incidence cohorts.
- A three year study of supply, demand and harm reduction strategies in Australian prisons, led by Professor Dolan, was completed and launched at the NDARC Symposium attracting much media attention. Ana Rodas was the researcher on the study.
- Dr Emma Barrett and Dr Katherine Mills, in collaboration with researchers at NSW Justice Health, completed the first pilot study of an integrated treatment for substance use and trauma among prisoners in NSW. Natasha Sindicich was awarded a high distinction for her Masters of Forensic Psychology which she completed using data from the trial.
- Dr Emma Barrett was awarded her PhD in April 2012 and continued to

publish and present her work on the relationship between aggression, substance use and post traumatic stress disorder.

Adolescent offending

- Melanie Simpson, PhD student, with Professor Jan Copeland and Dr John Howard from NCPIC completed their Australian Government-funded investigation of the relationship between cannabis use and crime among adolescents. The final report will be submitted in early 2013.
- Paul Nelson's doctoral thesis on drug use, health and offending outcomes for young offenders, supervised by Dr Wendy Swift, Professor Louisa Degenhardt and Professor Dianna Kenny (University of Sydney), will provide important new data on the poorly understood and complex relationship between drug use and recidivism outcomes among a large group of community-based offenders. Paul is in the final stages of his write-up and should submit in early 2013.

INTERNATIONAL

A highlight of NDARC's international work in 2012 was the completion of the 2010 Global Burden of Disease project illicit drug estimates, led by Professor Louisa Degenhardt (for more details see Patterns of Alcohol, and Drug Use).

In other international work, Professor Dolan and A/Professor Heather Worth from the International HIV Research Group and A/Professor David Wilson from the Kirby Institute were funded to review closed settings for the World Bank. Professor Dolan attended the AusAID's HAARP meeting in Cambodia to discuss Australia's response to HIV infection. She hosted a visit to NDARC from Myanmar's Health Minister. She assisted on an audit of medical files in four hospitals in Iran examining drug use by mothers and the effects on their babies.

The complex relationship between
drug use and **reoffending**
in the young is poorly understood

SPECIALIST PROGRAMS

Drug Policy Modelling Program

**Professor Alison Ritter,
Director DPMP**

The Drug Policy Modelling Program (DPMP) was established in 2004 as a significant new endeavour to build applied drug policy research capacity in Australia. Led by Professor Ritter since its inception, it has been funded through a core grant from a philanthropic organisation (Colonial Foundation Trust). This core grant is now drawing to a close and much of 2012 has been concerned with securing funds from other sources including NHMRC, ARC, ANCD, and multiple government departments. The DPMP Investigators (Alison Ritter, NDARC, UNSW; Paul Dietze, Burnet Institute; Lorraine Mazerolle, University of Queensland; Pascal Perez, University of Wollongong; Robin Room, Turning Point Alcohol and Drug Centre; Simon Lenton, National Drug Research Institute; and Hal Colebatch, UNSW) collaborate with a range of organisations and scholars nationally and internationally.

In 2012 DPMP continued work across our three research streams:

- stream 1: generating new evidence of relevance to drug policy;
- stream 2: translating research evidence into relevant and useful information for policy;
- stream 3: studying policy processes.

These three streams highlight the unique features of DPMP – that it is concerned with both advancing knowledge and scholarship, as well as influencing drug policy such that it is based on best available evidence. Specific projects commenced and completed in 2012 are detailed from page 46 of this report.

DPMP continues its “academic” success in relation to publications, with 22 journal articles, and 7 monographs and bulletins published in 2012. We gave more than 55 conference presentations, seminars and workshops this year. We have also been highly successful in sourcing research funds, with new income this year amounting to \$1.4 million.

More important than our academic outputs and funding success, however, has been our ongoing policy influence. There are a number of examples of DPMP engagement at the political level and the direct application of policy research to enhance policy outcomes. We have continued to produce policy-relevant resources such as the ‘Australian drug policy timeline’ (see DPMP website) which is a resource for all stakeholders to AOD policy and is updated six monthly. DPMP has also been active in preparing submissions to public consultations, government inquiries and the like, and in 2012 has had members on multiple advisory committees. In these various ways, DPMP continues to produce timely research evidence and actively engages with policy processes to achieve our overall aim of evidence-informed Australian drug policy.



Prof. Alison Ritter

NHMRC Centre of Research Excellence in Mental Health And Substance Use

**Professor Maree Teesson,
Director and Chief Investigator**

Comorbidity between mental and substance use disorders is pervasive and presents a significant clinical challenge. Almost one-half (45%) of adult Australians experience a mental or substance use disorder during their lifetime, and 25% of these cases are comorbid. Once comorbid disorders are established, they serve to maintain and exacerbate each other leading to a chronic course of illness. Of particular concern are young Australians (aged 15-24 years), for whom the top 10 causes of burden of disease are dominated by mental and substance use disorders.

Funded in 2012 by the Australian National Health and Medical Research Council, the Centre of Research Excellence (CRE) in Mental Health and Substance Use aims to build much needed research capacity in the area of comorbidity. Led by Professor Maree Teesson, the CRE represents a world first, bringing together the largest concentration of nationally and internationally recognised comorbidity researchers. Specifically, the CRE brings together leading research academics, including Professor Amanda Baker (University of Newcastle), Professor Paul Haber (University of Sydney), A/Professor Andrew Baillie (Macquarie University), Professor Max Birchwood (University of Birmingham, UK), Professor Bonnie Spring (Northwestern University Medical School, USA), and Professor Kathleen Brady (Medical University of South Carolina, USA).

The CRE aims to generate innovative new research to increase the knowledge base regarding the effective prevention and treatment of mental health, substance use and their comorbidity. These aims will be achieved via three research streams focusing on prevention (led by Dr Nicola Newton), treatment (led by Drs Frances Kay-Lambkin and Katherine Mills), and epidemiology (led by A/Professor Tim Slade). A number of studies across each of these areas are currently underway. In addition, CRE investigators were awarded more than \$6 million in funding from NHMRC for new projects to commence in 2013. A list of these projects can be found on the CRE’s website and in our newsletter.

The translation of our research findings into practice is a priority of the CRE. In addition to making the findings of our research available in the scientific literature, an integral component of this CRE is the translation of these research findings into educational curricula, training programs and clinical resources, as well as resources for the general public.



Prof. Maree Teesson

National Cannabis Prevention and Information Centre (NCPIC)

Professor Jan Copeland, Director

The NCPIC consortium has had a very exciting year and continues to deliver high quality, evidence-based information and interventions across a variety of sectors. Our recent mid-term review of the 2010-2014 Strategic Plan highlighted some of our successes over that period. One of these was *MAKINGtheLINK: Indigenous Drug Use and Mental Health Help Seeking*, an educational resource incorporating a series of activities for school-aged students to encourage them to seek help for problems related to drug use and mental health.

The program was developed in response to the reluctance of young people to seek help from professionals and tendency to keep their problems to themselves or turn to friends, parents or teachers for support - people who often don't know what to do. Our achievement was highlighted in our successful application for the 2012 Australian Rotary Health Knowledge Dissemination Award by the Australasian Society for Psychiatric Research (ASPR). This award is given in recognition of individuals or groups who are excelling in the area of knowledge dissemination and research translation in mental health.

The review of the Strategic Plan also highlighted the success of our cannabis withdrawal work. The papers based on the development of the Cannabis Withdrawal Scale were both internationally recognised, the first being named as one of the top 10 articles for 2011 by the *American Society of Addiction Medicine* and the second as number two in the list of top substance abuse research findings of 2012 by *About.com*. The withdrawal work preceded our NHMRC funded double blind placebo controlled randomised trial of Sativex for the management of cannabis withdrawal. Manuscripts based on the findings will be submitted in 2013. We look forward to further expanding our work in this area in future years.

In September we held the 2nd National Cannabis Conference in Brisbane. This meeting was very well attended and the next one will be held in 2014.

The core business of the Centre continued to grow over the past year with more than 200,000 visits to our website and an even greater number of resources mailed out in response to requests. We have provided over 100 clinical training workshops and around 50 conference presentations. Congratulations to all NCPIC staff and collaborators on our individual and team successes for 2012 and the exciting plans for 2013.



Prof. Jan Copeland

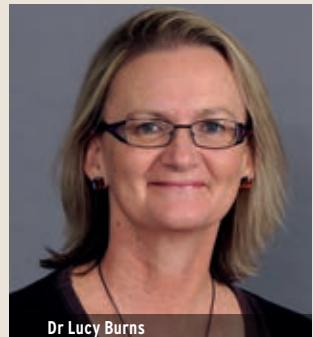
Drug Trends Program

Dr Lucy Burns

The Drug Trends program was revised in 2012 to consolidate the work undertaken but also to ensure that we kept up with international trends in drug monitoring. As part of the consolidation, the National Illicit Drugs Indicator Project (NIDIP) was formally incorporated into Drug Trends. NIDIP is headed by Amanda Roxburgh who collates and synthesizes relevant population indicator data measuring the prevalence, correlates and outcomes of illicit drugs use. Analysis of this data gives further weight to information collected through the IDRS (Illicit Drug Reporting System) and the EDRS (Ecstasy and Related Drugs Reporting System) as well as an opportunity to examine areas of contemporary concern; for example, prescription opioids and fentanyl misuse.

This year we have also put increased emphasis on the role of the internet in Australia's drug market and the appearance of Emerging Psychoactive Substances in Australia. Joe Van Buskirk has joined the Drug Trends team and part of his role is to undertake regular internet monitoring to determine trends in the use of these new substances. Staff members also visited the European Monitoring Centre for Drugs and Drug Abuse and Professor Michael Farrell presented on New and Emerging Psychoactive Substances in Australia at the NIDA forum in California in June.

This year also saw another successful Drug Trends conference at the Maritime Museum in October. Approximately 120 people, largely external stakeholders from health and law enforcement came to the conference. The program this year was focussed on: Drugs, crime and the front-line. As is always the case with Drug Trends, we could not possibly undertake our program of work without the ongoing support by people who use drugs, our jurisdictional partners, collaborating agencies and other stakeholder partners who give generously of both their time and expertise. As always we feel very fortunate to continue to work with such a dedicated and diligent group of individuals.



Dr Lucy Burns

2012 STAFF

PROFESSIONAL AND TECHNICAL STAFF - RESEARCH



PROFESSIONAL AND TECHNICAL STAFF – RESEARCH (CONTINUED)



Zoe Tonks



Joe Van Buskirk



Joanne White

Not pictured: Brandi Baylock, Elissa Bowey, Rachel Sutherland

DOCTORIAL CANDIDATES



Ansari Bin Jainulabdeen



Bianca Calabria



Katrina Champion



Mark Deady



Peter Gates



Amy Johnston



Briony Larance



Lynne Magor Blatch



Anika Martin



Clare McCormack



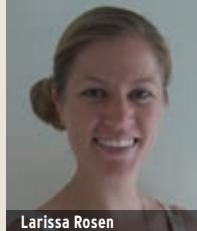
Tim McSweeney



Sonja Memedovic



Paul Nelson



Larissa Rosen



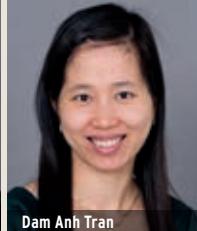
Amanda Roxburgh



Edmund Silins



Melanie Simpson



Dam Anh Tran



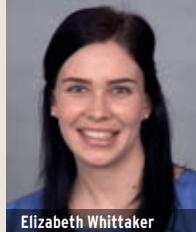
Michelle Tye



Thu Vuong



Monica Wadolowski



Elizabeth Whittaker

PROFESSIONAL AND TECHNICAL STAFF – OFFICE OF THE DIRECTOR

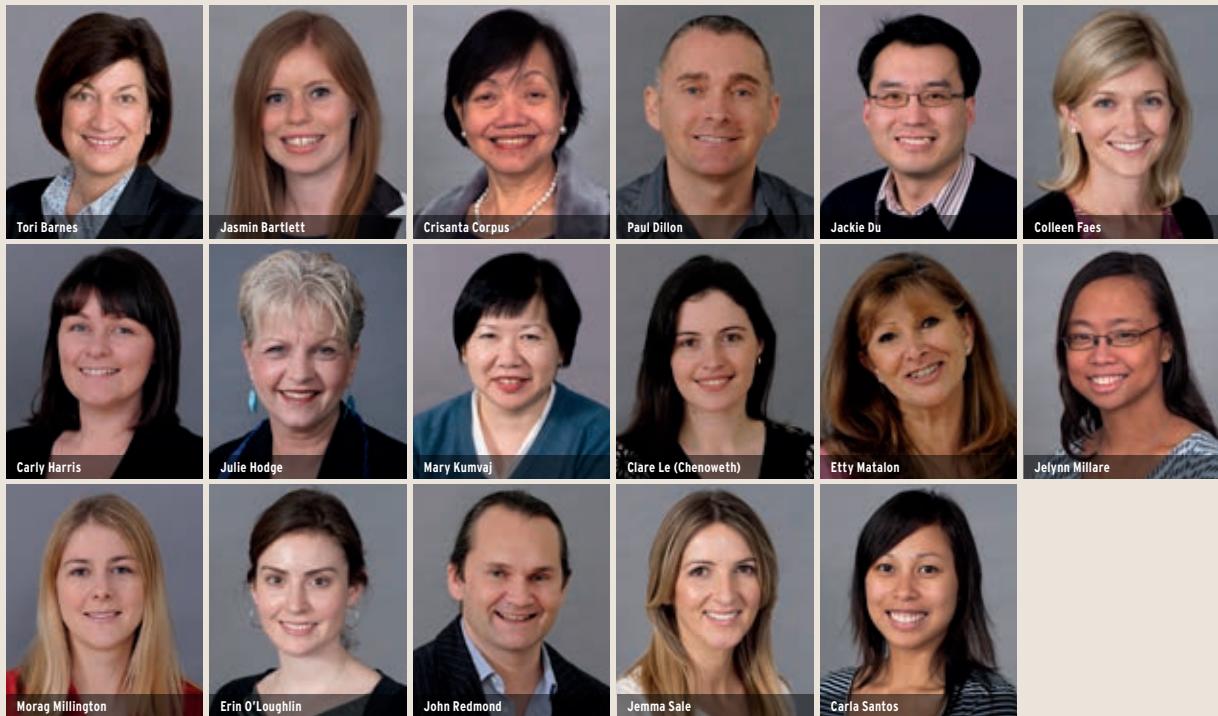


Karen Hill



Marion Downey

PROFESSIONAL AND TECHNICAL STAFF – SUPPORT AND COMMUNICATIONS



CONJOINT STAFF



EVENTS, MEDIA AND COMMUNITY

The pages of this annual report necessarily focus on NDARC's research and related activities. However as the Centre grows - we housed 160 staff throughout 2012 - a core administrative team supporting NDARC and specific projects including Drug Trends, DPMP and NCPIC provide a crucial backbone to the Centre. This team looks after the building, finances and the telephones and provides essential support to academic and research staff allowing them to focus on their core research activities. We also have a dedicated NDARC librarian and a full time communications team who manage the media, the website, social media, the NDARC Annual Symposium and the annual report.

The administrative staff serve with their academic and research peers on NDARC committees, including the finance committee, worker health and safety committee, library committee, employee assistance program, the green team, the social committee and Christmas party committee. A full list of all NDARC staff is published in appendix A of this report.



Bob Mansfield, Mark Butler MP and Michael Farrell at the NDARC Symposium



The Hon. Mark Butler MP, Minister for Mental Health and Ageing, at the NDARC Symposium



Cath Chapman at the NDARC Symposium



Shane Darke and Sonja Memedovic at the NDARC Symposium



Anthony Shakeshaft at the Alcohol Action in Rural Communities report launch

SPECIAL EVENTS

More than five years after it got underway, the Alcohol Action in Rural Communities (AARC) project concluded with an unveiling of the project findings at NSW State Parliament in November. The final report was launched by the NSW Minister for Mental Health and for Healthy Lifestyles, Kevin Humphries, at an event organised in conjunction with the project funder, the Foundation for Alcohol Research and Education.

Earlier in the year, Professor Maree Teesson and Professor Michael Farrell joined NSW police, non-profit organisation Hello Sunday Morning and UNSW's events team to host a community information session on young people and drug and alcohol use. The evening event included a lively Q&A session with the audience, which included many parents.

NDARC also hosted industry and government visitors throughout the year, including Myanmar's Minister for Health, Dr Pe Thet Khin. The Director of the United States Office of National Drug Control Policy, Gil Kerlikowske, and his team visited NDARC when they were in Australia in November.

SYMPOSIUM & CONFERENCES

NDARC's Annual Research Symposium was held on August 28 and comprised four sessions: young people and prevention; trauma, self-medication and treatment; emerging drugs and prescription medication; and planning for the future. The day was also a celebration of NDARC's 25 years, with Professors Wayne Hall and Margaret Hamilton among the speakers who recalled the achievements made by the Centre's staff since its foundation. The day also saw the launch of the Australian National Council on Drugs' latest report, *Supply, demand and harm reduction strategies in Australian prisons*, authored by NDARC's Professor Kate Dolan. A highlight of the day was an inspiring speech from The Hon Mark Butler MP, Minister for Mental Health and Ageing, Minister for Social Inclusion, Minister Assisting the Prime Minister on Mental Health Reform, Minister for Housing and Homelessness.

The Drug Trends unit, DPMP and NCPIC also hosted conferences throughout the year. DPMP's annual Research Symposium was held in Sydney in March and keynote speaker Dr Helen Keane from the Australian National University spoke on 'Critiquing the construction of addition: Dependence, disorder and the DSM V'. The second National Cannabis Conference was staged in Brisbane in September and included a strong emphasis on Aboriginal and Torres Strait Islander communities and their responses to cannabis-related problems. Finally, the National Drug Trends conference, themed 'Drugs, crime and the front line', took place in Sydney in October.

MEDIA

NDARC staff and their research were featured in more than 200 articles in 2012, with many of those syndicated to large readerships around Australia or the world. Hot topics included Australia's high cannabis consumption compared with the rest of the world; the correlation between cannabis use and anxiety; the death of Thomas Kelly in Sydney's Kings Cross and its alleged link to alcohol consumption and availability; and the growth in use of prescription opioids such as oxycontin and fentanyl.

The communications team published 19 media releases to promote research findings, aid project recruitment, advertise upcoming events and celebrate funding successes.



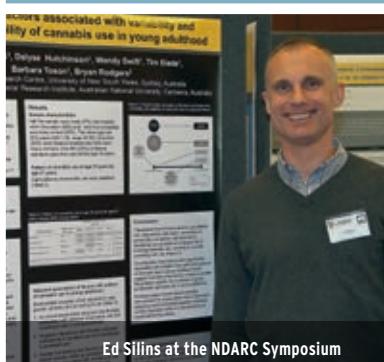
Marion Downey receives her Dean's Award



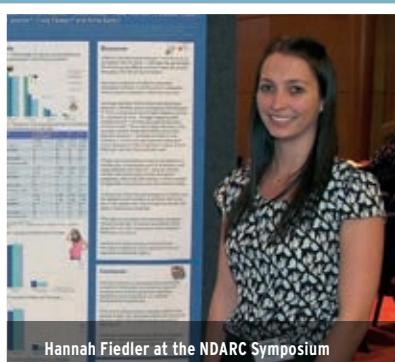
NDARC staff with the Training and Support Unit for Aboriginal Mothers, Babies and Children

WEBSITE AND SOCIAL MEDIA

NDARC established a firm foothold in the drug and alcohol social media community in 2012, seeing out the year with more than 600 Twitter followers and 112 Facebook friends. Highlights of the year included live tweeting The Sydney Morning Herald public forum on decriminalisation and conferences including APSAD 2012. The NDARC website, which was revamped in 2011, was visited by nearly 200,000 people over the course of the year.



Ed Sliins at the NDARC Symposium



Hannah Fiedler at the NDARC Symposium



Janette Smith receives her Dean's Award

Kari Lancaster receives her Dean's Award



Peter Gates receives his Dean's Award

AWARDS

Professor Alison Ritter's longstanding commitment to the drug and alcohol field was recognised by the Australasian Professional Society on Alcohol and other Drugs at their conference in November. The association awarded Professor Ritter their highest scientific prize, the Senior Science Award. Joe Van Buskirk was bestowed the Late Breaking Research Award for his presentation on the use of the internet to monitor patterns of drug use.

Both Dr Katherine Mills and Dr Nicola Newton took home prizes from the 2012 Australasian Society for Psychiatric Research awards, announced in December. Dr Mills was also the winner of a NSW Young Tall Poppies Science Award in recognition of her research into comorbid substance use and mental health disorders.

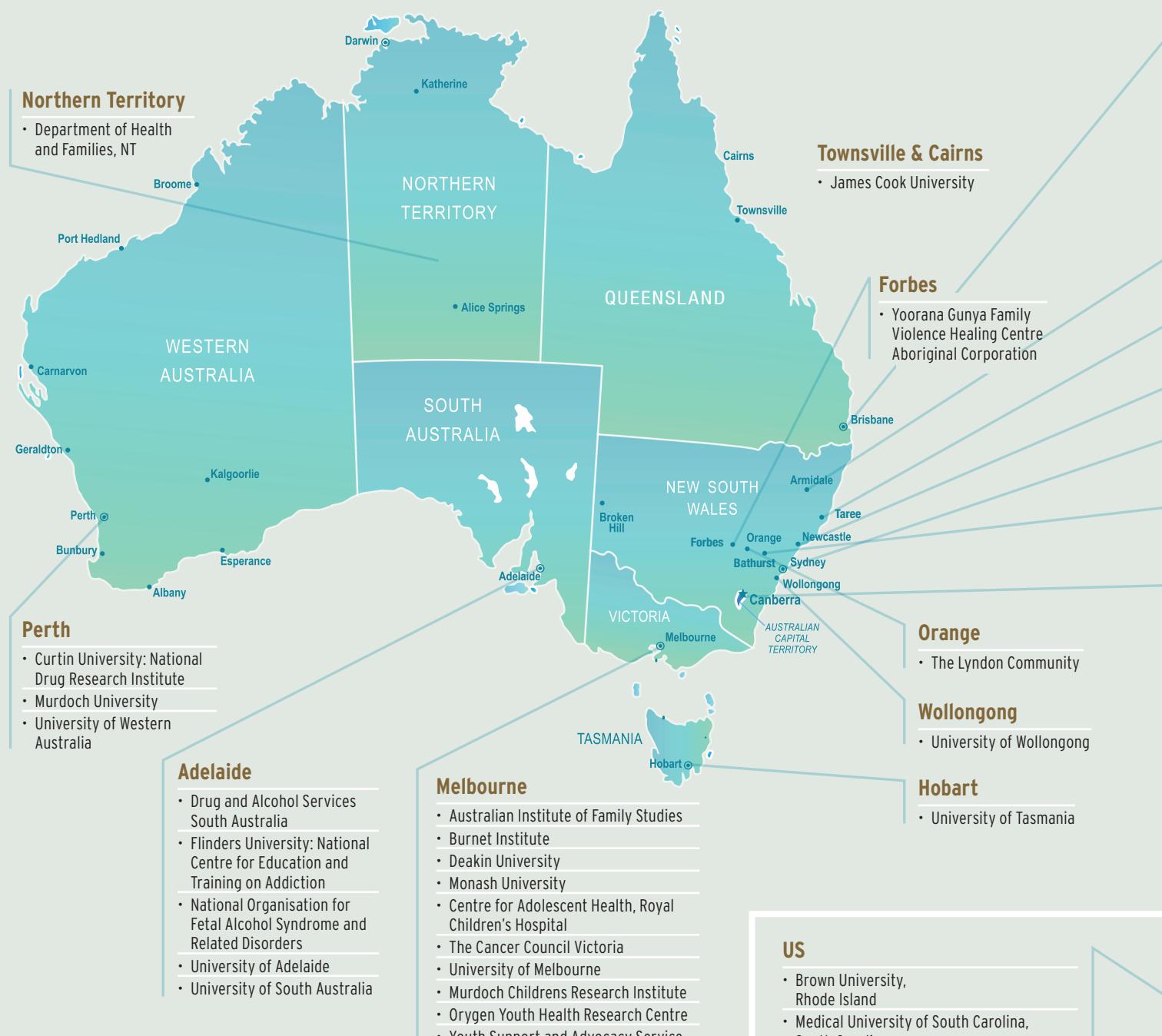
UNSW Medicine Faculty acknowledged the work of six NDARC staff in its annual Dean's Awards: Dr Nicola Newton and Dr Janette Smith were awarded 'rising stars' for their postdoctoral research; Dr Peter Gates and PhD candidate Bianca Calabria appeared on the Dean's list in celebration of their early career achievements; and Kari Lancaster and Marion Downey earned the Dean's Award for Professional and Technical Staff for their "outstanding contributions" to their respective fields.

Within the Centre, Amanda Roxburgh, Dr Emma Barrett and Dr Frances Kay-Lambkin were the chosen recipients of the annual NDARC Awards, which recognise outstanding research achievement and community impact.



NDARC award winners 2012

NDARC COLLABORATORS



BUILDING A HEALTHIER WORLD

NDARC was a collaborator on the landmark worldwide project – the 2010 Global Burden of Disease Study. The GBD is the most comprehensive and systematic attempt to date to measure health impacts over time of 291 diseases and injuries in 187 countries. In all 487 authors from 47 expert groups participated in the project which was co-ordinated by the Institute of Health Metrics and Economics at the University of Washington. Professor Degenhardt was co-chair of the expert group for the study on Mental Disorders and Illicit Drug Use along with Professor Harvey Whiteford of the University of Queensland.



US

- Brown University, Rhode Island
- Medical University of South Carolina, South Carolina
- Northwestern University Feinberg School of Medicine, Illinois
- Rhode Island Department of Corrections, Rhode Island
- University of Nebraska Medical Center, Nebraska
- Washington University, Missouri
- Carnegie Mellon University, Pennsylvania
- Johns Hopkins University, Maryland
- University of California San Diego, California
- University of Maryland, Maryland
- University of Minnesota, Minnesota
- University of Toledo, Ohio
- University of Washington: Institute for Health Metrics and Evaluation, Seattle, Washington

Brisbane

- Australian Pain Management Association
- Griffith University
- Queensland University of Technology
The Professor Tess Cramond Multidisciplinary Pain Centre,
Royal Brisbane and Women's Hospital
- University of Queensland:
Centre for Clinical Research
Queensland Brain Institute
Queensland Alcohol and Drug Research and Education Centre
Queensland Centre for Mental Health Research

Armidale

- University of New England

Taree

- Albert Street Medical Centre

Newcastle

- Hunter Medical Research Institute
- Hunter Institute of Mental Health
- NSW Health: Drug and Alcohol Clinical Services,
Hunter New England Area Health District
- University of Newcastle

Bathurst

- Charles Sturt University

Canberra

- ACT Health Directorate
- Alcohol and other Drugs Council of Australia
- Australian Institute of Criminology
- Australian Institute of Health and Welfare
- Australian National Council on Drugs
- Lifeline
- National Drug Law Enforcement Research Fund
- Social Research and Evaluation
- Alcohol Tobacco and Other Drug Association ACT
- Australian Injecting & Illicit Drug Users League
- Australian National University
- Foundation for Alcohol Research and Education

REDUCING HARM IN INDIGENOUS COMMUNITIES

Indigenous people in Australia continue to experience a significantly high burden of alcohol and drug related harm. NDARC and the National Cannabis Prevention and Information Centre are collaborating with several ATSI communities, including in Orange and Forbes in NSW and in Cape York and the Northern Territory to design and evaluate intervention and prevention programs to reduce this burden. Our University collaborating partners include James Cook University, the University of Queensland and the University of Newcastle.



Sydney

- Drug and Alcohol Multicultural Education Centre
- Mission Australia
- Network of Alcohol & Other Drugs Agencies
- NSW Police
- Odyssey House
- We Help Ourselves
- Avenue Road Medical Practice, Sydney
- Macquarie University, Sydney
- NSW Bureau of Crime Statistics and Research, Sydney
- NSW Health:
St Vincent's Hospital alcohol & drug service, St Vincent's Health Network
Department of Forensic Medicine, Sydney Local Health District
Drug and Alcohol Clinical Services, Northern Sydney Area Health District
Justice Health
Royal Prince Alfred Hospital, Sydney Local Health District
South Western Sydney Local Health District
St Vincent's Hospital pain clinic, St Vincent's Health Network

The Langton Centre, South Eastern Sydney Local Health District

Traumatic Stress Clinic, Westmead Hospital, Western Sydney Local Health District

• Pain Australia

• Pharmacy Guild of Australia (NSW branch)

• The Australian Paediatric Surveillance Unit, The Children's Hospital at Westmead/University of Sydney

• University of New South Wales:

Faculty of Law;
Faculty of Medicine - Kirby Institute, School of Public Health and Community Medicine, The Blackdog Institute;

Faculty of Science - School of Psychology;

School of Mathematics and Statistics

• University of Sydney

• University of Technology, Sydney: Centre for Health Economics and Research Evaluation

• University of Western Sydney

Canada

- University of Montreal, Quebec

Europe

- United Nations Office of Drugs and Crime, Vienna
- Trimbos Instiut, Utrecht
- World Health Organization, Geneva
- UNAIDS, Geneva

Middle East

- Persepolis NGO, Tehran Province, Iran
- Tehran University of Medical Sciences, Tehran Province

UK

- King's College London, England
- Queen's University Belfast, Northern Ireland
- University of Birmingham, England
- University College London, England
- University of Dundee, Scotland
- Institute for Criminal Policy Research, University of London, England

Asia

- Yunnan Institute for Drug Abuse, Kunming
- Youth Vision, Bhaktapur
- fhi 360, Hanoi
- Hanoi Medical School, Hanoi
- WHO Western Pacific, Manila
- UNODC Southeast Asia & the Pacific, Bangkok

New Zealand

- University of Otago, Dunedin

CURRENT PROJECTS

TREATMENT AND INTERVENTION

The MISHA Project

NDARC staff: Dr Lucy Burns

Other investigators: Dr Anthony Eardley (Social Policy Research Centre, UNSW), Kathryn Di Nicola (Mission Australia), Dr Paul Flatau (University of Western Australia), Dr Elizabeth Conroy (University of Western Sydney), Marina Athanassios (University of Western Sydney)

Project description: The MISHA Project is a follow-on to the Michael Project. MISHA, or 'Michael's Intensive Supported Housing Accord', is an integrated program that provides long term stable accommodation and a holistic service delivery approach to homeless men. The aim of the program is for clients to achieve housing stability, improved social inclusion, and a capacity to live within the broader community. NDARC, together with the University of Western Australia, will assess and report on the program's effectiveness.

Aim: To evaluate the MISHA service model and develop an evidence base that can inform and influence government policy in the housing and homelessness fields.

Design and method: The key component of the evaluation is a longitudinal survey, the MISHA Survey, of men recruited to MISHA. Other aspects of the research design are the use of relevant administrative data including National Affordable Housing Agreement service and housing data, a qualitative evaluation of the service, and a cost-effectiveness analysis.

Progress: Twelve month follow-ups have been completed.

Output: A baseline report has been submitted.

Benefit: Access to long-term housing and the sustainability of tenancies will be improved; client well-being and social inclusion will be improved.

Funding: Mission Australia (shared grant with University of Western Australia and University of Western Sydney)

Date commenced: December 2010

Expected date of completion: June 2014

Evaluation of the Inner City Youth at Risk Project and the Inner City Assertive Outreach Service

NDARC staff: Dr Lucy Burns and Elizabeth Whittaker

Other investigators: Dr Elizabeth Conroy (University of Western Sydney) and Professor Paul Flatau (University of Western Australia)

Project description: The traditional response of the human service system to the needs of homeless people experiencing mental health conditions involves specialist homelessness, drug and alcohol and mental health services providing support in a largely autonomous fashion. Cross-sector coordination of services is typically limited to referrals from one service domain to another, together with limited information sharing and communication. This research involves the evaluation of the effectiveness of two projects funded under the *NSW Implementation Plan of the National Partnership Agreement on Homelessness*, the Inner City Assertive Outreach Service (or 'Way2Home') and the Inner City Youth at Risk Project, both of which are based on integrated service models. The evaluation will examine the effectiveness of the two projects in terms of their ability to achieve operational and client-based effectiveness criteria and

in particular, will seek to assess the impact of the projects on the health, housing, social and economic targets of the two initiatives. Since homelessness is strongly associated with substance use, the evaluation will also seek to determine the impact of the two services on client substance use.

Aims: To evaluate the effectiveness of two projects funded under the *NSW Implementation Plan of the National Partnership Agreement (NPA) on Homelessness*, the Inner City Assertive Outreach Service and the Inner City Youth at Risk Project.

In respect of the Inner City Assertive Outreach Model (Way2Home), the aims of the evaluation study are to:

- Examine whether the Inner City Assertive Outreach Model has successfully implemented a best practice model of Assertive Outreach and of Housing First Principles
- Determine whether effective integrated support has been provided to clients across a range of housing and health needs
- Assess the extent to which the model has achieved positive health and housing outcomes for clients and is more effective than existing programs in achieving positive client outcomes
- Assess the key factors leading to identified successes or barriers for the Inner City Assertive Outreach Model with specific reference to the role of the Housing First model, partnerships, the Assertive Outreach approach and the access to services and housing
- Evaluate the extent to which the model led to positive NPA performance benchmark indicator outcomes
- Determine the overall effectiveness and cost-effectiveness of the model
- Detail any relevant implications for future NSW Government policy in addressing homelessness

In respect of the Inner City Youth at Risk Project, the evaluation study seeks to:

- Assess the extent to which the Inner City Youth at Risk Project meets the needs of young people with high needs who were rough sleepers or chronically homeless as well as homeless young people who are homeless or at risk of homelessness with low to moderate needs
- Determine the extent to which the project improves the sustainability of tenancies for those clients who received a tenancy and support package
- Evaluate the extent to which the project improved access to mainstream health supports and identification of those young adults and youth at risk through the development of interagency partnerships with mainstream services and specialist homelessness services
- Assess the extent to which the project achieves positive health, housing and social and economic outcomes for young people
- Assess the key factors leading to identified successes or barriers for the project with specific reference to interagency collaboration, partnerships, referral pathways and resource availability (services and housing)
- Evaluate the extent to which the model led to positive NPA performance benchmark indicator outcomes
- Determine the overall effectiveness and cost-effectiveness of the model

- Detail any relevant implications for future NSW Government policy in addressing homelessness

Design and method: The study uses a mixed methods design involving quantitative and qualitative components:

- Client outcomes survey
- Case studies of a sub-sample of clients and their primary support worker
- Cost effectiveness analysis (using survey and administrative data)
- In-depth interviews with key stakeholders regarding service capacity and integration issues

Progress: For the Inner City Assertive Outreach Model (Way2Home), we have interviewed 39 clients at baseline and are in the process of locating participants for their 12 month follow-up interviews. Qualitative interviews are also being undertaken with a number of clients who have been housed and other stakeholders who can give us indications of the strengths and pitfalls of the program.

For the Inner City Youth at Risk Project, we undertook 55 baseline interviews and are now in the process of following these participants for their 12 month follow-up. We are also in the process of interviewing a number of clients who have obtained housing through this program to understand the impact of this on their lives. We are also inputting administrative data to determine the nature and quantity of brokerage received through the program.

Funding: NSW Department of Health - Health Administration Corporation Contract Research

Date commenced: November 2010

Expected date of completion: December 2013

Evaluation of NSW Government initiative Platform 70

NDARC staff: Dr Lucy Burns and Elizabeth Whittaker

Other investigators: Professor Paul Flatau (University of Western Australia) and Dr Elizabeth Conroy (University of Western Sydney)

Project summary: Platform 70 is a project of the National Partnership Agreement on Homelessness and commenced in 2011. The project has the following key objectives:

- To place 70 rough sleepers in the Woolloomooloo (New South Wales) area into long-term housing by 2012 - 2013
- To reduce the reliance on crisis accommodation for homeless people by increasing long-term housing options for rough sleepers in the Woolloomooloo area
- To enhance the sustainability of private rental tenancies for rough sleepers in the Woolloomooloo area by linking housing assistance with support services

As part of the *NSW Homelessness Action Plan Evaluation Strategy*, Housing NSW contacted NDARC to conduct a longitudinal analysis of Platform 70.

Aims: To identify the factors that contribute to successfully housing people exiting homelessness via head-leasing arrangements and to identify the factors that contribute to the sustainability of tenancies for this group.

Design and method: The Platform 70 evaluation will build on an existing evaluation of the Way2Home program currently being conducted by Dr Burns. Therefore, the methodology will be tightly integrative within, and informative of, the cognate Way2Home study. The evaluation will include:

- Quantitative client surveys upon entry to support (the baseline survey) and 12 months post-baseline
- A cost-benefit analysis
- Analysis of data collected by the housing provider and support teams
- Qualitative surveys of a sub-sample of Platform 70 participants
- Stakeholder analysis

Progress: Baseline data collection has commenced for the quantitative component and will continue into 2013.

Output: Six monthly progress reports will be delivered to Housing NSW along with a final report.

Benefits: This project will contribute to a comprehensive evidence base to inform future service planning and resource allocation for homelessness services in NSW.

Funding: Department of Family and Community Services - Housing NSW

Date commenced: August 2012

Expected date of completion: November 2014

Review, update and develop a dissemination strategy for the National Clinical Guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn for NSW

NDARC staff: Dr Lucy Burns, Sarah Goodsell, Elizabeth Whittaker

Project description: The National Clinical Guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn (the Guidelines) were commissioned by the Ministerial Council on Drug Strategy and were published in March 2006. The aim of the Guidelines was to develop a comprehensive, coherent and consistent approach to the clinical care of women with problematic drug or alcohol use during pregnancy and to the care of mother and child in the early developmental stages of the child's life. The Guidelines are intended for use by all health care practitioners working with pregnant women experiencing a drug or alcohol problem.

These nationally agreed guidelines cover a range of topics including but not limited to: the obstetric and neonatal complications associated with the use of a range of substances (including alcohol, tobacco, cannabis, amphetamines, cocaine, inhalants and benzodiazepines), breastfeeding, pain management, vertical transmission of blood-borne viruses and the management of neonatal abstinence syndrome. In addition, where relevant, specific guideline statements identify the needs and appropriate care of Aboriginal and Torres Strait Islander women with drug and alcohol issues.

NSW Health disseminated the Guidelines to all Area Health Services (AHSs) across the state in 2006. The dissemination strategy was designed to make the Guidelines available to clinicians (particularly those working in rural and remote areas) and to clinicians who

may not have work-based access to the internet. Copies of the Guidelines were sent to all AHSs (for distribution to all relevant departments, particularly emergency departments, maternity and drug health services), public and private pharmacotherapy clinics, non-government organisations, early childhood services, university medical schools and ambulance services. The background papers for the Guidelines (which contain more detailed discussion of the issues and the evidence for best clinical practice) were less widely distributed, but they were made available on the NSW Health website along with the Guidelines.

As part of the response to Recommendation 9 of the NSW Ombudsman's *Report of Reviewable Deaths in 2005: Child Deaths*, NSW Health was required to investigate the issue of promoting and ensuring compliance with the Guidelines. The findings from a study undertaken to identify the current levels of awareness, knowledge and compliance with the Guidelines across NSW indicated that further work was required. Most notably the guidelines required updating to bring them in line with changes to the National Health and Medical Research Council Guidelines regarding alcohol use in pregnancy, recent research findings with respect to the safety of buprenorphine use in pregnancy and to ensure that the guidelines were suitable for the NSW context.

Aims: The purpose of this project is to:

- Review and update the Guidelines for use in the NSW context
- Develop a dissemination strategy for the revised Guidelines

Design and method: The process will use a similar method (a consensus model) adopted in the development of the Guidelines to revise and update the Guidelines. A rigorous process in which international and Australian research literature is reviewed by experts and consensus is achieved will be used. A collaborative group of colleagues working in the drug and alcohol program of their respective AHSs along with key experts in the area will be brought together in a face to face consensus meeting to comment on the Guidelines.

Progress:

- New chapters covering child protection, the use of mood stabilisers during pregnancy and withdrawal management during pregnancy have been finalised and endorsed by experts in the field
- Updating existing chapters to be consistent with new NHMRC guidelines and published literature. For example, the NHMRC recommendation that there is no safe level of alcohol consumption during pregnancy, and that buprenorphine is a safe alternative opioid substitution treatment (OST) for pregnant women have been included
- Specific chapters on special populations in NSW have been drafted and endorsed by experts in the field. These new chapters cover pregnant women in rural/remote settings, pregnant women in custodial settings and pregnant women of Aboriginal and/or Torres Strait Islander origin. Each of these new chapters were informed by current literature and semi-structured interviews with health professionals who work with these specific populations
- With the assistance of the Training and Support Unit (TSU) for Aboriginal Mothers, Babies and Children, we conducted a workshop with women who work with Indigenous mothers or are Elders in their community to create an educational flipchart

that explains the effects of using substances during pregnancy. It is intended that health care workers will be able to use this flipchart with Aboriginal and Torres Strait Islander women and their families to explain the risks of using alcohol, tobacco and cannabis during pregnancy. The feedback received from the women who attended the workshop was incorporated into the flipchart and has been handed to NSW Health for finalisation and dissemination

Benefits: Up-to-date evidence base on the impact of substance use in pregnancy.

Output: Poster at the Australasian Professional Society on Alcohol and Other Drugs (APSAD) conference and consultative workshop with Indigenous women to develop a flipchart that health professionals can use with Aboriginal and Torres Strait Islander women and their families to educate them on the effects of substance use during pregnancy.

Funding: NSW Health Department

Date commenced: June 2010

Expected date of completion: February 2013

Improving services to women who are pregnant and alcohol dependent

NDARC staff: Dr Lucy Burns, Dr Delyse Hutchinson, Dr Courtney Breen

Other investigators: Dr Deborah Loxton (University of Newcastle), Jennifer Powers (University of Newcastle), Sue Miers (National Organisation for Fetal Alcohol Syndrome and Related Disorders - NOFASARD), Dr Adrian Dunlop (Hunter and New England Drug and Alcohol Services)

Project description: Alcohol exposure in utero can cause a range of abnormalities in the fetus which are included under the umbrella term Fetal Alcohol Spectrum Disorders (FASD). Identification and treatment of problem drinking prior to and during pregnancy is recognised as an effective strategy for prevention. However, only a small proportion of pregnant women who drink at problematic levels are identified and treated. There are a variety of reasons for women not to access treatment including a lack of services, attributing their problems to mental health rather than alcohol use and issues relating to their personal situation (children or partner). Given the changing patterns of alcohol consumption and harm by women, attention must be paid to the way gender stereotypes influence the prevention and treatment of alcohol related problems.

Aims: To gain information from stakeholders (alcohol dependent women and clinicians who care for alcohol dependent pregnant women) on barriers to treatment. We also aim to produce a resource for clinicians about the management of alcohol dependence in pregnancy.

Design and method: The project comprises three components:

- Literature review of alcohol use in pregnancy
- Qualitative survey of clinicians who work with alcohol dependent women
- Qualitative survey of alcohol dependent pregnant women

Progress: The literature review has been completed and interviews have commenced.

Benefits: Improving the detection and treatment for alcohol dependent women will reduce preventable FASD.

Funding: Foundation for Alcohol Research and Education (FARE)

Date commenced: June 2011

Expected date of completion: June 2013

The prevalence of drug and alcohol presentations on hospital-based services

NDARC staff: Dr Lucy Burns, A/Professor Tim Slade, Kerryn Butler

Other investigators: Cate Wallace (NSW Health), A/Professor Rosalie Viney (Centre for Health Economics Research and Evaluation), Dr Rebecca Reeve (Centre for Health Economics Research and Evaluation), Kees van Gool (Centre for Health Economics Research and Evaluation), Dr Elizabeth Conroy (University of Western Sydney)

Project description: Despite a high prevalence of drug and alcohol (AOD)-related morbidity among patients presenting to emergency departments, acute care settings and pre-admission clinics, previous research has found AOD-related morbidity is not commonly identified on admission. AOD-related morbidity has important implications for patient management in hospital as well as on re-admission rates. Consultation Liaison (CL) services are an intervention implemented in clinical settings to provide direct access to specialist services for support, treatment, advice and assistance with the management of a given condition. CL services have been adapted to the AOD field to reduce the health burden and associated costs that AOD problems place on the health system, such as inpatient ward access and exit blockages and re-admissions. NSW Health has provided specific funding to enhance AOD CL services in four Area Health Services: Sydney South West, Hunter New England, Greater Southern and Greater Western.

NDARC, in collaboration with the Centre for Health Economics Research and Evaluation (CHERE), has been contracted by NSW Health, Mental Health and Drug and Alcohol Office (MHDAO), to undertake an evaluation of Drug and Alcohol Consultation Liaison Services (AOD CL) in NSW. This evaluation will also include the development of a clinical model of care for the establishment of future CL services in NSW and to standardise service provision in existing hospitals and Area Health Service.

Aims: To determine whether the implementation of clinical liaison services for drug and alcohol (AOD CL) increases the identification of patients with drug and alcohol problems and improves the health outcomes and treatment pathways for patients with drug and alcohol problems.

Design and method: The evaluation comprises three sub-studies:

- Patient survey: This survey will be undertaken in the Emergency Department and additional select wards (e.g. orthopaedic, psychiatry) in eight NSW hospitals to identify the contribution of substance use to a patient's current presentation and the proportion of patients presenting with a recent history of substance use requiring an intervention. Data collection will occur 24 hours for a period of 10 days. The survey is designed to be self-completed. A sub-sample of patients identified as having a substance use problem will be followed up at three months to examine their use of health services and uptake of referrals to drug treatment if attended to by AOD CL staff. This component is being undertaken by NDARC

- Cost-effectiveness analysis: The cost-effectiveness of AOD CL services will be ascertained using data linkage of the baseline patient survey, emergency department presentations, hospital separations, use of AOD CL services and MBS/PBS data. Participants will be tracked for a 36 month period (18 months either side of their baseline survey date). This component is being undertaken by CHERE

- Model of care/clinical pathways: In-depth interviews with AOD CL and general hospital staff will be undertaken to document the model of CL implemented at each site and the impact of AOD CL services on patient management and clinical pathways. Fourteen hospitals are participating in this component. This component is being undertaken by NDARC

Progress: Baseline and follow-up patient surveys have been completed at all eight NSW hospitals. Baseline data has been analysed and direct costs and unit cost analysis has been completed. Preliminary findings of the costs identified with ED and inpatient hospital presentations and health service utilisation have been reported to NSW Health MHDAO. Final analysis and post-final analysis is expected to be completed by December 2013.

The Model of Care draft document was submitted to the NSW Health Quality in Treatment (QIT) Advisory Group (which reports to NSW Health Drug and Alcohol Program Council) in May 2012. This draft document is now with MHDAO CL Model of Care Working Group to be further developed at a service system level.

Output: The Model of Care draft document was submitted to NSW Health, MHDAO in May 2012.

Funding: NSW Department of Health contract research

Date commenced: November 2010

Expected date of completion: December 2013

Characteristics of methamphetamine users entering treatment in therapeutic communities

NDARC staff: Professor Jan Copeland and Dr John Howard

Other investigators: Lynne Magor-Blatch, PhD student

Project description: This project explores the characteristics of methamphetamine users entering treatment in therapeutic communities, and assesses the effectiveness of a specialist amphetamine type stimulant (ATS) intervention in therapeutic communities (TC).

Aims: The major focus of the study is to ascertain whether there is a difference in outcomes between clients who undertake the treatment intervention in the TC setting and those who receive 'treatment as usual', rather than the intervention.

Design and method: A quasi-experiment comparing process and outcomes of treatment for clients with ATS as a principal or secondary drug of concern in a TC setting receiving an additional focussed ATS intervention compared to treatment as usual.

Progress: In 2012 data collection and analysis were finalised.

Benefits: Enhanced capacity of therapeutic communities and other residential and non-residential treatment, to address ATS use related harms.

Funding: Nil

Date commenced: 2010

Expected date of completion: January 2013

Online screening and feedback for cannabis use

NDARC staff: Dr Sally Rooke, Dr Melissa Norberg, Professor Jan Copeland

Project description: The aim of this project is to develop an online screening resource for cannabis use that provides feedback concerning patterns of use as well as motives for using. A randomised controlled trial will compare cannabis use and help-seeking among individuals who receive the feedback intervention compared to individuals who receive a reduced feedback intervention.

Aims: To add to the National Cannabis Prevention and Information Centre (NCPIC) website an evidence-based brief screening and feedback program.

Design and method: Three hundred cannabis users will be randomly assigned to receive the extended (intervention) feedback program or the reduced (control) program. Help-seeking behaviour, changes in cannabis use and satisfaction with the program will be evaluated one month later.

Progress: The screening program has been developed and in-house testing has commenced.

Benefits: The study may result in the development of an evidence-based online screening and feedback tool relating to cannabis use.

Funding: Australian Government Department of Health and Ageing

Date commenced: January 2011

Expected date of completion: June 2014

A double-blind, randomised, placebo controlled trial of Sativex® for the management of cannabis withdrawal

NDARC staff: Professor Jan Copeland, Dr David Allsop, Dr Melissa Norberg

Other investigators: A/Professor Nicholas Lintzeris (South East Sydney Local Health Network and University of Sydney), Professor Iain McGregor (University of Sydney), A/Professor Adrian Dunlop (Hunter New England Local Health Network), Dr Mark Montebello (UNSW and The Langton Centre), Dr Craig Sadler (Calvary Mater Hospital, Drug and Alcohol Clinical Services HNEAH and University of Newcastle)

Affiliates: Dr Raimondo Bruno (University of Tasmania)

Project description: Treatment admissions for cannabis use disorders have risen considerably over the past few years, globally and in Australia. There is currently no effective pharmacotherapy for cannabis dependence, and very low abstinence rates reported from psychotherapy alone. A defined cannabis withdrawal syndrome has been identified, and although it is not life threatening, the discomfort it causes is reported to contribute to the high incidence of relapse among the cannabis using population. As such cannabis withdrawal may be an important intervention target for dependence on the drug. This study represents the world's first safety and efficacy trial of a novel agonist medication (Sativex®) for alleviating the symptoms of cannabis withdrawal.

Aims:

- To assess the effectiveness of Sativex® compared to a placebo control for alleviating the number, severity and duration of cannabis withdrawal symptoms, as well as the overall withdrawal score measured using the Cannabis Withdrawal Scale

- To assess the effect of Sativex® on detoxification completion rates and length of stay in treatment compared to placebo
- To compare reports of adverse events during detoxification treatment between the two groups

Design and method: This study is a phase II, multi-site, double-blind, randomised, placebo-controlled inpatient trial. The trial will involve 50 treatment-seeking, cannabis dependent adults.

Progress: Recruitment of 51 DSM-IV dependent cannabis smokers who were seeking treatment for their cannabis use was completed in October 2012 and data collection completed the following month. The data are currently being cleaned and analysed ready for publication in 2013.

Output: Oral presentation to the Cannabis Withdrawal workshop at the November 2012 Australasian Professional Society on Alcohol and Other Drugs (APSAD) meeting in Melbourne.

Funding: National Health and Medical Research Council Project Grant

Date commenced: October 2011

Expected date of completion: March 2013

Pharmacy-based interventions for cannabis use-related difficulties

NDARC staff: Dr John Howard, Professor Jan Copeland, Morag Millington

Collaborators: Pharmacy Guild of Australia - NSW Branch; Faculty of Pharmacy, University of Sydney; School of Pharmacy, University of Auckland; and Community GP and Pharmacy Liaison, Northern Sydney Area Drug and Alcohol Services, NSW Health.

Project description: Pharmacists represent a unique position in health care, and are relied on to provide health care, especially in rural areas where a medical practitioner may only be available on a sessional basis. The project builds on a successful National Cannabis Prevention and Information Centre (NCPIC) project completed with general practitioners, and aims to expand the potential for the dissemination of cannabis prevention information and the provision of opportunistic brief interventions to address potential cannabis use-related harms in pharmacy settings.

Aims: This project aims to ascertain the attitudes of pharmacists to cannabis and its use; their potential role in health promotion and provision of brief, opportunistic interventions (i.e. information provision - health promotion, clinical advice and referral); their willingness to do so; any barriers to such provision; and resources that could assist.

Design and method: Qualitative and quantitative survey of pharmacists, development and trial of kit to assist in-pharmacy interventions.

Progress: Ethics obtained, qualitative study completed, capacity building activities with pharmacists, quantitative study to commence in early 2013.

Output: Draft kit prepared, qualitative data analysed.

Benefits: Reduction of cannabis related harms via brief, opportunistic interventions.

Funding: Nil

Date commenced: February 2012

Expected date of completion: December 2013

Client satisfaction with general practitioner cannabis use interventions

NDARC staff: Dr Peter Gates, Dr Melissa Norberg, Dr David Allsop

Project description: The National Cannabis Prevention and Information Centre (NCPIC) has launched an online survey regarding the experiences of cannabis users who have visited a general practitioner (GP) regarding any cannabis use concerns. The survey is designed to help NCPIC gain a better understanding of how GPs manage their clients who present with cannabis use concerns and what expectations the clients have prior to visiting. In addition the survey questions how satisfied the client of a GP was in regards to the health professional's response.

Aims:

- To develop an understanding of how GPs and other health practitioners screen for and manage clients who present with cannabis use concerns
- To gain understanding of what expectations the client of the GP and/or health service had prior to visiting the health professional regarding how the professional would respond to their cannabis use concerns
- To develop an understanding of how satisfied the client of a GP and/or other health services was regarding the health professional's response to their initial presentation with cannabis use concerns

Design and method: This project requires that a single survey be conducted online. Participants (N=80) will be recruited through advertisement on online cannabis forum websites and other online advertisements as well as by informing GPs through explode email. Participants will be screened online (to ensure eligibility) before beginning the survey proper. Also before beginning, the participants must indicate they have read and understood the information and consent form which will be presented to them in a digital format. Following acceptance of the consent and information, the participants will be forwarded to a separate link with the survey proper. Participants will be made aware in the consent and information form, as well as through recruitment advertisement, that following survey completion they will be entered into a draw for a chance to win one of ten \$50 cash draws.

Progress: Preliminary results indicate that when cannabis users access GP services to help them reduce their cannabis use, they trust the confidentiality of the service and believe that the GP is qualified to help; however, they are not satisfied with the service. Conversely, GPs do not report frequently attending to clients with cannabis use concerns, feel under-trained and perceive a lack of support to assist cannabis using clients seeking their help. A NCPIC bulletin article is to be completed by February 2013 at which time this project will be completed.

Output: Presentation at 2011 Australasian Professional Society on Alcohol and Other Drugs (APSAD) Conference, Hobart.

Benefits: This project will give us a better understanding of how cannabis users view the role of GPs in the delivery of screening and management of cannabis-related problems. In addition, we will gain a better understanding of how satisfied cannabis users were with their health practitioner upon seeking their advice/treatment for a cannabis use concern in the past 12 months.

Funding: Australian Government Department of Health and Ageing

Date commenced: January 2011

Expected date of completion: February 2013

Impacts of legal mandates to enter treatment, perceived coercion, and motivation on treatment engagement and retention in alcohol and other drug treatment programs

NDARC staff: Dr John Howard

Other investigators: Poppy Rourke (UNSW Forensic Master's student) and Dr Kristy Martire (School of Psychology, UNSW)

Aims: To examine whether a legal mandate to enter residential AOD treatment and related factors such as perceived coercion from legal as well as other sources, and motivation, impact on treatment engagement and retention.

Design and method: Survey of participants in therapeutic communities.

Progress: Ethics submitted.

Benefits: Better understanding of coercion into treatment and possible modifications to programs.

Funding: Nil

Date commenced: November 2012

Expected date of completion: November 2013

Computerised treatment for cannabis use in an early psychosis service

NDARC staff: Dr Frances Kay-Lambkin

Other investigators: Professor Vaughan Carr (School of Psychiatry, UNSW) and Dr Daniel Pellen (South-Western Area Health Service, NSW)

Project description: This project will recruit clients of a local Early Psychosis clinic who are currently using cannabis. Case managers will refer interested clients to the study, which will explore the effectiveness of a computer-delivered psychological treatment for cannabis use (and related problems) (the SHADE intervention).

Aims: To explore the effectiveness of a computer-based treatment for cannabis use problems in an Early Psychosis population.

Design and method: Following provision of informed consent, participants will complete a baseline clinical interview and will then be randomised to active treatment (SHADE) or a wait-list control. Those allocated to SHADE will attend the Early Psychosis Service on a once weekly basis to complete their computer sessions. All other treatment will progress as usual. At 12 weeks post-baseline, all participants will complete a follow-up clinical assessment, and wait-list clients will have the opportunity to complete the SHADE 10 week program. Follow-up assessment will occur again for both groups at 24 weeks post-baseline.

Progress: An extension to this project was obtained through to June 2013. Participant recruitment has commenced and will continue in 2013.

Benefits: Development of a targeted psychological treatment for cannabis use in early psychosis clients for whom cannabis use is a major concern.

Funding: NSW Department of Health

Date commenced: August 2011

Expected date of completion: June 2013

Improving cardiovascular health among people with depression: The development and pilot testing of an evidence-based internet healthy lifestyles treatment

NDARC staff: Dr Frances Kay-Lambkin

Other investigators: Professor Robyn Richmond (School of Public Health and Community Medicine, UNSW) and Professor Amanda Baker (University of Newcastle)

Project description: Depression and cardiovascular disease (CVD) are currently ranked three and four in the top 20 causes of burden of disease worldwide, and are elevated to numbers one and two on this list when middle-high income countries, such as Australia, are considered. Several theories can account for the increased risk of these among people with depression, including the impact of unhealthy lifestyle choices often inherent among this group. A US survey of 1,612 patients, which assessed a range of CVD risk factors, indicated that depressive symptomatology was associated with significantly higher caloric intake, significantly decreased physical activity and significantly increased number of daily cigarettes compared to people without depression.

Aims: To develop the first web-based multi-factor psychological treatment for people with depression, heavy tobacco use and a range of other comorbid CVD, risk factors (poor nutrition, physical inactivity and weight). This treatment is known as Healthy Lifestyles Treatment (HLT).

Design and method: This project seeks to increase the accessibility of an innovative, evidence-based psychological treatment (HLT) for improving cardiovascular and mental health among people with depression, by translating it to internet-based delivery (iHLT). HLT has already been developed and evaluated in face-to-face format by the investigative team. iHLT will contain interactive components, including video demonstrations, voiceovers and in-session exercises and will be made widely available via the internet. It will be menu-driven, with site users able to select a CVD risk factor on which to focus for each session in addition to their depressive symptomatology (i.e. smoking cessation, physical activity, nutrition and diet), with options available to integrate messages regarding other relevant CVD risk factors as relevant. The iHLT website will contain self-administered assessment instruments covering relevant mental and general health domains. Users of the site will be prompted to complete these questionnaires at suitable points in the iHLT program, to enable self-monitoring of progress and facilitating ongoing research evaluation with the target group. Site users will also receive a printout and summary of these assessment scores, and be encouraged to discuss these results with their relevant health worker.

Progress: Ethics approval has been obtained to trial the iHLT among 120 people who smoke tobacco and experience (a) depression, (b) psychotic disorders or (c) neither. Recruitment to the study will be via Facebook, and will commence in early 2013.

Benefits: It is hypothesised that completion of the iHLT program will be associated with decreases in CVD risk factors (including alcohol use, tobacco use, physical inactivity, dietary issues and obesity), decreases in depression and improvements in quality

of life and general functioning. A dose-response relationship is suggested, with greater improvement hypothesised among those completing more iHLT modules. Providing internet-based access to iHLT could result in individuals receiving treatment in an earlier phase of their disorder, thereby contributing to the prevention, early detection and management of depression and CVD. An additional aim is to empower people to become more actively involved in their own health care, largely via the provision of relevant and tailored information. This approach should also facilitate the strengthening of subsequent client-healthcare professional communications.

Output: Healthy Lifestyles website.

Funding: Australian Government Department of Health and Ageing contract research

Date commenced: July 2010

Expected date of completion: December 2013

Internet-delivered psychological treatment for comorbid depression and alcohol/other drug use problems: The SHADE project

NDARC staff: Dr Frances Kay-Lambkin

Other investigators: Professor Amanda Baker (University of Newcastle), Professor Brian Kelly (University of Newcastle), Dr Kerry Inder (University of Newcastle)

Project description: Mental health and alcohol and other drug (AOD) researchers and clinicians must respond to the increased demand for their services, by developing and evaluating treatment programs that address depression and alcohol use disorders, while minimising cost and maximising efficient use of clinician time and client outcomes. Available evidence-based treatments provide for single problems (e.g. depression or alcohol misuse) rather than the comorbidity with which clients typically present. Treatments are often high intensity, require specialist input and training, and are therefore only accessible to a minority of clients. For these reasons, many clinicians are not able or willing to implement these interventions in practice. The increased availability and use of internet-based programs as a supplement to health care is also a potential solution to well-documented treatment accessibility problems, particularly among people with depression and AOD use comorbidity.

Aims: To conduct a pilot intervention study with an epidemiological cohort of the internet-delivered SHADE treatment program.

Design and method: Participants who report elevated psychiatric distress and hazardous alcohol use will be randomly assigned to assisted versus unassisted SHADE treatment programs and monitored over a six month period.

Progress: The trial has commenced and the recruitment timeframe extended to those participants involved in a five year follow-up assessment for the Australian Rural Mental Health Survey.

Benefits: Findings from this research will result in the development of an effective, cost effective and acceptable treatment program for people with comorbid alcohol and depressive disorders.

Funding: beyondblue

Date commenced: July 2010

Expected date of completion: December 2013

Improving comorbidity treatment within residential substance abuse programs: A randomised trial of a computer-based depression and substance abuse intervention

NDARC staff: Dr Frances Kay-Lambkin

Other investigators: Professor Amanda Baker (University of Newcastle), Dr Peter Kelly (University of Wollongong), Professor Frank Deane (University of Wollongong)

Project description: It is very common for individuals to have both mental health and substance abuse problems. This is particularly the case for individuals accessing substance abuse treatment, where up to 80% of participants have a co-occurring mental health diagnosis. When compared to people with a single diagnosis, individuals diagnosed with both mental health and substance abuse problems have significantly poorer treatment outcomes across a broad range of outcome domains. It is extremely important that Australian residential substance abuse services provide comprehensive treatment for individuals diagnosed with co-occurring mental health and substance abuse problems. However, the majority of Australian residential substance abuse services still primarily target only the person's substance abuse problems and cognitive-behavioural therapy (CBT) is infrequently employed in these settings, despite its strong evidence base.

Aims: To examine the effectiveness of using a computer delivered comorbidity treatment program for individuals attending long-term residential substance abuse programs. The study will be conducted as a real-world randomised trial, where the Treatment Condition will complete the computer delivered intervention in addition to treatment as usual (TAU). The computer intervention consists of CBT for co-existing mental health and substance use problems and has proven efficacy in two previous randomised controlled trials conducted in a lab-based setting. The control condition will complete TAU only.

The specific aims of the project are:

- To examine the acceptability of using a computer-based intervention within a residential substance abuse setting
- To examine differences in substance use and mental health outcomes between participants in the treatment condition and participants in the control condition

Design and method: The study will evaluate the effectiveness of 'adding' a computer delivered comorbidity CBT intervention (SHADE) to an already established substance abuse program. The study will be conducted as a randomised trial, where the Treatment Condition will complete the SHADE program in addition to TAU (i.e. The Salvation Army residential program, based on the 12-step approach). The control condition will complete TAU only. As mental illness is not specifically targeted as part of The Salvation Army program, and CBT not systematically available for substance use problems, it is hypothesised that individuals in the treatment condition will report greater improvements in their mental health and reductions in their substance use at follow-up than individuals in the control condition.

Progress: Recruitment to the project has been completed, with 12 month follow-ups currently due. Participants have enjoyed the opportunity to use the computer to manage their own health and wellbeing, indicating the feasibility of these approaches in residential settings.

Output: Paper published in *BMC Public Health*.

Benefits: If the computer-delivered CBT comorbidity intervention proves to be effective it will continue to be offered to all participants who enter William Booth House in Sydney each year. Additionally, the intervention would be expanded across each of The Salvation Army residential substance abuse services across New South Wales, Queensland and the Australian Capital Territory (500 beds in total, 1,800 individuals treated annually). An advantage of using a computer delivered intervention is that high quality, evidenced-based clinical interventions are readily available for uptake by clinical services, with expansion of the program not placing any additional burden on the staff or organisation. Rather, implementation will only require The Salvation Army to use already existing computer terminals and ensure that the intervention is timetabled into the participants' weekly activities. It is hoped that these activities will help to promote the use of computer-based interventions within residential substance abuse settings across Australia.

Funding: Australian Rotary Health Research Fund

Date commenced: January 2011

Expected date of completion: December 2013

Randomised controlled trial of a financial counselling intervention and smoking cessation assistance to reduce smoking in socioeconomically disadvantaged groups

NDARC staff: Professor Richard Mattick, Professor Michael Farrell, Dr Deborah Bradford, Dr Ryan Courtney, Veronica Boland, Philip Clare

Other investigators: Dr Kristy Martire (School of Psychology, UNSW), Dr Billie Bonevski (University of Newcastle), Professor Ron Borland (The Cancer Council Victoria), Professor Christopher Doran (University of Newcastle), Professor Wayne Hall (UQ Centre for Clinical Research)

Collaborators: Professor Mohammad Siahpush (University of Nebraska Medical Center), Laureate Professor Rob Sanson-Fisher (University of Newcastle), Professor Robert West (University College London)

Project description: Increasingly, Australian smokers represent the socially marginalised and economically disadvantaged sector of our community. They also are a group of people with an increased likelihood of experiencing financial stress. Our knowledge base regarding the efficacy of various interventions for these groups is scant at this time and requires urgent development if we are to take a proactive stance to lower smoking rates into the next decade and beyond. This research aims to investigate a novel intervention for smoking cessation - financial counselling as an adjunct to Nicotine Replacement Therapy (NRT) with Quitline call-back - assessing its effectiveness as a public health intervention when compared to NRT and Quitline call-back alone. This investigation will provide insight into whether financial counselling is effective, is perceived by participants as a viable intervention approach, and whether its effectiveness is determined by the financial stressors experienced by participants. This information is necessary to mount population level interventions addressing the social gradient in smoking rates in Australia.

Aims: Socioeconomically disadvantaged groups are more likely to smoke than other sectors of the community. This difference has been attributed, in part, to increased rates of relapse. Relapse is strongly and consistently predicted by financial stress. This project attempts to reduce relapse by reducing financial stress among disadvantaged smokers through the provision of financial counselling as an adjunct to NRT.

Design and method: We will conduct a randomised controlled trial comparing cessation rates between low SES smokers who receive the standard intervention comprising subsidised NRT with a Quitline call-back with those who receive subsidised NRT and Quitline call-back plus financial counselling. Smoking outcomes will be assessed at two and six months post-intervention.

Progress: Following completion of pilot testing in 2012, this study will commence recruitment of over 1,000 low-income smokers from early 2013.

Benefits: The results from this project will provide valuable information on the efficacy of targeted interventions for socioeconomically disadvantaged smokers.

Funding: National Health and Medical Research Council

Date commenced: January 2012

Expected date of completion: December 2015

Binge drinking and the adolescent frontal lobe

NDARC staff: Professor Maree Teesson, Lucy Swaffield

Other investigators: Professor Caroline Rae (Neuroscience Research Australia), Professor Roland Henry (University of California, Berkley, United States)

Project description: Adolescence is a critical period for brain development, with active rewiring of circuitry that is necessary in successful development of "adult" adaptive patterns of behaviour, such as the frontal lobe and its connections. Binge drinking practices may interfere with the development of these important circuits. The available evidence supports the hypothesis that heavy adolescent alcohol consumption disrupts cortical development and promotes continued impulsive behaviour, alcohol abuse and risk of alcohol dependence. However, there are few studies of the brain particularly targeted to binge drinking effects in adolescent humans and none examining the crucial development of connectivity in relation to cognition.

Aims:

- Study brain connectivity patterns in adolescent binge drinkers and abstinent controls by structural and diffusion tensor magnetic resonance imaging and spectroscopy.
- Examine the relationship between selected behavioural and cognitive functional outcomes and brain structure.

Design and method: We will study 160 16-17 year olds (80 binge drinkers and 80 non-drinkers, 80 males, 80 females). Brain structure will be assessed using structural and diffusion MR imaging and spectroscopy with particular emphasis on later developing regions of the brain such as the frontal lobes, and vulnerable areas such as the hippocampus. Alcohol use, mood, emotional face recognition, memory, executive function and aggression will be measured and the relationship of these variables to brain structure determined.

Benefit: New knowledge on the impact of binge drinking on brain development.

Funding: NDARC seeking NHMRC funding

Date commenced: 2009

Expected date of completion: December 2014

PATTERNS OF ALCOHOL AND DRUG USE

Illicit Drug Reporting System (IDRS)

NDARC staff: Dr Lucy Burns, Natasha Sindicich, Jenny Stafford, Joe Van Buskirk, Kerryn Butler, Rachel Sutherland

Other investigators: Chris Moon (Department of Health and Families, NT), Dr Rosa Alati (University of Queensland), Fairlie McIlwraith (University of Queensland), Dr Raimondo Bruno (University of Tasmania), Barbara de Graaff (University of Tasmania), Professor Simon Lenton (Curtin University), James Fetherston (Curtin University), Professor Paul Dietze (Burnet Institute), Shelley Cogger (Burnet Institute)

Affiliates: Queensland Alcohol and Drug Research and Education Centre, University of Tasmania, Macfarlane Burnet Institute for Medical Research and Public Health, National Drug Research Institute, Northern Territory Government Department of Health.

Project description: The Illicit Drug Reporting System (IDRS) is a national illicit drug monitoring system intended to serve as a strategic early warning system, identifying emerging trends of local and national concern in illicit drug markets. The IDRS monitors the price, purity, availability and patterns of use of heroin, methamphetamine, cocaine and cannabis. The IDRS is designed to be sensitive to trends, providing data in a timely manner, rather than describing issues in detail.

Aims:

- To monitor the price, purity, availability and patterns of use of heroin, methamphetamine, cocaine and cannabis
- To identify emerging trends in illicit drug markets in Australia that require further investigation

Design and method: The IDRS analyses three main sources of information to document drug trends:

- a quantitative survey of people who inject drugs (PWID)
- a semi-structured interview with key experts (KE), who are professionals working in the illicit drug field, and have regular contact with and/or specialised knowledge of users, dealers or manufacturers
- a collation of existing indicator data on drug-related issues

Data from these three sources are triangulated against each other to determine the convergent validity of trends detected. The data sources complement each other in the nature of the information they provide. Data from each year's IDRS studies are compared to earlier findings to determine changes in drug trends over time. The strengths of the IDRS are the ability to compare data across jurisdictions as well as over time.

Progress: In 2012, 924 IDU were interviewed across Australia, providing information on their use patterns, drug markets and related issues. Key experts from a range of professions provided information on the ecstasy and related drug users they had contact

with. Indicator data including Australian Customs Service seizures, purity analysis, overdose and treatment data were examined.

Output: A paper on the influence of the EDRS and IDRS on drug policy was accepted by the *International Journal of Drug Policy*. In addition the group published the 2011 IDRS reports for each state and territory, as well as a national 2011 report.

Funding: Australian Government Department of Health and Ageing

Date commenced: January 1997

Expected date of completion: Ongoing

Ecstasy and Related Drugs Reporting System (EDRS)

NDARC staff: Dr Lucy Burns, Natasha Sindich, Jenny Stafford, Joe Van Buskirk, Kerryn Butler, Rachel Sutherland, Elizabeth Whittaker

Other investigators: Professor Paul Dietze (Burnet Institute), Phuong Nguyen (Burnet Institute), Dr Raimondo Bruno (University of Tasmania), Dr Allison Matthews (University of Tasmania), Dr Rosa Alati (University of Queensland), Fairlie McIlwraith (University of Queensland), Professor Simon Lenton (Curtin University), Jodie Grigg (Curtin University)

Affiliates: Queensland Alcohol and Drug Research and Education Centre, University of Tasmania, Macfarlane Burnet Institute for Medical Research and Public Health, National Drug Research Institute.

Project description: The Ecstasy and Related Drugs Reporting System (EDRS) is a national monitoring system for ecstasy and related drugs that is intended to serve as a strategic early warning system, identifying emerging trends of local and national interest in the markets for these drugs. The EDRS is based on the Illicit Drug Reporting System (IDRS) methodology and consists of three components: interviews with regular ecstasy users (REU); interviews with key experts (KEs), professionals who have regular contact with regular ecstasy users through their work; and analysis and examination of indicator data sources related to ecstasy and other related drugs. The EDRS monitors the price, purity, availability and patterns of use of ecstasy, methamphetamine, cocaine, ketamine, GHB, MDA and LSD. The EDRS is designed to be sensitive to trends, providing data in a timely manner, rather than describing issues in extensive detail.

Aims:

- To describe the characteristics of a sample of current regular ecstasy users interviewed in each capital city of Australia
- To examine the patterns of ecstasy and other drug use of these samples
- To document the current price, purity and availability of ecstasy and other party drugs across Australia
- To examine the incidence and nature of harms related to the use of ecstasy and related drugs
- To identify emerging trends in the party drug market that may require further investigation

Design and method: Previously known as the Party Drug Initiative (PDI), the EDRS is coordinated by NDARC and is conducted by different research institutions in each Australian state and territory. The EDRS uses a similar methodology to the Illicit Drug Reporting System (IDRS). Regular ecstasy users are interviewed

as they were identified as a group of drug users that are able to provide the required information on patterns of ecstasy and related drugs (ERDs) use, the current availability, price and purity of ERDs and perceived drug-related health issues associated with ERDs use. A semi-structured survey of experts in the field of ERDs (e.g. party promoters, treatment providers and law enforcement personnel) is also conducted and indicator data (e.g. purity of drug seizures and overdose rates) are analysed. These data sources are examined together to identify convergent trends in ERDs use and markets.

Progress: The EDRS was conducted successfully in every state and territory in 2012. Six hundred and seven regular ecstasy users were interviewed, providing information on their drug use patterns, ecstasy and related drug markets and related issues. Key experts from a range of professions provided information on the ecstasy and related drug users they had contact with. Indicator data including Australian Customs Service seizures, purity analysis and treatment data were examined.

Output: A paper on the impact of comorbid cannabis and methamphetamine use on the mental health of regular ecstasy users was published in *Addictive Behaviors*. In addition the group published the 2011 EDRS reports for each state and territory, as well as a national 2011 report.

Funding: Australian Government Department of Health and Ageing

Date commenced: January 2003

Expected date of completion: Ongoing

National Illicit Drug Indicators Project (NIDIP)

NDARC staff: Dr Lucy Burns and Amanda Roxburgh

Project description: The National Illicit Drug Indicators Project (NIDIP) was established in the recognition that there was a greater need for the regular dissemination of trends in the epidemiology of drug-related harms in Australia. It was also established to provide comparable monitoring at an international level as there is increasing recognition among international organisations and countries of the need for evidence-based decision making to respond effectively to drug-related problems, particularly given the transborder issues associated with global drug trafficking. The recognition of a national and internationally comparable approach to illicit drug-related surveillance and monitoring is highlighted through a number of countries with illicit drug data collections in place (e.g. the Community Epidemiology Working Group on Illicit Drugs (CEWG) in the United States, and the European Union European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)) as well as international efforts to coordinate global drug trends. The benefits of NIDIP include the enhanced dissemination of information on trends in harms related to opioid and psychostimulant use and use of prescription drugs, and a greater evidence base for the development of policy responses and interventions in relation to these harms. NIDIP also provides comparable monitoring of trends at an international level.

Aims: To provide epidemiological data on trends over time in drug-related harms, to complement other Australian monitoring systems such as the Illicit Drug Reporting System (IDRS) and the Ecstasy and related Drugs Reporting System (EDRS), and to improve the understanding of, and systematically track changes in, drug-related harms for illicit and prescription drugs.

Design and method: To date NIDIP has identified a comprehensive range of data sources, and produced reviews of drug-related data indicators at a national level as well as in New South Wales. These indicators include: information on population patterns of drug use from national surveys, data on deaths due to drug overdoses, drug-related morbidity and drug treatment data, indicators of drug purity and seizures, and drug-related crime data. Analyses of these indicators are published on a regular basis. The project currently publishes bulletins on drug-related deaths and drug-related hospital separations on an annual basis on the NDARC website. These bulletins, along with reports and peer-reviewed journal articles aim to provide as comprehensive an overview as possible of trends in drug use and related harms in Australia over time.

Progress: In 2012, NIDIP continued to access and analyse a comprehensive range of national data collections to produce trends in use and harms associated with illicit drugs in Australia. An exciting new initiative in 2012 was the addition of an online monitoring module to complement current monitoring strategies. This involves analysing the number of internet websites listing some of the newer emerging psychoactive substances (e.g. mephedrone, MDPV) for sale to Australia, as well as analysis of the Silk Road for availability and price of illicit drugs and the newer emerging psychoactive substances.

Output: Analysis arising from the NIDIP in 2012 was central in informing an invited submission to a NSW Parliamentary enquiry into emerging psychoactive substances.

Another important publication to arise from NIDIP in 2012 was 'Accidental opioid-induced overdose deaths in Australia in 2008'. This publication was central in informing media discussion and debate around the issue of the rising rates of analgesic opioid prescribing in Australia.

The online report 'Trends in Drug Use and Related Harms in Australia', published in late 2011, continues to inform government discussion in regard to Australia's performance on the National Drug Strategy 2010-2015. This report will be updated online as new data become available.

Funding: Australian Government Department of Health and Ageing

Date commenced: June 2002

Expected date of completion: Ongoing

Global burden of disease: Mental disorders and illicit drug use expert group

NDARC staff: Professor Louisa Degenhardt

Other investigators: Professor Harvey Whiteford, Amanda Baxter, Adele Somerville, Fiona Charlson, Alize Ferrari, Roman Scheurer, Bianca Garcia, Allison Ventura (all from the Queensland Centre for Mental Health Research, University of Queensland)

Project description: Global Burden of Disease analysis provides comprehensive and comparable data on mortality and loss of health due to diseases, injuries and risk factors for all regions of the world. The overall burden of disease is calculated using the disability-adjusted life year (DALY), that is a measure that combines 'years of life lost due to premature mortality' with 'years of life lost due to time lived in less than full health'.

The original Global Burden of Disease (GBD) Study was commissioned by the World Bank in 1991 and provided burden of disease estimates for 1990. NDARC has been working with the World Health Organization and other bodies to calculate the burden of disease, injuries and risk factors for 1990, 2005 and 2010.

NDARCs main contribution to the international GBD project is to calculate levels of disease, injury and death associated with illicit drug use and dependence.

Aims: The GBD study has two major objectives:

- To produce estimates of the burden of diseases and injuries, and to assess risk factors, for the years 1990, 2005 and 2010 organised in 21 regions covering the globe
- To develop a series of tools for use by specific audiences, to standardise and broaden burden of disease research and analysis, and to produce publications tailored to policymakers and a non-research audience

As part of the first GBD Study objective, the Mental Disorders and Illicit Drug Use Expert Group aims to produce estimates of the burden of disease associated with mental health disorders and illicit drug use and dependence.

Design and method: The project examines more than 190 diseases and injuries and more than 45 risk factors, in 21 regions of the world.

Systematic reviews of the prevalence, incidence and duration of mental health disorders and associated mortality and disabling sequelae will be conducted by the Mental Disorders and Illicit Drug Use Expert Group. Additionally, exposure and effects of risk factors will be assessed. Expert Groups will communicate their figures at defined intervals with other Expert Groups and with the Core Team to ensure consistency across conditions, and will be subjected to external peer review.

NDARC is collecting data on the following drug groups: heroin and other opioids, amphetamine type stimulants, cocaine and cannabis.

Progress: Work was completed in 2012 for the overall papers. Work continues on disorder-specific papers.

Output: The top line findings were released on 14 December 2012 in a triple issue of the leading journal *The Lancet*.

Funding: National Health and Medical Research Council Fellowship

Date commenced: July 2007

Expected date of completion: 2013

The relationship between alcohol use and mental disorders from adolescence to young adulthood – longitudinal analyses from a large Australian cohort study

NDARC staff: Professor Louisa Degenhardt, Dr Wendy Swift, A/Professor Tim Slade

Other investigators: Professor George Patton (University of Melbourne/Murdoch Childrens Research Institute), Professor Wayne Hall (University of Queensland), Dr Christina O'Loughlin (Murdoch Childrens Research Institute), Dr Helena Romanuk (Murdoch Childrens Research Institute), Professor John Carlin (University of Melbourne/Murdoch Childrens Research Institute).

Rationale: There is a pressing need to understand the longer-term impacts of processes that manifest during adolescence. One particularly significant area is the link between alcohol use, common mental health problems and life-course outcomes. Despite this need, few longitudinal data exist on the relationship between alcohol use, mental health, and outcomes in young adulthood. We have limited understanding of the longer-term impact of the co-occurrence of disorders in adolescence upon: alcohol use and disorders in adulthood; mental disorders in young adulthood; and life outcomes such as employment, education and social relationships. This study will contribute some of the best available information on the natural history and social contexts relevant to alcohol and its relationship to common mental health disorders across young adulthood in Australia.

Aims: To understand the contribution that alcohol use and misuse make to mental health in adolescents and young adults by undertaking analyses of data from a major Australian longitudinal study.

Specifically, we want to find out:

- What patterns of drinking in adolescence predict the development and persistence of risky drinking and alcohol abuse and dependence through young adulthood?
- Does adolescent alcohol use or misuse predict the persistence of adolescent anxiety and depressive disorders into young adulthood?
- Does adolescent alcohol use or misuse increase the risk of adverse life outcomes among those with adolescent anxiety and depressive disorders, in areas such as educational and occupational attainment, welfare dependence, relationships and social functioning?
- Does problematic alcohol use in young adulthood exacerbate unfavourable life outcomes in those with personality disorders?

Design and method: We will use data from a major Australian longitudinal study, the Victorian Adolescent Health Cohort Study (VAHCS) which has collected data on almost 2,000 participants, on nine occasions, since the age of 14 years. We will conduct a range of cross-sectional and prospective analyses examining the associations between alcohol use, alcohol use problems and mental health, during adolescence and young adulthood.

Progress: Two papers are under review and two are about to be submitted. Work is proceeding on another four papers.

Benefits: The analyses in this project are all novel questions that have never been answered in any Australian cohort of young people. The analyses have enormous potential to clarify the longer term impacts of adolescent drinking on mental health and related outcomes and thereby to inform the design of public policies to reduce these disorders. These data will be of considerable importance to policy makers in health and social services as well as informing clinical practice.

Output: In 2012, we produced a progress report for Australian Rotary Health and presented at their annual Christmas dinner. In addition two papers are under review.

Funding: Australian Rotary Health Research Fund

Date commenced: January 2012

Expected date of completion: December 2013

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

NDARC staff: Professor Richard Mattick, Professor Louisa Degenhardt, Dr Delyse Hutchinson, Dr Wendy Swift, Professor Jan Copeland, A/Professor Tim Slade, Dr Edmund Silins

Other investigators: Professor Steve Allsop (Curtin University), Carolyn Coffey (University of Melbourne), Dr David Ferguson (University of Otago), Professor Wayne Hall (University of Queensland), Dr Mohammad Hayatbakhsh (University of Queensland), A/Professor John Horwood (University of Otago), Dr Primrose Letcher (Deakin University), Professor Jake Najman (University of Queensland), Dr Craig Olsson (University of Melbourne), Professor George Patton (University of Melbourne), Professor Bryan Rodgers (Australian National University), Dr Rachel Skinner (University of Sydney), Elizabeth Spry (University of Melbourne), Dr Robert Tait (Australian National University), Professor John Toumbourou (Deakin University)

Project description: This study is the first of its kind to use integrative data analyses - a highly innovative approach - to pool data from four large and long-running Australasian cohort studies to better understand the link between cannabis use and later-life outcomes. Dramatically improved knowledge of these relationships will create a clearer picture of the interventions required to reduce the harms associated with cannabis use.

Aims: To produce more comparable and robust findings about the linkages between cannabis use, mental health, other substance use and social development in young people. Specifically, the study aims to (i) develop integrative analyses across four large and long-running Australasian cohorts of the linkages between the use of cannabis and secondary school completion, university degree attainment, depression, self-harm, other illicit drug use, welfare and dependence; (ii) obtain pooled estimates of the effect of cannabis use on other drug use, mental health and social development in young people to provide better estimates of the relationships between cannabis use and particular life-course outcomes; and (iii) to more fully use existing cohort data.

Design and method: The study will use traditional meta-analytical approaches and integrative data analyses and explore the utility of these approaches. Data will be harmonised from four long-running Australasian cohort studies which span early childhood, adolescence and young adulthood: The Australian Temperament Project (ATP), The Christchurch Health and Development Study (CHDS), The Mater Hospital and University of Queensland Study of Pregnancy (MUSP), and Victorian Adolescent Health Cohort Study (VAHCS). Combined, the studies involve over 12,000 young people.

Progress: A consistent metric for the exposure variables and outcomes of interest have been established across the cohort studies involved and data harmonised into a single dataset.

Three papers are in the final stages of preparation:

- Cohort profile: The Cannabis Cohort Research Consortium (CCRC) Harmonised Cohort
- Outcomes of early onset cannabis use in young adulthood: A prognostic study across three Australasian cohorts

- Genetic prediction of early onset cannabis use and young adult outcomes: A consortium based approach to well powered studies of genetic risk

Work has commenced on two additional papers:

- Child behaviour problems in the prediction of age of cannabis onset
- Examining the course of cannabis dependence in young adulthood

Output: A paper on cannabis and depression was published in *Drug and Alcohol Review* and two papers were presented at the National Cannabis Conference in September.

Benefits: This study will produce comparable analyses and better estimates of the relationships between early-life factors and later cannabis use, and relationships between cannabis use and adverse life-course outcomes. In an environment in which the effects of cannabis use remain hotly debated, dramatically improved knowledge of these relationships will create a clearer picture of the interventions required to reduce the harms associated with cannabis use.

Funding: National Health and Medical Research Council Project Grant

Date commenced: 2011

Expected date of completion: 2013

Cannabis Cohort Research Consortium

NDARC staff: Dr Delyse Hutchinson, Professor Richard Mattick, Dr Edmund Silins, Professor Jan Copeland, Professor Louisa Degenhardt, Dr Marian Shanahan, A/Professor Tim Slade, Dr Wendy Swift, Professor Maree Teesson

Other collaborators: Professor Steve Allsop (Curtin University), Carolyn Coffey (University of Melbourne), Professor David Fergusson (University of Otago), Professor Wayne Hall (University of Queensland), Dr Mohammad Hayatbakhsh (University Of Queensland), A/Professor John Horwood (University of Otago), Dr Primrose Letcher (Royal Children's Hospital, Melbourne), Professor Jake Najman (University Of Queensland), Dr Craig Olsson (Royal Children's Hospital, Melbourne), Professor George Patton (University of Melbourne), Professor Richie Poulton (University of Otago), Professor Bryan Rodgers (Australian National University), Dr Rachel Skinner (University of Western Australia), Diana Smart (Australian Institute of Family Studies), Elizabeth Spry (University of Melbourne), Dr Robert Tait (Australian National University), Professor John Toumbourou (Deakin University)

Affiliates: Dr David Allsop (NCPIC), Dr Caitlin Hughes (DPMP), Trish Jacomb (Australian National University), Kylie Lee (University of Sydney), A/Professor Alan Clough (James Cook University), Dr John Howard (NCPIC), Dr Eugen Mattes (University of Western Australia), Paul Nelson (NDARC), Dr Andrew Percy (Queens University, Belfast), Professor Ann Sanson (University of Melbourne), Dr Tim Windsor (Australian National University), A/Professor Jenny Williams (University of Melbourne)

Project description: The Cannabis Cohort Research Consortium (CCRC) is a collaboration that stemmed from the need to better address pressing questions about the relationship between cannabis, other drug use, life-course outcomes and mental health

in children and young adults. The CCRC is a multi-organisational and multi-disciplinary international collaboration of researchers which consists of highly experienced individuals with expert knowledge from across the disciplines of psychiatry, psychology, child and adolescent health, cannabis and other substance use, biomedicine, health and development, prevention, intervention and knowledge translation. The Consortium brings together researchers from some of the largest and most prolific longitudinal studies in the world. The CCRC aims to achieve its goals by involving partners in capacity building activities and by providing capacity to allow collaborative work to proceed to high-level grant application stage.

Aims: To foster relations among partners; identify limitations in knowledge on patterns and causes of cannabis use, potential harms and adverse outcomes; examine priority issues in an efficient and timely way through secondary data analysis of existing national and international cohorts; and provide health and policy feedback to the Australian Government, health professionals and the public.

Design and method: The Consortium aims to achieve its goals by involving partners in capacity building activities and by providing capacity to allow collaborative work to proceed to high-level grant application stage. Collaboration between researchers involved in existing longitudinal cohorts allows for better assessments of relationships to be made, uses existing data more efficiently and increases opportunities for knowledge translation.

Progress: National Health and Medical Research Council (NHMRC) project grant funding was previously awarded to the Consortium to undertake work integrating data from four large and long-running Australasian cohort studies to better understand the link between cannabis use and later outcomes.

During 2012, Dr Edmund Silins, Dr Hutchinson, Professor Mattick and the broader Consortium have been working together to prepare numerous peer review papers:

- Cohort profile: The Cannabis Cohort Research Consortium (CCRC) Harmonized Cohort
- Outcomes of early onset cannabis use in young adulthood: A prognostic study across three Australasian cohorts
- Genetic prediction of early onset cannabis use and young adult outcomes: A consortium based approach to well powered studies of genetic risk
- Child behaviour problems in the prediction of age of cannabis onset
- Examining the course of cannabis dependence in young adulthood

The research team has learned about the quality of available data and developed methods and protocol for data integration when investigating cannabis use. The team is now planning to apply the analytical techniques to other drug classes and a wider range of outcomes. A grant which focuses on alcohol is currently being developed.

Output: The Consortium published a paper on cannabis and depression in *Drug and Alcohol Dependence* and presented three papers at the National Cannabis Conference in Brisbane in September 2012.

Funding: NDARC and National Health and Medical Research Council Project Grant

Date commenced: 2006

Expected date of completion: Ongoing

Subjective experience of withdrawal from cannabis: bush, hydro and synthetic

NDARC staff: Dr John Howard, Professor Jan Copeland, Dr David Allsop, Paul Dillon

Other investigators: Bryan Tran (Faculty of Medicine, UNSW)

Project description: While a quantifiable withdrawal syndrome for 'natural' cannabis has been identified, there is limited understanding of withdrawal from synthetic cannabis in Australia or elsewhere. The study is surveying regular users of cannabis about their use of cannabis and other drugs, and their subjective experience of withdrawal from cannabis.

Aims: To explore the subjective experience of withdrawal from various forms of cannabis, and to ascertain any specific issues associated with withdrawal from synthetic cannabis.

Design and method: We will survey regular users of cannabis about their use of cannabis and other drugs, and their subjective experience of withdrawal from cannabis. The survey includes questions pertaining to demographics, frequency and quantity of drug use and the cannabis withdrawal scale.

Progress: The online survey is underway.

Benefits: Better understanding of withdrawal from synthetic cannabis to inform prevention and treatment.

Funding: National Cannabis Prevention and Information Centre (NCPIIC)

Date commenced: November 2012

Expected date of completion: November 2013

Young Australians alcohol reporting system

NDARC staff: Professor Richard Mattick, Dr Lucy Burns, Alexandra Aiken

Other investigators: Professor Steve Allsop (Curtin University), Professor Daniel Lubman (Monash University), A/Professor Tanya Chikritzhs (Curtin University), William Gilmore (Curtin University), Dr Belinda Lloyd (Monash University), Dr Tina Lam (Curtin University)

Collaborators: Curtin University, Monash University

Project description: There is ongoing public and political concern in relation to alcohol consumption among young people. The Australian Government has committed to preventing and intervening in intoxicated behaviour, especially among those aged under 18 years. To effectively respond to risky drinking among young people, we need enhanced information about the nature, patterns and contexts of use. Engaging with young people and ensuring their input will assist us to direct policy, prevention and treatment efforts.

Aims: To trial a young Australians alcohol reporting system in Western Australia, Victoria and New South Wales targeting young people (16 - 19 years old) who are engaged in risky drinking. The project will combine information from existing data sources with annual data gathering to provide:

- an early warning system on risky patterns of alcohol consumption, contexts of use and related harms that will also allow tracking of changes in use and harm over time
- timely information on patterns of use and related problems to inform policy, prevention and treatment initiatives

Design and method:

- Establish an advisory group, including young people
- Review all data sources on young people's drinking, in Australia and overseas
- Develop the reporting system. The program will collect information on such areas as
 - patterns of alcohol use
 - what young people drink
 - where the alcohol is obtained/from whom
 - risks taking gaining alcohol and while drinking/intoxicated
 - influences on drinking and risk taking
 - parental influences on drinking behaviour
 - other drugs used while drinking alcohol
 - influences on low risk drinking as opposed to high risk drinking
- Participants will be recruited using similar methods to the existing Illicit Drug Reporting System (IDRS) and Ecstasy and Related Drugs Reporting System (EDRS). The aim is to target 16 - 19 year old people with higher levels of risky drinking in the transition from 'underage' to legal alcohol purchase age. We aim to recruit 400 respondents: 100 each from NSW, Victoria and Western Australia, and 100 from a rural location. Twenty of each 100 will be randomly selected for more detailed qualitative interviews. Data will also be gathered via an internet questionnaire using snowball approaches (in addition to the sample of 400)
- Pilot: It is proposed the system be implemented using the network of staff involved in the IDRS/EDRS. We plan to gather data during the period October to February, a potential high risk period of alcohol consumption for young people
- Refinement of system based on pilot
- Collate System information with existing data from other sources to produce final report

Progress: The draft quantitative and qualitative interviews have been completed and will be piloted during December to January 2013.

Benefits: This system will provide an 'early warning system' of current risks and changes in use and related problems that will inform prevention and other interventions targeting young at risk drinkers. The system will also contribute to evaluation of the impact of prevention and other interventions to reduce risky drinking among young people.

Once the system is established in three jurisdictions, it is anticipated that other sources of funding will be sought for a national roll out and to implement a series of satellite studies.

Funding: Curtin University / ANPHA Preventive Health Research Grants Program Shared Grant

Date commenced: September 2012

Expected date of completion: February 2014

Examining the prevalence of Attention Deficit Hyperactivity Disorder among those with substance use disorders

NDARC staff: Dr Sharlene Kaye, Professor Louisa Degenhardt, Joanne Cassar

Other investigators: Professor Steve Allsop, Dr Susan Carruthers, Professor David Hay, Dr Neilson Martin, A/Professor David Groth (all from Curtin University).

Affiliates: Geurt van de Glind (Trimbos Institute, Utrecht), Wim van den Brink (Amsterdam Institute for Addiction Research, Amsterdam), Arvid Skutle, Eva Karin Lovaas and Kari Lossius (Bergen Clinics Foundation, Bergen), Johan Franck and Maija Konstenius (Karolinska University Hospital, Stockholm), Csaba Barta (Semmelweis University, Budapest), Antoni Ramos Quiroga (Vall d'Hebron University Hospital, Barcelona), Brian Johnson (SUNY Upstate Medical University Hospital, Syracuse), Marc Auriaccombe (University of Bordeaux, Bordeaux).

Project description: Limited research suggests a strong association between adult Attention Deficit Hyperactivity Disorder (ADHD) and substance use disorders (SUD), with adult ADHD over-represented among people with substance use problems (20-40% prevalence). ADHD complicates the course of SUD, such that substance dependence is likely to have an earlier onset and greater severity among those with ADHD, and be more difficult to treat, with higher rates of relapse. The harms associated with alcohol and other drug use may be increased when ADHD is present, due to the inattention, carelessness, and impulsive risk-taking that are associated with ADHD. The increased risk of alcohol and other drug-related harm is of particular concern among younger people with ADHD, who already engage in more high risk behaviour than their non-ADHD and older counterparts. Risk behaviours that are likely to compound the harms already inherent in drug and alcohol use *per se* include engaging in high frequency substance use, harmful routes of drug administration, blood-borne virus risk behaviours, and high-risk driving behaviours. This study is part of an international multi-site study, known as the International ADHD in Substance use disorders Prevalence (IASP) study, coordinated by the International Collaboration on ADHD and Substance Abuse (ICASA). The IASP study will be conducted in Australia, Belgium, France, Hungary, Norway, Spain, Sweden, Switzerland, The Netherlands and the United States.

Aims:

- To assess current ADHD symptomatology among adults entering treatment for drug or alcohol dependence
- To test the performance of internationally used screening instruments for adult ADHD among this specific clinical population
- To investigate the relationship between ADHD symptoms and the onset and course of SUD, by comparing psychiatric comorbidity, onset of SUD and health and social functioning of patients with and without symptoms of ADHD
- To assess the nature and level of risk-taking behaviour associated with ADHD symptomatology

Design and method: This study employs a cross-sectional survey design. Six hundred adult alcohol and/or illicit drug users (Perth: N=300; Sydney: N=300), entering a new episode of treatment for drug and/or alcohol dependence, will be administered a structured

interview designed to screen for adult ADHD and examine SUD, psychiatric history, and drug-related, sexual and driving risk behaviours.

Progress: Recruitment of study participants, coordinated by Joanne Cassar (NDARC), Dr Susan Carruthers (NDRI) and Jesse Young (NDRI), continued until 31 August 2011, at which time 303 interviews in Sydney and 185 interviews in Perth had been conducted. Recruitment in other participating countries ceased on 31 August 2011. A total sample of 3,558 cases, from 47 inpatient and outpatient treatment sites, was obtained. Data analysis is ongoing.

Output: Four papers based on the international findings have been submitted to international scientific journals and are currently under review. Papers based on the Australian findings are in preparation.

Benefits: This will be the first Australian study to contribute to internationally comparable estimates of adult ADHD among people with SUD and the largest study of adult ADHD among substance-dependent populations in Australia to date. It will also be the first Australian study to examine risk behaviours associated with ADHD among SUD populations. Improved identification of adult ADHD among people with SUD will assist in the tailoring of substance dependence treatment to the specific needs of those with ADHD and in the management of ADHD treatment, where indicated, leading to a better treatment outcome for the patient. This research also has important implications for children and adolescents with ADHD, who are at greater risk of developing problematic substance use and comorbid psychiatric disorders and engaging in harmful risk-taking behaviours. Alcohol and other drug use prevention and intervention strategies specifically targeted toward young people with ADHD will be of critical importance in reducing the harm and public health burden associated with SUD complicated by ADHD. Moreover, the findings will inform the development of future trials of ADHD treatment among substance-dependent populations. The study will, therefore, guide the development of programs to detect, diagnose and manage ADHD in people with SUD, contribute to improved and effective treatment of SUD in patients with comorbid ADHD, and inform strategies for prevention and monitoring of SUD in children and adolescents with ADHD.

Funding: Curtin University - Contract Research. The funding period for this project was September 2010 to March 2012

Date commenced: September 2010

Expected date of completion: April 2013

The feasibility and effectiveness of a family-based intervention for Indigenous Australians with alcohol dependence

NDARC staff: Bianca Calabria and A/Professor Anthony Shakeshaft

Other investigators: Dr Anton Clifford (University of Queensland), Professor Chris Doran (University of Newcastle), Miranda Rose (UNSW), Dr Julaine Allan (Charles Sturt University), Dr Rod MacQueen (The Lyndon Community), Professor Komla Tsey (James Cook University), Donna Bliss (Yoorana Gunya Family Violence Healing Centre Aboriginal Corporation).

Project description: Indigenous Australians experience a disproportionately high burden of alcohol-related harm relative to non-Indigenous Australians. These alcohol-related harms are typically cumulative, extending beyond the individual to the family and community. Few Indigenous-specific intervention programs

have addressed these harms, and no rigorous evaluations of Indigenous-specific alcohol interventions have been implemented in Australia. Empirical studies show that family-based approaches can be effective for reducing alcohol-related harms among high-risk drinkers and the negative effects of alcohol misuse on other family members. Family relationships have always been vital to the cohesion and wellbeing of Indigenous communities. What happens at the family level shapes the social functioning of Indigenous Australian communities and the wellbeing of individuals. The strength of relationships between Indigenous individuals, their families and communities suggests that family-based approaches are likely to be appropriate and effective for reducing alcohol related harm among Indigenous Australians.

Aims: To assess the acceptability, feasibility and likely cost-effectiveness of the individually-focused Community Reinforcement Approach (CRA) and family-focused Community Reinforcement and Family Training (CRAFT) for Indigenous Australians with alcohol use problems, delivered in the context of routine Indigenous-specific health care services. The hypothesis is that the addition of CRAFT to individually focused CRA will be more acceptable and cost-effective, and equally feasible, for Indigenous clients with high levels of alcohol dependence.

Design and method: A demonstration project, using a pre/post intervention study design, to evaluate the feasibility, acceptability and likely cost-effectiveness of CRA and CRAFT for individuals who use alcohol problematically and their concerned family members, delivered by a rural Indigenous community-based health service in partnership with a regional AOD clinical service.

Progress: We have completed a systematic literature review, a study of the acceptability of the interventions, and an analysis of the feasibility of different versions of the outcome measure. CRA and CRAFT have been modified to be acceptable and appropriate for delivery to Indigenous Australians. We have trained a number of counsellors in the delivery of the modified interventions and have commenced active recruitment into the intervention phase of the project.

Output: Three papers have been published in the peer-review literature to date, or are currently under review. Seven oral presentations and three posters have been made.

Funding: National Health and Medical Research Council project grant

Date commenced: March 2010

Expected date of completion: August 2013

Pharmaceutical opioid prescription for chronic pain in Australia: Trajectories of prescribing, risk of adverse events, and predictors of harm (The POINT Study)

NDARC staff: Professor Louisa Degenhardt, Professor Michael Farrell, Professor Richard Mattick, Dr Briony Larance, Gabrielle Campbell, Dr Jessica Belcher, Bianca Hoban, Anika Martin

Other investigators: Dr Fiona Shand (Black Dog Institute, UNSW), Professor Wayne Hall (University of Queensland), A/Professor Milton Cohen (St. Vincent's Hospital, Pain Clinic), A/Professor Nick Lintzeris (University of Sydney/SESIABS), Dr Suzi Nielsen (University of Sydney), Dr Raimondo Bruno (University of Tasmania)

Collaborators: A/Professor Fiona Blyth (Sydney University), Lesley Brydon (Pain Australia Limited), Elizabeth Carrigan (Australian Pain Management Association Inc.), Dr Malcolm Dobbin (Department of Health, Victoria), Professor Julia Fleming (The Professor Tess Cramond Multidisciplinary Pain Centre), Professor Roger Goucke (The University of Western Australia), Dr Simon Holliday (Albert St Medical Centre), Denis Leahy (Pharmacy Guild of Australia, NSW Branch), A/Professor Andrea Mant (UNSW), Professor Jake Najman (University of Queensland), Dr Milana Votrubec (Avenue Road Medical Practice), Professor Jason White (University of South Australia).

Project summary: There has been a recent increase in the prescribing of pharmaceutical opioids in Australia which has led to increasing professional and public concern about the use and harms that may be related to such use. Despite this, very little is known about the magnitude of risk for adverse events. Previous Australian research has had limited duration (~ 12 weeks) and/or have not examined aberrant drug use behaviours. This current study is the first Australian study to examine the patterns of prescribing for individual patients, and the outcomes for these patients in the longer term.

Aims:

- To examine the rates, patterns and duration of opioid analgesic prescribing across Australia
- To estimate the population-level risk of adverse events among those prescribed opioids, including incidence of hospital stays, transfer to opioid substitution treatment, and mortality
- To examine the natural history of opioid analgesic use in a cohort of patients prescribed opioids for chronic non-cancer pain (CNCP)
- To examine the demographic and clinical predictors of adverse events among a cohort of CNCP patients, including opioid abuse or dependence, medication diversion, other drug use, and overdose
- To identify factors that predict poor self-reported pain relief and other indicators of clinical outcomes

Design and method: The POINT study is a national prospective cohort that aims to follow 2,000 chronic pain patients newly prescribed pharmaceutical opioids over a 24 month period. Follow-ups will occur at three months, 12 months and 24 months. The interviews will cover topics such as demographics, chronic pain, treatment, physical and mental health, physical functioning, social support and current and lifetime substance use. Participants will be recruited through pharmacies throughout Australia. We will continue to follow patients that discontinue their pharmaceutical opioid to examine reasons and effects of discontinuance.

Progress: The POINT study was approved by the university ethics committee in May 2012 and national pharmacy guild in July 2012. Recruitment for the study began late August 2012 and currently, over 6,500 fliers have been dispersed to 255 pharmacies resulting in 464 people (currently taking schedule 8 opioids for chronic pain) referred to the study. At the end of 2012, 238 baseline interviews and 58 three month follow-ups assessments had been completed.

Output: Three papers have been accepted for publication and are in press, while a further three are under review. Professor Degenhardt made two presentations on the work in 2012, including an invited symposium presentation at the 74th Meeting of the College on Problems of Drug Dependence in California in June.

Benefits: This project will be the first large-scale Australian prospective cohort study to rigorously examine opioid analgesic prescribing patterns among chronic pain patients at a population level, and their relationship to important health outcomes and to mortality. This study will be the first to comprehensively examine the extent to which opioid therapy for chronic pain is associated with pain reduction, adverse events including side effects, quality of life, and mental and physical health outcomes.

The study will shed light on the extent to which patients experience problematic opioid use, some of the precursors and protective factors to problematic use, and the consequences of problematic opioid use resulting from chronic opioid therapy. It will lead to improved knowledge of dose escalation and the positive and negative outcomes for those who undergo rapid dose escalation and ultimately end up using high doses of opioid analgesics.

Currently, the evidence base for the regulation and monitoring of opioid analgesics is weak. Regulators across jurisdictions currently use different criteria for authorising long-term opioid therapy, and different criteria for identifying at-risk patients. The results of this study will assist doctors and regulators in Australia to better identify those patients who are at risk of adverse outcomes and who therefore require alternative treatment strategies. Improved understanding of the longer-term outcomes of chronic opioid therapy will direct community-based interventions and health policy in Australia.

Finally, the project will achieve the establishment of a cohort of Australians with chronic health problems. The project will provide the groundwork for further follow-up of the sample to determine the longer-term outcomes for chronic pain patients.

Funding: National Health and Medical Research Council project grant

Date commenced: Jan 2012

Expected date of completion: Dec 2016

Australian longitudinal study of heroin dependence: An 11 year prospective cohort study of mortality, abstinence, criminality and psychiatric comorbidity among heroin users

NDARC staff: Professor Maree Teesson, Professor Shane Darke, Dr Katherine Mills, A/Professor Tim Slade, Dr Joanne Ross, Dr Lucy Burns, Dr Christina Marel, Sonja Memedovic, Philippa Ewer

Other investigators: A/Professor Michael Lynskey (Washington University)

Project description: Heroin dependence is remarkably persistent, and in many cases it is a lifelong condition with a high mortality rate. Yet, the natural history of heroin dependence has rarely been studied. The Australian Treatment Outcome Study (ATOS) is a landmark Australian cohort study examining outcomes from heroin dependence in over 40 research publications over three years (2001 - 2004; NHMRC 300454). The 11 year prospective cohort study will re-contact and re-interview the 615 individuals who participated in the initial three year cohort study.

Aims: To conduct the longest and most comprehensive prospective follow-up of heroin users in Australia.

Design and method: Eleven year follow-up interviews examining mortality, abstinence, criminality, psychopathology and suicidal behaviour will be conducted with individuals in the ATOS cohort.

Progress: As of January 2013, 320 out of the 615 original participants have been re-located and re-interviewed, while 54 are known to be deceased. Participant follow-up will continue in 2013.

Output: Using preliminary data, we have presented one poster and two talks at national conferences.

Funding: National Health and Medical Research Council project grant and UNSW Goldstar

Date commenced: October 2011

Expected date of completion: December 2013

Alcohol and violence: alcohol consumption, homicide and completed suicide in Australia, 1979 – 2009

NDARC staff: Professor Shane Darke and A/Professor Anthony Shakeshaft

Other investigators: Professor Chris Doran (University of Newcastle)

Rationale: Alcohol consumption is strongly linked with premature mortality. The current study aims to determine the strength of association between national per capita alcohol consumption with homicide and suicide rates in Australia across the period 1979 - 2009.

Aims: To determine cross correlations between national per capita alcohol consumption with homicide and suicide rates over the period 1979 - 2009; and to determine the cross correlations of consumption by beverage type with homicide and suicide rates.

Design and method: Times series analyses of national homicide and suicide rates with annual per capita consumption of beer, wine and spirits.

Findings: Beer consumption was positively correlated with homicide rates ($r=0.70$), while wine ($r=-0.74$) and spirits ($r=-0.86$) consumption rates were negatively correlated. These patterns were also true of both genders, and remained significant after controlling for unemployment and divorce rates. The relationship of alcohol consumption to suicide was narrower than that observed for homicide. Beer consumption was not significantly related to suicide rates ($r=-0.20$), while wine ($r=-0.60$) and spirits ($r=-0.47$) were negatively correlated. The absence of a correlation between suicide rates and beer consumption was due to a low association with male suicide ($r=-0.01$), compared to the significant association with female rates ($r=0.64$).

Output: Paper submitted.

Benefits: First Australian data investigating the associations between alcohol consumption, homicide and suicide.

Funding: Australian Government Department of Health and Ageing

Date commenced: 2012

Expected date of completion: 2013

Characteristics, circumstances and toxicology of sudden or unnatural deaths involving very high range alcohol concentrations

NDARC staff: Professor Shane Darke and Michelle Tye

Other investigators: Professor Johan Duflou (Sydney South West Area Health Service; UNSW; University of Sydney), Tatiana Prolov (Sydney West Local Area Health District)

Project description: Alcohol consumption is strongly linked to premature mortality. Although many studies have examined the proportions of alcohol positive cases associated with cause of death, no study to date has characterised the nature and circumstances of sudden or unnatural deaths presenting with very high alcohol concentrations.

Aims: To characterise sudden or unnatural deaths with very high range blood alcohol concentrations (BACs) presenting to the Department of Forensic Medicine (DOFM) in Sydney between 1997 and 2011.

Design and method: Case series of 264 cases of sudden or unnatural death with a BAC of $\geq 0.300\text{g}/100\text{ml}$.

Findings: The mean age of decedents was 46.7 years and 74.5% were male. Pre-existing alcohol problems were noted in 78.7%. Deaths were due to alcohol toxicity/chronic alcoholism (34.6%), combined alcohol/other drug toxicity (14.8%), accidents (18.7%), natural disease (13.4%), suicide (11.0%), homicide (6.9%) and one case was undetermined. Alcohol was a direct, or contributory, cause of death in 84.4% of cases. The overwhelming majority (81.4%) occurred in a home environment, and deaths did not vary by day or month. The mean BAC was 0.371g/100ml (range 0.300-0.820g/100ml), being highest in alcohol toxicity/chronic alcoholism cases (0.410g/100ml). The most frequently detected substances, other than alcohol, were benzodiazepines (31.9%) and opioids (12.9%). Alcohol-related disease was diagnosed in 62.9% of cases. Alcohol-related pathology was prevalent across all categories of death: severe steatosis (35.3%), cirrhosis (22.5%), chronic pancreatitis (15.3%), cardiomyopathy (9.4%) and cerebellar atrophy (9.0%).

Benefits: Unnatural deaths with very high range alcohol concentrations extend well beyond direct toxicity, and alcohol is causal in most cases. Those at greatest risk are middle aged males, with long histories of alcohol problems. The provision of treatment, and especially of early treatment, might well have prevented many of these deaths.

Output: Two papers have been submitted for publication.

Funding: Australian Government Department of Health and Ageing and NSW Health Department

Date commenced: 2012

Expected date of completion: 2013

Circumstances and toxicology of unnatural deaths involving steroids

NDARC staff: Professor Shane Darke and Michelle Tye

Project description: There is emerging evidence that the use of anabolic-androgenic steroids (AAS) is associated with increased risk of premature mortality. This study aims to provide novel data on Australian fatalities involving steroids.

Aims: To determine the circumstances of death, demographic characteristics, toxicology and major organ pathology of cases presenting to the Department of Forensic Medicine, Sydney, over the period 1 January 1996 - 31 December 2012 in which anabolic steroids were detected during quantitative toxicological investigations.

Design and method: Case series. All cases presenting to the New South Wales Department of Forensic Medicine between 1995 - 2012 in which anabolic-androgenic steroids were detected were retrieved.

Findings: A total of 24 cases were identified all male, with a mean age of 31.7 years. Most commonly, deaths were due to accidental drug toxicity (62.5%), followed by suicide (16.7%) and homicide (12.5%). The most commonly detected steroids were nandrolone (58.3%), stanazolol (33.3%) and methandienol (20.8%). In all but one case substances other than steroids were detected, most commonly psychostimulants (66.7%). In nearly half testicular atrophy was noted, as was testicular fibrosis and arrested spermatogenesis. Left ventricular hypertrophy, was noted in 30.4%, and there was moderate to severe occlusion of the coronary arteries in 26.1%. The typical case was thus a male polydrug user in their early thirties, with drug toxicity the most common cause of death. Extensive cardiovascular disease was particularly notable.

Benefits: Novel data on harms associated with steroid use.

Output: Paper on sudden or unnatural deaths involving anabolic-androgenic steroids submitted for publication.

Funding: Australian Government Department of Health and Ageing and NSW Health Department

Date commenced: 2012

Expected date of completion: 2013

PREVENTION AND EARLY INTERVENTION

Impact of parental substance use on infant development and family functioning (The Triple B Study: Bumps, Babies and Beyond)

NDARC staff: Dr Delyse Hutchinson, Professor Richard Mattick, Dr Lucy Burns, Dr Judy Wilson, Dr Marian Shanahan, A/Professor Tim Slade, Dr Wendy Swift, Alexandra Aiken, Sarah Brann, Gabrielle Campbell, Joanne Cassar, Genevieve Eckstein, Hannah Fiedler, Maria Gomez, Ingrid Honan, Clare McCormack, Stephanie Scott-Smith, Chiara Stone, Danya Braunstein

Other investigators: Professor Steve Allsop (Curtin University), Professor Jake Najman (University of Queensland), Professor Elizabeth Elliot (University of Sydney), Dr Susan Jacobs (Royal Prince Alfred Hospital), Dr Craig Olsson (The University of Melbourne), Anne Bartu (Curtin University), Lee Taylor (Macquarie University)

Project description: This project is an innovative Australian study of 1,800 to 2,000 families. The project is a longitudinal birth cohort which examines a wide range of biopsychosocial factors that relate to the health and development of Australian children and families. Importantly, the project has a key focus on examining the impacts of substance use in pregnant women and their partners during the prenatal period on infant development and family functioning. The results of this study will inform public health and treatment initiatives that improve the health and wellbeing of Australian children and families.

Aims:

- To identify substance use patterns in a cohort of pregnant women and their partners during the prenatal period and the characteristics associated with substance use
- To examine the relationship of maternal and paternal substance use with pregnancy outcomes for mothers and their infants
- To determine the extent to which substance use in pregnant women and their partners predicts problems in infant development (physical, cognitive, behavioural and emotional); and family functioning (marital/intimate partner relationship quality, conflict and violence, parenting behaviour and parent-infant relationship quality)

Design and method: This is the first large-scale Australian cohort study to examine the effects of substance use in pregnant women and their partners during the prenatal period on infant development and family functioning. The impact of other factors such as social support, biological factors, income, parents' emotional wellbeing, exercise, nutrition and infant temperament will also be examined. The research design involves a longitudinal birth cohort study, in which 1,800 - 2,000 pregnant women and their partners will be recruited during the prenatal period (conception to birth). Participants will be recruited through antenatal services attached to major hospitals in New South Wales and Western Australia. Participants will also be recruited through specialist drug and alcohol antenatal services.

Multi-method assessments will be used including interview, questionnaire and observational assessment measures in the prenatal period, at 8 weeks of age and at 12 months of age. Parents will be provided with the results of their infant's 12 month development assessment (Bayleys Infant Development Scales), which includes feedback and recommendations.

Progress: Over 1,600 families have been recruited through antenatal clinics at the Royal Prince Alfred Hospital (RPAH), the Royal Hospital for Women and Liverpool Hospital (all in Sydney) and King Edward Memorial Hospital (in Perth). We will shortly commence recruitment at Westmead Hospital in Sydney. Four hundred and ninety families have completed the final 12 month follow-up. This year we also followed-up 60 families in the pilot study whose children turned three years of age (Wave III follow-up of preschoolers). This was possible through the award of a Rotary Health Grant.

Output: 2012 saw the publication of a paper in *Obstetrics and Gynaecology International* and three conference presentations and posters delivered at Australasian Professional Society on Alcohol and Other Drugs (APSAD).

Funding: National Health and Medical Research Council

Date commenced: January 2010

Expected date of completion: December 2013

Triple B (Bumps, Babies and Beyond) – Wave III pilot follow-up of preschoolers

NDARC staff: Dr Delyse Hutchinson, Professor Richard Mattick, Dr Lucy Burns, Maria Gomez, Dr Judy Wilson, Joanne Cassar, Chiara Stone, Sarah Brann, Genevieve Eckstein, Hannah Fiedler, Ingrid Honan, Clare McCormack, Larissa Rossen, Danya Braunstein, Stephanie Scott-Smith

Other investigators: Professor Stephen Allsop (Curtin University), Professor Ann Sanson (University of Melbourne), Professor Jake Najman (University of Queensland), Dr Susan Jacobs (Royal Prince Alfred Hospital), Dr Craig Olsson (Murdoch Childrens Research Institute), Dr Fiona Shand (Black Dog Institute, UNSW)

Project description: The Triple B study (Bumps, Babies and Beyond) is a large National Health and Medical Research Council (NHMRC)-funded birth cohort study which examines the effects of substance use in pregnant women and their partners during the prenatal period on infant development and family functioning. The study presently follows families from pregnancy through to infants aged 12 months. The objective of Wave III is to examine family functioning and child development when the children reach three years of age. The Triple B study presents a unique and important opportunity to follow the longer-term health and development of 2,000 families as the children enter the preschool years - a critical time for development.

Aims: The overall objective of this project is to pilot a third wave of the Triple B birth cohort study to examine family functioning and child development in families of preschool age children.

Specifically, the aims of the current project are to:

- Pilot the research methodology for a new assessment wave of the Triple B study when the children reach three years of age
- Examine the outcomes for an existing cohort of families participating in the Triple B study over a longer timeframe, via interview, survey and developmental assessment
- Pilot an attachment component of the study to learn more about factors which influence the development of healthy relationships
- Test the feasibility of following up families affected by substance use in a longitudinal study
- Establish a protocol for applying for additional Category One funding from NHMRC to follow up the larger birth cohort

Design and method: Mothers and partners will be recontacted and invited to participate in Wave III. Those who chose to take part will complete consent forms and questionnaires. Mothers and their partners will be interviewed and surveyed; and the children will take part in a gold standard developmental assessment battery. Mothers and partners will also be asked to participate in a well-established observational procedure measuring child attachment security. The commencement of preschool and/or day care is also common around age three and will provide an opportunity for data collection from external sources, such as teachers and carers where relevant.

Progress: Seventy-two families are involved in the pilot study. At January 2013, 63 families had completed all components of the pilot.

Output: Data presented at the 2012 Australasian Professional Society on Alcohol and other Drugs (APSAD) conference and the NDARC Annual Symposium.

Benefits: Extension of the Triple B study to age three will greatly improve knowledge of the longitudinal course of the effects of substance use exposure in utero and through childhood. This is important as the onset of child developmental deficits can emerge at varying stages in the course of child development. Reassessment of the children and families participating in the Triple B Study is critical to understand the effects of substance use exposure through childhood.

Importantly, the findings of this work will lead to improved knowledge of the effects of low to moderate alcohol, tobacco and cannabis use, which are most common in Australia. The results will directly inform the NHMRC guidelines for the use of alcohol and other drugs pre-conception, in pregnancy and while breastfeeding. This will guide public health policy and education for substance use in Australia. The results will directly inform the development of effective public health prevention and early intervention campaigns which aim to educate parents to make informed choices about their substance use around the time of conception, during the course of pregnancy and while raising young children.

The results of the study will also identify the health and social support needs of parents with young children characterised by harmful and/or risky patterns of substance use, which will provide directions for improved treatment and service delivery. Improvements in interventions and treatment services will subsequently lead to reductions in early childhood developmental deficits and parent-child relationship problems in the Australian community.

Funding: Australian Rotary Health Research Fund/Mental Health of Young Australian Research

Date commenced: January 2012

Expected date of completion: January 2013

Centre of Research Excellence in Mental Health and Substance Use

NDARC staff: Professor Maree Teesson, Dr Katherine Mills, Dr Frances Kay-Lambkin, Dr Catherine Chapman, A/Professor Tim Slade, Marion Downey, Professor Michael Farrell, Dr Nicola Newton, Dr Joanne Ross, Dr Wendy Swift, Dr Natacha Carragher, Dr Sharlene Kaye, Dr Emma Barrett, Dr Christina Marel, Dr Matthew Sunderland, Julia Rosenfeld, Philippa Ewer, Erin Kelly, Daniel Rodriguez, Joanne White, Katrina Champion, Mark Deady, Amy Johnston, Sonja Memedovic

Other investigators: Professor Amanda Baker (University of Newcastle), Professor Paul Haber (Royal Prince Alfred hospital), A/Professor Andrew Baillie (Macquarie University), Professor Helen Christensen (Black Dog Institute, UNSW), Professor Max Birchwood (University of Birmingham, United Kingdom), Professor Bonnie Spring (Northwestern University Medical School, United States), Professor Kathleen Brady (Medical University of South Carolina, United States), Leonie Manns (consumer advocate), Trevor Hazell (Hunter Institute of Mental Health), Professor Robyn Richmond (UNSW), Professor Brian Kelly (University of Newcastle), Dr Brian Hitsman (Northwestern University Feinberg School of Medicine, US), Dr Leanne Hides (Queensland University of Technology), Dr Peter Kelly (University of Wollongong), Dr Glenys Dore (Northern Sydney Drug and Alcohol Service), Dr Ali Beck (University of Newcastle), Jenny Geddes (University of Newcastle), Sally Hunt (University of Newcastle), Miriam Forbes (Macquarie University), Warren Logge (Macquarie University), Mikki Subotic (Macquarie University), Kris Tulloch (Macquarie University).

Collaborators: Macquarie University, Queensland University of Technology, Royal Prince Alfred Hospital, Southwestern University Texas, University of Newcastle, University of Sydney

Project summary: Mental health and substance use disorders account for more years of life lost due to disability than any other

disorders. These disorders often occur together (comorbidity), affecting more than 300,000 Australians every year. Despite the significance of these conditions, the evidence surrounding the effective prevention and treatment of co-occurring disorders is weak. Our Centre of Research Excellence (CRE) in Mental Health and Substance Use aims to build much needed research capacity in this area.

Aims: The CRE aims to break down single disorder silos by generating significant new research on the prevention, treatment and epidemiology of comorbid mental health and substance use disorders. An integral component of this CRE is the translation of research findings into educational curricula, training programs, clinical resources, as well as resources for the general public.

Design and method: These aims will be achieved via three research streams focusing on the prevention, treatment, and epidemiology of comorbid mental health and substance use disorders.

Progress: Directors have been appointed to lead each research stream, namely Dr Nicola Newton (Prevention), Dr Frances Kay-Lambkin (Online Treatment), Dr Katherine Mills (Clinical Treatment) and A/Professor Tim Slade (Epidemiology). The Centre has also launched its website and distributed the first of its quarterly newsletters.

Benefits: This CRE is the largest concentration of internationally recognised comorbidity researchers worldwide, creating the potential for major gains in prevention and treatment. The CRE will provide the opportunity for researchers currently working in diagnostic silos (addiction, depression, anxiety and psychosis) to share skills, innovations in treatment and research approaches, synergise data collection and establish collaborative data bases.

This CRE will focus on prevention and treatment and will generate innovative research and enhance existing research trials for these common and highly disabling comorbidities.

The CRE will enable the field to move from treatment silos to everyday practice and single focus to multiple behaviour change.

Research into treatment will provide new treatments and resources for the estimated 300,000 Australians currently living with comorbid mental health and substance use disorders, as well as improve the quality of life and mortality of those with the disorders themselves.

Research into and dissemination of prevention strategies will work to reduce the numbers of young Australians transitioning to adulthood with disabilities or vocational, educational and social harms as a consequence of mental health and substance use disorders.

Funding: National Health and Medical Research Council

Date commenced: November 2012

Expected date of completion: November 2017

Breaking the ice: Development of an online early intervention program for people using psychostimulants

NDARC staff: Dr Frances Kay-Lambkin

Other investigators: Dr Rebecca McKitin (Australian National University) and Dr Robert Tait (Australian National University)

Project description: The increased use of psychostimulants in Australia is a major concern. People using psychostimulants often do not access traditional treatment services, as their need is often greatest outside of regular office hours.

Aims: To develop an internet-based, brief, early intervention for psychostimulant use. The intervention will:

- Target light-moderate psychostimulant use (methamphetamine and ecstasy)
- Focus particularly on young adults (but not to the exclusion of older adults)
- Address risk factors for drug problems and provide more in-depth information and support/referral for individuals at risk
- Address the potential synergistic relationship between drug use problems and mental health disorders

Design and method: A small scale evaluation of the website is planned to determine the effectiveness of the program in addressing the needs of light-moderate psychostimulant users.

Progress: Recruitment to the evaluation study has commenced.

Output: A paper in *BMC Psychiatry* and the website breakingtheice.anu.edu.au

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2010

Expected date of completion: July 2013

Combining universal and targeted drug prevention approaches (CAP Project)

NDARC staff: Professor Maree Teesson, Dr Nicola Newton, A/Professor Tim Slade, Dr Emma Barrett, Katrina Champion, Erin Kelly, Julia Rosenfeld, Lucie Swaffield

Other investigators: A/Professor Patricia Conrod (King's College University, United Kingdom and University of Montreal, Canada)

Affiliates: Professor Gavin Andrews (CRUfAD, UNSW), Professor Ron Rapee (Macquarie University), A/Professor Nick Titov (Macquarie University)

Project description: More than one quarter of Australian teenagers put themselves at risk of short-term alcohol-related harm at least once a month and 17% use an illicit drug at least once a year. As such, the need for prevention is clear. Although an array of school-based prevention programs exist, the majority show minimal effects in reducing drug use and related harms, and some even report iatrogenic effects. Given that school-based drug prevention is the primary means by which drug education is delivered, it is essential to focus on increasing program efficacy. Ideally, preventive interventions should aim to delay onset in adolescents with low-risk profiles who may be influenced to take up substances due to peer influence and social conformity, and adolescents with high-risk profiles whose underlying vulnerability to psychopathology can lead to substance misuse. Yet, there appear to be no models of well implemented programs that do this. This project aims to address this gap by developing and evaluating a comprehensive approach to preventing substance use and related harms in adolescents by combining effective 'universal' and 'targeted' school-based prevention programs. The proposed model, known as the Climate Schools and Preventure (CAP) intervention, builds on our unique success in this area through developing

the effective universal Climate Schools, and targeted Preventure programs.

Aims: To modify the targeted Preventure program for use in Australia and to evaluate the effects of combining this program with the effective 'universal' CAP intervention in preventing substance use and related harms in Australian adolescents.

Design and method:

Stage 1: Modifying the targeted Preventure program for Australia

The first stage of the research was to modify the Preventure program for Australia. To do this, we conducted focus groups with students, and interviews with teachers and health professionals to ensure the content and scenarios of Preventure were relevant to Australia. They were also conducted to ensure the program was age and context appropriate and fitted in the Australian school curriculum.

Stage 2: Evaluation of the 'CAP intervention'

Following the modification of Preventure, we now seek to demonstrate the effectiveness of the program when combined with Climate Schools program to make up the CAP intervention. To do this we will run a cluster RCT in 24 schools in Australia. Schools will be randomly allocated to one of four groups: the 'Control' condition (CO), the 'Climate Schools only' condition (CL), the 'Preventure only' condition (PR), or the 'Climate Schools and Preventure' condition (CAP). All students will be assessed via an online self-report questionnaire at baseline, immediately-post, and at 12, 24 and 36 months after baseline on their levels of drug knowledge, drug use, related harms, intentions to use drugs and mental health.

Progress: The CAP study project manager and research assistant were hired in 2011 and the two research psychologists were hired in early 2012. In 2011 ethics approval was obtained from UNSW along with support from the Catholic Education Office Sydney and the New South Wales Department of Education and Communities. This was the first time NDARC has obtained approval to invite NSW public schools to take part in research. As a result, over 3,000 Year 8 students (aged 13 - 14 years) from 27 schools in NSW and Victoria (18 private and 9 public schools) were recruited to take part in the CAP study.

The comprehensive CAP intervention was successfully implemented in participating schools in 2012. The universal internet-based *Climate Schools* program was delivered to approximately 1,200 students by teachers. Feedback from teachers and students confirm the ease of implementation and acceptability of the program, as evidenced by their very positive evaluations. In addition, our research psychologists delivered a total of 162 90-minute group sessions of the 'targeted' Preventure program to over 350 'high-risk' students. These students provided very positive feedback, with 89% reporting they found the skills they learnt were very helpful in their lives. Currently the post-treatment follow-up surveys are being collated, and further follow-up surveys will be collected in 2013, 2014 and 2015.

Output: Six peer-reviewed publications, over twelve conference papers, plus two NDARC publications.

Benefits: It is expected the schools who receive the combined intervention will have significantly greater reductions in substance use uptake than the schools who receive stand-alone programs or their usual health curriculum.

Funding: National Health and Medical Research Council Project Grant

Date commenced: January 2011

Expected date of completion: December 2015

Teacher and parent illicit drug resource

NDARC staff: Dr Nicola Newton, Professor Maree Teesson, A/Professor Tim Slade, Dr Wendy Swift, Dr Frances Kay Lambkin, Daniel Rodriguez, Emma Black

Other investigators: Professor Steve Allsop, Dr Nyanda McBride, Candice Rainsford (all from the National Drug Research Institute (NDRI), Curtin University)

Collaborators: Australian Government Department of Health and Ageing

Project description: The Department of Health and Ageing has identified the need for an illicit drugs resource package for teachers and parents. The resources will be available online as well as in hard copy.

Aims: To develop, test and deliver an illicit drugs resource package for use by teachers, parents and students.

Design and method: The NDARC and NDRI are currently developing and testing an illicit drugs resource package for use by teachers, parents and students. This includes the development of information booklets for teachers, parents and students as well as an interactive game for young people to teach them about the harms associated with illicit drugs. These resources will be made available on the National Drugs Campaign website and in hard copy to those high schools that request them.

Progress: Focus groups were conducted with Year 10 students to obtain feedback on the first draft of student booklets. This feedback is currently being incorporated. Student focus groups also provided ideas and suggestions for the development of the interactive game which will occur in 2013. Draft teacher and parent booklets have also been developed and are currently being focus tested.

Output: The illicit drug resources including booklets for teachers, parents and students, as well as an interactive game for students are currently being developed and will be made available in schools in 2013.

Benefits: It is envisioned that developing these illicit drug resources will enable parents and teachers to provide more credible and evidence-based information on illicit drugs to their children and students.

Funding: Australian Government Department of Health and Ageing

Date commenced: June 2012

Expected date of completion: September 2013

Update of National Drugs Campaign website

NDARC staff: A/Professor Anthony Shakeshaft, Emma Black, Dr Nicola Newton, Professor Maree Teesson, Daniel Rodriguez, Professor Michael Farrell

Project Summary: Review, update and add new information reflecting current drug trends to inform content included on the National Drugs Campaign (NDC) website. The website provides a call to action targeting 15 - 21 year olds, increasing awareness about the

negative consequences, harms and risks associated with the use of illicit drugs. Parents of 13 - 17 year olds are the secondary target audience.

Aims: To review, update and add new information in the form of fact sheets

Design and method:

- Review existing content
- Develop a template for consistency of content across fact sheets
- Review relevant documentation, including searches of the peer reviewed and other published literature from reputable sources
- Write up-to-date fact sheets
- Expert review of all fact sheets
- Team review of fact sheets
- Submission to the funder

Output: Fifteen fact sheets will be produced: alcohol, benzodiazepines, cocaine, drugs and the law, ecstasy and pills, emerging psychoactive drugs, GHB, hallucinogens, heroin, inhalants, ketamine, methamphetamine, polydrug use, and tobacco (two fact sheets).

Benefits: Up-to-date, evidence-based information about drugs will be available.

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2012

Expected date of completion: January 2013

Can parents teach their children to drink alcohol responsibly? Or, is one drop a drop too many?

NDARC staff: Professor Richard Mattick, A/Professor Tim Slade, Dr Delyse Hutchinson, Monika Wadolowski, Alexandra Aiken

Other investigators: Professor Jake Najman (University of Queensland), A/Professor Kypros Kypri (University of Newcastle), Dr Nyanda McBride (Curtin University), Dr Raimondo Bruno (University of Tasmania)

Project description: Parents can positively influence their children's alcohol use. One strategy they use is to provide their children with alcohol, believing it is the best way to teach their children how to drink responsibly. The impact of parental supply is not well understood and may be unintentionally harmful. This study will research the consequences of parental supply in the broader context of parent, child and peer relationships. It will help to determine how parental supply influences the different patterns of adolescent alcohol consumption over time, providing essential information to help parents prevent alcohol misuse in their children. Parents can play a pivotal role in prevention of alcohol misuse, but at present we don't know exactly how.

Aims: Investigate the impact of parental supply of alcohol on drinking trajectories in Australian adolescents, including how parental supply of alcohol relates to the acceleration or deceleration of harmful drinking trajectories, and how other related factors may mediate and moderate the relationship.

Design and method: Using a longitudinal design, up to 1,500 parent-child dyads will be recruited from Year 7 in schools across New South Wales, Tasmania and Western Australia. Families will be followed up every 12 months for four years, regularly completing surveys

online or via mail. Surveys will address areas related to quantity and frequency of alcohol consumption (including supply, supervision and context of supply and consumption), parental modelling of alcohol use, family and peer relationships, family history of alcohol-related problems, alcohol-specific rules and access, and child mental health and behavioural problems. Latent growth curve modelling will be used to analyse the longitudinal data.

Progress: During 2010 and 2011, 1,977 families were recruited across NSW, Tasmanian and Western Australian schools. Baseline data collection was completed between October 2010 and January 2012, with 97.2% of recruited participants completing a baseline survey. The first wave of follow-up data has now been completed (October 2011 to January 2013), with 95% of participants completed a follow-up one survey. The second follow-up commenced in October 2012, and will continue through to late 2013. Attrition is expected to be minimal, and a response rate of at least 95% is expected to be achieved for follow-up two.

Output: Preliminary baseline findings have been presented at several academic events and analyses are ongoing with several publications in preparation.

Funding:

Australian Research Council - Discovery Project
 Australian Rotary Health Mental Health Research Grant
 Australian Rotary Health Whitcroft Family PhD Scholarship
 Foundation for Alcohol Research & Education
 Australian Federal Government Australian Postgraduate Award

Date commenced: September 2010

Expected date of completion: May 2015

DRUG POLICY

Ongoing surveillance of the diversion and injection of the medications used in opioid substitution treatment

NDARC staff: Professor Richard P. Mattick, Professor Louisa Degenhardt, Dr Briony Larance

Other investigators: A/Professor Nick Lintzeris (SSWAHS), A/Professor Robert Ali (DASSA/The University of Adelaide), Dr Nancy White (University of Adelaide), Dr Rebecca Jenkinson (Burnet Institute), A/Professor Paul Dietze (Burnet Institute), A/Professor Nicholas Lintzeris (SESIABS/University of Sydney), Professor Paul Haber (SWLHD/University of Sydney), Dr Fiona Shand (Black Dog Institute, UNSW)

Project description: Minimising the extent of diversion and injection of the pharmaceutical opioids used in opioid substitution treatment (OST) reduces harms to the individual (such as dependence, injection-related injuries and diseases, and overdose) and protects the integrity of the OST program. Reports of buprenorphine or methadone injection can undermine public support for OST. This in turn may limit future investment and development, and hinder efforts to make OST more attractive and accessible.

The ongoing surveillance of the diversion and injection of the pharmaceutical opioids used in OST will build on the post-marketing studies of buprenorphine-naloxone (Suboxone® sublingual tablets) conducted by NDARC over the period 2006 - 2008. The diversion of methadone, buprenorphine and buprenorphine-naloxone

(Suboxone® sublingual film) will be monitored throughout 2012 using a comparable methodology.

Aims:

- To monitor the extent of diversion and injection of the pharmaceutical opioids used in OST
- To monitor the harms associated with the diversion and injection of the pharmaceutical opioids used in OST

Design and method: The following data sources (used by the original post-marketing surveillance studies) will continue to be collected by the ongoing surveillance studies:

- indicators of availability of OST medications (sales/prescription data)
- interviews with regular injecting drug users (IDU) (via the Illicit Drug Reporting System (IDRS))
- interviews with OST clients
- interviews with key experts
- population-level indicators of injection needle and syringe program (NSP) data

Progress: An Advisory Committee meeting was convened in January 2012. The project has completed its main data collections, including research interviews with:

- IDU in February 2012 (N=457), June 2012 (N=900) (via the IDRS interviews), and November 2012 (N=451)
- OST clients (N=545)
- Key experts (N=45)

A technical report summarising the main trends is due for submission in March 2013. Conference presentations and peer-reviewed publications will be prepared throughout 2013.

Benefits: The project will allow policy makers to determine the extent of diversion and injection of pharmaceutical opioids used in OST, and therefore to make decisions to minimise these problems and their associated harms.

Funding: Reckitt Benckiser (Singapore)

Date commenced: October 2011

Expected date of completion: December 2013

Attitudes of injecting drug users towards the legal status of the major illicit drugs

NDARC staff: Professor Shane Darke and Michelle Tye

Project description: Injecting drug users (IDU) are frequently interviewed regarding drug use, risk behaviours and criminality. Users are far less frequently asked about their attitudes towards drug-related issues.

Aims: To determine IDU attitudes, and correlates of attitudes, towards continued prohibition, decriminalisation or legalisation of the major illicit drugs.

Design and method: Structured interview with 300 IDU who have injected on at least a weekly basis over the preceding 12 months.

Progress: Methamphetamine was rated the most harmful of the five illicit substances, and cannabis the lowest. By far the highest level of support for legislative change was for cannabis, with only 8.7% supporting continued prohibition. Although there was majority support for change to the legal status of heroin, the modal

position was for decriminalisation. Support for changing the status of the three illicit psychostimulants was low, with the majority believing that methamphetamine (63.3%), cocaine (53.3%) and MDMA (53.3%) should remain illegal. Demographic characteristics were largely unrelated to attitudes. Lower levels of perceived harm were associated with increased likelihood of support for legalisation of all substances. Recent use was positively related to support for decriminalisation and legality of heroin, but was not associated with views on other substances. Higher lifetime polydrug use was associated with support for the legalisation of heroin, methamphetamine, cocaine and MDMA.

Output: Paper submitted.

Benefits: IDU expressed nuanced views on different substances. In policy debates, care should be taken not to speak for IDU by imputing their beliefs. It is clear that the fact that a group uses illegal drugs does not necessarily imply that they support changes to their legal status.

Funding: Australian Government Department of Health and Ageing

Date commenced: 2012

Expected date of completion: 2013

Strategic advocacy and drug policy: a case study of the ACT overdose management program

NDARC staff: Kari Lancaster and Professor Alison Ritter

Collaborators: Members of the Expanding Naloxone Availability in the ACT Committee (ENAACT)

Project description: Researchers, health professionals, consumer groups and advocates in the field have repeatedly called for widespread availability of naloxone for people who inject drugs and potential overdose witnesses, to reduce the incidence of fatal overdose. This is just one example of where Australia has (in recent years) lagged behind other countries in implementing evidence-informed harm reduction programs. By documenting and analysing the successful establishment of a recently introduced policy to make naloxone available to potential overdose witnesses in the ACT (the Expanding Naloxone Availability in the ACT (ENAACT) program), we aim to illuminate the mechanisms and conditions for successful strategic advocacy processes which can be applied not only to naloxone provision in other jurisdictions, but also to other important injecting drug use policy issues.

Aims: To document and analyse advocacy and policy development processes using a case study of the recently introduced ENAACT program, by documenting the experiences and reflections of key experts and advocates involved in the initiative. This unique initiative is an example of successful policy advocacy by a circumscribed group (the ENAACT) guided by the Canberra Alliance for Harm Minimisation and Advocacy (a consumer group), and therefore as a case study has the potential to provide a rich source of new knowledge about drug policy advocacy.

Research questions: How were advocacy strategies implemented to effect change in drug policy, and what were the conditions for success? To what extent did the accumulation of knowledge among specialists contribute to the policy agenda and alternatives? How did 'webs of influence' or 'advocacy coalitions' influence the policy process?

Design and method: The study involves semi-structured interviews with key individuals associated with the ACT initiative (primarily members of the ENAACT Committee). It is anticipated 10 key informant interviews will be conducted, to sample stakeholders from the different professional organisations who contributed their expertise to the initiative. Interviews will be conducted via telephone or in person (where possible) by a member of the research team. It is expected the semi-structured interview will take 60 to 90 minutes to administer. Interviews will be audio-recorded and transcribed. Preliminary data analysis undertaken by the research team will draw on public policy theories of the advocacy process including Sabatier's 'advocacy coalition framework', Kingdon's 'multiple streams' and Heclio's 'issue networks' as the theoretical framework, to examine to what extent the documented experiences and reflections of the key informants conform to these theories or diverge from them.

The project design is fundamentally a collaborative one; while Kari Lancaster and Alison Ritter (Drug Policy Modelling Project (DPMP) researchers) will conduct the interviews and prepare a preliminary analysis of the data, we have engaged all participants in the process of data interpretation and analysis. To this end we will hold meetings open to all of the research participants to discuss the data and review the interpretation. In this way, all the participants will have ownership over the results and the understandings that emerge.

Progress: The project has received approval from the UNSW Human Research Ethics Panel. Interviews and data collection are underway. After transcription, we will arrange for all participants to meet and collaboratively analyse the data (with a view to final analysis in 2013).

Funding: Colonial Foundation Trust and Centre for Research Excellence into Injecting Drug Use

Benefits: This project will make a valuable addition to the case study literature on advocacy processes, which will be of benefit to researchers, public health professionals, consumer groups and advocates alike. It will contribute to the academic literature, but the collaborative approach to analysis and dissemination will also ensure the results are translated and used in advocacy practice. In addition, we hope the shared process of data analysis, interpretation and reporting will be a useful demonstration project regarding collaborative research. This research process will also support the Canberra Collaboration, which is seeking to expand and strengthen alcohol, tobacco and other drug (ATOD) research in the ACT and region, and enhance ATOD policy and its implementation, through establishing a structured collaboration, such as a Centre for ATOD Research, Policy and Practice in the ACT.

Date commenced: 2012

Expected date of completion: 2013

Tracking cocaine trends in Australia

NDARC staff: Dr Jenny Chalmers, Dr Caitlin Hughes, Dr Francis Matthew-Simmons

Project description: There is growing law enforcement evidence that, in comparison with the period spanning 2002 - 2003 to 2006 - 2007, the supply of cocaine to Australia is relatively high. This expansion in supply appears to have coincided with diversification in the trafficking routes to and through Australia (beyond the

traditional site of entry - Sydney). Comparison of the general population level 2007 and 2004 National Drug Strategy Household Survey (NDSHS) data and analyses of data from the more timely targeted Illicit Drug Reporting System (IDRS) and the Ecstasy and related Drugs Reporting System (EDRS) surveys suggests parallel shifts in the geographical distribution of use. It also appears that the recent expansion in supply has been absorbed by the non-injecting population of cocaine users. This project will use NDSHS data to determine the public health implications of the perceived expansion in the supply of cocaine in Australia since the period spanning 2002 - 2003 to 2006 - 2007.

Aims: This project aims to determine whether the 2010 patterns of cocaine use in the general population are consistent with 2007 patterns and how the patterns have evolved over the past decade.

Design and method: Our intention is to pool data from the 1998, 2001, 2004, 2007 and 2010 waves of the NDSHS survey and explore changes in the population of cocaine users associated with the recent expansion in supply. In particular we are interested in Australia-wide and jurisdictional change in the prevalence, frequency and method of cocaine use.

Funding: Colonial Foundation Trust

Date commenced: October 2012

Expected date of completion: March 2013

'Trafficking' or 'personal use': Do regular drug users understand Australian drug trafficking laws?

NDARC staff: Dr Caitlin Hughes and Professor Alison Ritter

Other investigators: Professor Nicholas Cowdery (Faculty of Law, UNSW)

Project description: All Australian states and territories have adopted legal thresholds for drug trafficking, over which possession of an illicit drug is deemed 'trafficking' as opposed to 'personal use'. Yet the extent to which regular drug users understand the laws and their implications has been subject to limited academic scrutiny. Unmasking user knowledge is increasingly imperative, as Hughes and Ritter have provided partial but troubling evidence that regular users can consume up to twice the trafficable threshold for personal use alone. They may thus unwittingly place themselves at risk of a drug trafficking charge.

Aims: This project will start to explore regular drug users' levels of awareness and accuracy of knowledge about drug trafficking laws across Australia, taking into account different populations of users and different legal contexts.

Design and method: User perceptions about legal thresholds for trafficking will be assessed among two national samples of Australian regular drug users: namely, participants in the 2012 Ecstasy and Related Drug Reporting System (EDRS) and 2012 Illicit Drug Reporting System (IDRS). Perceptions and knowledge will then be compared against the current drug trafficking laws and drug use behaviour.

Findings: In 2012 we commenced analysis of the EDRS sample. This showed most EDRS users were aware of the role of quantity in affecting charges for trafficking versus possession for personal use and the median perceived TQs were largely accurate. However, the accuracy varied considerably by drug and state. For example, in some drugs and states 100% regular users had inflated or very

inflated estimates of the threshold quantities. Analysis of the IDRS sample will occur in 2013.

Benefits: This will start to provide insight into the extent to which there is a need to increase awareness of drug trafficking laws among all/particular populations of regular drug users.

Output: Presentation at 2012 Australasian Professional Society on Alcohol and Other Drugs (APSAD) Conference, Melbourne.

Funding: Colonial Foundation Trust

Date commenced: October 2012

Expected date of completion: June 2013

Treatment pathways from the client's perspective: informing a better match between service provision and service need

NDARC staff: Dr Jenny Chalmers and Professor Alison Ritter

Project description: The NSW Ministry of Health is leading a project to develop a national population based model for drug and alcohol service planning, known as the National Drug and Alcohol Clinical Care and Prevention Modelling Project (DA-CCP). Central to the project is the establishment of a set of ideal treatment pathways, which represent the services that any one typical client may receive over the course of a typical year (categorised by age, severity of dependence and drug type).

Aims: To generate empirical data showing the treatment pathways taken by people before they enter the Opioid Treatment Program (OTP) in New South Wales. The project aims to make service system development recommendations for policy makers based on the documented treatment pathways and an assessment of the implications of inaccessibility of treatment for the pathways taken.

Design and method: The centrepiece of the project is a census of people who enter OTP in NSW during September and October 2012, using a self-complete instrument mailed to their dispensing point.

Progress: The survey is complete.

Output: A report will be provided to NSW Ministry of Health on completion of the project in February 2013.

Funding: NSW Ministry of Health

Date commenced: March 2012

Expected date of completion: February 2013

Trends and predictors of public opinion towards drug policy in Australia 2001 - 2010

NDARC staff: Dr Francis Matthew-Simmons, Dr Matthew Sunderland, Professor Alison Ritter

Project description: This project seeks to provide an evidence-based understanding of public opinion towards drug policy in Australia, by analysing empirical survey data.

Aims:

- To identify the current state of public opinion in relation to illicit drugs
- To determine how public attitudes have changed over time
- To determine which are the most significant intra-individual predictors of attitudes towards drug policy

Design and method: The project analyses four waves of the National Drug Strategy Household Survey, examining a range of attitudinal questions relating to concern over drug use, drug law reform, and a range of different policy interventions. Trends over time are examined, as well as demographic predictors in the 2010 survey.

Progress: Findings show there has been a notable increase in public concern over alcohol use between 2001 and 2010. However, this has not been reflected in any large scale changes in attitudes towards alcohol policy; there has been increased support for regulations that already exist (e.g. increased penalties for drink driving), but little support for an increase in alcohol price/taxation.

Attitudes towards cannabis use and cannabis policy appear to be largely stable over this timeframe, with a minority supporting cannabis legalisation, but a majority opposing criminal penalties for cannabis possession. Public support for harm reduction interventions such as NSPs and regulated injecting rooms remains high.

Output: Interim results were published in *Drug Policy Modelling Project (DPMP) Bulletin 21: What does the research evidence tell us about what Australians think about the legal status of drugs?*

Funding: Colonial Foundation Trust

Benefits: The project will provide accurate information regarding Australian public opinion towards drug and alcohol policy, and how opinions have changed during the past decade. This will give policy makers an evidence-based understanding of the public's views.

Date commenced: March 2012

Expected date of completion: February 2013

Using evidence to evaluate Australian drug trafficking thresholds: Proportionate, equitable and just?

NDARC staff: Dr Caitlin Hughes, Professor Alison Ritter, Benjamin Phillips

Other investigators: Professor Nicholas Cowdery (Faculty of Law, UNSW)

Project description: All Australian states and territories have adopted drug trafficking thresholds which specify quantities of drugs, over which it is *presumed* an offender has committed an offence of 'drug trafficking', rather than 'possession for personal use'. Yet, in spite of known risks from adopting such thresholds, particularly of an unjustified conviction of a user as a trafficker, the capacity to deliver proportional sanctioning (or conversely the opposite effect) has been subject to limited research to date. New research by Hughes and Ritter (in press) demonstrates that, assessed against evidence of Australian drug markets, current ACT drug offence thresholds pose risks of unjustifiable or inequitable convictions. In this study we extend the previous analysis to evaluate the capacity of trafficking thresholds crossing five drug types (heroin, methamphetamine, cocaine, MDMA and cannabis) and six Australian states (New South Wales, Victoria, Queensland, South Australia, Tasmania and Western Australia) to deliver proportional, fair and just sanctioning of drug offenders.

Aims:

- To evaluate whether the trafficable thresholds for five different drugs allow the prosecution and the judiciary to properly

distinguish drug users from traffickers and to enable sanctions based on the relative seriousness of a drug trafficking offence

- To compare and contrast threshold design across Australia taking into account inter-state differences in current legal thresholds and drug markets
- To determine whether the problems identified with the ACT drug trafficking thresholds are common across state systems

Design and method: This project will examine the ability of the trafficable thresholds to successfully filter out drug users from drug traffickers using two metrics of the quantity of drug a user is likely to possess for personal use alone: patterns of typical use and purchasing. The ability of the trafficable thresholds to reflect the relative seriousness of offenders trafficking in different controlled drugs will be examined using three metrics of the actual/potential seriousness of a drug trafficking offence to the Australian community: retail value, harm and social cost. Data for each of the five metrics will be derived from an array of sources, using the best available data. For example, data on typical patterns of drug use are to be sourced from three different national surveys: two of regular drug users (the 2011 Illicit Drug Reporting System and the 2011 Ecstasy and related Drug Reporting System) and one from the general population (the 2010 National Drug Strategy Household Survey). Given known differences in drug market conditions, state specific data will be used wherever possible.

Progress: All data analysis is complete, and policy implications identified. The project is in the final stages of completion.

Funding: Australian Institute of Criminology - Criminology Research Grants

Benefits: This project will enable Australian policy makers and legislators to identify whether the problems identified to date are idiosyncratic to the ACT, or whether as hypothesised they represent a wide-spread problem in the design of some or all Australian drug trafficking thresholds, and the potential routes for mitigating any identified problems.

Date commenced: January 2012

Expected date of completion: January 2013

Young people's ideas about responding to alcohol, tobacco and other drug use

NDARC staff: Professor Alison Ritter, Dr Francis Matthew Simmons, Kari Lancaster

Other investigators: Jozica Kutin (Youth Support and Advocacy Service) and Andrew Bruun (Youth Support and Advocacy Service)

Project description: Drug and alcohol use by young people is a significant concern to the community. There is currently a range of initiatives aimed at better understanding the drug use of young people; however, the understanding of young people's opinions and ideas about policies and initiatives aimed at reducing the harms caused by the use of these substances has been limited.

Aims: To investigate the opinions of young Australians about how the government and community should respond towards drug and alcohol use.

Design and method: The project uses an online survey to collect data from young people. The questions refer to the likely consequences of alcohol and drug use, drug laws (legalisation/decriminalisation), and a range of different interventions such

as treatment and education. Respondents are also asked which sources of information about drugs they prefer and what should be done about new and emerging substances.

Progress: Recruitment has been completed, with over 2,000 respondents surveyed. Data is currently being analysed.

Output: A report will be provided to the Australian National Council on Drugs on completion of the project.

Funding: Australian National Council on Drugs

Date commenced: April 2012

Expected date of completion: April 2013

Centre of Research Excellence in Injecting Drug Use (CREIDU): Reducing the health, social and economic burden of injecting drug use in Australia

NDARC staff: Professor Alison Ritter

Other investigators: Professor Paul Dietze (Burnet Institute), Professor Gregory Dore (Kirby Institute, UNSW), A/Professor Margaret Hellard (Burnet Institute), A/Professor Stuart Kinner (Burnet Institute), Professor Dan Lubman (Monash University), Professor Lisa Maher (Kirby Institute, UNSW), Professor David Moore (Curtin University), Professor Robert Power (Burnet Institute), Professor Gail Williams (University of Queensland)

Project description: Injecting drug use (IDU) is a behaviour strongly associated with other highly marginalised characteristics such as imprisonment, blood borne virus infections, homelessness and mental illness. This Centre for Research Excellence is focussed on injecting drug use and draws together a number of innovative studies about injecting drug use, plus provides seed funds for new projects. The Centre provides a mechanism for research translation to key stakeholders including consumers, policy makers and practitioners.

Aims:

- To improve understanding of IDU by building on existing studies to develop innovative research designs
- To explore injecting drug users' use of health services, the factors that place them at risk of harm and structural and functional barriers to improved health
- To identify and test new interventions
- To investigate the link between reduced recidivism and health outcomes after release from prison
- To determine the types and structures of services to improve injecting drug users' access to HCV treatment, sexually transmitted infections, mental illness and drug use
- To translate research findings from the CRE into new and more effective policy and practice
- To train and support promising new researchers to take on the challenges of the field

Design and method: This CRE represents a network of outstanding Australian researchers. Led by the Burnet Institute it includes researchers from the University of New South Wales, University of Melbourne, University of Queensland and Curtin University. The Centre for Research Excellence provides opportunities for postgraduate and post-doctoral students to engage in research on IDU, funds the collaborative network among researchers in this area and concentrates on translation of research into policy and

practice. It is this last function that is led by Drug Policy Modelling Project (DPMP).

Output:

- New seed funded projects
- Policy briefs and submissions
- Collaborative research-practitioner networks
- Annual symposium

Funding: Burnet Institute / National Health and Medical Research Council Centres of Excellence shared grant

Date commenced: October 2010

Expected date of completion: September 2015

Drunk, high or sober: How do alcohol and illicit drug prices affect young Australians' plans for Saturday night?

NDARC staff: Dr Jenny Chalmers, Dr David Bright, Dr Matt Sunderland

Other investigators: Dr Rebecca McKitin (Australian National University)

Project description: Many young people regard alcohol and illicit drugs as part of the repertoire of products that facilitate socialising through intoxication. This has become a pressing public policy issue because the practice costs society dearly. Economic research supports increasing the price of alcohol to reduce harmful drinking; largely ignoring the possibility that alcohol will be replaced with illicit drugs. This project uses an innovative internet tool to canvass young Australians' responses to hypothetical changes in prices of alcoholic beverages, cannabis and ecstasy, to improve our understanding of policies designed to minimise harmful alcohol and illicit drug use.

Aims: To identify how young Australians will respond to price increases in particular types of alcohol (e.g. will they drink cheaper forms of alcohol, increase their use of illicit drugs or reduce their alcohol/drug consumption?) and to determine which alcohol pricing policies would minimise excessive consumption of alcohol and illicit drugs on a typical night out.

Design and method: This project uses the internet to access a representative sample of 2,400 young Australians. It asks, using an experimental behavioural economics approach, how they would adjust their alcohol and illicit drug use over a 'night out' in response to hypothetical changes in the prices of alcohol, cannabis and ecstasy.

Progress: The NSW Bureau of Crime Statistics and Research report on pricing and taxation policy form, authored by Dr Chalmers and Dr Carragher in 2011, achieved its aim of positioning the empirical arm of the Linkage project in the policy debate. It has been cited in an article in *Addiction* and grey literature, such as the Australian National Preventive Health Agency's *Draft Report Exploring the Public Interest Case for a Minimum (floor) Price for Alcohol* (published in November 2012).

Investigators also made two submissions to ANPHAs *Draft Report Exploring the Public Interest Case for a Minimum (floor) Price for Alcohol*: one based on the findings of the online survey on the implications of minimum pricing for binge drinking; and another about the perceived impediments to adopting minimum pricing in Australia.

Output: Output in 2012 included presentations at the Drug Policy Modelling Project (DPMP) Research Symposium in February, the Australian Professional Society on Alcohol and Other Drugs (APSAD) conference in November, and the Australian and New Zealand Society of Criminology (ANZSOC) conference in November. Posters were presented at the 35th Annual Research Society on Alcoholism Scientific Meeting in San Francisco in June and the NDARC Annual Symposium in August.

Funding: Australian Research Council

Date commenced: January 2011

Expected date of completion: June 2013

Public opinion and drug policy: engaging the 'affected community'

NDARC staff: Kari Lancaster and Professor Alison Ritter

Other investigators: Annie Madden and Laura Liebelt (Australian Injecting & Illicit Drug Users League (AIVL))

Project description: Public opinion can play an important role in determining policy and informing political processes. However, the majority of public opinion data regarding attitudes to drug policy in Australia is collected at the broader population level, and the voices of people who use illicit drugs have traditionally been marginalised in policy debate and remain under-explored. The 'affected community' notion suggests that policy should be informed by the people it most directly affects; however, we do not know, for example, if people who use drugs have similar or different views to the broader population about fundamental drug policy questions such as the role of needle-syringe programs, treatment and drug legalisation. This stymies opportunities for policy making to be informed by those it most directly affects.

Aims: This project will explore the attitudes and opinions of people who use drugs towards drug policy in Australia.

Design and method: The project will use a mixed methods design, analysing quantitative survey and qualitative focus group data. The quantitative survey formed a supplement to the 2011 Illicit Drug Reporting System (IDRS) and the 2012 Ecstasy and Related Drugs Reporting System (EDRS) questionnaires, with the inclusion of drug-related policy questions drawn from the National Drug Strategy Household Survey (NDSHS). A sentinel sample of almost 1,000 people who inject drugs and 600 psychostimulant users in Australia will be asked about their levels of support for various drug policy measures, drug legalisation, and penalties for the supply of illicit drugs. Responses will be compared to the 2010 NDSHS. Qualitative focus groups with people who inject drugs will be undertaken in collaboration with AIVL in Sydney and Canberra. The quantitative results will be used as the springboard for detailed focus group discussions. The qualitative data will be analysed in collaboration with AIVL, to ensure consumer participation in all stages of the study and to access AIVLs expertise in understanding the views and perspectives of people who use drugs.

Progress: Quantitative data collection and analysis is complete. There was a high level of support among IDRS participants for measures to reduce the problems associated with heroin, but heterogeneity in levels of support for legalisation and penalties for sale/supply across different drug types. Differences between the opinions of the IDRS sample and the NDSHS sample were identified regarding support for harm reduction, treatment, legalisation and

penalties for sale/supply. Qualitative focus groups were undertaken in 2012, with a view to analysis and dissemination of results in 2013.

Output: Paper in *Drug & Alcohol Review*; presentation to Drug Policy Modelling Project (DPMP) team meeting in October 2012 and paper presented at Australasian Professional Society on Alcohol and Other Drugs (APSAD) conference in November 2012.

Funding: Colonial Foundation Trust and Centre for Research Excellence into Injecting Drug Use

Benefits: The research may be used to inform future submissions to government, dialogue with policy makers and help to identify key policy issues of concern to the 'affected community'. As previous public opinion research about drug policy has focused on the attitudes of the general community, these findings will provide an essential resource for researchers, policy makers and advocacy groups alike. The findings provide an opportunity to rethink the role played by the 'affected community' in drug policy processes, and generate better understandings of how these voices can, and should, be included in drug policy debate

This project also affords the opportunity for AIVL to engage in collaborative research with DPMP, which is mutually beneficial for both organisations.

Date commenced: April 2011

Expected date of completion: June 2013

CRIMINAL JUSTICE SYSTEM

Exploring the relationship between cannabis use and crime among adolescents

NDARC staff: Melanie Simpson, Professor Jan Copeland, Dr John Howard

Project description: In the Australian and international literature, the association between substance use and criminal activity is well established. The nature of the relationship, however, is still widely debated with no overall consensus being reached on how crime and substance use influence each other. The evidence linking cannabis to crime is no exception to this debate.

Among those who come into contact with the criminal justice system in Australia, cannabis remains the most widely used and most commonly detected. Young offenders who go on to spend time in custody, in particular, are continuing to use cannabis at very high rates despite an overall decline in use among the general population of the same age.

Despite the acknowledged association between substance use and offending, little research has focused specifically on the role of social factors, situations and the environment on first cannabis use, first involvement in crime and the initial and ongoing relationship between the two. This study therefore aims to explore further the complex relationship between cannabis use and offending through the use of the three smaller studies: a secondary analysis of Drug Use Monitoring in Australia (DUMA) data collected between 2006 and 2010, a prospective follow-up study of 300 young people with varying levels of involvement with the criminal justice system, and a qualitative study with 20 young people with a history of regular cannabis use and involvement in the criminal justice system.

Aims: To further understand the complex relationship between substance use and criminal offending, focusing specifically on

cannabis use and crime among adolescents. A primary aim of the study is to examine the social factors and situations that contribute to first cannabis use and first involvement in crime and how the two relate.

Design and method: The project is comprised of three smaller studies:

- Secondary analysis of DUMA data to compare differences in the prevalence, trends and patterns of substance use and criminal offending among cannabis-using adult and adolescent police detainees
- Prospective follow-up study of 300 young people who report varying levels of involvement with the criminal justice system in New South Wales
- In-depth qualitative study of 20 - 30 young people who report a history of contact with the criminal justice system and cannabis use

Progress: Data has been analysed and the write up is in the final draft.

Output: Paper presented at 2012 NDARC Annual Symposium. Output prior to 2012 includes the National Cannabis Prevention and Information Centre (NCPI) Bulletin and seven conference papers.

Funding: Australian Government Department of Health and Ageing

Date commenced: July 2008

Expected date of completion: March 2013

Maximising treatment participation among heroin users released from prison

NDARC staff: Dr Sarah Larney

Other investigators: Professor Josiah Rich (Brown University, United States)

Collaborators: Rhode Island Department of Corrections (United States)

Project description: Inadequate research attention has been given to the issue of continuity of opioid substitution therapy (OST) as an individual moves between prison and the community. Heroin users are typically released from prison multiple times over a heroin use career, and the post-release period is a time of significant morbidity and mortality. Dr Larney's PhD research demonstrated that positive impacts of prison OST are seen only as long as an individual remains in treatment in the community. However, post-release treatment entry and retention is usually poor. Increasing rates of post-release treatment entry and retention would likely reduce the risk of relapse to regular heroin use and associated morbidity and mortality.

It has been suggested that post-release treatment entry and retention may be affected by pre-release OST exposure. Dr Larney's Fellowship will examine this hypothesis to inform OST policy and clinical practice in prison and community settings.

Aims: To determine how best to deliver opioid substitution treatment in prisons so as to maximise post-release treatment entry and retention.

Design and method: Data will be sourced from existing research projects being undertaken by Professor Josiah Rich of Brown University, and administrative datasets. Groups receiving OST

under different service delivery models will be compared on post-release treatment entry and retention; heroin and other drug use; reincarceration; and mortality.

Progress: Data collection is ongoing.

Benefits: Improvements to clinical practice as a result of this project have the potential to reduce post-release relapse to heroin use, and therefore heroin-related morbidity and mortality.

Funding: National Health and Medical Research Council Early Career Fellowship

Date commenced: March 2012

Expected date of completion: December 2015

Determining the impact of opioid substitution therapy upon mortality and recidivism among prisoners: A 22-year data linkage study

NDARC staff: Professor Louisa Degenhardt, Professor Richard Mattick, Dr Lucy Burns, Natasha Gisev , Dr Jo Kimber, Dr Sarah Larney, Dr Marian Shanahan, A/Professor Tim Slade, Dr Judy Trevena

Other investigators: Dr Don Weatherburn (NSW Bureau of Crime Statistics and Research), Professor Tony Butler (UNSW), Professor Christopher Doran (University of Newcastle), Dr Amy Gibson, (University of Western Sydney), Dr Devon Indig (Justice Health), Dr Deborah Zador (Justice Health), Dr Timothy Dobbins (University of Sydney)

Collaborators: NSW Aboriginal Health and Medical Research Council, Australian Institute of Health and Welfare, NSW Bureau of Crime Statistics and Research, NSW Corrective Services, NSW Health

Project description: Prisoners experience very high rates of drug dependence, health problems and premature mortality. Without intervention they are highly likely to come into further contact with the criminal justice system, creating further health risk. Opioid dependence is a common problem among prisoners, and opioid substitution therapy (with methadone and buprenorphine) for opioid dependence may be an effective intervention in preventing this morbidity/mortality and re-offending.

This research will quantify, for the first time, the population-level impact of opioid substitution therapy (OST; methadone or buprenorphine) on two important outcomes for opioid dependent prisoners: (a) mortality, particularly in the post-release period; and (b) subsequent criminal activity. This work builds on our successful previous research project (NHMRC 455451) examining overall mortality among OST recipients. Although successfully determining the association between mortality and OST overall, we were unable to examine (a) and (b) among prisoners in our previous work because admission, retention and discharge from prison could not be ascertained from the databases examined.

This project will fill a critically important gap in the literature with respect to identifying strategies to improve the health and welfare of Australian prisoners - a marginalised group that places considerable costs on society. Specifically, use of linked data over a 22 year period, with almost 600,000 person years of follow-up, presents a unique opportunity to determine the effectiveness of OST in reducing premature mortality and criminal behaviour among opioid dependent prisoners. This evidence cannot be obtained with accuracy from small studies or randomised controlled trials.

The study results will have clear implications for the health of this population and will provide evidence of potential health and crime reduction gains and the cost savings that might result.

Aims: To examine:

- The impact of OST provision in prison, and following release, upon prisoner mortality
- The extent to which OST reduces incidence and time to re-offence among opioid dependent persons, stratified by crime type
- Potential differences in the impacts of buprenorphine and methadone upon the extent and timing of re-incarceration
- Differences in duration of OST, and its impact on crime and mortality, among vulnerable subgroups including Aboriginal and Torres Strait Islanders and women
- Estimated years of life lost (YLL) to prison in the cohort, and potential impact of OST in reducing YLL
- Cost effectiveness of OST in reducing crime and imprisonment among this group
- Circumstances of deaths occurring in prison or immediately post-release

Design and method: This study uses a retrospective cohort design with data linkage. The base cohort comprises all NSW OST registrants between 1985 and 2010, an estimated 47,500 people and 580,000 person-years of follow-up. Information on treatment, prison and re-offending histories and deaths in the cohort during this period will be ascertained via linkage of the following databases:

- Pharmaceutical Drugs of Addiction System (PHDAS) - Pharmaceutical Services, NSW Health
- Offender Integrated Management System (OIMS) - NSW Department of Corrective Services
- Reoffending Database (ROD) - NSW Bureau of Crime Statistics and Research (BOCSAR)
- National Death Index (NDI) - Australian Institute of Health and Welfare (AIHW)

The linkage will be undertaken by two third-party agencies: the Australian Institute of Health and Welfare (linking PHDAS and NDI) and the Bureau of Crime Statistics and Research (linking PHDAS, OIMS and ROD). NDARC receives de-identified datasets for analysis.

Established bio-statistical techniques will be used to calculate:

- Crude offending/mortality rates and standardised offending/mortality ratios
- Survival and mortality risk factors in and out of prison
- Time to event and risk factors for OST drop out with prison duration as time dependent covariate
- Time to event and risk factors for re-offending with OST duration as time dependent covariate
- Cost savings of OST in prison on recidivism at current and enhanced levels

Funding: National Health and Medical Research Council Project Grant; Criminology Research Grants (2010-11)

Date commenced: January 2011

Expected date of completion: December 2013

Illicit drug trafficking: the structure of illicit networks and implications for resilience and vulnerability

NDARC staff: Professor Alison Ritter

Other investigators: Dr David Bright (UNSW), Dr Catherine Greenhill (UNSW), Professor Carlo Morselli (University of Montreal)

Project description: The overall aim is to examine the structure of illicit networks (drug trafficking networks) to determine areas of vulnerability and resilience. The project aims to improve existing knowledge and empirical accounts of criminal networks by employing an innovative multi-level analytic approach which incorporates structural factors, node positing effects, links between nodes, and node-level or individual factors.

Design and method: There are two phases to this research: Social Network Analysis to describe and map the criminal network; and simulation modelling to test the impact of a range of law enforcement interventions.

Progress: Data collection is complete. Analyses are currently being conducted. Law enforcement simulations in planning phase. Early results will be presented in February at a workshop titled 'Organised Crime and Criminal Networks' at UNSW.

Benefits: The results will shed light on poorly understood phenomena using intersecting methodologies from the social sciences and mathematics, and have the potential to lead to enhanced law enforcement capacities for detecting and dismantling these networks.

Funding: Australian Research Council Discovery Project

Date commenced: January 2012

Expected date of completion: December 2013

Promoting compliance, 'recovery' and 'desistance': Comparative case studies of pre-sentence diversion schemes for drug misusing arrestees in Australia and England

NDARC staff: Tim McSweeney, Dr Caitlin Hughes, Professor Alison Ritter

Other investigators: Paul Turnbull (Institute for Criminal Policy Research, University of London)

Project description: There is a growing body of research evidence demonstrating the impact of a range of pre-sentence diversion options at engaging substance misusing defendants in treatment, and reducing illicit drug use and 'related' offending in Australian and British contexts. However, given their main focus on measuring and quantifying impacts, this work necessarily tends to be largely a-theoretical and virtually silent when it comes to explaining the dynamic and interactive processes which might facilitate or hinder these positive outcomes. The broader justifications for and potential value of the research centre on its uniquely comparative and multi-disciplinary nature; bringing together public health, criminological and socio-legal perspectives on the processes and outcomes of attempts to facilitate both engagement and behaviour change among drug misusers coming into contact with the criminal justice system in different jurisdictions and settings.

Aims: Using two models of pre-sentence diversion as case studies - one 'voluntary' scheme in Australia, the other a 'compulsory' model in England known as 'Tough Choices' - this research seeks to better understand (in broad terms):

- How different participants in these settings define and measure 'success'
- To what extent the schemes deliver on these outputs and outcomes
- How aspects of policy, program design and delivery impact (either positively or negatively) on outcomes
- How processes might be refined and adapted to further improve outcomes.

More specifically, the first aim of the proposed research is to assess, using various administrative datasets, the extent to which these two pre-sentence diversion schemes:

- secure 'formal' compliance (as measured by program engagement and completion rates)
- promote 'recovery' from dependent drug use (defined as the absence of, or a progressive reduction in, the number and intensity of substance use related problems)
- encourage 'desistance' from crime (defined as a cessation in offending, or a significant reduction in the frequency and seriousness of offending)

The next phase of the research will involve in-depth interviews with various purposively sampled participants to identify and understand the mechanisms through which these outputs and outcomes achieved. For example, what strategies do these schemes employ to engage and retain different types of participant, such as narcotic and stimulant users, in treatment long enough for them to derive any benefit? How do these interventions affect behavioural change with an intractable group, often in a short period of time?

Design and method: The research will use quantitative and qualitative methods and make use of a range of primary and secondary data sources. The main methodological approaches to be adopted in each site to answer the key research questions posed by this thesis include:

- content analysis of existing documentation (e.g. to explore the extent of adherence to established best practice principles, and consistency between stated policy and actual practice between sites)
- linkage of existing administrative datasets to assess the extent of formal compliance, recovery and desistance (e.g. in NSW this will involve utilising data from the MERIT Information Management System (MIMS), the Bureau of Crime Statistics and Research Re-Offending Database (ROD) and, for the purposes of assembling a comparison group, NSW Correctional Services' Offender Information Management System (OIMS) data)
- in-depth qualitative interviews with defendants (N=30) and professional stakeholders (N=30) to illuminate and better understand related processes and mechanisms in each setting

Progress: Emerging findings from the English case study indicate no evidence of additional value from the 'Tough Choices' policy in terms of increasing treatment uptake or reducing the rate, frequency and seriousness of known offending among users of heroin and/or cocaine. On-going analyses of qualitative interview data with stakeholders and staff also identify a number of important perceived failings in theory, policy and implementation.

In light of the British government's recent commitment to expand the policy nationwide from April 2011, a key challenge appears to be

the need to develop strategies for improving: (i) compliance with the 'Tough Choices' process; (ii) subsequent rates of engagement with treatment services; and (iii) offending outcomes for a large proportion of the target population.

Funding: Colonial Foundation Trust

Date commenced: August 2009

Expected date of completion: August 2013

Longitudinal study on drug use, health and offending outcomes for young offenders

NDARC staff: Paul Nelson, Dr Wendy Swift, Professor Louisa Degenhardt

Other investigators: Professor Dianna Kenny (The University of Sydney)

Project description: This project forms the basis for Paul Nelson's doctoral thesis and investigates relationships between drug use and offending in a large community-based sample of young offenders. This prospective study combines nuanced measures of drug use, multiple offending outcomes, statistical advances, and controls for a wide range of concurrent risks. Together this offers a unique insight into the impact of drug use on juvenile offending.

Aims: Describe the patterns of drug use and prior offending among non-incarcerated juvenile offenders; to assess the relationship of drug use to participation, type, rapidity, frequency and severity of recidivism.

Design and method: Baseline survey data were collected during a state-wide interview study. These were linked to court records and de-identified by the NSW Bureau of Crime Statistics and Research. Recidivism outcomes and their relationships to drug use were assessed using logistic, parametric survival and binomial regression models.

Progress: In 2012, the literature reviews were revised and updated, the general discussion was drafted, and all were reviewed by supervisors. Models exploring demographic variation in drug-crime relationships, and non-uniform relationships between the frequency of drug use and recidivism were presented. These extend earlier Australian research, by revealing gender, age and ethnic-specific relationships between drug use and recidivism, and suggesting that some patterns of infrequent drug use are predictive of less problematic offending and psychosocial functioning than non-use or very frequent use. Close editing of the full draft is underway.

Output: Poster and oral presentation to the NDARC Annual Symposium.

Benefits: This thesis provides important new data on the poorly understood and complex relationship between drug use and recidivism outcomes among a large group of community-based offenders. This research may help improve recidivism prediction and targeting of interventions to specific types of drug-using offenders.

Funding: Australian Postgraduate Award; NDARC top-up award

Date commenced: March 2008

Expected date of completion: April 2013

HEALTH ECONOMICS

Cost effectiveness of interventions to reduce alcohol-related harm among Indigenous Australians

NDARC staff: Ansari Abudeen and A/Professor Anthony Shakeshaft

Other investigators: Professor Chris Doran (University of Newcastle), Professor Komla Tsey (James Cook University), Dr Janya McCalman (James Cook University), Dr Roxanne Bainbridge (James Cook University)

Project description: This PhD research will be jointly conducted with a current National Health and Medical Research Council-funded Access the Cost Effectiveness (ACE) Alcohol Indigenous project. Indigenous people have considerably shorter life expectancy than non-Indigenous Australians and alcohol is one of the contributing factors. Governments spend millions each year trying to close this health gap but there is little evidence to demonstrate this money is being spent appropriately. Assessing the economic efficiency of Indigenous alcohol policy requires examination of the effectiveness and cost-effectiveness of interventions; this will provide much-needed evidence about appropriate and effective policy.

Aims: This research will estimate the cost-effectiveness of a community-based program to reduce binge drinking among young indigenous Australians, as well as the cost-effectiveness and cost-benefit of providing treatment in an Indigenous-specific residential rehabilitation facility.

Design and method: We will take a healthcare perspective to study a range of interventions currently targeted at Indigenous Australians. The ACE-Alcohol model will be used; this model was built on a broader body of priority-setting research that focused on cost-effectiveness analysis. Intervention cost-effectiveness will be evaluated over the lifetime of the Indigenous Australian population eligible for each intervention in a selected baseline year. All the costs for each intervention will be estimated using a combination of top-down and bottom-up methods. All costs of interventions will be adjusted to base year and discounted accordingly. For each intervention, an incremental cost-effectiveness ratio will be evaluated and compared to a threshold level. We will use current practice and partial null as comparators to aid in the comparative analysis and marginal analysis; this will identify how the interventions can be ordered in the most efficient package.

Progress: PhD candidate Ansari Abudeen collected nearly all his required data in 2012. The cost-effectiveness of the youth-focused community prevention program will be completed in 2013, as will the cost-effectiveness and cost-benefit evaluations of residential rehabilitation.

Output: Ansari has written substantial drafts of three papers for publication in the peer-review literature. He has presented his early findings to the communities with whom he is working.

Benefits: The findings of the project will strengthen the evidence base required to develop appropriate and effective Indigenous health policy in Australia. It will also provide policymakers with evidence about a suitable mix of policies for a given set of budget constraints.

Funding: UNSW University International Postgraduate Award, Foundation for Alcohol Research and Education (2011 - 2012)

Date commenced: February 2011

Expected date of completion: February 2014

The cost-effectiveness of antiretroviral treatment in Vietnam

NDARC staff: Dam Anh Tran and A/Professor Anthony Shakeshaft

Other investigators: Professor Chris Doran (University of Newcastle), Professor Peter Hill (University of Queensland), Dr Anh Duc Ngo (University of South Australia), A/Professor David Wilson (Kirby Institute, UNSW), Dr Lei Zhang (Kirby Institute, UNSW)

Project description: In 2000, a national commitment was made to expand access to antiretroviral (ARVs) in Vietnam. However, the number of patients infected with HIV in need of ARV has far exceeded the supply of ARVs. Little has been done on cost and effectiveness of antiretroviral treatment in Vietnam.

Aims: This PhD research will examine the costs and benefits of providing antiretroviral treatment in Vietnam. It will cover a range of specific aspects, including structural determinants of access to treatment, the cost-effectiveness of commencing antiretroviral treatment at different thresholds and the characteristics of patients who are lost to follow up.

Design and method: The research will use a series of economic models to explore different aspects of the cost-effectiveness of treatment.

Progress and output: To date, two papers have been accepted for publication in international, peer-reviewed journals. Dam Anh Tran also received a scholarship to present her work at the International AIDS Conference in Washington DC in 2012. A further two papers will be under editorial review early in 2013.

Benefits: The findings of the project will strengthen the evidence base required to develop appropriate and effective antiretroviral treatment in Vietnam given the resource limitations in Vietnam.

Funding: AusAID International Postgraduate Award, VINE project

Date commenced: February 2011

Expected date of completion: February 2014

Economic evaluation comparing centre-based compulsory drug rehabilitation with community-based methadone maintenance treatment in Hai Phong City, Vietnam

NDARC staff: Thu Vuong (PhD Candidate), Professor Alison Ritter & Dr Marian Shanahan (advisors)

Other investigators: Robert Ali (University of Adelaide)

Project description: Currently in Vietnam, there are two dominant and competing drug addiction treatment modalities. The first one is centre-based compulsory treatment (CCT) which has been implemented for 20 years. If someone in the community is identified as using heroin, they will be encouraged by the community leaders to go through community-based detoxification. If they fail to stop heroin use after several attempts, they will be forced into centre-based compulsory detention for up to two years. The services in these centres include education on the dangers of illicit drug use, moral teaching, labour therapy and limited one-size-fits-all vocational training activities. This modality is common in many countries in Southeast Asia. The UN publicly criticises this modality because it violates human rights principles. Currently, about 40% of the total 170,000 registered dependent drug users are kept in these centres. Funding for this modality is solely from the Government.

The other treatment modality is methadone maintenance treatment (MMT), which has been available in Vietnam for five years. MMT is voluntary. It provides a legal and safe maintenance opioid for the duration of a person's life where required. MMT is recommended by WHO/UNAIDS/UNODC as currently the most effective treatment for heroin addiction. Currently, 7% of people who need MMT treatment are in treatment with funding mainly from international donors.

Vietnam became a middle income country in 2010. This means funding from international donors for the existing community-based drug addiction treatment service will decline in the next few years (2012 - 2016). The Government of Vietnam wants to have evidence of the cost-effectiveness of the two dominant drug addiction treatment modalities in Vietnam for more evidence-informed decision-making in drug treatment and resource allocation.

Aims: To compare the cost-effectiveness of centre-based compulsory rehabilitation (CCT) for substance abuse with community-based methadone maintenance treatment (MMT) in Hai Phong City, Vietnam. The key comparison parameters focus on 1) proportion of people free from drug use, 2) number of drug-free days, 3) number of days free from criminal behaviours, 4) number of drug-use related HIV risk behaviours reduced, 5) number of overdose incidents reduced and 6) number of quality-adjusted life years (QALYs) gained for heroin users.

Design and method: The research will follow internationally recognised guidelines for costing substance use treatment interventions and standard economic principles for cost estimations and analysis of cost-effectiveness of the two drug addiction treatment modalities. For this study a societal perspective will be adopted so that all effects of an intervention on cost will be included: patient-incurred costs as well as costs to Government agencies. Societal perspective is the most inclusive perspective in health care economic evaluation.

Progress: UNSW ethics approval granted in August 2012 and Hanoi Medical University ethics approval granted in October 2012. FHI 360 (country office in Vietnam and Headquarters based in North Carolina) ethics approval granted in December 2012. Pilot testing of questionnaires conducted in December 2012. The first interview of participants is expected in January 2013.

Output: One paper was published in 2012 in the *International Journal of Drug Policy* as the foundation for the research.

Funding: NDARC PhD scholarship, Endeavour PhD scholarship, Atlantic Philanthropies through FHI 360 in Vietnam

Date commenced: February 2012

Expected date of completion: March 2015

Australian government spending on drugs (drug budgets)

NDARC staff: Professor Alison Ritter and Dr Marian Shanahan

Other investigators: Dr Ross McLeod (Consultant - eSYS Development)

Project description: The aim of this project is to update and further develop the Moore (2005) Australian drug budget. As in the earlier Moore project, our study examines federal and state and territory government spending in response to illicit drugs but only includes proactive spending. This is the amount directly spent

by government on illicit drug policy. The expenditures are broken down into the areas of prevention, treatment, harm reduction, law enforcement and interdiction.

Developing an up-to-date Australian drug budget is useful in that it allows us to 1) examine what policies the government is currently employing in relation to illicit drug use 2) examine the funding mix of these policies; and 3) compare our drug budget and spending mix with other countries. Using an approach similar to the one outlined above, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has committed to producing estimates of government expenditure on 'drug related issues' and to developing comparable estimates for all the European Union countries. Both the United States and the United Kingdom also produce government spending estimates.

Aims:

- To estimate spending by the Australian federal, state and territory governments between 2009 - 2010 using publicly available documentation and expert opinion
- To classify spending into the areas of prevention, treatment, harm reduction, law enforcement and interdiction to increase our understanding of the current policy mix

Design and method: It is important that each spending estimate is calculated using the same method. To this end, we have used a top-down, rather than bottom-up accounting method to estimate total spending within each category. The actual amounts calculated are less important than the relative distribution among policy pillars.

The steps involved include:

- Identifying all types of interventions and areas of spending. Defining those that are 'direct' spending
- Categorising interventions into prevention, treatment, enforcement and harm reduction
- Using top-down accounting methods, calculate spending
- Using expert opinion, ensure results are concordant with expert views

Progress: Data collection and apportioning of expenditures into appropriate categories is complete. Data has been obtained from many sources including the states, territories and the Australian Government. The final report is currently being written.

Benefits: The data from this study will provide information on the funding mix in illicit drug policy. This information is useful for assessing both where additional funding might be allocated and also where additional research is required.

Funding: Colonial Foundation Trust

Date commenced: 2010

Expected date of completion: March 2013

INTERNATIONAL

Program of International Research and Training (PIRT)

NDARC staff: Professor Kate Dolan, Benjamin Phillips, Professor Michael Farrell, Dr David Allsop

Other investigators: Dr Alex Wodak (Alcohol and Drug Services St Vincent's Hospital and Australian Drug Law Reform Foundation)

Project description and aims: To facilitate research and training to minimise the harms from drug use and to increase the effectiveness of drug treatment internationally

Design and method:

- Build capacity into research in drug treatment in developing countries
- Build capacity for monitoring drug use and drug problems in developing countries
- Build alliances between Australia and developing countries in terms of understanding drug trends and law enforcement
- Encourage policy relevant research consistent with national strategies and cultures

Progress: PIRT staff assisted with a study of maternal and neonatal complications among women who use drugs in Iran. PIRT staff published findings from a six month follow-up of women at our Iranian women's clinic.

Kate was invited by the United Nations Office on Drugs and Crime (UNODC), Vienna, to assist in the drafting of 'HIV prevention, treatment and care in prisons and other closed settings: A comprehensive package of interventions'.

PIRT has been asked to carry out a systematic review of HIV in prisons for the UNODC.

Output: PIRT staff assisted with papers in *Acta Medica Iranica* and *Substance Abuse and Rehabilitation*. Kate made presentations at the 6th HAARP Consultation and Coordination Forum in Cambodia and UNSWs Global Health Conference. She continued her membership of the Australian National Council on Drugs' Committee on Asia Pacific Drug Issues. Finally, PIRT produced 'STOP AIDS IN PRISON: A peer educational health training manual for staff and inmates in Vietnam'.

Funding: UNODC Vietnam, UNODC Myanmar and UNODC Head Office

Date commenced: 2003

Expected date of completion: Ongoing

COMPLETED PROJECTS

TREATMENT AND INTERVENTION

Twelve month follow-up of mothers on the NSW Opioid Treatment Program

NDARC staff: Dr Stephanie Taplin and Professor Richard Mattick

Project description: The 'Child protection and mothers in substance abuse treatment study' was the first study to interview a relatively large sample of women in opioid pharmacological treatment in New South Wales about their children, parenting and child protection system involvement. One hundred and seventy-one mothers were interviewed as part of the study and detailed information collected from them. The results showed that, rather than severity of substance use being associated with mothers' involvement with the child protection system, other factors were of greater importance including having less parental support, a greater number of children, and being on medication for mental health problems.

Additional funding was obtained in 2011 to extract and analyse data from the child protection records relating to those mothers in the study who consented to being followed up.

Aims: To analyse predictors of child protection involvement amongst women on the NSW Opioid Treatment Program and their children, and to describe their child protection system involvement over a 12 month period.

Design and method: Information on the involvement of consenting participants with child protection services in the 12 month period since their interview was extracted from NSW Child Protection Service records. The same methods were used as in the main study to enter variables into a logistic regression model to examine predictors of child protection involvement at 12 months. The results did not produce any significant associations. This lack of reportable results is likely to have been because: first, there was a lack of power in the sample size, and second, there was significant non-randomness in the sample included in the follow-up study. The women followed up were significantly more likely to be involved with child protection services, and to display several of the characteristics associated with child protection involvement found in the main study analyses, making it more difficult to detect differences.

This follow-up study also permitted descriptive analyses to be undertaken examining the reasons for removal or restoration of children to their parents' care, the reasons for any further child protection reports, whether any additional children were born, and the role of substance use in these decisions at 12 months.

Findings: The child protection records of 78 mothers on the NSW Opioid Treatment Program were included in this study. Forty-seven women were involved with child protection services at the time of the 12 month follow-up, mostly with children in out-of-home care. Many of these children had been removed from their mother's care at birth and had remained in care since birth. Many had been reported prenatally by health service providers for substance use. A small number of new babies were born over the 12 month period, all of whom were reported to Child Protection Services. Most had their babies removed soon after birth.

Output: A journal article from this study is in preparation. Findings were presented at the Association of Child Welfare Agencies Conference in August 2012.

Benefits: Results from this follow-up study builds on the important findings from the 'Child protection and mothers in substance abuse treatment study'.

Funding: NSW Health Drug and Alcohol Research Grants Program 2011 - 2012

Date commenced: August 2011

Date completed: August 2012

Development of an opioid aberrant drug behaviour scale for use in multiple healthcare settings

NDARC staff: Dr Briony Larance, Professor Richard Mattick, Emma Black, Professor Louisa Degenhardt

Other investigators: A/Professor Nicholas Lintzeris (University of Sydney)

Project description: An emerging body of literature from the United States describes 'aberrant' (i.e. divergent) medication-related behaviours among pain patients, and the extent to which they are associated with harm, including medical morbidity, dependence and diversion. To date, these clinical tools have not been validated in Australian clinical populations. This study sought to address these issues through the development of an opioid-related behaviour scale designed for use in Australia. The purpose of the scale is to assist in the identification of behaviours relating to pharmaceutical opioids that may reflect problems with treatment so that clinicians can better assist patients to minimise any unintended consequences and harms (such as inadequate pain relief, overdose, accidents and dependence).

Aims: To review the aberrant drug behaviour literature and describe the development of an aberrant drug behaviour scale for use in multiple healthcare settings in Australia. These studies were undertaken to inform the development and validation of a brief assessment tool to help clinicians stratify risks (in terms of severity and likelihood of harm). The behavioural indicators that were examined included those associated with medication (non-)adherence (taking prescribed doses at specified dosing intervals, via intended route of administration, under specified levels of supervision) and programmatic (non)adherence (attendance at dosing/review appointments, doctor shopping, diversion, etc).

Design and method: In the first stage of the study, we surveyed key experts (KEs) regarding divergent opioid-related behaviours in terms of clinical relevance; frequency and severity of harm associated with the behaviour(s); and potential responses. Nationwide representation was sought from pharmacies, allied health, mental health, general practice, opioid substitution treatment, pain treatment, research and consumer representatives.

Information gathered from KEs, the literature and a project advisory committee informed the development of a patient survey. In this, the second stage of the study, the latent structure of the proposed scale, its construct validity and (inter-rater, test-retest) reliability were examined using interview data from chronic opioid treatment patients from OST clinics, pain clinics, general practice and pharmacy settings. A brief scale was then created using classical and modern test theory approaches.

We interviewed a sub-sample within a week of baseline interviews to establish test-retest and inter-rater reliability.

Outcomes:

- Conducted literature review
- Obtained expert input into the design and content of the scale based on the literature, advisory committee input (including the project investigators) and KE surveys (N=41). A total of 40 items on 'aberrant' and related opioid behaviours were included
- Survey completed by N=427 chronic (three months or longer) opioid participants; N=205 from OST treatment settings and N=222 who were primarily in treatment for pain
- Conducted N=42 retest surveys
- Shortlisted 10 items for consideration in the final scale based on statistical analyses and input from advisory committee, titled Opioid Related Behaviours In Treatment (ORBIT)
- Peer-reviewed manuscripts currently being prepared

Output: One paper in press and a Master's dissertation submitted. Several presentations were delivered including to the Australasian Professional Society on Alcohol and other Drugs (APSAD) conference in November, the Langton Centre seminar series in October, and the College on Problems of Drug Dependence Conference in June. Several presentations were also made to service providers including the Hunter Integrated Pain Service (HIPS), Newcastle; and the Pain Clinic at the Prince of Wales Hospital, Randwick.

Funding: Reckitt Benckiser (Australia) - Contract Research (untied educational grant)

Date commenced: January 2010

Date completed: April 2012

Homelessness and services and system integration

NDARC staff: Dr Lucy Burns

Other investigators: Dr Elizabeth Conroy (University of Western Sydney), Dr Paul Flatau (University of Western Australia), Dr Anne Clear (Murdoch University)

Project description: Prevalence rates of mental disorders among homeless persons typically exceed general population estimates. Despite the high level of need in the homeless population, access to appropriate services is limited, particularly among those with co-occurring substance use and other mental disorders. There is a strong need to address the gap between the homelessness and health service sectors. The Australian Government's White Paper on homelessness, 'The Road Home', highlighted the necessity of service and system level integration to prevent homelessness. Such an approach requires that funding streams, government programs and service delivery across diverse sectors are 'joined up' to deliver holistic and tailored interventions for homeless individuals. Although Australia has a number of cross-sector approaches currently in existence, the evidence regarding the most effective mechanism for such integration is currently lacking.

Aims: This project aimed to increase our understanding of the ways in which homelessness, mental health and drug and alcohol services can be effectively coordinated or integrated, and the extent to which system and service integration is occurring in Australia at present. The project also sought to provide case study evidence in relation to the purported benefits of different models of integrated care in the Australian context.

Design and method: This study was conducted in Sydney, Melbourne and Perth, and comprised three components:

- Case studies of different models of integrated services or programs from both the homelessness and health sectors
- In-depth interviews with key stakeholders from the homelessness and health sectors, including policy and operational levels, as well as members of intergovernmental programs in the human services
- Agency survey to identify the type and extent of interactions between agencies within a given geographical area (including both health and homelessness agencies, and government and non-government agencies)

Outcome: Final case studies and agency surveys have been completed. The final report has been submitted to the funders (Australian Housing and Urban Research Institute (AHURI)).

Output: Three conference presentations over the course of the project

Funding: Murdoch University - Australian Housing and Urban Research Institute Research Grants Shared Grant/Subcontract

Date commenced: May 2009

Date completed: September 2012

A formative study in the inner city suburbs of Sydney to identify and describe women subject to homelessness, and their reproductive health issues as perceived by service providers

NDARC staff: Dr Lucy Burns and Joe Van Buskirk

Rationale: It is known that women experiencing homelessness are at high risk of unintended pregnancy (Gelberg, 2007). Homeless women cite multiple deterrents to the use of contraception, leading to recommendations that family planning services need to be tailored to the specific populations of women experiencing homelessness (Gelberg, 2002). There are considerable barriers to engaging, and maintaining ongoing care of pregnant women and families who are subject to homelessness.

Currently there are no reproductive health services in the identified geographical area which provide a proactive, flexible ongoing, tailored, appropriate support for this particular group of vulnerable pregnant women. More specifically there are:

- No free and accessible antenatal services within walking distance of the geographical areas that are frequented by women experiencing homelessness
- No outreach clinics from the two tertiary maternity services, the Royal Hospital for Women or Royal Prince Alfred Hospital
- No parenting classes located easily in this area that provide for the complex needs of this client group

The acknowledged gaps in effective cross-sector links, care planning and case management processes between health, housing and other service providers further act to limit the potential for improvements to the ongoing complex social and health issues experienced by these women and their families. It is believed that identifying and addressing systemic service gaps will result in connecting women and their families to a range of services that may optimise their health outcomes.

Aim: To map and consult service providers based in the statistical local areas of Sydney-Inner and Sydney-East to identify the perceived reproductive health issues for young women aged 16 to 24 years, and women aged over 24 years, who have no fixed abode or are residing in temporary accommodation.

Design and Method:

- Identification of health and welfare services accessible to women subject to homelessness
- In-depth literature review
- Ethics and access approvals
- Consultation with a minimum of five expert service providers and two to three focus groups
- Collation and analysis of available data
- Provide a final report to Women's Health and Community Partnerships including recommendations

Findings: The study was conducted via qualitative interviews with 15 service providers across mainstream and non-government services to determine what they considered to be barriers to improved health outcomes, including gaps in service delivery models and within the homelessness sector. All interviews were analysed using qualitative analysis techniques for recurring themes and their variations. Among our conclusions:

- Barriers identified were not always indicative of a lack of services in the community, but rather related to barriers in accessing the services that do exist
- There is a need to acknowledge that women experiencing homelessness have a complex set of immediate needs, focusing on food and shelter. In this context the delivery of sexual health services was often a low priority, for consumers and health care workers alike
- Assertive outreach models that promote trust and respect between consumers and health care providers are imperative. Strategies in such models may include:
- Follow-up of referrals and offering transport/accompanying women to these appointments
- The use of a mobile van to provide these services, that did not necessitate prior appointments
- Other outreach services based within agencies with whom the women are already engaged, for example specialist homelessness services
- To enhance the engagement of women who are experiencing homelessness with reproductive health services, these services should be offered in a model of respectful assertive outreach with flexible service delivery options

Output: Findings from the study were presented at the 7th National Homelessness Conference: *Making it Home*, by Joe Van Buskirk on the 7 September 2012. In addition, findings were published in *Parity* journal (Volume 25, Issue 6). A full draft report summarising the findings was submitted to the funding party on 17 October 2012, and is currently being revised by Adrienne Lucey, Helen Rogers and Susan Glassick.

Funding: Health Reform Transitional Organisation Southern/Women's Health and Community Partnerships

Date commenced: July 2011

Date completed: October 2012

The cost of homelessness and the net benefit of homelessness programs: a national study

NDARC staff: Dr Lucy Burns

Other investigators: Dr Kaylene Zaretzky (Murdoch University), Professor Paul Flatau (University of Western Australia), Dr Elizabeth Conroy (University of Western Sydney)

Project description: Homelessness is a prevailing issue in contemporary Australian society and yet little is known about the social and economic costs to the individual and to the community. The first aim of The National Homelessness Study was to collect information to help understand the effect of a period of homelessness on other aspects of a person's life, such as employment, education and health. Since homelessness is strongly associated with drug and alcohol use, this study also aimed to measure the level of substance use in this group. The second aim of the study was to examine outcomes for people who receive assistance to prevent homelessness. We worked with agencies in Perth, Sydney, Melbourne and Adelaide that deliver services to assist people at risk of homelessness and their clients. Services included, but are not limited to, assistance maintaining an existing tenancy, crisis and transitional accommodation, brokerage, and assistance in accessing services required to support income, health, employment, and education requirements.

Aims: The overarching aim of the study was to estimate the cost effectiveness to government of providing services to prevent a period of homelessness. The whole of government cost includes both the cost of preventing a period of homelessness, and the potentially offsetting change in government expenditure in non-homelessness services, such as health and justice, as a result of preventing a period of homelessness.

We aimed to:

- Assess the cost to government of providing services to assist people at risk of homelessness
- Estimate the impact of homelessness on use of health, justice, income support and welfare services
- Assess the potential cost to government in the areas of health, justice, income support and welfare services of not undertaking homelessness prevention programs
- Investigate the potential to use linked administrative homelessness, health, justice, income and welfare support data to quantify the costs of homelessness and the costs and benefits of homelessness program assistance

Design and method:

- Literature and policy review
- Qualitative and quantitative survey administered with clients of homelessness prevention services
- Quantitative survey administered with managers of agencies which operate homelessness prevention services
- Analysis of survey data using descriptive statistics and multivariate statistical methods
- Examination and analysis of the properties of homelessness and non-homelessness administrative data collections
- Interviews with administrative data collection managers

Output: A report is being prepared for the Australian Housing and Urban Research Institute

Funding: Australian Housing and Urban Research Institute

Date commenced: May 2010

Date completed: June 2012

Estimating unmet demand for pharmacotherapy maintenance treatment in New South Wales

NDARC staff: Professor Alison Ritter, Dr Jenny Chalmers, Dr Matthew Sunderland

Rationale: The estimation of the unmet demand for opioid pharmacotherapy maintenance (known as OTP in New South Wales) is an essential planning element for governments. Currently, there are no reliable estimates of how many more people would enter OTP if there were available places and assuming they meet the intake criteria.

Aims: The purpose of this project was to summarise what is known internationally, nationally and in NSW about unmet need and unmet demand for OTP in NSW and provide some initial estimates for NSW. Unmet need is defined as the proportion of people who meet diagnostic criteria for dependence but who are not in receipt of treatment. This is therefore inclusive of people who may benefit from treatment but do not seek it or request it, those who simply do not want treatment and those who want help via means other than formal treatment. Unmet demand, on the other hand, is defined as the proportion of people who seek treatment but are unable to access it – that is they want treatment and seek it but do not receive treatment. Both unmet need and unmet demand are important estimates in planning for services.

Design and method: Review of unmet need and unmet demand literature was undertaken. Estimates of unmet need and unmet demand from international studies were compared with the limited available Australian data. Analyses included the National Drug Strategy Household Survey and the National Survey of Mental Health and Wellbeing datasets.

Findings: Internationally, there is limited research that estimates unmet need and unmet demand for OTP. However, estimates of unmet need for treatment are generally large for OTP. In benchmark countries such as Canada, United Kingdom and United States these figures of unmet treatment need are about 70%; 68% and 80% respectively of the opioid dependent population. Unmet need and unmet demand are most usefully measured at a local or health planning level, rather than at a state or national level. This is because unmet need and demand can vary from location to location, and state-wide figures can mask under-serviced areas. Based on available knowledge, and taking a state-wide perspective, the estimates for unmet need and unmet demand in NSW for OTP vary widely. They may be as low as 10% of the opioid dependent population or as high as 65% of the opioid dependent population. The primary reason for these large ranges is that the underlying prevalence of opioid dependence is not known with any degree of precision. In comparison with international estimates, NSW is performing well: it has the highest rate of met demand relative to 16 European countries. The rate of OTP provision per 100,000 general population is higher than most European countries, Canada and the United States.

Benefits: This work contributes to the ability of government to plan adequately for OTP services in NSW.

Output: A report has been provided to NSW Ministry of Health.

Funding: NSW Ministry of Health

Date commenced: April 2012

Date completed: October 2012

Behavioural activation therapy for the treatment of co-occurring depression and opioid dependence

NDARC staff: Dr Joanne Ross, Dr Katherine Mills, Dr Sharlene Kaye, Dr Frances Kay-Lambkin, Mark Deady, Philippa Ewer

Other investigators: Dr Glenys Dore (Northern Sydney Drug and Alcohol Service)

Project description: Heroin dependence is a chronic relapsing condition, associated with high levels of psychopathology. On entry to treatment approximately one quarter of heroin users meet criteria for Major Depression (MD), and this comorbidity has been linked to poorer treatment outcomes. Despite this, the development and assessment of behavioural interventions for depression among opiate users has received little empirical attention. One treatment approach that has shown promise among residential rehabilitation clients in the United States is Behavioural Activation Therapy for Depression (Lejuez et al, 2011). BATD-R is a structured treatment that aims to activate clients in specific ways that will increase rewarding experiences in their lives. BATD-R is more time efficient and less complex than most other treatments for depression. The current study examined the feasibility of using BATD-R among depressed opioid replacement therapy (ORT) clients.

Aims: This small randomised controlled trial sought to pilot test the feasibility of an outpatient group intervention (BATD-R) for depressed, opioid dependent clients of an Opioid Replacement Therapy (ORT) service. Specifically, the research questions were:

- Do ORT clients who receive group BATD-R demonstrate improvements in depressive symptoms compared to clients receiving treatment as usual (TAU)?
- Do ORT clients who receive group BATD-R demonstrate improvements in substance use compared to clients who receive TAU?
- Is group BATD-R acceptable to ORT clients (as indicated by clients' willingness to participate in the study, the attendance rate, and client satisfaction)?

Design and method: Pilot study of randomised controlled trial. ORT clients who had been in treatment for three months or more were screened for symptoms of depression using the BDI-II. Those scoring > 14 (i.e. at least in the mild range) were asked whether they would be interested in taking part in a research project examining what works in treating people with symptoms of depression. They were then interviewed by a research officer, and assessed for depression using the Composite International Diagnostic Interview (CIDI). Following the baseline interview, participants were stratified by depression severity and gender, and randomly allocated to either BATD-R or TAU.

Nineteen clients were recruited: 10 assigned to treatment (eight sessions of BATD-R) and 9 to the control condition (TAU). Interviews were conducted at baseline, one week post-completion of the treatment program, and four months post-completion.

Findings: The outpatient group format was unpopular among ORT clients interested in treatment for their depressive symptoms. Of 46 participants scoring 14 or higher on the BDI-II, and willing to be contacted by the research team, 19 withdrew before the baseline assessment, 12 of whom stated that they were deterred by the group format. A further four clients allocated to treatment failed to attend. Nonetheless, BAT itself does show promise among this client group. Although based on a small sample size, 50% of those who started treatment attended six or more of the eight sessions and there appeared to be improvements in depressive scores and behavioural activation levels. Client satisfaction scores were also good.

The pilot study achieved respectable follow-up rates of the sample one week post completion of the intervention (95%) and four months post completion (79%). Although based on a small sample size, Beck depression scores did appear to improve on completion of treatment. Among those in the treatment group who attended at least one session, average depression scores fell from 30 at baseline (within the severe range) to 20 (within the moderate range) on completion of treatment. No such improvement was seen among the control group (BDI-II scores: 31 and 33). Similarly, behavioural activation scores appeared to increase for the treatment group, suggesting improvements in activity levels, but not among the control group. Improvements seen in the treatment group appeared to be sustained at four month follow-up. Neither the treatment nor the control group showed any change in drug use from baseline to either follow-up point. Within an individual treatment setting motivational interviewing could potentially be more effectively integrated into the behavioural activation program in an effort to have greater impact on drug use. Client satisfaction was measured using the CSQ-8. Possible scores range from 0 to 32, with higher scores indicating greater satisfaction. The median score was 25, indicating a good degree of client satisfaction.

Benefits: The results suggest that behavioural activation therapy is feasible among this group. Although based on small numbers, the treatment group appeared to exhibit improvements in depressive symptoms, and behavioural activation levels, and reported a good level of satisfaction with the treatment. The pilot study will help inform the conduct of a recently funded National Health and Medical Research Council clinical trial of individual behavioural activation therapy for depression among ORT clients. It is anticipated that this clinical trial will lead to improvements in the treatment of comorbid depression and opioid use for patients in Australia, as well as contributing to knowledge in this field internationally.

Funding: NSW Department of Health/Drug and Alcohol Research Grants Program

Date commenced: August 2011

Date completed: December 2012

The efficacy of an intervention for post traumatic stress disorder among illicit drug users

NDARC staff: Dr Katherine Mills and Professor Maree Teesson

Other investigators: A/Professor Sudie Black (Medical University of South Carolina), Professor Kathleen Brady (Medical University of South Carolina), Sally Hopwood (Traumatic Stress Clinic, Westmead Hospital), A/Professor Amanda Baker (University of Newcastle), Dr Claudia Sannibale (UNSW)

Project description: Trauma and post traumatic stress disorder (PTSD) are highly prevalent among people with substance use disorders. There is however, a dearth of literature as to how best to treat this comorbidity. This study was one of the first randomised controlled trials to examine the efficacy of an integrated therapy for PTSD and substance use disorders.

Aims:

- To evaluate the efficacy of an integrated intervention for PTSD and substance use disorders by comparing the treatment outcomes of those who receive the intervention with those who receive standard care for their substance use
- To identify factors that influence the efficacy of the integrated intervention including subject characteristics: demographic, substance use and psychological factors, and treatment characteristics (treatment compliance)
- To assess the feasibility of implementing the intervention as measured by treatment retention and client satisfaction

Design and method: A randomised controlled trial was conducted to address the research aims. One-hundred and three participants were recruited from alcohol and other drug treatment services in greater Sydney and via advertisements. Participants were randomised to one of two groups stratified according to sex: those who receive the intervention (N=55), and those who receive standard care (N=48).

The intervention was a modified version of Concurrent Treatment of PTSD and Substance Dependence developed in the United States. The intervention consisted of 13, 90 minute sessions involving cognitive behavioural therapy with exposure techniques. Attempts were made to follow-up all participants at six weeks, three months and nine months post-baseline. Baseline and follow-up interviews include validated instruments to measure demographics, substance use and dependence, substance use and PTSD treatment history, criminal involvement, general physical and mental health, trauma exposure and PTSD, depression, anxiety, borderline personality disorder, and health service utilisation.

Findings: Across the nine month follow-up period both groups evidenced improvements in their substance use, severity of dependence, PTSD symptoms and depression. Participants randomised to the intervention demonstrated significantly greater improvements in relation to their PTSD symptoms. No other between-group differences were observed in relation to severity of substance dependence, substance use, depression or anxiety.

Benefits: The present study provides evidence in support of integrated treatment for PTSD and substance dependence using prolonged exposure. The COPE treatment was found to be efficacious in reducing PTSD symptom severity. Contrary to popular belief, participants randomised to receive the exposure-based intervention did not demonstrate poorer substance use outcomes relative to those randomised to receive usual treatment only. The complex trauma, substance use and psychiatric presentations commonly found among individuals with PTSD and substance dependence should not be a deterrent to providing trauma-focused treatment.

Output: Papers have been published in *JAMA, Addictive Behaviors* and *Mental Health & Substance Use: Dual Diagnosis*. The COPE treatment manual was published as NDARC Technical Report No. 322.

Funding: National Health and Medical Research Council Project Grant

Date commenced: January 2007

Date completed: December 2012

A brief intervention of traumatised clients of alcohol and other drug treatment users

NDARC staff: Dr Katherine Mills, Professor Maree Teesson, Dr Frances Kay-Lambkin, Philippa Ewer

Other investigators: Professor Amanda Baker (University of Newcastle) and Dr Glenys Dore (Northern Sydney Drug and Alcohol Service)

Project description: Trauma and post traumatic stress disorder (PTSD) are highly prevalent among people with substance use disorders. There is consensus in the literature that alcohol and other drug (AOD) treatment services need to incorporate trauma-specific interventions to improve the outcomes of their clients suffering from symptoms of PTSD. A small number of protocols have been developed to treat this client group; however, they tend to be lengthy, have relatively low retention rates and require extensive training and clinical supervision. For these reasons, many AOD clinicians are not able, or willing, to implement these interventions in clinical practice. A brief intervention (BI) for PTSD symptoms may be more attractive, feasible and sustainable to both clients and AOD workers. The present study is the first study to examine the feasibility of a BI for traumatised clients of AOD treatment services.

Aims: To assess the feasibility of a BI for traumatised clients of AOD treatment services as measured by:

- improvements in PTSD symptoms, post traumatic cognitions, substance use and severity of dependence
- clients' willingness to participate in the study, the attendance rate, and client satisfaction

Design and method: An uncontrolled pilot study was conducted to address the research aims. Twenty nine participants were recruited from an inpatient detoxification service in Northern Sydney. Baseline data was collected from all participants, who then attended the brief intervention. The intervention consisted of a single one-hour session with a therapist involving: psychoeducation regarding the symptoms people commonly experience following trauma and how these may relate to a person's substance use; brief discussion of symptom management; and the provision of a self-help booklet. Participants were followed up at one week, one month and three months post-baseline, with follow-up rates of 86%, 86% and 69%, respectively. Information pertaining to substance use and PTSD symptomology was collated at each interview.

Findings: Severity of PTSD symptoms significantly decreased from baseline to one week follow-up and these reductions were retained through to the three month follow-up. Despite these reductions, the majority of participants continued to meet criteria for a diagnosis of PTSD (74%). There was also no change in participants' negative post-traumatic cognitions. In terms of substance use, reductions in the number of drug types used and severity of dependence were observed initially at one week, however, these improvements were not retained. The intervention appears to be acceptable to clients, as measured by a moderate participation rate (55%), 100% attendance at the intervention, and high levels of client satisfaction. In conclusion, these findings provide preliminary

evidence that brief psychoeducation for traumatised clients of AOD services is safe and appears to have some benefit in relation to PTSD symptoms. However, while PTSD symptoms decreased, patients were still experiencing symptoms at severe levels. There was also no change in relation to post traumatic cognitions, and initial improvements in substance use were not maintained. Thus, the brief intervention may best be conceptualised as a "stepping stone" to further trauma treatment. Further research examining the brief intervention in the context of stepped-care approaches to treatment may be beneficial.

Output: The preliminary results of this study were presented at the 2011 The Australasian Professional Society on Alcohol and other Drugs conference, 2011 European Association for Behavioural and Cognitive Therapies conference and as an invited keynote at the 2011 Network of Alcohol & Other Drug Agencies trauma forum. The findings are currently being written up for publication.

Funding: New South Wales Department of Health

Date commenced: January 2011

Date completed: December 2012

Clearing the Cloud

NDARC staff: Dr Frances Kay-Lambkin

Project description: Despite the increasing use of the internet by the general community to access information about alcohol and other drug use and related conditions, there remains no central portal through which people can reliably access a range of evidence-based information and treatment for alcohol/other drug use.

Aim: To develop a portal website (Clearing the Cloud) that links the general community, health professionals and researchers to the range of evidence-based treatments, information/fact sheets and ongoing research trials run by the eHealth group at the National Drug and Alcohol Research Centre.

Outcome: The portal website has been created, and is currently being used as intended.

Benefits: Streamlining the research and promotional activities associated with the E-Health activities within NDARC.

Output: The Clearing the Cloud website (clearingthecloud.org.au)

Funding: UNSW - Major Equipment & Infrastructure Scheme (MREII)

Date commenced: July 2011

Date completed: July 2012

Examination of the long-term physical health effects of regular cannabis use

NDARC staff: Dr Sally Rooke, Dr Wendy Swift, Dr Melissa Norberg, Professor Jan Copeland

Rationale: Although several studies have investigated the potential health-compromising effects of smoking cannabis, findings have been mixed. While most research has focused on cancers of the head and respiratory tract, there is also evidence that cannabis use is linked with more common respiratory problems such as chronic cough and emphysema, as well conditions such as cardiovascular disease, dental problems, cancers not on the smoke administration route, disturbed sleep and impairment of the immune system. The literature, however, is still inconclusive.

Recent reviews have highlighted four factors contributing to the lack of consistency in the literature. First, researched cannabis users have often smoked tobacco too, making it difficult to determine the individual effects of cannabis. While several studies have statistically controlled for tobacco use, statistical control has problems that limit its reliability. Second, the mean age of study participants has often been below that at which serious health problems tend to emerge. Thus, outcomes may have differed considerably had the sample been older. Third, studies using a case-control design are highly susceptible to underreporting of cannabis use, particularly in regions where cannabis use has serious legal consequences. Fourth, several studies have had too few participants who used cannabis daily or almost daily. This could mislead with regard to heavier use.

No previous study has addressed all four of the major concerns listed above. This was the objective of the current research.

Aim: To identify health concerns relating to long-term cannabis use.

Design and method: Three hundred and fifty participants aged over 40 years were recruited. Advertisements sought four types of volunteers: individuals who (1) smoke cannabis but not tobacco; (2) smoke both cannabis and tobacco; (3) smoke tobacco but not cannabis; and (4) use neither substance. Participants completed a survey addressing substance use, diagnosed medical conditions, health concerns relating to smoking cannabis/tobacco, and general health (measured using the Physical Health Questionnaire and the Short Form 36).

Findings: Several significant differences were found among the four groups. With regard to diagnosed medical conditions, the three smoking groups reported significantly higher rates of emphysema than did the Neither Substance group ($p < .001$). However, all members of the Cannabis Only group diagnosed with emphysema were former regular tobacco smokers. General health subscales and items addressing smoking-related health concerns also revealed several significant group differences, and these tended to show worse outcomes for the two tobacco smoking groups, particularly the Cannabis and Tobacco group.

Output: The findings were reported in poster presentations at the 2012 National Drug and Alcohol Research Centre Annual Symposium and the 2012 National Cannabis Conference. A journal article describing the research has been submitted for publication.

Benefits: Findings suggest avenues for future exploration, including the potentially harm-reducing effects of not mixing tobacco with cannabis.

Funding: UNSW Faculty of Medicine

Date commenced: February 2010

Date completed: June 2012

Cannabis attitudes and knowledge among general practitioners

NDARC staff: Dr Peter Gates, Dr Melissa Norberg, Dr John Howard

Project description: Australian surveys of those with cannabis use disorder (CUD) reveal that general medical practitioners (GPs) are the preferred source of treatment as they are seen as trustworthy and confidential. A small body of research has identified four commonly held concerns by GPs regarding the delivery of substance use treatment. First, the content of GP interventions

is not well known, and commonly disregarded as ineffective. Second, GPs report avoiding substance use discussions due to an anticipated negative reaction from patients or the belief that the patient will not be honest about their substance use. Third, GPs are not typically well trained or resourced to provide substance use interventions and have a limited time to do so. Fourth, GPs may have a negative view of a substance user and find it challenging to intervene on their behalf.

Aims: To ascertain the attitudes, knowledge, experiences and support needs of GPs when managing cannabis treatment seekers.

Design and method: Professional development seminars throughout Australia were targeted for participant recruitment (N=782 GPs). Delegates to these seminars received documents in their satchels and were asked to self-complete the survey and return it to the researchers.

Findings: The majority of participants were female (80%) and GPs (70%). In their mean of 29 clinical hours per week they typically screened 4 individuals for cannabis use, delivered 2 interventions and made one referral. The majority felt that their training (88%), knowledge (59%), screening skills (64%) and management skills (77%) were unacceptably poor. When asked what prevented them from screening or treating an individual with a CUD the two most common responses were: a lack of skills (69%) and not having enough time (41%). When asked what would encourage greater screening or treatment the two most common responses were: additional training (83%) and the provision of guidelines or recommendations for treatment (78%).

These findings identified a serious gap in the capacity of the primary health care workforce to address cannabis related problems in the community. GPs are a popular and trusted source of assistance for those with CUD but GPs do not feel sufficiently equipped or motivated to screen/treat those with CUD. Given the breadth of this problem, this training would ideally be evidence-based, sourced through the web, and provide continuing medical education (CME) points.

Output: Some of these findings were presented to several drug and alcohol conferences in 2012 and have been published in *Substance Abuse Treatment, Prevention, and Policy*.

Benefits: Understanding how GPs and other health professionals manage clients who present with cannabis use concerns and identifying any capacity gaps that prevent health professionals from providing screening and intervention. Upon identifying these gaps NCPIC resources and external training seminars can be tailored to better equip GPs and other health professionals to provide cannabis screening and intervention.

Funding: Australian Government Department of Health and Ageing

Date commenced: October 2010

Date completed: June 2012

Quality assessment of practice guidelines for cannabis use treatment available via the internet

NDARC staff: Dr Melissa Norberg, Dr Sally Rooke, Dr Peter Gates

Project description: In recent years, there has been a focus on developing practice guidelines to facilitate the delivery of evidenced-based interventions. In order for practice guidelines to be useful, they must first be disseminated; however, some methods

of dissemination may allow for the ability to publish resources of varying degrees of evidence-based support and quality. Thus, it is imperative that quality assessments of practice guidelines be conducted in order to guide practitioners in deciding which practice guidelines to follow.

Aims: To conduct a systematic search of practice guidelines for cannabis use treatment available via the internet and assess their quality.

Design and method: The aim of this research was to review systematically web-based guidelines for treating cannabis use available in Australia. The review aimed to evaluate various aspects of guideline quality as well as overall guideline quality. Gaps and other areas in need of improvement were also to be identified.

Findings: Seven practice guidelines were identified and subject to independent review. The quality of the guidelines was found to vary considerably. Quality was lowest with regard to the rigor of guideline development, applicability to practice and editorial independence. The effectiveness of dissemination strategies was also found to be suboptimal. A review of 166 treatment providers' quality perceptions indicated they felt all guidelines were of acceptable quality though common barriers to use were a lack of time, guideline length, already being familiar with the content and believing a guideline was in conflict with their theoretical orientation.

Output: A journal article describing the research findings has been published in *Journal of Medical Internet Research*.

Benefits: The study identified high quality online cannabis practice guidelines and highlighted areas in which guidelines are in need of improvement.

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2011

Date completed: December 2012

Telephone counselling via the Cannabis Information Helpline

NDARC staff: Dr Peter Gates, Dr Melissa Norberg, Professor Jan Copeland

Project description: Despite its widespread use, relatively few cannabis users present to treatment, with only 31,980 episodes of care provided for primary cannabis use problems in 2006 - 2007 (AIHW, 2008). Study on the barriers to cannabis treatment has highlighted the importance of providing additional outpatient treatments that are specific to cannabis (Treloar et al., 2007). Partly based on the success that telephone counselling has shown for people with tobacco related problems (see Stead et al. (2008) Cochrane Review) and this desire for alternative treatments, the Cannabis Information and Helpline (CIH) was launched by Lifeline Australia in collaboration with the National Cannabis Prevention and Information Centre.

However, to date no Australian data exists on the effectiveness of a brief intervention based on the telephone in assisting individuals to reduce their cannabis use. The Helpline offers the opportunity to research the efficacy of different brief interventions that may address several barriers to conventional cannabis treatments.

Aims: This study aimed to recruit 120 participants who phoned the CIH requesting assistance in reducing their own cannabis use. Treatment effectiveness was assessed by reduction in cannabis use and general improvements in quality of life. Participants were randomised into two groups: immediate treatment or three-month delayed treatment. Treatment was four sessions of cognitive behavioural and motivational enhancement therapy. Treatment delivery was meant to be flexible, in that successful patients would continue to learn new skills during each session, whereas unsuccessful participants would undergo motivational interviewing and problem-solving techniques in an effort to address their lack of improvement. Participants were interviewed pre-treatment, immediately post-treatment, and at one- and three-months post-treatment.

The treatment was delivered by CIH counsellors. All counsellors received two full-days of training. Counselling calls were monitored randomly to assess treatment fidelity.

Design and method: The brief intervention was a four session intervention utilising a directive model that assists participants in recognising the benefits of change and developing coping skills that work towards a reduction of cannabis use and prevention of relapse. Participants were first assessed at baseline and provided information to the researcher that was then forwarded to the counsellors at the Helpline. As is typical with interventions based on motivational interviewing, participants received feedback from their initial baseline assessment in the form of a Participant Case File (PCF). The PCF was also used as a case management tool to help counsellors maintain continuity between treatment sessions. Immediately following the baseline assessment, the participants were randomly placed into one of two groups; those who began the intervention immediately and those who were asked to wait three months before beginning the intervention (the 'control' group).

Following the completion of the four sessions (or after four weeks from baseline assessment for those in the 'control' group), each participant was asked to provide the researcher with information on their cannabis use, as well as their physical and mental health via phone interview. Finally, participants completed a second phone interview three months from the original baseline assessment date.

Findings: The intervention was delivered to 160 individuals. Those allocated to the telephone intervention reported greater confidence in reducing their cannabis at post-treatment, which in turn led to achieving a significantly greater number of abstinent days at the three month follow-up assessment compared to the control participants (intervention participants reported an average of 20.7 days of abstinence in the 28 days prior to follow-up compared to 15.5 days reported by control participants). At the three month follow up, 22.8% of the intervention participants reported clinically significant improvement from baseline levels of cannabis use and related problems compared to 13.6% of the control participants.

Output: Findings were presented to several drug and alcohol conferences locally and internationally, and published in the journal *Addiction*. Further detail can be found at the UNSW library holdings of doctoral student theses (UNSWWorks: 10861).

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2009

Date completed: March 2012

Process evaluation of the Cannabis Information and Helpline

NDARC staff: Dr Peter Gates, Dr Melissa Norberg, Professor Jan Copeland

Project description: Despite its widespread use, relatively few cannabis users present to treatment, with only 31,980 episodes of care provided for primary cannabis use problems in 2006 - 2007 (AIHW, 2008). Study on the barriers to cannabis treatment has highlighted the importance of providing additional outpatient treatments that are specific to cannabis (Treloar et al., 2007). Partly based on the success that telephone counselling has shown for people with tobacco related problems (see Stead et al 2008 Cochrane Review) and this desire for alternative treatments, the Cannabis Information and Helpline (CIH) was launched by Lifeline Australia in collaboration with the National Cannabis Prevention and Information Centre. However, to date no Australian data exists on the satisfaction of callers to this service or any other telephone service with a specific focus on a particular illicit drug.

Aims: To evaluate the CIH. Specifically, to establish who calls the CIH, what they expect from the service, how satisfied they are with the call, and how the call was helpful to them. In addition, we wanted to investigate trends in counselling style as well as characteristics of callers and associations with call outcomes.

Design and method: The study had two phases. First, CIH callers (N=200) were asked to give consent to participate in a 15 minute phone interview. The interview assessed callers' satisfaction with the service and the counsellor that answered the phone, various aspects of the call, such as how easy it was for them to reach a counsellor, what happened during the call, and how the call was helpful to them. Secondly, the data routinely collected by CIH was analysed to identify patterns and if certain types of callers and counsellor behaviours are associated with differential outcomes.

Findings: A 10 minute telephone interview was conducted with 200 volunteers who called the service during 2009 (121 called regarding themselves and 79 called regarding another person's cannabis use). Callers were a mean of 43 years of age and typically female (59%). Callers showed high levels of satisfaction with the service: the mean CSQ-8 score was 28.2 (SD=4.3). Participants who found the service easy to access and those who felt their needs were met reported the highest satisfaction. A linear regression analysis was conducted to identify the significant predictors of participants' satisfaction with the CIH. The ease with which the participant was able to get through to a counsellor (standardised beta=2.37, $P < 0.02$) and whether the participant felt all their needs were met (standardised beta=-4.26, $P < 0.001$) were the only significant predictors of total satisfaction with the call. Despite the recognition that telephone services are possibly the easiest health care service to access, ensuring consistent availability and accessibility remains paramount although not easy.

Output: The findings were presented to several drug and alcohol conferences and in addition, one peer reviewed paper and one chapter to a PhD thesis have been published.

Benefits: This project marked the first investigation of caller satisfaction with an illicit substance use helpline. In addition, the project included a regression analysis to determine the predictors of client satisfaction from a list of measures taken from the call content and the caller demographics. The information from this

project was used to inform the development and evaluation of a unique telephone-delivered cannabis use intervention. In addition, this study provides support for the development of further telephone helplines in the field of illicit substance use.

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2009

Date completed: March 2012

The Ecstasy Check-Up: A multi-site trial of a brief intervention for ecstasy use among regular ecstasy users

NDARC staff: Professor Jan Copeland, Dr Melissa Norberg, Dr Laila Khawar

Other investigators: Dr Rebecca McKetin (Australian National University) and Dr Leanne Hides (Queensland University of Technology)

Project description: Ecstasy is one of the few drugs that have become more prominent within the Australian community, particularly among young people. A recent Australian study indicated that one fifth of ecstasy users reported using weekly or more often, and that almost half used more than one tablet per average use episode. This is of concern, as several studies indicate that ecstasy is associated with a range of short- and long-term harms, such as depression, insomnia, and neurological changes. Despite widespread use and acknowledgment of harm, few ecstasy users seek treatment. Data from the National Minimum Dataset for 2003 - 2004 revealed that only 0.4% of drug treatment episodes were ecstasy-related, suggesting that interventions that facilitate treatment seeking should be developed. The objective of this study was to evaluate a brief motivational intervention (Ecstasy Check-Up) for regular ecstasy users compared to an educational control intervention. The Ecstasy Check-Up consists of 50 minutes of personalised feedback delivered within a motivational interviewing framework. The feedback is based on a comprehensive assessment of an individual's ecstasy use, associated problems, motivation, and self-efficacy for change. The education intervention consisted of a few pages of factsheets on ecstasy harms and usage norms.

Aims: To evaluate whether:

- The Ecstasy Check-Up intervention resulted in more days of continuous abstinence, fewer days of total use and lower quantity of use at one, four and six-month follow-ups than individuals who received education only
- Individuals who received the Ecstasy Check-Up met fewer DSM-IV dependence criteria at the one-month, four-month and six-month follow-up than individuals who received education only
- Individuals who received the Ecstasy Check-Up intervention were more motivated to change their ecstasy use at one-month, four-month, and six-month follow-ups than individuals who received education only
- The difference between conditions was more pronounced for heavy ecstasy users than for mild and moderate users
- Sessions in which therapists adhered strongly to motivational interviewing principles were related to greater improvements in motivation, self-efficacy for reducing ecstasy use, and greater reductions in ecstasy use

Design and method: The Ecstasy Check-Up was a two-group randomised controlled trial. Participants were followed up at one, four and six months after baseline. The study was conducted at two sites: the NDARC therapy offices and the Institute of Health & Behavioural Innovation, Queensland University of Technology.

Findings: Multivariate tests did not show a statistically significant time by treatment condition effect, Wilks lambda=0.99, F(3, 45)=0.21, p=0.88; however, there was a statistically significant time effect, Wilks lambda=0.48, F(3, 45)=16.56, p < 0.001. Paired-samples t tests demonstrated that participants used fewer ecstasy pills per month at the four week follow-up ($M=2.64$; $SD=3.67$) compared to baseline ($M = 5.65$; $SD = 4.04$; $t(52)=5.27$, $p < 0.001$), and that this reduction was maintained at the 16 week ($M=2.14$; $SD=2.62$; $t(50)=7.14$, $p < 0.001$) and 24-week follow-up ($M=2.14$; $SD=2.94$; $t(48)=7.02$, $p < 0.001$).

Benefits: On average, participants reduced their ecstasy use by 62% from baseline to the 24 week follow-up. The treatments were found to be statistically equivalent, and thus, a one session motivational intervention may be sufficient for substantially reducing an unmotivated, non-treatment seeking individual's use of ecstasy.

Output: Peer review journal articles are in preparation.

Funding: National Health and Medical Research Council and Australian Government Department of Health and Ageing

Date commenced: January 2009

Date completed: December 2012

Development of a brief intervention for ecstasy-related problems: The Ecstasy Check-Up Plus

NDARC staff: Professor Jan Copeland, Dr Melissa Norberg, Dr Laila Khawar

Other investigators: Dr Jake Olivier (School of Mathematics, UNSW)

Rationale: Ecstasy is one of the few drugs that have become more prominent within the Australian community, particularly among young people. A recent Australian study indicated that one fifth of ecstasy users reported using weekly or more often, and that almost half used more than one tablet per average use episode. This is of concern, as several studies indicate that ecstasy is associated with a range of short- and long-term harms, such as depression, insomnia, and neurological changes. Despite widespread use and acknowledgment of harm, few ecstasy users seek treatment. Data from the National Minimum Dataset for 2003 - 2004 revealed that only 0.4% of drug treatment episodes were ecstasy related. This suggests that interventions should be developed that facilitate treatment seeking. The objective of this study was to expand the one session Ecstasy Check-Up to a three session intervention that includes one session of motivational enhancement and two sessions of cognitive-behavioural skills training.

Aims:

- To evaluate if ecstasy users will participate in cognitive-behavioural therapy
- To compare the relative efficacy of one-session motivational enhancement session to a three session motivational and cognitive-behavioural intervention

Design and method: The Ecstasy Check-Up is a two-group randomised controlled trial. Participants are followed up at one, four and six months post-baseline session.

Findings: On average, participants reduced their ecstasy use by 62% from baseline to the 24 week follow-up. The treatments were found to be statistically equivalent, and thus, a one session motivational intervention may be sufficient for substantially reducing unmotivated, non-treatment seeking individuals use of ecstasy.

Funding: Australian Government Department of Health and Ageing

Date commenced: September 2009

Date completed: December 2012

PATTERNS OF ALCOHOL AND DRUG USE

Comparative patterns of cognitive performance amongst opioid maintenance patients, abstinent opioid users and non-opioid users

NDARC staff: Professor Shane Darke, Dr Sharlene Kaye, Michelle Tye

Other investigators: Professor Skye McDonald (School of Psychology, UNSW)

Project description: Recent years have seen growing interest in cognitive impairment amongst opiate users. Evidence of the extent and nature of these deficits remains unclear, and the study aimed to provide a detailed profile of the nature and extent of deficits.

Aims: To compare the cognitive performances of maintenance patients (MAIN), abstinent ex-users (ABST) and healthy non-heroin using controls (CON).

Design and method: Case control study of 125 MAIN (94 subjects maintained on methadone, 31 on buprenorphine), 50 ABST and 50 CON. Neuropsychological tests measuring executive function, working memory, information processing speed, verbal learning and non-verbal learning were administered.

Findings: There were no differences between the cognitive profiles of those maintained on methadone or buprenorphine on any administered test. After controlling for confounders, the MAIN group had poorer performance than controls in six of the 13 administered tests, and were poorer than the ABST group in five. The MAIN group exhibited poorer performance in the Haylings Sentence Completion, Matrix Reasoning, Digit Symbol, Logical Memory (immediate and delayed recall), and the Complex Figure Test (immediate recall). There were no differences between the ABST and CON groups on any of the administered tests. Poorer cognitive performance, across a range of test and domains, was seen amongst maintenance patients, regardless of their maintenance drug. This is a group that might benefit from approaches for managing individuals with cognitive and behavioural difficulties arising from brain dysfunction.

Benefits: Novel data on the cognitive impairment seen amongst opioid users, which may be helpful in improving the treatment of such individuals.

Output: Three papers, one each in *Drug and Alcohol Dependence*, *Addiction Theory and Research and Addiction*.

Funding: National Health and Medical Research Council

Date commenced: 2008

Date completed: 2012

Pathways to heroin dependence: the role of self-medication

NDARC staff: Professor Shane Darke

Project description: The self-medication hypothesis provides a theoretical model for the genesis of heroin dependence. The study aimed to determine its efficacy as a theory of heroin dependence.

Aim: To review the literature on the self-medication hypothesis in relation to the development and chronicity of heroin dependence.

Design and method: Narrative review.

Findings: The self-medication hypothesis emphasises the role of distressing affect as the primary motivator for the compulsive use that leads to substance dependence. The model also postulates that there will be psychopharmacological specificity between symptom presentation and the primary drug of dependence. In this review, the self-medication hypothesis is examined in relation to the development and chronicity of heroin dependence. It is argued that if self-medication has a role in engendering and extending substance dependence, it should be apparent in the use of a drug that carries such overwhelming personal risk. The psychopathology seen amongst adult users is certainly consistent with the model. More importantly, however, are the extraordinarily high levels of childhood trauma and psychopathology that typically occur well before the initiation of heroin use. In contrast, the postulate of drug specificity appears less supported by the polydrug use patterns typical of heroin users, and does not appear to be a necessary corollary of the model.

Benefits: The work provides a comprehensive account of the role of trauma in the causation of heroin use, and has direct implications for prevention and treatment.

Output: Paper in *Addiction* (in press).

Funding: Australian Government Department of Health and Ageing

Date commenced: 2012

Date completed: 2012

Contributory and incidental blood concentrations in deaths involving citalopram

NDARC staff: Professor Shane Darke and Michelle Tye

Other investigators: Professor Johan Duflou (Sydney South West Area Health Service; UNSW and University of Sydney).

Project description: Citalopram is a second generation, highly selective serotonin reuptake inhibitor (SSRI) commonly prescribed for depressive mood disorders, and is one of the most commonly prescribed antidepressants in Australia. While citalopram has a safer clinical profile than tricyclic antidepressants, adverse events and fatalities have been reported. Adverse effects of citalopram toxicity include drowsiness, somnolence, hyponatremia, dizziness, cardiac arrhythmias and tachycardia. Moreover, the combination of citalopram with monoamine oxidase inhibitors (MAOIs) may induce serotonin syndrome, and deaths due to this combination have been reported. Despite its widespread use, there are few data available on the toxicity of citalopram in autopsy populations, with most reports being restricted to case studies or small series.

Aims: To provide new data on citalopram toxicity by examining contributory and incidental concentrations in a large case series of fatalities in which the drug was detected in standard toxicological tests conducted as part of the medico-legal process. The study also aims to examine the toxicology of deliberate and accidental toxicity, and the presence of psychoactive substances other than citalopram.

Design and method: All cases presenting to the New South Wales Department of Forensic Medicine between January 2001 and December 2010 in which citalopram was detected were retrieved for analysis.

Findings: A total of 348 cases were identified. In 48% of cases, death was deemed to be suicide. Citalopram was contributory to death in 21% of cases and incidental in 79%. Cases in which citalopram was the sole drug causing death were rare. Cases in which citalopram was contributory to death had significantly higher blood citalopram concentrations than incidental cases. Citalopram concentrations varied significantly by contributory status: sole citalopram toxicity (median=1.30 mg/L), citalopram/other drug toxicity (0.50 mg/L), incidental cases (0.30mg/L). Citalopram concentrations also varied by suicide status, with the highest concentration found in suicides where citalopram contributed to death (0.70 mg/L) compared to 0.50 mg/L for non-suicide cases where citalopram contributed to death. In almost all contributory cases other psychoactive substances were also detected, most commonly benzodiazepines, alcohol and opioids.

Output: Paper in *Journal of Forensic Science* (in press).

Benefits: Provides new knowledge of the toxic concentrations of citalopram, the role of other substances and the characteristics of cases of fatal citalopram overdose.

Funding: Australian Government Department of Health and Ageing and NSW Health Department

Date commenced: 2010

Date completed: 2012

A literature review of the epidemiology and interventions research for Gay, Lesbian, Bisexual and Transgender people with alcohol, drug and/or mental health problems

NDARC staff: Professor Alison Ritter, Dr Natacha Carragher, Dr Francis Matthew-Simmons

Project description: With New South Wales having the largest Gay, Lesbian, Bisexual and Transgender (GLBT) community in Australia, it is important that responses to the problems faced by these populations (including a higher risk of drug use and mental health problems) are informed by research evidence.

Aims: This project had two aims. First, to review the prevalence of problematic drug use and psychological disorders among GLBT populations; and second, from the existing literature, identify effective interventions regarding these issues among these populations.

Design and method: The project consisted of a comprehensive review of existing Australian and international literature focused on the prevalence of problematic drug use, psychological disorder, and comorbidity in GLBT populations. Literature included published academic literature as well as grey literature. We also conducted

original analyses of the National Survey of Mental Health and Wellbeing, and used data analysis completed by colleagues at NDARC from the National Drug Strategy Household Survey. Existing data from Australian surveys was included. The review of potential interventions aimed at these populations was conducted through a systematic search on published academic literature, grey literature, and was informed by discussions with experts in the field.

Findings: In summary, all the Australian data confirms the international epidemiological evidence – elevated rates of mental health problems (such as anxiety and mood disorders) and alcohol or other drug dependencies are observed. In addition, the prevalence of suicide attempts is increased among GLBT populations.

In regards to the interventions literature, prevention is a priority principle with GLBT people; both alcohol and other drug (AOD) and mental health (MH) problems are preventable, and interventions are likely to reduce the risk of later mental health or substance misuse problems. Preventing discrimination and stigma is also an essential aspect of any comprehensive approach to reducing AOD and MH problems amongst GLBT. All AOD and MH services should be GLBT-sensitive. This entails ensuring an adequately trained workforce, culturally appropriate services and a non-judgmental attitude by all staff across the service. The variety of treatment interventions, such as cognitive behavioural therapy, motivational interviewing, 12 step programs and the community reinforcement approach have all been shown to be effective with GLBT individuals.

Benefits: This review provides up to date information for policy makers and service providers on the epidemiological data relating to the GLBT population, and also discusses research findings on effective service delivery.

Output: The report was published in late 2012. A related paper was published in *Drug and Alcohol Review*.

Funding: NSW Department of Health

Date commenced: June 2011

Date completed: December 2012

PREVENTION AND EARLY INTERVENTION

Preventing adolescent cannabis use through web-based graphic warning images

NDARC staff: Dr Sally Rooke and Professor Jan Copeland

Other investigators: A/Professor Don Hine (University of New England)

Project description: Cannabis use is a significant problem among Australian adolescents. There is evidence suggesting that substance use interventions for adolescents must target immediate affective responses to thoughts of using the substance. Therefore, graphic or otherwise emotion provoking warning images may be effective in deterring adolescent substance use.

Aim: To develop and pilot test a web intervention for adolescent cannabis use that employed warning images aimed at eliciting negative affective responses. The study aimed to determine whether graphic warning images can effectively discourage adolescent cannabis use.

Design and method: Adolescents aged 15 - 18 years were randomly assigned to receive the intervention program, or to a control condition. Cannabis use was assessed before the intervention and at a six month follow-up. Adolescents assigned to the intervention condition rated the images in terms of their perceived effectiveness.

Findings: The study recently completed recruitment of 177 participants using a cluster-randomised design. One hundred and thirty-four completed the six month follow-up assessment. Results show the intervention group reduced their past month ($p=.02$) and past week ($p=.03$, 1 tailed) days of cannabis use, as well as their past week quantity of cannabis use ($p=.047$, 1 tailed), significantly more than did the control group. While the percentage of cannabis users in the study was too small to conduct significance tests relating to past-month abstinence, there was a 30.5% reduction in participants reporting use in the past month in the control group compared with a 66.3% reduction in the intervention group. Participants found images of physical health effects more deterring than images of negative social and psychological effects.

Benefits: Findings provide an initial indication that warning imagery has potential as a prevention initiative for cannabis use.

Output: Findings were presented at the 2012 National Cannabis Conference, and a journal article describing the research findings has been submitted for publication.

Funding: Australian Rotary Health

Date commenced: March 2010

Date completed: March 2012

Alcohol Action in Rural Communities (AARC): A cluster RCT

NDARC staff: A/Professor Anthony Shakeshaft, Dr Courtney Breen, Ansari Abudeen

Other investigators: Dr Alys Havard (University of Western Sydney), Dr Dennis Petrie (University of Dundee), Professor Chris Doran (University of Newcastle), Professor Rob Sanson-Fisher (University of Newcastle), Professor Cate D'Este (University of Newcastle), Elissa Harwood, Dr Anton Clifford (University of Queensland), Stuart Gilmour (Gilmour Statistics), Dr Hector Navarro, Dr Joshua Byrnes (Griffith University).

Project description: The World Health Organization (WHO) advocates community-action to reduce risky alcohol consumption and harm, arguing that all members of a community are responsible for action because the burden of alcohol harm is spread across multiple settings, including health services, police, public spaces and workplaces. Community-action is also highly acceptable to members of communities. Nevertheless, there have been only four randomised trials of the effectiveness of alcohol community-action to date, all of which were United States-based, focused on young people (the unit of randomisation in three trials was schools, rather than the community) and limited to self-report or alcohol purchase attempt outcomes. There is no rigorous evidence about whether the economic benefits of alcohol community-action outweigh its costs.

Aims: The Alcohol Action in Rural Communities (AARC) project aimed to quantify the effectiveness of community-action in reducing risky alcohol consumption and harm, including the first benefit-cost analysis ever undertaken internationally.

Design and method: A cluster randomised controlled trial comprising 20 communities in NSW that had populations of 5,000 - 20,000 individuals, were at least 100km from an urban centre (population \geq 100,000) and were not involved in another community alcohol project. Communities were pair-matched and one randomly allocated to the experimental group. The economic analysis was a benefit-cost analysis.

Findings: The project was completed in 2012 and the results officially launched by the Hon. Kevin Humphries, the New South Wales Minister of Mental Health, Western NSW and Healthy Lifestyles. Key outcomes were:

- Compared to the control communities, the active communities experienced a 20% reduction in average alcohol consumption; 42% reduction in residents' experience of alcohol fuelled verbal abuse; 33% reduction in alcohol-related street offences; and 30% reduction in the number of residents who reported drinking at levels that placed them at high-risk of alcohol-related violence, accidents and injuries
- The benefits of implementing community action outweigh the associated costs of such action. For every \$1.00 invested in AARC, between \$1.75 and \$1.37 of benefits were returned to the community

Output: The AARC project successfully supported five PhD students, two Master's students, and produced in excess of 30 papers published in the international peer review literature.

Funding: Foundation for Alcohol Research and Education (FARE)

Date commenced: January 2005

Date completed: December 2012

Update of Fetal Alcohol Spectrum Disorders in Australia: Monograph of the Intergovernmental Committee on Drugs Working Party on Fetal Alcohol Spectrum Disorders

NDARC staff: Dr Lucy Burns, Emma Black, Dr Courtney Breen

Other investigators: Professor Elizabeth Elliot (University of Sydney)

Collaborators: Chapter authors: Professor Agnes Bankier (Monash University), Professor Carol Bower (University of Western Australia), Heather D'Antoine (University of Western Australia), Lorian Hayes (University of Queensland), Dr Raewyn Mutch (University of Western Australia), Dr Colleen O'Leary (University of Western Australia), Dr Jan Payne (University of Western Australia), Dr Elizabeth Peadon (The Australian Paediatric Surveillance Unit), Professor Ann M. Roche (Flinders University), Anna Woods (former NDARC).

Project description: The monograph is an outcome of the Intergovernmental Committee on Drugs (IGCD) Fetal Alcohol Spectrum Disorder (FASD) Working Party. The Working Party was first established in 2006, at the request of the Ministerial Council on Drug Strategy, to advise on the developments in Australia and overseas in regard to FASD and to identify best practice approaches to reduce the incidence of FASD.

The monograph examines the current status of research, policy and practice regarding alcohol use in pregnancy in Australia, particularly in relation to FASD. The findings identify areas where additional attention is required and enhancements to existing practices might improve the current situation with regard to

prevention, early intervention and long term management of this preventable condition.

Aim: To update the monograph commissioned in 2007.

Outcome: Each chapter of the monograph was updated with recent literature. Research currently being undertaken across Australia was added to the monograph and a list of recent Australian literature was included. The update of the monograph was submitted to the Department of Health and Ageing in June 2012 and is under review.

Benefits: The findings identify areas where additional attention is required and enhancements to existing practices might improve the current situation with regard to prevention, early intervention and long term management of this preventable condition.

Output: The 2012 update of this report is currently being reviewed by the funders.

Funding: Australian Government Department of Health and Ageing

Date commenced: August 2011

Date completed: June 2012

Improving services to families affected by Fetal Alcohol Spectrum Disorder (FASD)

NDARC staff: Dr Lucy Burns, Dr Delyse Hutchinson, Dr Courtney Breen

Other investigators: Dr Elizabeth Conroy (University of Western Sydney), Dr Deborah Loxton (University of Newcastle), Jennifer Powers (University of Newcastle), Sue Miers (National Organisation for Fetal Alcohol Syndrome and Related Disorders - NOFASARD), Dr Adrian Dunlop (Hunter and New England Drug and Alcohol Services)

Project description: Alcohol use during pregnancy has been associated with a number of adverse pregnancy outcomes including miscarriage, premature birth, still birth and low birth weight. Alcohol exposure in utero can also cause a range of abnormalities which are included under the umbrella term Fetal Alcohol Spectrum Disorders (FASD). There has been limited research undertaken with the families who raise children affected by FASD. In particular there is limited information on the care needs of families and what support services are available and/or required. It is important to have accurate information from families on the level of disability experienced and the issues involved to ensure suitable services are available. This information could also assist in designing and targeting appropriate interventions for families.

Aim: To examine the experiences and needs of families that care for a child or children with FASD and report on how to improve services these families.

Design and method: The project involved semi-structured telephone interviews with parents and carers of individuals affected by FASD.

Findings: The interviews highlighted the need for greater awareness of FASD in the community and in services that have contact with affected individuals. Carers reported that when they accessed services people had no or very limited knowledge regarding FASD and that they had to continually educate teachers, health and other professionals about FASD. The lack of facilities or professionals willing and able to diagnose individuals was problematic for many carers, with many reporting it a frustratingly

long process. The fact that a FASD diagnosis was not recognised by services to obtain funding for educational assistance was one of the major hurdles for many of the carers. Securing and maintaining funding for support was difficult. Carers reported their children had significant health issues and other diagnoses. Some of the challenges of daily life included the ongoing strain of caring, need for routine and repetition and dealing with aggression. Carers also reported on the positives of caring for their children, including the joy of seeing them improve physically and achieve.

Output: The final report is available on the FARE website. Dr Breen presented the findings at the 2012 Australasian Professional Society on Alcohol and other Drugs conference.

Benefits: There is a lack of information on the impact of FASD on families and the services required to care for children. This study is the first to document the needs of families and this information can be used to inform service requirements and also assist in targeting appropriate interventions.

Funding: Foundation for Alcohol Research and Education (FARE)

Date commenced: June 2011

Date completed: November 2012

DRUG POLICY

A consultant to evaluate the Australian Capital Territory Drug Diversion Programs

NDARC staff: Dr Caitlin Hughes, Dr Marian Shanahan, Professor Alison Ritter

Other investigators: David McDonald (Social Research and Evaluation P/L), Florence Gray-Weale (Faculty of Science, UNSW)

Collaborators: Carrie Fowlie (Alcohol Tobacco and Other Drug Association ACT)

Project summary: Diversion has become one of the most utilised policy interventions in Australian government responses to drug users. But the focus has tended to be upon evaluating individual programs. As a consequence, many key questions about optimal system design remain unknown: What ought 'best practice' diversion involve? And how can Governments improve the operation and outcomes of diversion programs? In this project we were commissioned to evaluate the ACT alcohol and other drug (AOD) diversion system that operated in 2012 taking into account the inputs and outputs of each individual program (SCON, EIPP, PED, CADAS and YDAC) and the broader system in which these operate.

Aims: This project sought to generate a thorough understanding of the ACT's diversion programs by examining what is going on, to whom, at what costs, and to identify the barriers and enablers to effective system provision.

Design and method: This project used a systems approach, built on dialogue methods. Key to this was the use of three roundtables that brought together 24 stakeholders from different parts of the ACT AOD diversion system to produce a conceptual map of how the five programs intersect (including offenders/client flows through the system), to identify facilitators and barriers to effective system operation, and to identify strategies for improvement. The insights from the roundtables were supplemented by the collation of indicator data, resource assessment of the fixed and variable costs

for the programs and the development of a robust evaluation plan to enable rigorous assessment of the implementation, outputs and outcomes into the future.

Findings: There are a lot of positives about the ACT AOD diversion system: the breadth of diversionary options; high rates of treatment assessment and completion; and the good will/enthusiasm of stakeholders. But there are also challenges, including: increasing use of programs (and scarce program resources) for activities that do not fit the primary goals of the ACT AOD diversion system (e.g. school drug education); lack of adequate goals and direction for the ACT drug diversion system (including emphasis upon increasing referrals, without specification of to what extent referrals ought to translate to benefits for clients or the system); poor data on program outcomes; and very low levels of police diversion for offenders possessing drugs other than cannabis. Ten recommendations for system improvement were put forward including: that the ACT needs an AOD diversion strategy to provide vision and direction across the whole system; that all programs should be refocused on 'diversion' only; and that the maximum quantity of heroin, methamphetamine, cocaine and ecstasy that can be possessed to be eligible for police diversion should be increased.

Benefits: This project should enable the ACT to make informed policy decisions about what policy levers to pull (and which to avoid) so as to foster the improvement of the ACT AOD diversion system.

Output: Hughes, C., Shanahan, M., Ritter, A., McDonald, D. and Gray-Weale, F. (in press). *Evaluation of the ACT drug diversion programs*. Sydney: Drug Policy Modelling Program.

Funding: ACT Government (Health Directorate)

Date commenced: January 2012

Date completed: June 2012

Illicit Drugs Reporting System (IDRS)/Ecstasy and Related Drugs Reporting System (EDRS) policy influence assessment

NDARC staff: Kari Lancaster and Professor Alison Ritter

Project description: The ways in which research informs and influences policy has been an area of much investigation. Rarely, if ever, will one sole research product be found to influence definitive policy change. In order to measure the influence or impact of a research project, consideration needs to be given to a broad range of theories and the dynamic interplay between research and policy. These theories emphasise multiple research uses, interactive mechanisms of dissemination built around relationships, and dynamic policy processes. Thus any measure of 'impact' cannot be limited to examples of direct, instrumental use of research within a single decision point. Nor can it rely on the traditional mechanisms of measuring academic success, such as academic citations.

To date, a systematic method for evaluating the extent of influence of the Illicit Drugs Reporting System (IDRS)/Ecstasy and Related Drugs Reporting System (EDRS) has not been applied. Whilst mechanistic guides have been developed to help health researchers describe policy influence, systematic approaches to assessment of policy influence are rarely seen in the alcohol and other drug literature.

Aim: To systematically examine the extent to which the IDRS and EDRS monitoring systems have informed and influenced Australian drug policy grounded in the theories of research utilisation, iterative policy processes and the role of interactions between researchers and decision-makers.

Design and method: A case study was undertaken, analysing policy-relevant sources to ascertain the extent of influence. Three data sources were used: policy documents; policy processes and media mentions. Systematic searches and analyses of these sources were undertaken.

Findings: The review of policy documents revealed that the IDRS/EDRS have been used to inform policy development. IDRS/EDRS data are drawn upon by government agencies as well as community and research organisations. We located a range of parliamentary inquiries in which IDRS/EDRS data had been mentioned, demonstrating engagement with policy processes. While media mentions were relatively few, coverage of the IDRS/EDRS contributes alternative frames of reference, adding in a small way to public discussion of drug issues.

Benefits: The findings of this case study have implications for the ways in which researchers conceptualise the role of evidence in policy making and the impact of research upon deliberations and policy change. This study demonstrates a systematic method that other researchers can use to evaluate the policy impact of their own work (which is, at present, rarely undertaken in the alcohol and other drug field).

Output: A paper in *International Journal of Drug Policy*.

Funding: Colonial Foundation Trust

Date commenced: October 2010

Date completed: June 2012

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

NDARC staff: Kari Lancaster and Professor Alison Ritter

Project description: 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). National drug policies are often regarded as benign, rhetorical documents; however, this belies the subtlety with which such documents generate shared discourses and evolving understandings of policy issues over time. Critically analysing the ways in which policy language constructs and represents policy problems is important as these discursive constructions have implications for how we are invoked to think about (and justify) possible policy responses.

Aims: Taking the case of Australia's National Drug Strategies, in this study we aimed to delve beyond the surface of national drug policy documents, so as to develop better understandings of how drug policy problems are constructed and represented through the

language of drug policy over time. In doing so, we aimed to 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.

Design and method: We analysed each iteration of the National Drug Strategy since 1985, using an approach informed by aspects of critical discourse analysis theory and Bacchi's (2009) 'What's the Problem Represented to be' framework (an approach that focuses on problematisation). 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.

Findings: Our analysis demonstrated shifts in the ways that drugs have been 'problematised' in Australia's National Drug Strategies. Central to these evolving constructions was the increasing reliance on evidence as a way of 'knowing the problem'. Furthermore, by analysing the stated aims of the policies, this case demonstrates how constructing drug problems in terms of 'drug-related harms' or 'drug use' can affect what is perceived to be an appropriate set of policy responses. The gradual shift to constructing drug use as the policy problem altered the concept of harm minimisation and influenced the development of the concepts of demand- and harm-reduction over time. These findings have implications for how we understand policy development, and challenge us to critically consider how the construction and representation of drug problems serve to justify what are perceived to be acceptable responses to policy problems. These constructions are produced subtly, and become embedded slowly over decades of policy development.

Output: One paper submitted for publication and another presented at The Australasian Professional Society on Alcohol and other Drugs conference in November.

Benefits: It is hoped the systematic analysis undertaken in this project will contribute to understandings of how discourse can shape and inform the ways in which the problem of drugs is understood in Australian society. Such understanding has important implications for the future of drug policy and the interventions and responses that are funded by government.

Funding: Colonial Foundation Trust

Date commenced: May 2011

Date completed: December 2012

The 'ice epidemic': an analysis of the policy context, process and outcomes

NDARC staff: Kari Lancaster and Professor Alison Ritter

Other investigators: Dr Hal Colebatch (School of Public Health and Community Medicine, UNSW)

Project description: This project forms part of a broader Drug Policy Modelling Project (DPMP) interest in studying policy making in Australia. Drug policy is influenced by the research evidence but also by politics, lobby groups, public opinion, and various windows of opportunity. This research aims to better understand how policy is developed and the opportunities for and threats to evidence-informed policy, through a case study of the 'ice epidemic'.

Aim: To examine the emergence of methamphetamine as a policy issue in Australia, with a focus on understanding the policy process and context that gave rise to the development of policy responses to this issue. We apply Kingdon's (2003) 'multiple streams' heuristic to this case study to analyse the problematisation of methamphetamine, the proposed policy responses and the political context, identifying the possible coupling of these streams and the notions of 'policy entrepreneurs' and 'open policy windows'.

Design and method: A variety of sources, such as published academic papers, grey literature and media sources, were purposively selected to describe the development of methamphetamine as a policy issue in Australia. Kingdon's (2003) 'multiple streams' theory was then used to guide the analysis. This created a framework within which to interpret the development of methamphetamine as a policy issue, by examining how the issue came to be defined as a problem, the proposed policy solutions to the issue and the political context at the time, as well as identifying possible policy windows.

Using this approach to explore the emergence of methamphetamine as a policy issue in Australia in the last decade, we asked: to what extent does Kingdon's 'multiple streams' formulation of policy processes offer a useful explanation of the development of methamphetamine as a policy issue; how well does Kingdon's formulation work in an Australian context; and to what extent can this approach be effectively applied to other alcohol and other drug policy issues?

Findings: Our analysis demonstrates that Kingdon's multiple streams heuristic offers a useful approach to understanding the policy process in an Australian drug policy context. However, it should not be understood as a predictive formula, or for understanding the conditions for fostering the development of evidence-informed policy *per se*. It is useful as a heuristic for exploring policy processes which are more often messy, rather than neat or logical. The findings of this case study speak to the complexity of this ongoing challenge of managing the problematic.

Output: This research was the basis for a keynote presentation at the 2012 APSAD conference, as well as for presentations at the DPMP Research Symposium and NDARC seminar series. A paper has been submitted.

Benefits: These findings have implications for how we understand and track drug policy processes in Australia. This analytic approach provides a framework for explaining why particular problem definitions and responses to drug policy issues gain traction. By interrogating the policy processes which give rise to particular understandings of drug policy problems in society, we are able to better understand how policy is developed and the opportunities for and threats to evidence-informed policy.

Funding: Colonial Foundation Trust

Date commenced: February 2011

Date completed: July 2012

CRIMINAL JUSTICE SYSTEM

A systematic review of hepatitis C virus prevalence and incidence in closed settings

NDARC staff: Professor Louisa Degenhardt and Dr Sarah Larney

Other investigators: Professor Josiah Rich (Brown University and Center for Prisoner Health and Human Rights)

Project description: Hepatitis C virus (HCV) is highly prevalent among incarcerated people around the world, largely due to the high concentration in correctional settings of people who inject drugs. Tattooing and injecting drug use while incarcerated contribute to further transmission of HCV; however, responses to HCV in correctional settings are sub-optimal.

To date there has been no effort to systematically review and consolidate data on HCV prevalence and incidence among incarcerated populations at a global level. This review will provide evidence to support the case for improved screening, prevention and treatment of HCV in correctional institutions. This is particularly relevant in light of recent advances that make HCV treatment while incarcerated a more realistic option than in the past.

Aims: To conduct a systematic review of HCV prevalence and incidence in closed settings and prepare a paper for submission to a peer reviewed journal. Specifically, to systematically summarise and, where appropriate, undertake meta-analyses of the literature on:

- HCV prevalence in correctional institutions
- HCV incidence in continuously incarcerated persons

Data on all types of closed settings will be searched, including pre-trial detention and compulsory drug treatment centres. If data permit, an attempt will be made to characterise HCV among these settings separately.

Design and method: Both peer-reviewed publications and grey literature were eligible for inclusion in the review. Translation was sought for papers in languages other than English if they were deemed promising. Collected documents were catalogued and assessed for inclusion in the review. Included studies were graded on their quality, and the grades and data from each study compiled. Data was processed and reported in line with previous global systematic reviews of the epidemiology of infectious diseases in high-risk populations.

Findings: HCV transmission occurs in prisons, albeit at a lower rate than occurs among non-detained people who inject drugs. One in four detainees globally, and two thirds of detainees with a history of injecting drug use, is anti-HCV positive, equating to an estimated 2.2 million persons.

Benefits: This study has enumerated global HCV incidence and prevalence in prison at a time when significant advancements are being made in the treatment of this disease. Our findings highlight the importance of giving greater attention to HCV prevention, diagnosis and treatment in closed settings.

Output: A paper of our findings has been submitted to *The Lancet*.

Funding: World Health Organization

Date commenced: July 2012

Date completed: September 2012

The characteristics of cannabis in Australia

NDARC staff: Dr Wendy Swift

Other investigators: Professor Iain McGregor (University of Sydney), Dr Jonathon Arnold (University of Sydney), Dr Kong Li (University of Sydney), Alex Wong (University of Sydney), Professor Steve Allsop (Curtin University)

Project description: There is little detailed information about the Australian cannabis market, including the chemical characteristics of the locally available cannabis product. The collection of accurate and current data is crucial for providing appropriate, evidence-based information to the Australian public, to cannabis users and their families, and to health, law enforcement and other related practitioners. This study builds on previous pilot work to address this issue.

Aims: To establish a methodology to assess the characteristics of the locally available cannabis product, and to use this methodology to collect this information using cannabis seizures in NSW.

Design and method: We analysed the cannabinoid profile of (i) 200 seizures obtained from the New South Wales Cannabis Cautioning Scheme and (ii) 26 seizures from the NSW Cannabis Eradication Program, from urban and rural NSW. Following extraction of the plant material, high performance liquid chromatography (HPLC) was used to quantify the following cannabinoids: THC-A, THC, CBD-A, CBD, CBG-A, CBG, CBN, CBC and THC-V. An additional arm of our project was to use PCR-based genotyping approaches and GC radioisotope analysis to explore similarities and differences across the 200 seized samples in terms of key gene expression (SNP analysis) and radioisotope (C^{14} , N^{15}) content. This information can point to the diversity or otherwise of current Australian cannabis supplies, perhaps indicating whether the cannabis has been grown in Australia or imported from elsewhere, and whether it has been grown in outdoor plantations or hydroponically.

Findings: The analyses of cannabinoid potency were completed in 2012 after substantial delays accessing cannabis seizures. These analyses reveal a trend toward high THC levels and low cannabidiol (CBD) levels in street-level cannabis in NSW, which has important implications for the mental health impacts of cannabis.

Output: Dr Swift was an invited keynote at the National Cannabis Conference in September and posters were presented at an additional three conferences throughout the year. A paper has been completed and is under review.

Benefits: The project has several potential public health and law enforcement benefits, including: (i) the provision of important Australian data on the characteristics of cannabis, which can aid in the education of users and health professionals about the health risks associated with market practices; (ii) the protocol may serve as a model to be expanded to other jurisdictions to provide routine monitoring and to measure longitudinal changes in for example, potency, that may result from policy, law enforcement and public health strategies; (iii) contributing to increasing the capacity of health, education and law enforcement programs to be seen as credible sources of information about the effects of cannabis; and (iv) cross-sector collaboration between NDARC, National Cannabis Prevention and Information Centre, the University of Sydney and NSW Police.

Funding: National Cannabis Prevention and Information Centre

Date commenced: September 2008

Date completed: July 2012

STAFF AND STUDENT LIST

Office of the director

Michael Farrell	Professor, Director NDARC
Alison Ritter	Professor, Deputy Director of NDARC, Director DPMP, NHMRC Senior Research Fellow
Anthony Shakeshaft	Associate Professor, Deputy Director of NDARC
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Academic staff

David Allsop	Lecturer, NCPIC
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Delyse Hutchinson	Research Fellow
Sharlene Kaye	Research Fellow
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Sally Rooke	Research Fellow, NCPIC
Joanne Ross	Senior Lecturer
Marian Shanahan	Senior Lecturer, Health Economist (overseas)

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Tim Slade Associate Professor

Janette Smith Research Fellow

Matthew Sunderland Research Associate

Wendy Swift Senior Lecturer

Maree Teesson Professor, NHMRC Senior Research Fellow

Judy Wilson Post-Doctoral Research Fellow

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Elissa Bowey Research Assistant (to October 2012)

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Kerryn Butler Research Officer

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Ursula Perry Senior Research Officer, NCPIC (to December 2012)

Benjamin Phillips Research Officer (to August 2012)

STAFF AND STUDENT LIST

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Professional and technical staff - support and communications

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Paul Dillon	National Communications Manager, NCPIC
Jackie Du	Finance Officer
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Carly Harris	Executive Assistant, NCPIC
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Etty Matalon	National Clinical Training Manager, NCPIC
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Morag Millington	Communications Officer, NCPIC
Erin O'Loughlin	Communications Officer
John Redmond	Research Assistant, NCPIC
Jemma Sale	Executive Assistant
Carla Santos	Administrative Officer

Doctoral candidates

Ansari Bin Jainullabdeen	Senior Research Officer (Health Economist)/ Doctoral Candidate
Bianca Calabria	Senior Research Officer/Doctoral Candidate
Katrina Champion	Research Assistant/Doctoral Candidate
Mark Deady	Senior Research Officer/Doctoral Candidate
Peter Gates	Senior Project Coordinator, NCPIC/Doctoral Candidate
Amy Johnston	Research Associate/Doctoral Candidate
Briony Larance	Senior Research Officer/Doctoral Candidate

Lynne Magor-Blatch	Doctoral Candidate
Anika Martin	Research Assistant/Doctoral Candidate
Clare McCormack	Research Assistant/Doctoral Candidate
Tim McSweeney	Doctoral Candidate
Sonja Memedovic	Research Officer/Doctoral Candidate
Paul Nelson	Research Officer/Doctoral Candidate
Larissa Rossen	Research Officer/Doctoral Candidate
Amanda Roxburgh	Senior Research Officer/Doctoral Candidate
Ed Silins	Research Fellow/Doctoral Candidate
Melanie Simpson	Senior Research Officer/Doctoral Candidate (to March 2012)
Dam Anh Tran	Senior Research Officer/Doctoral Candidate
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Thu Vuong	Research Assistant/Doctoral Candidate
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Elizabeth Whittaker	Research Assistant /Doctoral Candidate

Conjoint staff

Amanda Baker	Professor
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Johan Dufiou	Clinical Professor
Matthew Dunn	Senior Lecturer
Paul Haber	Professor
Wayne Hall	Professor
Alys Havard	Research Fellow
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Andrea Mant	Associate Professor
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Elizabeth Moore	Lecturer
Goli Samimi	Senior Lecturer
Catherine Spooner	Senior Lecturer
Ingrid Van Beek	Senior Lecturer
Deborah Zador	Senior Lecturer

Visiting academic staff

Soren Ashley	Forensic Psychology Masters Student
Stephanie De Vries	International Student
Mieke Snijder	Internship student from Wageningen University (Netherlands)
Lucie Swaffield	UNSW Psychology Master Student
Stephanie Taplin	Visiting Research Fellow
Judy Trevena	Visiting Lecturer

Miscellaneous staff

Margaret Eagers	Contractor
Kati Haworth	NET Business Manager

EXTERNAL APPOINTMENTS

Memberships of External Committees, Advisory Boards and Editorial Boards

Dr David Bright

Chair, NSW Section of the Australian Psychological Society College of Forensic Psychologists (2008 - present)
Member, National Executive Committee, Australian Psychological Society College of Forensic Psychologists (2008 - present)
Committee member, Australian and New Zealand Association of Psychiatry, Psychology, and Law (ANZAPPL, NSW Branch)

Dr Lucinda Burns

Director, Haymarket Foundation for Homeless People with Substance Abuse Problems (2004 - present)
Academic member, NSW Health Drug and Alcohol Council, Research Sub-Committee, NSW Health Department (2009 - present)
Trustee, NDARC Educational Trust (2009 - present)
Member, NSW Population and Health Services Research Ethics Committee (2010 - present)
Member, Perinatal Substance Use, National Special Interest Group (2010 - present)
Population Health Research Network NSW ACT Policy and Program Advisory Group (2011 - present)
Member, University of New South Wales Medical / Community Human Research Ethics Advisory Panel (2011 - present)

Dr Jennifer Chalmers

Member, The Alcohol and Drug Council of Australia's Human Services/Systems Working Group (2010 - present)

Dr Catherine Chapman

Member, Management Committee, The Mental Health Services Conference of Australia and New Zealand (2000 - present)
Member, Conference Proceedings Editorial Board, The Mental Health Services Conference of Australia and New Zealand (1998 - present)
Co-Convenor, The Mental Health Services Conference of Australia and New Zealand Summer Forum (2008 - present)

Professor Jan Copeland

President, Board of Management, Drug and Alcohol Multicultural Education Centre (DAMEC) (2002 - present)
Member, Board of Management of Odyssey House: The McGrath Foundation, a non-government therapeutic community; Co-Chair, Operations Committee (2004 - present)

Assistant Editor (Services and Prevention, Technology Transfer, and Treatment), *Drug and Alcohol Dependence*

Assistant Editor, *Journal of Substance Abuse Treatment* (2001 - present)

Member, Editorial Board, NIDA Medline-listed journal *Addiction Science and Clinical Practice* (2010 - present)

Member, Cannabis Working Group for NSW Health (2007 - present)

Member, US College on Problems of Drug Dependence (CPDD) International Committee (2010 - 2013); Chair elect from July 2012

Member, Drug and Alcohol Health Promotion Subcommittee of the Drug and Alcohol Program Council, NSW Department of Health

Member, Australian Cannabis Cohort Research Consortium (2008 - present)

Member, Australian Government's Intergovernmental Committee on Drugs Working Party on the national minimum data set (2004 - present)

Appointed to the Editorial Board of *ISRN Addiction* in 2012

Member of the module Working Group and author of two modules for the Australian Chapter of Addiction Medicine's Opportunistic Intervention Module (NSW Health) and member of Review Committee in 2012

Professor Shane Darke

Regional Editor, *Addiction* (formerly *British Journal of Addiction*) (2006 - present)
Associate Editor, *Drug and Alcohol Dependence* (1993 - present)
Assistant Editor, *Journal of Drug Issues* (2006 - present)

Professor Kate Dolan

Member, World Health Organization (WHO) Network for HIV and Health in the Western Pacific Region (WPR) (2009 - present)
Member, ANEX's Harm Minimisation in Prisons Committee (2008 - present)
Member, UNODC Expert Group on the Comprehensive Package for HIV in Prisons (2011 - present)
Member, ANCD's Asia Pacific Drug Issues Committee (2011 - present)

Professor Michael Farrell

Member, European Monitoring Centre for Drugs and Drug Addiction (2007 - present)
Member, World Health Organization expert committee on Drug Dependence (1996 - present)
Member, Quality in Treatment (QIT), NSW Health (2011 - present)

Member, Asia-Pacific Drug Issues Committee (APDIC), Australian National Council on Drugs (2011 - present)

Karina Hickey

Member, NADA Health Promotion Sub Committee (2011 - present)

Dr John Howard

Member, ANCD Asia-Pacific Drug Issues Committee (2004 - present)

Member, NSW Child Death Review Team (2004 - present)

Board Member, National Centre for Education and Training on Addiction (NCETA) (2005 - present)

Member, Clinical Advisory Panel, Family Drug Support (2002 - present)

Member, NSW Ministerial Advisory Committee on Hepatitis (2008 - present)

Member, Advisory Group, NSW Department of Health, Mental Health and Drug and Alcohol Office, Quality in Treatment (QIT) (2002 - present)

Member, Drug and Alcohol Multicultural Education Centre (DAMEC) - Research Subcommittee (2010 - present)

Member, Consulting Editors Group, *Youth Studies Australia* (2010 - present)

Dr Caitlin Hughes

Member, *Of Substance* Editorial Reference Group (2011 - present)

Member, UNSW Faculty of Medicine Postdoctoral Advisory Committee (2011 - present)

Dr Delyse Hutchinson

Co-Convenor and Member, Longitudinal Studies Network, Australian Research Alliance for Children and Youth (ARACY) (2011 - present)

Co-Director and Member, Cannabis Cohort Research Consortium (CCRC) (2006 - present)

Member, University of New South Wales Women's Employment Strategy Committee (2011 - present)

Organisational Member, Australian Research Alliance for Children and Youth (ARACY) (2005 - present)

Dr Sharlene Kaye

Assistant Editor, *Addiction* (2009 - present)

Board Member (Secretary), International Collaboration on ADHD and Substance Abuse (ICASA) (2010 - present)

Dr Frances Kay-Lambkin

Invited Member, Expert Working Group, Development of Professional Education Module for Clinicians in the Management of Comorbid Depression and Alcohol Dependence, Black Dog Institute, University of New South Wales (2012)

EXTERNAL APPOINTMENTS

Member, National Health and Medical Research Council Research Translation Faculty (2012 - present)

Member, Executive Committee, Special Interest Group on Telephone and Internet Treatment, Australian Psychological Society (2010 - present)

Secretary, Executive Committee, Australasian Society for Psychiatric Research (2010 - present)

Member, Centre Management Committee, Centre for Translational Neuroscience and Mental Health, University of Newcastle (2010 - present)

Member, Research Management Committee, School of Medicine and Public Health, University of Newcastle (2010 - present)

Mary Kumvaj

Member, National Drug Sector Information Service (NDSIS) Advisory Committee (2009 - present)

Professor Richard Mattick

Member, ANCD National Illicit Drug Campaign Reference Group (2004 - present)

Member, NSW Minister of Health Expert Advisory Group on Drugs (2004 - present)

Member, Alcohol Beverages Advertising Code adjudication panel (2005 - present)

Member, Sax Institute Research Partnerships for Better Health (2006 - present)

Dr Katherine Mills

Member, NHMRC National Health and Medical Research Council Research Translation Faculty (2012 - present)

Member, Community Mental Health Drug and Alcohol Research Network Steering Committee (2011 - present)

Assistant Editor, *Addiction* (2010 - present)

Deputy Editor, *Drug and Alcohol Review* (2010 - present)

Member, Trauma Informed Care and Practice Reference Group (2010 - present)

Dr Nicola Newton

Advisory Board Member, Angelus Foundation (Expert committee on Legal Highs in UK) (2010 - present)

Co-Director, Internet Prevention and Treatment in Addictions Research Group (2010 - present)

Member, Prevention Science Network, Australian Research Alliance for Children & Youth (2012 - present)

Dr Melissa Norberg

Associate Editor, *International Journal of Mental Health and Addiction* (2011 - present)

Professor Alison Ritter

President, International Society for the Study of Drug Policy (2011 - present)

Vice President, Alcohol and Drug Council of Australia (from 2011)

Alcohol and Drug Council of Australia, Board of Directors (2010 - present)

Editor, *Drug and Alcohol Review* (2001 - present)

Associate Editor, *Journal of Drug Policy Analysis* (2010 - present)

Associate Editor, *International Journal of Drug Policy* (2011 to present)

Chair, Expert Reference Group, National Drug and Alcohol Clinical Care and Prevention Modelling Project (2010 - present)

Advisory Panel Member, Development of needs-based planning models for substance use services and supports in Canada (Health Canada funded) (2011 - present)

Member, Global Science Group for Addictions and Lifestyles in Contemporary Europe (ALICE) project (EU funded) (2011 to present)

Chair, Drug Policy Working Group, National Institute on Drug Abuse (NIDA funded) (from 2011)

Member, National Drug Strategy Household Survey Technical Advisory Group (2009 - present)

Technical Advisor, International Centre for Science in Drug Policy (2011 - present)

Member, Australian Government Department of Health and Ageing Partners In Recovery Expert Reference Group (2012 - present)

Member, Alcohol's Harm to Others Advisory Group (2012 - present)

Dr Joanne Ross

Assistant Editor, *Addiction* (2006 - present)

Member, Allied Health Worker Advisory Committee, NSW Health (2010 - present)

Associate Professor Anthony Shakeshaft

Member, National Health and Medical Research Council (2012 - present)

Member, International Network on Brief Interventions for Alcohol and Other Drugs (2011 - present)

Conjoint Associate Professor, Faculty of Health, University of Newcastle (2010 - present)

Assistant Editor, *BMC Public Health* (2010 - present)

Visiting Scholar, Cairns Institute, James Cook University (2011 - 2012)

Associate Professor Tim Slade

Member, Expert Advisory Group for the second National Child and Adolescent Mental Health Survey (2011 - present)

Member, Expert Advisory Group for the second Australian National Survey of Mental Health and Wellbeing (2007 - present)

Regional Editor, *Social Psychiatry and Psychiatric Epidemiology* (2009 - present)

Consulting Editor, *Journal of Abnormal Psychology* (2012 - present)

Assistant Editor, *Addiction* (2012 - present)

Dr Janette Smith

Member, Organising Committee for the 22nd Australasian Society for Psychophysiology Conference, hosted UNSW Nov 28-30, 2012

Guest Editor, *International Journal of Psychophysiology Special Issue: Psychophysiology in Australasia* (2012 - present)

Dr Wendy Swift

Deputy Editor (Book Reviews), *Drug and Alcohol Review* (2012 - present)

Member, Cannabis Cohort Research Consortium (2006 - present)

Professor Maree Teesson

Member, Cannabis Cohort Research Consortium (2008 - present)

Co-Chair, University of New South Wales Women's Employment Strategy Committee (2011 - present)

Founding Member, Management Committee, The Mental Health Services Conference of Australia and New Zealand (1993 - present)

Co-Convenor, The Mental Health Services Conference of Australia and New Zealand Summer Forum (2006 - present)

Member, Health Care Committee, Principal Committee National Health and Medical Research Council (2012 - present)

Chair, National Health and Medical Research Council Postgraduate Scholarship Awards Committee, National Health and Medical Research Council (2012 - present)

Member, National Health and Medical Research Council Grant Review Panel (2012 - present)

POSTGRADUATE STUDENTS

Emma Barrett (2007-2011)

Hurt people who hurt people: Anger and violence among individuals with substance use disorder and post traumatic stress disorder

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Dr Katherine Mills, Professor Maree Teesson

Submitted: December 2011

Conferred: April 2012

Ansari Bin Jainullabudeen (2010 - present)

Economics of Indigenous alcohol policy

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: A/Professor Anthony Shakeshaft, A/Professor Chris Doran (University of Queensland)

Expected date of submission: February 2014

Joshua Byrnes (2008-2011)

The impact of price on alcohol consumption and the cost effectiveness of a volumetric tax in Australia

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: A/Professor Chris Doran (University of Queensland), A/Professor Anthony Shakeshaft

Submitted: August 2011

Conferred: March 2012

Bianca Calabria (2010 - present)

Establishing methods of working in partnership with Aboriginal people to improve intervention research

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: A/Professor Anthony Shakeshaft, Dr Anton Clifford, A/Professor Chris Doran (University of Queensland)

Expected date of submission: August 2013

Katrina Champion (2012 - present)

Internet-based interventions for substance use prevention in adolescents

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Dr Nicola Newton, Professor Maree Teesson

Expected date of submission: August 2015

Mark Deady (2011 - present)

Comorbid depression and alcohol misuse in young people and the development of an internet-based intervention

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Maree Teesson, Dr Frances Kay-Lambkin

Expected date of submission: December 2014

Peter Gates (2008 - 2012)

The Cannabis Information and Helpline: Evaluation and randomised controlled trial

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Jan Copeland, Dr Melissa Norberg

Submitted: August 2012

Conferred: November 2012

Amy Johnston (2008 - present)

Suicidality in Australia: prevalence, correlates, trends and health service use

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Shane Darke, A/Professor Tim Slade, Dr Joanne Ross

Expected date of submission: March 2013

Briony Larance (2006 - 2012)

Non-adherence with opioid substitution therapy in Australia

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Louisa Degenhardt, Professor Richard Mattick

Submitted: March 2012

Conferred: November 2012

Lynne-Magor Blatch (2009 - present)

Intervention for amphetamine-type stimulant (ATS) use in the therapeutic community

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Jan Copeland, Dr John Howard

Expected date of submission: March 2013

Anika Martin (2012 - present)

Do depression and anxiety complicate the risks and treatment outcomes for individuals living with chronic pain?

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Louisa Degenhardt, Professor Richard Mattick

Expected date of submission: July 2015

Clare McCormack (2012 - present)

Impacts of prenatal alcohol and drug exposure on infant cognitive development

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisor: Professor Richard Mattick, Dr Delyse Hutchinson

Expected date of submission: August 2015

Tim McSweeney (2009 - present)

Promoting compliance, 'recovery' and 'desistance': Comparative case studies of pre-sentence diversion schemes for drug misusing arrestees in Australia and England

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Dr Caitlin Hughes, Professor Alison Ritter, Paul Turnbull (Institute for Criminal Policy Research, Birkbeck University of London)

Expected date of submission: August 2013

Sonja Memedovic (2012 - present)

Depression in people with opioid dependence

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisor: Associate Professor Tim Slade, Dr Joanne Ross, Professor Maree Teesson

Expected date of submission: August 2015

Paul Nelson (2008 - present)

Patterns and correlates of drug use and recidivism among young offenders on community orders

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Louisa Degenhardt, Dr Wendy Swift, Professor Dianna Kenny (The University of Sydney)

Expected date of submission: May 2013

Larissa Rossen (2012 - present)

The impact of parental substance use problems and mental health issues on parent-child relationship quality in a large-scale longitudinal birth cohort study of 1,600 Australian families

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisor: Delyse Hutchinson

Expected date of completion: March 2016

Amanda Roxburgh (2012 - present)

Trends in prescription opioid use and related harms in Australia

Part-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisor: Professor Louisa Degenhardt

Expected date of completion: August 2016

POSTGRADUATE STUDENTS

Edmund Silins (2008 - 2011)

Initiation, persistence and cessation of cannabis use and subsequent mental health outcomes.

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Dr Delyse Hutchinson, A/Professor Tim Slade, Dr Wendy Swift

Submitted: December 2011

Conferred: June 2012

Melanie Simpson (2008-present)

Exploring the relationship between cannabis use and criminal offending among adolescents

Full-time PhD in the School of Public Health and Community Medicine

Supervisors: Professor Jan Copeland, Dr John Howard

Expected date of submission: March 2013

Dam Anh Tran (2009 - present)

Accessibility to anti-retroviral treatment in Vietnam

Full-time PhD in the School of Public Health and Community Medicine

Supervisors: A/Professor Anthony Shakeshaft, A/Professor Chris Doran (University of Queensland), Dr Anh Duc Ngo (University of Texas)

Expected date of submission: June 2013

Michelle Tye (2011 - present)

The drugs-violence nexus, a misunderstood relationship? Examining the role of predispositional risks among violent injecting drug users

Full time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Shane Darke, Dr Sharlene Kaye, Dr Fiona Shand (Blackdog Institute, UNSW)

Expected date of submission: December 2014

Thu Vuong (2012 - present)

Economic evaluation comparing centre-based compulsory drug rehabilitation with community-based methadone maintenance treatment in Hai Phong City, Vietnam

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Alison Ritter, Dr Marian Shanahan, Professor Robert Ali (University of Adelaide)

Expected date of submission: March 2015

Monika Wadolowski (2010-present)

Parental modelling and supply of alcohol: Does this improve or worsen drinking outcomes in young Australians?

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Professor Richard Mattick, Dr Delyse Hutchinson

Expected date of submission: July 2013

Elizabeth Whittaker (2012 - present)

The association between homelessness and substance use

Full-time PhD in the School of Public Health and Community Medicine, UNSW

Supervisors: Dr Lucy Burns, Dr Wendy Swift, Dr Paul Flatau (University of Western Australia)

Expected date of submission: March 2016

RESEARCH GRANTS AND FUNDING

CORE NDARC FUNDING	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
Old DoHA Core Funding *	AGDHA	1,520,510	6 months	Jan 2012 - Jun 2012
New DoHA Core Funding *	AGDHA	1,340,667	6 months	Jul 2012 - Dec 2012
SUB TOTAL FOR CORE FUNDING		2,861,177		

UNIVERSITY FUNDING SUPPORT	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
Faculty Support for Research Infrastructure	UNSW	\$1,984,215	1 year	Jan 2012 - Dec 2012
DVC Strategic Support for Research Infrastructure	UNSW	\$158,624	1 year	Jan 2012 - Dec 2012
Publications	UNSW	\$59,233	1 year	Jan 2012 - Dec 2012
Faculty Support for Research Fellowship Projects	UNSW	\$131,050	1 year	Jan 2012 - Dec 2012
2012 Goldstar Award	UNSW	\$80,000	1 year	Jan 2012 - Dec 2012
Strategic Fund Allocation	UNSW	\$130,890	1 year	Jan 2012 - Dec 2012
SUB TOTAL FOR UNIVERSITY FUNDING SUPPORT		\$2,544,012		
TOTAL CORE FUNDING RECEIVED 2012		\$5,405,189		

PROJECT FUNDING	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
A consultant to evaluate the Australian Capital Territory drug diversion programs	ACT GOVT	\$147,279	1 year	Mar 2012 - Dec 2013
Schedule 6 - Injecting drug users interview component (IDRS)	AGDHA	\$745,964	3.5 years	Jul 2009 -Jun 2012
Schedules 7, 16, 17 and 19 - Ecstasy and Related Drugs Reporting System (EDRS)	AGDHA	\$1,907,888	3.5 years	Jul 2009 - Jun 2012
Schedule 8 - Brief intervention - the ecstasy check-up	AGDHA	\$198,655	3.5 years	Sept 2009 -Jun 2012
Schedule 4 - Drug Trends - incorporating the new IDRS and EDRS	AGDHA	\$4,500,000	3 years	Jul 2012 - Jun 2015
Teacher and parent illicit drug resource package	AGDHA	\$458,309	1 year	Aug 2012 - Aug 2013
National Drug Campaign website	AGDHA	\$40,508	1 year	Aug 2012 - Aug 2013
Schedule 15 - Suicide risk assessment and intervention strategies Part 2	AGDHA	\$119,625	2 years	Jul 2010 - Dec 2012
Psychostimulant intervention	AGDHA	\$101,676	1 year	Apr 2011 - Dec 2012
Improving cardiovascular health among people with depression: healthy lifestyles treatment	AGDHA	\$112,203	1 year	Jul 2011 - Dec 2012
National Cannabis Prevention and Information Centre (NCPIC)	AGDHA	\$11,958,090	4 years	Jan 2011 - Jun 2014
The cost of homelessness and benefit of programs	AHURI	\$34,692	3 years	Jun 2010 - Dec 2012
Determining the impact of opioid substitution therapy on mortality and recidivism among prisoners	AIC/CRG	\$90,910	3 years	Oct 2010 - Dec 2013
Evaluating Australian drug trafficking thresholds: Proportionate, equitable and just?	AIC/CRG	\$44,930	1 year	Mar 2012 - Mar 2013
Asian harm reduction network	AIDS FONDS NL	\$86,446	2 years	Apr 2010 - Dec 2012
Young people's ideas about responding to alcohol, tobacco and other drug use	ANCD	\$90,440	1 year	Apr 2012 - Jun 2013
Discovery Project - Is one drop too many?	ARC	\$760,000	5 yrs	Feb 2010 - Dec 2014
Assessing the effectiveness of community intervention for alcohol misuse with Indigenous Australians	ARC	\$80,000	2 years	May 2010 - Dec 2012
How do alcohol and illicit drug prices affect young Australians' plans for Saturday night?	ARC, DOJ & AG, NSW	\$105,595	2 years	Dec 2010 - Dec 2012
Alcohol use and mental disorders - longitudinal analyses from a large Australian cohort study	ARH/MIRG	\$8,740	2 years	Nov 2012 - Dec 2014
Preventing adolescent cannabis use through web-based graphic warning images	ARHRF	\$18,000	1 year	Dec 2009 - Dec 2012

RESEARCH GRANTS AND FUNDING

PROJECT FUNDING	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
Impact of parental substance use on family functioning and child development in an Aust. birth cohort of 2000 families	ARHRF	\$69,182	1 year	Apr 2012 – Dec 2013
Reducing the health, social and economic burden of injecting drug use in Australia	BURNET/ NHMRC	\$312,999	5 years	May 2011 – Dec 2015
The statistical relationship between alcohol-related crime and liquor outlets in the City of Sydney	CCS	\$16,063	5 years	Apr 2008 – Dec 2012
Drug Policy Modelling Program - Stage Two	CFT	\$7,661,973	8 years	Jul 2006 – Dec 2013
Young Australians Alcohol Reporting System	Curtin/ ANPHA	\$31,407	2 years	Oct 2012 – Dec 2013
Platform 70 Evaluation Project	DFCS	\$118,636	3 years	Aug 2012 – Dec 2014
Recommendations for the prescribing of opioids in Tasmania	DH (TASMANIA)	\$279,974	2 years	Jan 2011 – Dec 2013
Literature reviews on GLBT	DH NSW	\$150,000	1 year	Oct 2011 – Dec 2012
Twelve month follow-up of mothers on the NSW Opioid Treatment Program (OPT)	DH NSW	\$36,135	1 year	Sep 2011 – Dec 2012
Group schema therapy for the treatment of co-occurring depression and opioid dependence	DH NSW	\$34,450	1 year	Sep 2011 – Dec 2012
Parental supply of alcohol: an expansion of a longitudinal cohort study to public schools Tasmania	FARE	\$17,609	1 year	Apr 2011 – Dec 2012
Improving services to women who are pregnant and alcohol dependent	FARE	\$50,057	2 years	Apr 2011 – Dec 2013
Improving services to families affected by foetal Alcohol Spectrum Disorder (FASD)	FARE	\$50,057	2 years	Apr 2011 – Dec 2013
Drug use in pregnancy, birth and early years of newborn	HAC	\$27,273	2 years	Sep 2010 – Dec 2012
Outreach evaluation of the inner city youth at risk project	HAC	\$159,346	4 years	Oct 2010 – Dec 2013
The prevalence of drug and alcohol presentations on hospital-based services	HAC	\$275,000	2 years	Mar 2011 – Dec 2012
Research on demand and access to the NSW opioid treatment program	HAC	\$58,838	1 year	Apr 2012 – Dec 2013
Anxiety sensitivity and taper schedules as predictors of cannabis withdrawal severity	HNELHD/ DACS	\$17,273	1 year	Nov 2011 – Dec 2012
Double-blind, randomised, placebo controlled trial of SATIVEX for cannabis withdrawal	HNELHD/ DACS	\$32,727	1 year	Nov 2011 – Dec 2012
Study to identify women subject to homelessness and their reproductive health issues	HRTO	\$30,000	1 year	Aug 2011 – Dec 2012
Targeted Call for Research (TCR) – Prevention for anxiety, depression and substance use	NHMRC	\$1,709,988	5 years	Nov 2012 – Dec 2017
Impact of parental alcohol, tobacco and other substance use	NHMRC	\$1,910,470	4 years	Jan 2010 – Dec 2013
A family-based intervention for Indigenous Australians	NHMRC	\$212,500	2 years	Jun 2010 – Dec 2012
Combining universal and targeted drug prevention approaches	NHMRC	\$723,665	5 years	Jan 2011 – Dec 2015
A double blind placebo randomised controlled trial of Sativex in cannabis withdrawal	NHMRC	\$232,637	1 year	Sep 2011 – Dec 2012
Integrative analyses of data from four Australasian cohort studies	NHMRC	\$244,472	2 years	Jun 2011 – Dec 2012
RCT of a financial counselling intervention and smoking cessation assistance to SES groups	NHMRC	\$1,951,193	4 years	Apr 2012 – Dec 2015
Australian Longitudinal Study of Heroin Dependence: A 11 year study among heroin users	NHMRC	\$362,450	2 years	Jan 2012 – Dec 2014
The impact of opioid substitution treatment for heroin dependence upon public health and public order in Australia	NHMRC	\$51,629	1 year	Aug 2012 – Dec 2013
Pharmaceutical opioid prescription for chronic pain in Australia: Trajectories of prescribing, risk of adverse events & harm	NHMRC	\$1,059,308	5 years	Jun 2012 – Dec 2016

RESEARCH GRANTS AND FUNDING

PROJECT FUNDING	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
Ongoing surveillance of the diversion of medications used in opioid substitution treatment	RB	\$1,048,447	3 years	Sep 2011 – Dec 2013
Young people, drinking, and the parental supply of alcohol	ROTARY HEALTH	\$68,059	2 years	Jan 2011 – Dec 2013
The Misha Project - Univ of Western Australia/Mission Australia Contract Research Shared Grant	UNIV OF WA	\$45,836	4 years	Dec 2011 – Dec 2014
Way2Home Program Analysis	UQ	\$30,000	2 years	Oct 2012 – Dec 2013
Systematic review of Hepatitis C virus prevalence and incidence in closed settings	WHO	\$9,914	1 year	Sep 2012 – Dec 2013
SUB TOTAL FOR PROJECTS		\$40,699,517		

See inside back cover for acronym definitions

SCHOLARSHIPS AND FELLOWSHIPS	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
PhD Scholarship	ARC	\$81,441	3 years	Feb 2010 – Dec 2012
Parental modeling and supply of alcohol: Does this improve or worsen drinking outcomes?	ARHRF	\$18,420	3 years	Apr 2011 – Dec 2013
APA	DEST	\$71,184	3 years	Jan 2012 – Dec 2014
PhD Scholarship	FARE	\$20,000	3 years	Apr 2012 – Dec 2014
PhD Scholarship	Lyndon Community	\$30,000	3 years	Apr 2010 – Dec 2012
PhD Scholarship	NDARC	\$546,000	3 years	Jan 2010 – Dec 2015
NET PhD Scholarship	NET	\$120,000	4 years	Feb 2012 – Dec 2015
Epidemiology, classification and treatment of comorbid	NHMRC/CDA	\$377,000	4 years	Jan 2010 – Dec 2013
Technology and innovation in the delivery of effective treatments for comorbid conditions	NHMRC/CDA	\$384,160	4 years	Feb 2011 – Dec 2014
Senior Research Fellowship for Maree Teesson	NHMRC	\$607,500	5 years	Apr 2008 – Dec 2012
Senior Research Fellowship for Louisa Degenhardt	NHMRC	\$607,500	5 years	Apr 2008 – Dec 2012
Senior Research Fellowship for Alison Ritter	NHMRC	\$580,910	5 years	Jan 2012 – Dec 2016
NHMRC PhD Scholarship	NHMRC	\$64,329	3 years	Jan 2012 – Dec 2014
ECR Maximising Treatment Participation Among Heroin Users Released from Prison	NHMRC	\$303,924	4 years	Jan 2012 – Dec 2015
Vice-Chancellor's Postdoctoral Fellowship	UNSW	\$303,600	3 years	Jan 2009 – Dec 2012
SUB TOTAL SCHOLARSHIPS AND FELLOWSHIPS		\$4,115,968		
TOTAL FOR PROJECTS, SCHOLARSHIPS AND FELLOWSHIPS		\$44,815,485		

See inside back cover for acronym definitions

OTHER INCOME	FUNDING SOURCE	TOTAL GRANT AWARD	DURATION	START & END DATE OF PROJECT
NDARC external consultancy research	NDARC	\$30,382	1 year	Jan 2012 – Dec 2012
Offence-related debt offenders	NDARC	\$4,111	1 year	Jan 2012 – Dec 2012
Mental health and wellbeing	NDARC	\$28,359	2 years	Jan 2011 – Dec 2012
Annual symposium	NDARC	\$32,997	1 year	Jan 2012 – Dec 2012
TOTAL OTHER INCOME		\$95,849		

* The Old Core funding runs to June 2012 (\$8,818,029 in total for 3 years) and New Core funding runs to June 2015 (total \$8,044,000 in total for 3 years), and the figures provided represent the allocation for 2012

NDARC SEMINAR SERIES

External presenters

1 March

How to get published

Dr Mabel Chew
Associate Editor, BMJ

22 March

Can we really prevent drug and alcohol problems?

A/Professor Patricia Conrod
Department of Psychiatry,
University of Montreal, Canada

19 April

Fit for life: qualitative, quantitative and physiological indicators of physical activity amongst heroin users

Professor Joanne Neale
Department of Social Work and
Public Health, Oxford Brookes
University, UK

24 May

New forms of population based prevention for depression

Professor Helen Christensen
Black Dog Institute, UNSW

28 June

How is the recovery agenda influencing addiction treatment?

Dr John Marsden
Institute of Psychiatry, Kings
College London, UK

26 July

What goes on at NCHSR: looking at intimate injectors and peer education

Professor Carla Treloar
National Centre in HIV Social
Research, UNSW

2 August

Career development and applying for ARC Discovery Projects

Paul Ashworth
Research Strategy Office, UNSW

23 August

Clinical forensic medicine - all you need to know!

Professor Margaret Stark
Clinical Forensic Medicine Unit, New
South Wales Police Force

27 September

Involuntary drug dependence treatment

Dr Glenys Dore
Northern Sydney Drug & Alcohol
Service

25 October

Physical and psychological disorder among juvenile detainees

Dr Elizabeth Moore
Justice Health & Forensic Mental
Health Network, NSW Justice Health

6 December

Meds for heads: trends in prescription drug use in Australia

Professor Iain McGregor
School of Psychology, University
of Sydney

In-House Presenters

16 February

Recent trends in drug use, treatment admissions, and initiation of substance use

Professor Shane Darke

23 February

Pharmaceutical opioid use: An overview of some NDARC work (past, current and future)

Professor Louisa Degenhardt

8 March

Policy research @ DPMP: three narratives

Professor Alison Ritter

15 March

Alcohol Action in Rural Communities: the final word

A/Professor Anthony Shakeshaft

29 March

The impact of compulsory drug testing and assessment of police detainees on treatment uptake and offending: Findings from an English case study

Tim McSweeney

12 April

Sentencing Australian drug traffickers and users: The role of quantity and legislative thresholds

Dr Caitlin Hughes

26 April

Cannabinoid replacement therapy for withdrawal management

Dr David Allsop

17 May

Drug policy ideologies in the Australian public

Dr Francis Matthew-Simmons

31 May

Developing the CAP intervention: A comprehensive model for alcohol and drug prevention

Dr Nicola Newton

Modifying the personality-targeted 'Prevention' program for use with Australian adolescents

Dr Emma Barrett

14 June

Prevalence and correlates of traumatic brain injury amongst heroin users

Professor Shane Darke

21 June

Alcohol use in pregnancy: Prevalence and predictors in the longitudinal study of Australian children

Dr Delyse Hutchinson

Young & not so drunk: Sipping, drinking & Australian adolescents

Monika Wadolowski

12 July

The Way of the Future

Gabrielle Campbell

Jo Cassar

Monika Wadolowski

19 July

Reading ability and its effect on driving performance

Joanne White

9 August

A brief cannabis intervention delivered by telephone

Dr Peter Gates

16 August

Delay to seek treatment for alcohol use disorders in the Australian population

Dr Catherine Chapman

30 August

Typologies of alcohol consumption on a Saturday night amongst young Australians

Dr Matthew Sunderland

13 September

Development of a self-administered opioid behaviour scale for use in clinical and research settings

Emma Black

A latent class analysis of stability and adherence indicators among opioid substitution therapy clients: Do stable clients receive more takeaway doses?

Dr Briony Larance

20 September

Activation therapy for depression: a pilot study

Dr Joanne Ross

Characteristics, circumstances and toxicology of sudden or unnatural deaths involving very high range alcohol concentrations

Professor Shane Darke

11 October

Problems, policy and politics: making sense of Australia's 'ice epidemic'

Kari Lancaster

The effect of two policy options - alcohol tax reform and minimum pricing of alcohol - on young Australians' Saturday nights

Dr Jenny Chalmers

18 October

Cost benefit analysis of a 12 week Indigenous alcohol residential treatment

Ansari Abudeen

Caring for individuals affected by Fetal Alcohol Spectrum Disorder: The positives, the challenges and suggestions for improvement

Dr Courtney Breen

1 November

Power analysis (statistics training)

A/Professor Tim Slade

8 November

Burden of drug and alcohol presentations on hospital-based services

Kerry Butler

15 November

Violent offending among illicit drug users: examining the role of substance use and predispositional risk factors

Michelle Tye

AUDIT-C and AUDIT-3 cut-off scores for Aboriginal Australians

Bianca Calabria

29 November

The development of the DEAL project

Mark Deady

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CONFERENCE PRESENTATIONS

Albertella, L., Norberg, M.N., Rooke, S.E., & Copeland, J.* A mobile phone app for cannabis use: Screening, feedback, planning, and self-monitoring. Presented at the National Cannabis Conference, Brisbane, 19-21 September.

Allsop, D.J.* & Copeland, J. Age at first cannabis use moderates neural markers for recovery in cannabis withdrawal. Poster presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Allsop, D.* & Copeland, J. Sativex in the management of cannabis withdrawal: An overview of a multisite inpatient double blind placebo controlled trial. Presented at the Cannabis withdrawal: measurement, impact and management symposium at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Allsop, D.J.*, Copeland, J., Norberg, M., Fu, S., Molnar, A., Lewis, J., & Budney, A. The Cannabis Withdrawal Scale development and clinical significance. Presented at the 2nd National Cannabis Conference, Brisbane, 19 September.

Allsop, D.*, Copeland, J., Norberg, M., Fu, S., Molnar, A., Lewis, J. & Budney, A. The clinical significance of cannabis withdrawal. Poster presented at College on Problems of Drug Dependence (CPDD) 74th Annual Meeting 2012, Palm Springs, CA, USA, 9-14 June.

Alperstein, D. Cannabis, Young People and Mental Health. Presentation to The MHS Conference, Cairns, 23 August.

Banbury, A., Zask, A., Carter, S., van Beurden, E., Passey, M. & Copeland, J.* Indigenous findings from the Null Hypothesis Study. Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Barrett, E.L.*, Newton, N.C., Teesson, M., Conrod, P., Slade, T., Champion, K., Kelly, E., & Rosenfeld, J. Personality risk factors for substance use: Prevalence in Australian adolescents and the personality-targeted 'Prevention' intervention. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Barrett, E.L.*, Mills, K., Indig, D., Sunjic, S., Sannibale, C., & Najavits, L. Treating co-morbid substance use and trauma among prisoners. Presented at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Barrett, E.L.*, Newton, N.C., Teesson, M., Slade, T., & Conrod, P. Modifying the personality-targeted 'Prevention' program for use with Australian adolescents. Annual Research Society on Alcoholism Scientific Meeting, San Francisco, 23-27 June.

Brann, S.*, Hutchinson D., Wilson, J., Honan, I., Fiedler, H., Bucello, C., Mattick, R., Allsop, S., Najman, J., Elliott, E., Burns, L., Jacobs, S., Olsson, C., & Bartu, A. The Triple B Study: The relationship of maternal stress in pregnancy with drug and alcohol use, psychosocial functioning, maternal anxiety and lifetime mental health. Presented at the Australian Professional Society on Alcohol and other Drugs (APSAD) Scientific Conference, Melbourne, 18-21 November.

Breen, C.*, Burns, L., Conroy, E., Powers, J., Loxton, D., Hutchinson, D., Miers, S., & Dunlop, A. Caring for individuals affected by Fetal Alcohol Spectrum Disorders: Positives, challenges and suggestions for improvement. Presented at the Australian Professional Society on Alcohol and other Drugs (APSAD) Scientific Conference, Melbourne, 18-21 November.

Bucello, C., Fiedler, H., Hutchinson, D., Wilson, Honan, I., Brann, S., Mattick, R., Allsop, S., Sanson, A., Elliot, E., Burns, L., Jacobs, s., Olsson, C., Shand., & McBride, N. The Triple B Study: Pilot data on the association between drug and alcohol use in pregnancy and child development at one and three years of age. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Bucello, C., Hutchinson, D., Wilson, J., Mattick, R., Allsop, S., Sanson, A., Elliott, E., Burns, L., Jacobs, S., Olsson, C., Shand, F., & McBride, N. The Triple B Study: Pilot data on the association of drug and alcohol use in pregnancy with child development at three years of age. Poster presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Carragher, N.*, Shakeshaft, A., & Doran, C.M. Here we go again: Cider's turn to highlight anomalies in Australia's alcohol taxation system. Poster presented at the University of New South Wales School of Public Health and Community Medicine Annual Symposium, Sydney, 21 September.

Carragher, N.*, Shakeshaft, A., & Doran, C.M. Here we go again: Cider's turn to highlight anomalies in Australia's alcohol taxation system. Brief presentation at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Carragher, N.* & Chalmers, J. The alcohol policy landscape: A review of pricing and taxation policy options to redress excessive consumption in the community. Poster presented at the Annual Convention of the Research Society on Alcoholism, San Francisco, USA, 23-27 June.

Chalmers, J., Sunderland, M., McKetin, R., & Bright, D.* How do increases in the retail prices of cannabis and ecstasy affect consumption patterns of alcohol and illicit drugs? Presented at the 25th Annual Australia AND New Zealand Society of Criminology (ANZSOC), Auckland, NZ, 27-29 November.

Chalmers, J.*, Sunderland, M., McKetin, R., & Bright, D. The effect of two alcohol pricing reform options (minimum pricing and volumetric tax) on young Australians' drinking behaviour: an online experimental study. Presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Chalmers, J.*, Sunderland, M., McKetin, R., & Bright, D. Pricing and taxation policy reforms to redress excessive alcohol consumption and related harms. Presented at the Drug Policy Modelling Program (DPMP) Research Symposium, Sydney, 16 March.

Champion K.*, Newton N.C., Teesson M., Barrett E.L., & Slade T. Preliminary results from a cross-validation trial of the internet-based Climate Schools: Alcohol and Cannabis course. Presented at the Australian Professional Society on Alcohol and other Drugs (APSAD) Scientific Conference, Melbourne, 18-21 November.

Champion, K.*, Newton, N.C., Barrett, E.L., & Teesson, M. A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the internet. Poster presented at the 1st biennial Australian Implementation Conference, Melbourne, 25-26 October.

Champion, K.*, Newton, N.C., Barrett, E.L., & Teesson, M. A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the internet. Poster presented at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Copeland, J.*, Allsop, D.J., Lintzeris, N., Dunlop, A., Norberg, M., Montebello, M., Sadler, C., Rivas, G., Holland, R., Muhleisen, P., & McGregor, I. Cannabinoid replacement therapy for cannabis withdrawal. Presented at the 2nd National Cannabis Conference, Brisbane, 19 September.

Copeland, J.*. Ground, dried and neglected: illicit drug use and oral health. Invited plenary address to the 10th Annual Dental Hygienists' Association Australia Conference, Brisbane, 21 October.

Copeland, J.* Cannabis: harms and clinical intervention issues. Guild Pharmacy Academy NSW Convention, Manly, 25 February.

CONFERENCE PRESENTATIONS

Copeland, J., Norberg, M., & Gates, P.* Primary health care physician's attitudes and experiences of interventions for cannabis use disorder. Poster presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Copeland, J.*, Norberg, M., & Gates, P. Primary health care physician's attitudes and experiences of interventions for cannabis use disorder. Poster presented at College on Problems of Drug Dependence (CPDD) 74th Annual Meeting 2012, Palm Springs, CA, USA, 9-14 June.

Darke, S.* Pathways to heroin dependence: time to reappraise self-medication. Presented at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Deady, M.*, Kay-Lambkin, F., & Teesson, M. Development of the DEAL Project: A brief, online intervention for depression and alcohol misuse comorbidity in young people. Presented at the Australasian Society for Psychiatric Research (ASPR) 2012 Conference, Fremantle, 5-7 December.

Dillon, P. & Copeland, J.* Synthetic cannabinoids: The Australian experience. Presented at the 2nd National Cannabis Conference, Brisbane, 21 October.

Dolan, K.* & Rodas A. Supply, demand and harm reduction strategies in Australian prisons. Presented at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Dolan, K.*, Nassirimanesh, B., Mohsenifar, S., Mokri, A. & Salimi, S. Six month follow up of women in methadone treatment in Tehran, Iran. Presented at the Global Health@UNSW is global health in crisis? Conference, Sydney, 13 August.

Dolan, K.*, Burns, L., & Larney, S. Mortality among ex-prisoners - a nine year study. Presented at the Reintegration Puzzle Conference 2012: Physical, Mental and Social Health: Implications for Reintegration, Canberra, 25-27 July.

Ewer, P.*, Mills, K., & Baillie, A. Exposure based therapy for Post Traumatic Stress Disorder among individuals with a history of sexual assault. Presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Farrell, M.* Drug and alcohol problems in prison the need for effective responses to reduce risk and mortality. Keynote presentation to International Society of Addiction Medicine, Geneva, Switzerland, 14-18 October.

Farrell, M.* Looking at the Horizon: Facing the challenges and Opportunities for Future of Drug and Alcohol Services. Keynote presentation to Cutting Edge Conference, Wellington, NZ, 6-7 September.

Farrell, M.* New Technologies and the Addictions. Keynote presentation to Cutting Edge Conference, Wellington, NZ, 6-7 September.

Farrell, M.* Facing the Challenges Ahead. Keynote presentation to National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Farrell, M.* Treatment Options: Agonist Replacement and Antagonist Relapse Prevention - Not Only for Opioid Dependence? Presented at Community Program for Opioid Pharmacotherapy Conference, Perth, 23 June.

Farrell, M.* New and Emerging Psychoactive Substances: Global Updates. Presented at NIDA International Forum, Palm Springs, USA, 8 June.

Farrell, M.* Future Trends in Drug and Alcohol. Presented at Drug and Alcohol Clinical Services Conference, Newcastle, 30 May.

Farrell, M.* Reintegrating prisoners into society. Presented at Everyday D&A Conference, Melbourne, 19-20 May.

Farrell, M.* Improving access to opioid treatment. Presented at Walk on the Wild Side Conference, Brisbane, 18 May.

Gates, P., Copeland, J. & Norberg, M. Randomised control trial of a novel cannabis intervention delivered by telephone. Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Gates, P.*, Copeland, J., & Norberg, M. Randomised controlled trial of a brief cannabis intervention. Presented at the National Cannabis Prevention and Information Centre (NCPI) Conference, Brisbane, 19-21 September.

Gates, P.*, Howard, J., Norberg, M., & Phattramorn, S. Responding to cannabis use concerns: General Practitioners and pharmacists. Poster presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Gates, P.*, Copeland, J., Norberg, M. Caller satisfaction with the Cannabis Information and Helpline. Poster presented at the National Cannabis Prevention and Information Centre (NCPI) Conference, Brisbane, 9-21 September.

Gates, P., Norberg, M., Allsop, D., & Copeland, J.* Client attitudes toward, and satisfaction with, their general medical practitioner's approach to cannabis use interventions. Poster presented at College on Problems of Drug Dependence (CPDD) 74th Annual Meeting 2012, Palm Springs, CA, USA, 9-14 June.

Grebely, J.*, Haber P., Day C. & Dolan, K. Impact of treatment of recently-acquired Hepatitis C infection on injecting drug use behaviors. Presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Grebely, J.*, Haber P., Day C., & Dolan, K.

Impact of treatment on injecting drug use behaviours during recent HCV infection.

Presented at the 8th Australasia Viral Hepatitis Conference, Auckland, New Zealand, 10-12 September.

Hegarty, B.D.*, Rushby, J.A., Johnstone, S.J., Kelly, P.J., & Smith, J.L. An attempt to influence alcohol consumption through training on a Go/NoGo task. Poster presented at the 22nd Australasian Society for Psychophysiology Conference, Sydney, Australia, 28-30 November.

Hegarty, B.D.*, Rushby, J.A., Johnstone, S.J., Kelly, P.J., & Smith, J.L. Does training on inhibitory tasks influence alcohol consumption and attitudes? Poster presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Hegarty, B.D.*, Rushby, J.A., Johnstone, S.J., Kelly, P.J., & Smith, J.L. Does training on inhibitory tasks influence alcohol consumption and attitudes? Poster presented at the National Drug and Alcohol Research Centre Annual Symposium, Sydney, 28 August.

Honan, I.*, Hutchinson, D., Wilson, J., Brann, S., Fiedler, H., Bucello, C., Mattick, R., Allsop, S., Najman, J., Elliott, E., Burns, L., Jacobs, S., Olsson, C., & Bartu A. The Triple B Study: The relationship between pregnancy planning, parental substance use and Maternal Foetal Attachment. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Honan, I.*, Hutchinson, D., Wilson, J., Mattick, R., Allsop, S., Najman, J., Elliott, E., Burns, L., Jacobs, S., Olsson, C., & Bartu, A. The Triple B Study: From conception to birth: The relationship between pregnancy planning and caffeine, alcohol and illicit drug use. Poster presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Howard, J.* Ali, H., & Robbins, L. Alcohol, cannabis, ATS and IDU among young Pacific Islanders. Poster presented at Second Asia-Pacific Society for Alcohol and Addiction Research, Bangkok, Thailand, 6-8 February.

Howard, J.* Drug and alcohol abuse in adolescent males. Presented at 2012 Annual Men's Health conference, Laverty, Sydney, 3 May.

Howard, J.* Cannabis and young people. Presented at NSW Department of Juvenile Justice Field Worker Conference, Sydney, 4 June.

Howard, J.* Michalopolous, A., & Soames, G. "Clear Your Vision": resources to assist young people with complex needs to reduce or quit their use of cannabis. Presented at the 13th International Mental Health Conference, Surfers Paradise, 6-8 August.

CONFERENCE PRESENTATIONS

Howard, J., Michalopolous, A.* & Soames, G.
"Clear Your Vision": a print and online resource to reduce or quit cannabis use. Presented at The MHS 2012 Conference, Cairns, 21-24 August.

Howard, J., Alperstein, D.* Cox, S., Zorz, H., & Smith, O. "Yindymarra" - young men and yarndi - the diffusion of information in cannabis, its use and potential risks among young Indigenous Australians. Presented at The MHS 2012 Conference, Cairns, 21-24 August.

Howard, J.* Substance use among same sex-attracted young people. Presented at the ATCA Symposium - stigma and other barriers to treatment, Launceston, 27-30 August.

Howard, J.* Michalopolous, A., & Soames, G.
"Clear Your Vision": a print and online resource to reduce or quit cannabis use. Poster presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Hughes, C.* 'Trafficking'D or 'personal use': Do regular drug users understand Australian drug trafficking laws? Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Hughes, C.* Drug law reform: Insights from Portugal. Presented at the 5th annual ACT Alcohol, Tobacco and Other Drug Sector Conference, National Portrait Gallery, Canberra, 19 June.

Hughes, C.* How can we/should we study purported changes in drug market supply? Presented at the 6th Annual Conference of the International Society for the Study of Drug Policy (ISSDP) - Canterbury, UK, 30-31 May.

Hutchinson, D., Wilson, J., Fiedler, H.* Mattick, R., Allsop, S., Najman, J., Elliott, E., Burns, L., Jacobs, S., Olsson, C., & Bartu, A. The Triple B Study: Profile of a new Australian birth cohort. Poster presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Kaye, S.*, Darke, S., & Torok, M. Diversion and misuse of pharmaceutical stimulants within illicit drug markets. Presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Kelly, E.*, Barrett, E.L., Newton, N., Champion, K.E., Rosenfeld, J., Teesson, M., Slade, T., & Conrod, P. Adolescent bullying and personality type: Risk factors for substance use. Poster presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Krueger, R.F.*, Carragher, N., Eaton, N.R., Markon, K.E., Keyes, K.M., Blanco, C., & Hasin, D.S. The externalizing spectrum in NESARC. Paper presented at the 35th Annual of the Research Society on Alcoholism Scientific Convention, San Francisco, USA, 23-27 June.

Lancaster, K.* & Ritter, A. A conservative shift in drug policy (?): Evidence and implications. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Lancaster, K.*, Ritter, A. & Colebatch, H. Problems, policy and politics: making sense of Australia's 'ice epidemic'. Presented at the Drug Policy Modelling Program (DPMP) Symposium, Sydney, 16 March.

Larance, B.*, Mattick, R.P., Carragher, N., Lintzeris, N., Ali, R., & Degenhardt, L. A latent class analysis of stability and adherence indicators among Australian opioid substitution therapy clients: Do stable clients receive more takeaways? Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Matalon, E. ACCU - the adolescent cannabis check-up. Presentation to ATDC Conference, Hobart, May 16; 13th International Mental Health Conference, Gold Coast, 8 August.

Matalon, E. Guidelines on the Management of Cannabis Use Disorder. Presentation to Asia Pacific Conference on Mental Health, Perth, 12 June.

Matalon, E. Quik Fix - a brief motivational interviewing intervention for cannabis and mental health. Presentation to 13th International Mental Health Conference, Gold Coast, 8 August; TheMHS Conference, Cairns, 23 August; ATCA Conference, Launceston, 29 August; APS Conference, Perth, 29 September; 7th World Conference on Mental Health, Perth, 17 October; AACBT Conference, Gold Coast, 19 October; APSAD Conference, Melbourne, 18 November.

Mills, K.* & Barrett, E.L.* UNSW Experimental Matthew-Simmons, F.* Exploring the existence of drug policy ideologies. Presented at the 6th Annual Conference of the International Society for the Study of Drug Policy (ISSDP), Canterbury, UK, 30-31 May.

McCredie, L.*, Luciani, F., Teutsch S., Dolan, K. & Lloyd, A. Bloody prisons: Incidence of risk behaviours and HCV transmission in an Australian Prisoner cohort. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

McGregor, I.S.*, Wong, A., Arnold, J.C., Li, K.M. & Swift, W. Cannabis potency in Australia: an analysis of police seized samples. Poster presented at the 22nd Annual Symposium of the International Cannabinoid Research Society, Freiburg, Germany, 22-27 July.

Nelson, P.*, Swift, W., Degenhardt, L., & Kenny, D. How drug use affects the extent and nature of recidivism by serious young offenders. Presented at the National Drug and Alcohol Research Centre (NDARC) Annual Research Symposium, Sydney, 28 August.

Newton, N.C.*, Teesson, M., Conrod, P., Slade, T., Barrett, E.L., & Champion, K. An integrated approach to preventing substance use in adolescents: Developing the CAP intervention and baseline characteristics of the sample. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Newton, N.C.* An integrated approach to prevention in schools. Presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Newton, N.C.* New research on personality-targeted interventions for adolescent alcohol and substance misuse: New populations, broader outcomes and comparisons with universal approaches. Session Chair at the 35th Research Society on Alcoholism Conference, San Francisco, USA, 27 June.

Newton, N.C.*, Teesson, M., Conrod, P., Slade, T., & Barrett, E. Developing the CAP intervention: A comprehensive model to alcohol and other drug prevention. Presented at the 35th Research Society on Alcoholism Conference, San Francisco, USA, 27 June.

Newton, N.C.*, Teesson, M., Conrod, P., Slade, T., Barrett, E., & Champion, K. Developing the CAP intervention: A comprehensive model to alcohol and other drug prevention. Presented at the National Drug and Alcohol Research Centre in house seminar, Sydney, 31 May.

Nielsen, S.*, Larance, B., Black, E., Lintzeris, N., Degenhardt, L., Ali, R., Cohen, M., Dunlop, A., Bruno, R., Rivas, G., & Brown, A. Pain prevalence, severity and interference in an Australian opioid agonist treatment sample. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Norberg, M.*, Gates, P., Dillon, P. & Copeland, J. Primary health care physicians' attitudes and experiences of interventions for cannabis use disorder. Poster presented at the NIDA International Meeting, Palm Springs, USA, 8-11 June.

Olsson, C.*, Horwood, L. J., Silins, E., Hutchinson, D., Patton, G., Toumbourou, J., Ferguson, D., Mattick, R., Degenhardt, L., Hayatbakhsh, M., Swift, W., Allsop, S., Coffey, C., Copeland, J., Hall, W., Najman, J., O'Connor, M., Rodgers, B., Skinner, R., Slade, T., Tait, R. Genetic prediction of early onset cannabis use and young adult outcomes: A consortium based approach to well powered studies of genetic risk. Presented at the National Cannabis Conference, Brisbane, 19-21 September.

Ritter, A.* Keynote Address: Unravelling drug policy: many threads. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

CONFERENCE PRESENTATIONS

Ritter, A.* Population planning for alcohol and other drug services: the National Drug and Alcohol Clinical Care and Prevention (DA-CCP) project. Presented at the National Drug and Alcohol Research Centre (NDARC) Symposium, Sydney, 28 August.

Ritter, A.* Prevalence of alcohol and drug use disorders amongst homosexual populations in Australia: comparison with the USA. Poster presented at College on Problems of Drug Dependence (CPDD) 74th Annual Meeting 2012, Palm Springs, CA, USA, 9-14 June.

Ritter, A.* A national planning model for drug and alcohol treatment in Australia: the brave new world. Presented at College on Problems of Drug Dependence (CPDD) 74th Annual Meeting 2012, Palm Springs, CA, USA, 9-14 June.

Ritter, A.* Discussant: Drugs and Health Policy reforms. Presented at the 6th International Society for the Study of Drug Policy (ISSDP) Conference, Canterbury, United Kingdom. 30-31 May.

Ritter, A.* Keynote address: Three narratives to describe policy work: implications for the study of drug policy. Presented at the 6th International Society for the Study of Drug Policy (ISSDP) Conference, Canterbury, United Kingdom. 30-31 May.

Ritter, A.* Keynote address: Privileging researchers: knowledge brokerage, policy processes and implications for other voices in the illicit drug policy landscape. 12th Social research Conference on HIV, Hepatitis C and related diseases 'Silence and Articulation'. Sydney, 12 April.

Ritter, A.* Appropriate services for gay, lesbian, bisexual and transgender people: More than just gender sensitive? Presented at the Drug Policy Modelling Program (DPMP) Symposium, Sydney, 16 March.

Rooke, S.E., Copeland, J., & Hine, D.W. Preventing adolescent cannabis use through web-based warning imagery. Presented at the National Cannabis Conference, Brisbane, 19-21 September.

Rooke, S., Copeland, J.* & Hine, D. Preventing adolescent cannabis use through web-based graphic warning images. Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Rooke, S.E., Copeland, J., & Hine, D.W. Preventing adolescent cannabis use through web-based warning imagery. Poster presented at the National Drug and Alcohol Research Centre Annual Symposium, Sydney, 28 August.

Rooke, S.E., Copeland, J., Norberg, M.N., Hine, D.W., & McCambridge, J. Randomised controlled trial of a web-based intervention for cannabis use. Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Rooke, S., Copeland, J.*, Norberg, M. & Hine, D. Randomised controlled trial of a web-based intervention for cannabis use. Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Rooke, S.E.*, Swift, W., Copeland, J., & Norberg, M.N. Investigation of the long-term physical health effects of regular cannabis use. Poster presented at the National Cannabis Conference, Brisbane, 19-21 September.

Rosenfeld, J.*, Newton, N., Teesson, M., Conrod, P., Slade, T., Champion, K.E., Kelly, E., & Barrett, E.L. Preventing adolescent substance use using the targeted 'Prevention' intervention: What do Australian students think? Poster presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Roxburgh, A.* Measure of problematic cannabis use in Australia. Presented at a 2 day meeting at the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) on drug use population surveys, Lisbon, Portugal, 26-27 June .

Roxburgh, A.* Trends in fentanyl prescriptions and fentanyl-related mortality in Australia. Presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne, 18-21 November.

Salimi, S., Nassirimanesh, B., Mohsenifar, S., Allsop, D.J., & Mokri, A., & Dolan, K.* A Women's Drug Clinic in Iran: Significant improvements in women's lives. Presented at the Global Health @ UNSW Conference: Is Global Health in Crisis?, Sydney, 13 August.

Shakeshaft, A.* Clifford, A., & Deans, C. Training and tailored outreach support to improve alcohol screening and brief intervention in Aboriginal community controlled health services. Presented at the Rural Health West Aboriginal Health Conference, Perth, 7 July.

Shakeshaft, A., Calabria, B., Clifford, A., Allan, J., & Bliss, D. Adapting a Family-Based approach to reduce alcohol-related harms among Indigenous Australians. Presented at the Rural Health West Aboriginal Health Conference, Perth, 7 July.

Shanahan, M. Cost benefit analysis of cannabis legalisation: Lessons learned and future directions. Presented at the 6th Annual Conference of the International Society for the Study of Drug Policy (ISSDP), Canterbury, UK, 30-31 May.

Shanahan, M. Exploring some complexities in reforming cannabis laws. Presented at the Drug Policy Modelling Program (DPMP) Research Symposium, Sydney, 16 March.

Silins, E.*, Hutchinson, D., Swift, W., Slade, T., Toson, B., & Rodgers, B. Correlates of cannabis use in young adulthood. Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Silins, E., * Hutchinson, D., Swift, W., Slade, T., Toson, B., & Rodgers, B. Risk and protective factors associated with variability and stability of cannabis use in young adulthood. Presented at the National Cannabis Conference, Brisbane, 19-21 September.

Silins, E., * Patton, G., Horwood, L.J., Fergusson, D., Letcher, P., Coffey, C., Toumbourou, J., Hutchinson, D., Spry, E., Degenhardt, L., Swift, W., Hayatbakhsh, M., Mattick, R., Olsson, C., Allsop, S., Copeland, J., Hall, W., Skinner, R., Slade, T., & Tait, R. Early onset cannabis use and young adult outcomes: A prognostic study across three Australasian cohorts. Presented at the National Cannabis Conference, Brisbane, 19-21 September.

Silins, E., * Hutchinson, D., Swift, W., Slade, T., Rodgers, B., & Toson, B. Factors associated with variability and stability of cannabis use in young adulthood. NDARC Annual Symposium, Sydney, 28 August.

Simpson, M., Howard, J.* & Copeland, J. Cannabis and criminal offending in young people. Presented at the National Drug and Alcohol Research Centre (NDARC) Annual Symposium, Sydney, 28 August.

Smith, J.L.* & Mattick, R.P. Alcohol effects on young adults' inhibitory function in the stop-signal task. Presented at the 22nd Australasian Society for Psychophysiology Conference, Sydney, 28-30 November.

Smith, J.L.* & Randall, W.M. Motor and non-motor conflict and inhibition in a cued Go/NoGo task Poster presented at the 22nd Australasian Society for Psychophysiology Conference, Sydney, Australia, 28-30 November.

Smith, J.L.* & Mattick, R.P. Alcohol and cannabis exposure effects on developing brains: A brain sciences study of young adults' cognitive function. Poster presented at the Australian Professional Society on Alcohol and other Drugs Scientific Conference (APSAD), Melbourne. 18-21 November.

Smith, J.L.* & Randall, W.M. Motor and non-motor conflict and inhibition in a cued Go/NoGo task Poster presented at the 52nd Annual Meeting of the Society for Psychophysiological Research, New Orleans, Louisiana, USA, 19-23 Sept.

CONFERENCE PRESENTATIONS

Smith, J.L.* & Mattick, R.P. *Disinhibition and poor error monitoring associated with alcohol and cannabis exposure in young adult.* Poster presented at the 1st Joint Meeting of EEG and Clinical Neuroscience Society/International Society for Brain Electromagnetic Topography/International Society for Neuroimaging in Psychiatry/Evoked Potentials International Conference, Bristol, Tennessee, USA, 12-16 Sept.

Smith, J.L.* *Understanding the functional significance of the N2 and P3 components in inhibitory tasks.* Presented at the 1st Joint Meeting of EEG and Clinical Neuroscience Society/International Society for Brain Electromagnetic Topography/International Society for Neuroimaging in Psychiatry/Evoked Potentials International Conference, Bristol, Tennessee, USA, Sept 12-16.

Smith, J.L.* & Mattick, R.P. *Disinhibition and poor error monitoring associated with alcohol and cannabis exposure in young adults.* Poster presented at the National Drug and Alcohol Research Centre Annual Symposium, Sydney, 28 August.

Jennifer Stafford* and Lucinda Burns. Health related issues (injecting, BBV and mental health) among people who inject drugs in Australia: Findings from the 2012 Illicit Drug Reporting System (IDRS). Poster presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Striley, C.W., Copeland, J.*, Tsay, W., Leung, K.S. & Cottler, L.B. *SAVAS and suicidal ideation in young adult club drug users from Asia, Australia and the US.* Poster presented at the Joint International Conference on Alcohol, Drug and Addiction Research, Bangkok, Thailand, 6 February.

Sunderland, M.*, Chalmers, J., McKetin, R., & Bright, D. *Typologies of alcohol consumption on a Saturday night among young Australian adults aged 18-30.* Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Sunderland, M.*, Chalmers, J., McKetin, R., & Bright, D. *Typologies of alcohol consumption on a Saturday night.* School of Public Health and Community Medicine Annual Symposium, UNSW, Sydney, 21 September.

Swift, W.* *Cannabis potency: An overview and first results of analysis of NSW cannabis cautioning seizures.* Invited keynote address to the Second National Cannabis Conference, Brisbane, 19-21 September.

Swift, W.*, McGregor, I.S., Arnold, J.C., Li, K.M. & Wong, A. *Analysis of cannabis seizures in NSW, Australia: Cannabinoid profile and implications.* Poster presented at the 74th Annual Meeting of the College on Problems of Drug Dependence (CPDD), La Quinta, USA, 9-14 June.

Taplin, S.*, Grove, R. & Mattick, R.P. *Twelve Month Follow-Up of Mothers from the 'Child Protection and Mothers in Substance Abuse Treatment Study'.* Presented at the Association of Child Welfare Agencies (ACWA) Conference, Sydney, 20-22 August.

Vuong, T.* *Economic evaluation comparing centre-based compulsory treatment with community-based Methadone treatment in Hai Phong City, Vietnam.* Presented at the School of Public Health and Community Medicine Annual Symposium, UNSW, Sydney, 21 September.

Vuong, T.* *Drug Policy in Vietnam: A Decade of Change.* Presented at the 6th Annual Conference of the International Society for the Study of Drug Policy (ISSDP), Canterbury, UK, 30-31 May.

White, J.*, Teesson, M., Darke, S., Mills, K., Ross, J., Slade, T., Burns, L., & Lynskey, M. *The long term outcomes for females with heroin dependence: Preliminary findings from the 11 year follow up of ATOS.* Presented at the Australasian Professional Society on Alcohol and other Drugs Conference (APSAD), Melbourne, 19-21 November.

Zask, A., van Beurden, E., Brooks, L., Copeland, J.*, Passey, M. & Banbury, A. *The Mull Hypothesis: Association between cannabis and tobacco smoking in two Australian population survey datasets.* Presented at the 2nd National Cannabis Conference, Brisbane, 19- 21 September.

WORKSHOPS AND INVITED LECTURES

Allsop, D. J.*, Copeland, J., Lintzeris, N., McGregor, I., Dunlop, A., Norberg, M. *Cannabinoid replacement therapy for withdrawal management.* Presented at the National Drug and Alcohol Research Centre's in house seminar series, Sydney, Australia, 26 April 2012.

Barrett, E.L.* *From victim to victimiser: Violence among substance users with posttraumatic stress disorder (PTSD).* Guest Lecture for the University of NSW, Masters Psychology (Forensic) program, Sydney, April.

Barrett, E.L.* *Substance use, post-traumatic stress disorder and violent offending.* NSW Justice Health Seminar Series, Sydney, April.

Burns, L.* & Whittaker, E.* *Talking about alcohol, tobacco and cannabis with pregnant Aboriginal women and their families: An educational flipchart for health and welfare professionals.* One day Flipchart Consultation Workshop, Orange, 3 July.

Copeland, J. *Interventions for cannabis use disorder: the Australian perspective on new technologies, pharmacotherapies and challenges.* Centre for Forensic Science, University of Technology, Sydney, 10 December

Copeland, J. *MakingtheLink: Indigenous drug use and mental health help seeking.* The Australian Rotary Health Knowledge Dissemination Oration Award. The Australian Society for Psychiatric Research 2012 Conference, Fremantle, 7 December.

Copeland, J. *Cannabis & Cannabinoids: trends and interventions.* Addiction and Mental Health Grand Rounds, Calvary Mater Hospital Newcastle, 8 November.

Copeland, J. *Up in smoke: cannabis and driving.* Invited address to the 3rd NSW Addiction Medicine Training Day, Westmead Hospital, 7 September.

Copeland, J. *Cannabis & Cannabinoids: trends and interventions.* South Eastern Sydney Local Health District Addiction Psychiatry meeting, Langton Centre, 8 May.

Copeland, J. *Australia's policy response to cannabis.* Briefing to Vietnamese government delegation. Sydney, 21 February.

Darke, S.* *Heroin overdose: facts and myths.* Presented to Sydney South West Drug and Alcohol Services, Sydney, 21 August.

Darke, S.* *Pathways to heroin dependence: time to reappraise self-medication.* Presented to the Institute of Psychiatry, London, UK, 14 May.

Darke, S.* *The ageing heroin user: clinical and policy implications.* Presented to the Medically Supervised Injecting Centre, Sydney, 4 May.

Dolan, K.* and Wilson, D. *Evaluating the cost-effectiveness of needle and syringe programs in Australia,* Presented at the 6th HIV/AIDS Asia Regional Program (HAARP) Consultation and Coordination Forum, Cambodia, 2-4 April.

Ewer, P. *Psychological interventions for comorbid Post Traumatic Stress Disorder and Substance Use Disorder.* Invited oral presentation at the NSW Nurses Association Forum, Sydney, 27 July.

Farrell, M.* *Clinical Toxicology for Forensic Practitioners Workshop.* Presented at Australian and New Zealand Forensic Science Society Conference, Hobart, 23 September.

Farrell, M.* Chair, Clinical Advances in the Management of Opiate Dependence Meeting, Sydney, June.

Howard, J.* *"Cannabis and Young People"* Presented at the 2nd National Cannabis Conference, Brisbane, 19-21 September.

Howard, J.* *Brief interventions for cannabis use and Harm Reduction.* Presented at the NSW Pharmacy Guild, Newcastle, 31 October.

Howard, J.* *Drugs and young people in Asia: community-treatment capacity building and youth friendly harm reduction - any lessons for Australia?* Keynote presentation at the Mid North Coast Youth Services Forum, Port Macquarie, 29 November.

Howard, J.* *Drugs and young people: complexity, equipoise, psychostats, resilience - trying to keep it simpler.* Presented at Tackling Complex Needs: an inter-disciplinary exploration. Sydney Law School, 11 December.

Howard, J.* *Young People and Cannabis.* Presentation to: Rosemount Services for Youth, Marrickville, 2 March; Exodus Foundation, Redfern, 12 March; Mission Australia, Sawtell, 6 March; Youth Services, Sutherland Shire Council, Sutherland, 26 July; Drug and Alcohol Service, Mid North Coast Local Health District, Port Macquarie, 28 November; South Australian Network of Drug and Alcohol Services, Adelaide, 1 February; Child and Student Support, SA Department for Education and Child Development, Adelaide, 26 & 27 March; Child and Student Support, SA Department for Education and Child Development, Pt Perie, 28 March; Child and Student Support, SA Department for Education and Child Development, Loxton, 29 March; Whitelion, Adelaide, 12 July.

Howard, J.* *Community Information and Development.* Workshop presented to: Griffith City Council, Griffith, 5 November; Drug and Alcohol Service, Temora District Hospital, Temora, 6 November; Headspace Wagga, Wagga, 7 & 8 November; Youth Off The Streets (YOTS), Macquarie Fields, 7 September; Queensland Police - Charleville District, Charleville, 23 July; Queensland Police, Cunamulla, 24 July; Alcohol, Tobacco and Other Drugs Service, Cherbourg Community Health, Queensland Health, Cherbourg, 5 August.

Hughes, C.* & Ritter, A.* *Evaluation of the ACT alcohol and drug diversion system.* Presented at the ACT Alcohol, Tobacco and other Drug Strategy Evaluation Reference Group, Canberra, 18 September.

Hughes, C.* *Discussant: Law enforcement and the regulation of drug-related harm.* Presented at the 6th International Society for the Study of Drug Policy Conference (ISSDP), Canterbury, UK, 30-31 May.

Hughes, C.* & Shanahan, M.* *Evaluation of the ACT Alcohol and other Drug Diversion System.* Presented at the ACT Diversion Programs Evaluation Reference Group, Canberra, ACT, 7 May.

Hughes, C.* *What can we learn from the Portuguese decriminalisation of illicit drugs?* Presented at the UNSW Law Society Q and A: Is Legalisation the Answer? UNSW, Sydney, 26 April.

Hughes, C.* *Diversion of drug and drug-related offenders in Australia.* Presentation to the Chinese delegation from the Supreme People's Court - Judicial Responses to Drug Related Crime Study Visit to Australia, NDARC, Sydney, 24 April.

Hughes, C.* & Ritter, A.* *Australian drug trafficking thresholds: The need for a rational system for devising threshold quantities,* Presented at the NSW Crime Commission, Sydney, 4 April.

Hughes, C.* *Research priority areas, NDLERF Workshop 2012,* Presented at the Australian Institute of Criminology, Canberra, 30 March.

Hughes, C.* *The Portuguese decriminalisation of illicit drug use: What the AOD field should know.* Drug Policy Modelling Program (DPMP) Research Symposium, Sydney, 16 March.

Kaye, S.*, *Attention Deficit Hyperactivity Disorder and Substance Use Disorders.* Invited presentation to The Langton Centre, Sydney, 16 October.

Matalon, E. *ACCU - The Adolescent Cannabis Check-Up.* Presentation to: NCPIC, UNSW, Sydney, 8 February; ATODS Cairns, 16 March; Lower North Shore & Ryde Child & Adolescent Mental Health, 27 March; University of Canberra - Health & Counselling, 28 March; ATODS Cairns, 20 June; Alcohol Tobacco & Other Drug Council of Tasmania Devonport, 20 July; Campbelltown School Education Area Office, 7 November.

Matalon, E. *Cannabis - Everything You Need To Know.* Presentation to: Drug & Alcohol Office Mount Lawley, 15 & 16 February; Justice Health & Forensic Mental Health Long Bay, 21 May; Mental Health Council of Tasmania, Hobart, 5 June; Youth and Family Focus Ulverstone, 23 July; Concord Hospital Concord, 22 November.

Matalon, E. *Clinical Guidelines for the Treatment of Cannabis.* Presentation to: NCPIC, UNSW, Sydney, 8 February, 21 March, 29 May; Kimberley Mental Health & Drug Service Kununurra, 1 May; Kimberley Mental Health & Drug Service Broome, 3 May; Justice Health & Forensic Mental Health Long Bay, 21 May; ATODS Cairns, June 19; ATODS Townsville 27 & 28 June.

WORKSHOPS AND INVITED LECTURES

Matalon, E. *Clinical Overview Indigenous.*

Presentation to: Lockhart River Council Lockhart River, 21 February; Lockhart River Community Development Program, 22 February; Lockhart River Clinic Lockhart River, 23 February; ATODS Kowanyama, 14 March; ATODS Clinic Nepranaum, 21 June.

Matalon, E. *Clinical Train the Trainer.*

Presentation to: NCPIC, UNSW, Sydney, 9 & 10 May; School of Psychology & Psychiatry Monash University, 23 & 24 May.

Matalon, E. *Quik FIX.* Presentation to: Drug & Alcohol Office Mount Lawley, 15 Feb; NCPIC, UNSW, Sydney, 21 March, 30 May; Kimberley Mental Health & Drug Service Kununurra, 1 May; Kimberley Mental Health & Drug Service Broome, 3 May; Mental Health Council of Tasmania, Hobart, 5 June; ATODS Cairns, 19 June; ATODS Townsville, 27 & 28 June; Youth and Family Focus Ulverstone, 23 July.

Matalon, E. *Quitting Cannabis 1-6 Brief Intervention for Cannabis Use.* Presentation to: Drug & Alcohol Office Mount Lawley, 16 February; NCPIC, UNSW, Sydney, 29 May; Alcohol Tobacco & Other Drug Council of Tasmania Devonport, 20 July.

Mills, K.* & Barrett, E.L.* *UNSW Experimental Clinical Psychology 3: Substance use workshop.* Workshop for the University of NSW Masters Psychology (Clinical) program, Sydney, May.

Newton, N.C.* *Can we really prevent drug and alcohol problems in young people?* Invited presentation to Advances in Public Health and Health Services Research at UNSW: 2012 Annual Research Symposium, Sydney, 21 September.

Perry, U. *ACCU - The Adolescent Cannabis Check-Up.* Presentation to: Australian Psychological Society Bardon, 26 & 27 March; Australian Psychological Society Gold Coast, 28 March; South Australian Network of Drug & Alcohol Services, 17 April; Sydney & South West Sydney Local Health District Rozelle, 30 April; Australian Psychological Society Maroochydore, 4 & 5 June; Youth and Family Focus Ulverstone, 17 July; Sydney South West Area Health Campbelltown, 10 & 16 September October; Campbelltown School Education Area Office, 28 & 29 November.

Perry, U. *Cannabis - Everything You Need to Know.* Presentation to: Community Drug Action Team - Illawarra Shoalhaven Local Health District, Lake Illawarra, 13 February; Youth Services Ulladulla, 14 February; Youth Zone (Pole Depot) Penshurst, March 7; Wollondilly Shire Council Picton, 20 March; Catholic Education Office Southern Region Revesby 8 & 15 May; Lifeline Cannabis Information Helpline Gordon, 14 May; Mental Health Council of Tasmania Burnie, 16 July; Mental Health Council of Tasmania Launceston, 18 July; Queanbeyan Hospital, 24 September.

Perry, U. *Clinical Guidelines for the Treatment of Cannabis.* Presentation to: NCPIC, UNSW, Sydney, 8 February, 21 March & 29 May; TAFE North Sydney, 8 February; Australian Psychological Society Bardon, 26 & 27 March; Australian Psychological Society Gold Coast, 28 March; Illawarra Drug & Alcohol Service Wollongong, 3 April; South Australian Network of Drug & Alcohol Services, 18 April; Sydney & South West Sydney Local Health District Rozelle, 30 April; Australian Psychological Society Maroochydore, 4 & 5 June; Dept of Corrective Services Nowra 3/07/12; Youth and Family Focus Ulverstone, 17 July; Sydney South West Area Health Campbelltown, 10 September & 16 October.

Perry, U. *Clinical Train the Trainer.* Presentation to: NCPIC, UNSW, Sydney 9 & 10 May; School of Psychology & Psychiatry Monash University, May 21 & 22.

Perry, U. *Quik FIX.* Presentation to: NCPIC, UNSW, Sydney, 21 March, 4 April & 30 May; South Australian Network of Drug & Alcohol Services, 16 April; Mental Health Council of Tasmania Burnie, 16 July; Mental Health Council of Tasmania Launceston, 18 July.

Perry, U. *Quitting Cannabis 1-6 Brief Intervention for Cannabis Us.* Presentation to: South Australian Network of Drug & Alcohol Services, 18 April; NCPIC, UNSW, Sydney, 29 May; Dept of Corrective Services Nowra, 3 July; Queanbeyan Hospital, 24 September.

Ritter, A.* Partners in Recovery Initiative Information Session Panel Member. Mercure Hotel, Sydney, 27 August.

Ritter, A.* *Preparing for promotion to professor - 2012: Interview skills.* UNSW Seminar. UNSW, Sydney, 24 August.

Ritter, A.* *Drug and Alcohol Clinical Care and Prevention: National planning model.* NSW Health, North Sydney, 24 May.

Ritter, A.* *NHMRC Partnership Grants Workshop.* UNSW, Sydney, 21 May.

Ritter, A.* & King, T.* *Translating research into policy: a workshop (CREIDU).* Melbourne, 30 March.

Ritter, A.* *Ilicit drug policies in Australia.* School of Psychiatry lecture series. UNSW, Sydney, 21 March.

Ritter, A.* *DPMP Overview.* Presentation to the Health Strategy and Policy Institute, Vietnam. NDARC, Sydney, 21 February.

Roxburgh, A.* *Measurement of problematic cocaine use in general population surveys.* Panel member and presenter. 2 day meeting at the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) on drug use population surveys, Lisbon, Portugal, 26-27 June.

Shakeshaft, A.* *The AARC project: Alcohol Action in Rural Communities.* Presentation to the Centre for Population Health, University of Edinburgh, Edinburgh, UK, 14 January.

Shakeshaft, A.* *Routine evaluation of public health policy: a research perspective.* Presentation to the NSW Public Health Officer Training Program Evaluation Workshop, Ministry of Health, Sydney, 5 March.

Shakeshaft, A.* *The effect of alcohol price on alcohol-related harm.* Presentation to the Surry Hills Community Drug Action Team's Drug Action Week debate, Surry Hills, 19 June.

Shakeshaft, A.* *Alcohol and public health.* Presentation to the critical issues in social sustainability planning course, University of Western Sydney, Parramatta, 23 November.

Shakeshaft, A.* *Using economic evaluation in practice: two examples.* Presentation to the economic evaluation in healthcare summer school course, School of Public health and Community Medicine, University of NSW, Randwick, 28 November.

Shanahan, M.* *Overview of the Australian National Drug Strategy Household Survey: using NDHS data for policy.* General Population Survey Annual Expert Meeting. EMCDDA, Portugal, 27 June.

Shanahan, M.* *Overview of the Australian National Drug Strategy Household Survey.* General Population Survey Annual Expert Meeting. EMCDDA, Portugal, 26 June.

Hughes, C.* & Shanahan, M.* *Evaluation of the ACT Alcohol and other Drug Diversion System.* Presentation to the ACT Diversion Programs Evaluation Reference Group, Canberra, ACT Health, 7 May.

Shanahan, M.* *Cost benefit analysis of cannabis legalisation.* Health Economics Collaboration Seminar. The George Institute, Sydney, 24 April

Smith J.L.* *Alcohol and cannabis effects on young adults' neurocognitive function.* Invited lecture to the AIDS Council of NSW (ACON) Snakes and Ladders Comorbidity Education Session, Sydney, November 22.

Swift, W.*, McGregor, I.S., Arnold, J.C., Li, K.M. & Wong, A. *Analysis of cannabis seizures in NSW, Australia: Cannabinoid profile and implications.* Poster presented at the NIDA International Forum, La Quinta, USA, 11 June.

Taplin, S. *Child Protection and Mothers in Substance Abuse Treatment.* NSW Community Services - Psychological Services Conference. Invited presentation, Sydney, 29-30 May.

Taylor, A.*, Allsop, D.J., Copeland, J., Lintzeris, N., McGregor, I., Dunlop, A., Norberg, M. *Overview of a double-blind, randomised, placebo controlled trial of Sativex for the management of cannabis withdrawal.* Presented at the Drug and Alcohol Nurses Australasia, 13 June 2012.

ACRONYMS

AGDHA	Australian Government Department of Health and Ageing	HRTO	Health Reform Transitional Organisation
AHURI	Australian Housing and Urban Research Institute Limited	IDRS	Illicit Drugs Reporting System
AIDSFONDS NL	AIDS Fonds Netherlands	MA	Mission Australia
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies	MDECC	Manly Drug Education & Counselling Centre
ANCD	Australian National Council on Drugs	NBCSR	NSW Bureau of Crime Statistics and Research
APSAD	Australasian Professional Society on Alcohol and Other Drugs	NCETA	National Centre for Education and Training on Addiction
ARC	Australian Research Council	NCPIC	National Cannabis Prevention and Information Centre
ARHRF	Australian Rotary Health Research Fund	NDARC	National Drug and Alcohol Research Centre
CCS	Council of the City of Sydney	NDLERF	National Drug Law Enforcement Research Fund
CFT	Colonial Foundation Trust	NDRI	National Drug Research Institute
CLIMATE	Clinical Management & Treatment Education	NHMRC CDA	National Health and Medical Research Council Career Development Award
DASSA	Drug & Alcohol Services South Australia	NIH	National Institute of Health (USA)
DIISRTE	Department of Industry, Innovation, Science, Research and Tertiary Education*	PTSD	Post-Traumatic Stress Disorder
DOCS	Department of Community Services, NSW	QADREC	Queensland Alcohol and Drug Research and Education Centre
DOH VICTORIA	Department of Health, Victoria	RB	Reckitt Benckiser
DOJ AND AG, NSW	Department of Justice and Attorney General, NSW	RTA	Roads & Traffic Authority, NSW
DPMP	Drug Policy Modelling Program	SALV	Salvation Army
DROSOS	Drosos Foundation, Switzerland	SCHER	Schering PTY LTD
EDRS	Ecstasy and Related Drugs Reporting System	SESIADS	South Eastern Sydney and Illawarra Area Health Service
FARE	Foundation for Alcohol Research and Education**	TP	Turning Point Alcohol and Drug Centre
GU	Griffith University	UNEW	University of Newcastle
HAC	Health Administration Corporation	UNAIDS	United Nations Programme on HIV/AIDS
HERON	Health Evaluation Research Outcomes Network	UNODC	United Nations Office on Drugs and Crime
HNELHD/DACS	Hunter New England Local Health District/Drug and Alcohol Clinical Services	UNOV	United Nations Office in Vienna
		UNSW	University Of New South Wales
		WHO	World Health Organisation
		WU	Washington University, USA

*Formerly Department of Education, Science and Training (DEST)

**Formerly Alcohol Education and Rehabilitation Foundation (AERF)

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