ncpic e-zine
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national cannabis prevention and information centre

contents

what's new in cannabis?

new staff members

NCPIC welcomes three new staff members to the growing team, John Redmond and Karina Hickey who will be working as part of the Training team, and Clare Chenoweth who has joined the Centre as the Communications Officer. In the coming months we are anticipating even more staff members as a number of key projects identified in the Centre's Work Plan begin.

media coverage

The Centre has also now started to attract some media attention with data from two of our publications (the latest NCPIC Bulletin and Criminal Justice Bulletin) receiving widespread coverage across the country. As always, we cannot always control how the media covers any issue, but remember that you can always find the press release and the actual publication on the NCPIC website to get the full story.

director's report

Jan Copeland (PhD)
(Professor/Director, NCPIC)

I have been visiting the US and Europe during the last month and it has been interesting getting some international feedback on the NCPIC model and our activities. There is certainly nothing like it anywhere else and there has been keen interest expressed in our progress.

I was invited to present at the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA) in Lisbon on aspects of cannabis measurement and interventions. It is very much a hot topic in Europe now with more than 200 cannabis clinics having opened in France and cannabis now accounting for 28% of new presentations to drug treatment in the EU.

While I was in Lisbon, the EMCDDA launched their latest monograph, A Cannabis Reader: Global Issues and Local Experiences — Perspectives on Cannabis Controversies, Treatment and Regulation in Europe.[1] It is over 700 pages and has chapters by leading European experts on a range of cannabis topics from political, legislative, economic and social developments to prevention, treatment and healthcare. One of the topics discussed is the potency of cannabis.

This is certainly one of the most controversial topics with little research and strong opinion. NCPIC has a new factsheet summarising what we know and can be found at http://ncpic.org.au/workforce/cannabisinfo/factsheets/article/cannabis-potency. There is also a recent paper on the topic in *Addiction* by McLaren and colleagues mentioned in this E-Zine. The media has picked up on the recent report from the University of Mississippi's Potency Monitoring Project[2] that has tracked the average amount of THC, the principal psychoactive ingredient in cannabis, in more than 64,000 samples seized by law enforcement agencies from 1975 to 2007. They reported that the average amount of THC increased from 8.75% in 2006 to 9.6% last year. This represents more than a doubling of the average cannabis potency since 1983, when it averaged just less than 4%.

The UK Home Office has also recently released the Home Office Cannabis Potency Study 2008[3] that reported on analyses of 2,921 street seizures in England and Wales. A subsample of around two thirds of the samples was microscopically examined. This revealed that the vast majority of herbal cannabis (97%) was grown using intensive methods (sinsemilla) with an average potency of 16.2% in those samples compared with 8.4% for other cannabis. This was in contrast to cannabis resin with a mean potency of 5.9%. Unfortunately this is not part of a routine monitoring so no trend data is available, but similar levels have been reported in Italy.[4]

Regrettably, there is no monitoring of the potency of cannabis in Australian seizures and no reporting from New Zealand in more than a decade. There are many methodological issues to be considered when comparing testing of illicit cannabis seizures, however, it would appear that the potency of cannabis has at least doubled in the past twenty five years. In addition, the typical smoking habits have also changed in that time.

It would appear that an equally, or even more important difference nowadays, is the part of the plant people smoke and the age at which people commence regular use. It is more common for people today to smoke the flowering heads of the plant which are much more potent than the leaf product. In addition, people are more likely to smoke cannabis in a bong (waterpipe). These changes in the patterns of use may result in users of today taking in higher levels of THC than in the past. Additionally, the younger people start and the more regularly they use, the more likely they are to be adversely

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affected by cannabis. Simply focusing on cannabis potency may obscure the fact that young, regular users are most at risk of cannabis-related harm. The claims that older, experienced smokers titrate the level of THC in a sophisticated manner and may, therefore, be reducing exposure to cannabis and other smoke is yet to be supported by a rigorous evidence base.

While an average doubling of cannabis potency in some countries might seem alarming, we are yet to understand the relationship between cannabis potency and harms at any level. In the absence of research on the issue, we can only speculate on the effect of potency on a range of cannabis-related harms, with no information to inform individual users of the risk profile by factors such as age or level of use. We hope the upcoming potency and contamination project with our consortium partners NDRI and WA Police, will shed some early light on this important issue.

1 **EMCDDA.** (2008). A Cannabis Reader: Global Issues and Local Experiences — Perspectives on Cannabis Controversies, Treatment and in Europe. *Monograph 8*, Lisbon.

2 **ElSohly, M.A.** (2008). Quarterly Report Potency Monitoring Project No. 100. *NIDA Report*.

3 **Hardwick. S. & King, L.** (2008). Home Office Cannabis Potency Study. *HOSDB publication number 31/08*. United Kingdom.

4 **Licata,M., Verri, P. & Beduschi, G.** (2005). Delta-9-THC content in illicit cannabis products over the period 1997-2004 (first four months). *Ann 1st Super Sanita 41*, 483-485.

research publications

Relevant publications examining issues to do with cannabis that have been published in the last month include the following:

Arnett, P.A. (2008). Cannabis bliss?: Perhaps not. *Neurology 71*, 160-161.

Blanco, C., Ogburn, E., Pérez de Los Cobos, J., Lujan, J., Nunes, E.V., Grant, B., Liu, S.M., & Hasin, D.S. (2008). DSM-IV criteria-based clinical subtypes of cannabis use disorders: Results from the National Epidemiological Survey on Alcohol and Related Conditions (NESARC). *Drug and Alcohol Dependence 96*, 136-144.

Capasso, R., Borrelli, F., Aviello, G., Romano, B., Scalisi, C., Capasso, F., & Izzo, A.A. (2008). Cannabidiol, extracted from cannabis sativa, selectively inhibits inflammatory hypermotility in mice. *British Journal of Pharmacology 154*, 1001-1008.

Cappelli, F., Lazzeri, C., Gensini, G.F., & Valente, S. (2008). Cannabis: A trigger for acute myocardial infarction? A case report. *Journal of Cardiovascular Medicine 9*, 725-728.

Degenhardt, L., Chiu, W.T., Sampson, N., Kessler, R.C., Anthony, J.C., Angermeyer, M., Bruffaerts, R., de Girolamo, G., Gureje, O., Huang, Y., Karam, A., Kostyuchenko, S., Lepine, J.P., Mora, M.E., Neumark, Y., Ormel, J.H., Pinto-Meza, A., Posada-Villa, J., Stein, D.J., Takeshima, T., & Wells, J.E. (2008). Toward a Global View of Alcohol, Tobacco, Cannabis, and Cocaine Use: Findings from the WHO World Mental Health Surveys. *PLoS Medicine 5*, 141.

D'Souza, D. C., Braley, G., Blaise, R., Vendetti, M., Oliver, S., Pittman, B., Ranganathan, M., Bhakta, S., Zimolo, Z., Cooper, T., & Perry, E. (2008). Effects of haloperidol on the behavioral, subjective, cognitive, motor, and neuroendocrine effects of Delta-9-tetrahydrocannabinol in humans. *Psychopharmacology 198*, 587-603.

Edwards, C.R., Skosnik, P.D., Steinmetz, A.B., Vollmer, J.M., O'Donnell, B.F., & Hetrick, W.P. (2008). Assessment of forebrain-dependent trace eyeblink conditioning in chronic cannabis users. *Neuroscience Letters 439*, 264-268.

Eggan, S.M., Hashimoto, T. & Lewis, D.A. (2008). Reduced cortical cannabinoid 1 receptor messenger RNA and protein expression in schizophrenia. *Archives of General Psychiatry 65*, 772-784.

Fergusson, D.M., Boden, J.M. & Horwood, L.J. (2008). The developmental antecedents of illicit drug use: Evidence from a 25-year longitudinal study. *Drug and Alcohol Dependence 96*, 165-177.

Fergusson, D.M., Horwood, L.J. & Boden, J.M. (2008). Is driving under the influence of cannabis becoming a greater risk to driver safety than drink driving? Findings from a longitudinal study. *Accident; Analysis and Prevention 40*, 1345-1350.

Gertsch, J., Leonti, M., Raduner, S., Racz, I., Chen, J.Z., Xie, X.Q., Altmann, K.H., Karsak, M., & Zimmer, A. (2008). Beta-caryophyllene is a dietary cannabinoid. *Proceedings of the National Academy of Sciences of the United States of America 105*, 9099-9104.

Ghaffar, O. & Feinstein, A. (2008). Multiple sclerosis and cannabis: A cognitive and psychiatric study. *Neurology 71*, 164-169.

Kraft, B., Frickey, N.A., Kaufmann, R.M., Reif, M., Frey, R., Gustorff, B., & Kress, H.G. (2008). Lack of analgesia by oral standardized cannabis extract on acute inflammatory pain and hyperalgesia in volunteers. *Anesthesiology 109*, 101-110.

Hosking, R.D. & Zajicek, J.P. (2008). Therapeutic potential of cannabis in pain medicine. *British Journal of Anaesthesia 101*, 59-68.

Korhonen, T., Huizink, A.C., Dick, D.M., Pulkkinen, L., Rose, R.J., & Kaprio, J. (2008). Role of individual, peer and family factors in the use of cannabis and other illicit drugs: A longitudinal analysis among Finnish adolescent twins. *Drug and Alcohol Dependence 97*, 33-43.

McHale, S. & Hunt, N. (2008). Executive function deficits in short-term abstinent cannabis users. *Human Psychopharmacology 23*, 409-415.

McLaren, J., Swift, W., Dillon, P., & Allsop, S. (2008). Cannabis potency and contamination: A review of the literature. *Addiction 103*, 1100-1109.

Müller-Vahl, K.R. & Emrich, H.M. (2008). Cannabis and schizophrenia: Towards a cannabinoid hypothesis of schizophrenia. *Expert Review of Neurotherapeutics 8*, 1037-1048.

Rathbone, J., Variend, H. & Mehta, H. (2008). Cannabis and schizophrenia. *Cochrane Database of Systematic Reviews 3*.

Reece, A.S. (2008). Cannabis and lung cancer. *The European Respiratory Journal: Official Journal of the European Society for Clinical Respiratory Physiology 32*, 238-239.

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Roser, P., Juckel, G., Rentzsch, J., Nadulski, T., Gallinat, J., & Stadelmann, A.M. (2008). Effects of acute oral Delta(9)-tetrahydrocannabinol and standardized cannabis extract on the auditory P300 event-related potential in healthy volunteers. *European Neuropsychopharmacology : the Journal of the European College 18*, 569-577.

Smye, V.L. (2008). Review: Use of cannabis is associated with increased risk of psychotic outcomes later in life. *Evidence-based Nursing 11*, 90.

Sneider, J.T., Pope, H.G. Jr., Silveri, M.M., Simpson, N.S., Gruber, S.A., & Yurgelun-Todd, D.A. (2008). Differences in regional blood volume during a 28-day period of abstinence in chronic cannabis smokers. *European Neuropsychopharmacology : the Journal of the European College 18*, 612-619.

Walley, A.Y., Krupitsky, E.M., Cheng, D.M., Raj, A., Edwards, E.M., Bridden, C., Egorova, V.Y., Zvartau, E.E., Woody, G.E., & Samet, J.H. (2008). Implications of cannabis use and heavy alcohol use on HIV drug risk behaviors in Russian heroin users. *AIDS and Behaviour 12*, 662-669.

commentary on research

role of cannabinoids in the management of neuropathic pain

Peter Gates

Smoked cannabis has been used in therapeutic applications for centuries. However, advances in biochemistry and the rigorous science behind controlled trials have demonstrated efficacy in only a handful of these applications. In their recent review, Fontelles and colleagues[1] describe research regarding the effectiveness of cannabinoids in managing pain.

Animal studies modelling acute pain and nerve damage have illustrated the involvement of the 'endogenous cannabinoid system' (receptors in our bodies that interact with cannabis). Combined with the anecdotal evidence that cannabis is often smoked to alleviate pain, these studies generated interest in human applications. However, as Fontelles and colleagues describe, there is insufficient evidence to recommend cannabinoids in treating chronic pain despite significant analgesic effects. Yet in review of literature specific to the treatment of neuropathic pain (nerve pain), findings were more promising.

Fontelles and colleagues reviewed all the well controlled clinical trials published between January 2000 and May 2007. The authors of each study demonstrated significant effectiveness in treatment, with mild to moderate side effects (such as dizziness and dry mouth) in combination with the expected psychotropic effects. Only one paper on the use of smoked cannabis was published which also showed a reduction in HIV-associated pain. Importantly, Fontelles and colleagues cited a lack of controlled trials of alternative treatments (such as antiepileptics and antidepressants) that would allow for comparison. Therefore, despite a need for comparative research, Fontelles and colleagues suggested that cannabinoids can be accepted as one of many treatment options for neuropathic pain.

1 **Fontelles, M., Isabel, M. & Garcia, C.G.** (2008) Role of cannabinoids in the management of neuropathic pain. *CNS Drugs 22*, 645-653.

media stories this issue

Each issue we will examine some of the cannabis-related stories that have received media attention across the country. The headlines are listed below in bold, with a short summary and/or commentary regarding the content of the news story beneath.

If you are interested in obtaining a copy of a particular story, please contact Clare Chenoweth at c.chenoweth@unsw.edu.au.

researchers survey the globe to find...US biggest users of dope

Border Mail: July 3, 2008

Despite having strict drug laws, the US has the highest rate of experimentation with cannabis and cocaine, a study published in the Public Library of Science journal *PLoS Medicine* has reported. An Australian-led team of international researchers including Dr Louisa Degenhardt of the National Drug and Alcohol Research Centre, surveyed 54, 000 people in 17 countries and found that over 42% of Americans had tried cannabis, followed closely by 41% in New Zealand. The results raised some interesting trends which showed that countries with more relaxed drug laws have lower rates of drug abuse. The research team found that "Globally, drug-use is not distributed evenly and is not simply related to drug policy, since countries with stringent user-level illegal drug policies did not have lower levels of use than countries with liberal ones."

new clinics for cannabis users

Northern Rivers Echo: July 3, 2008

A number of articles in northern NSW papers discussed the opening of new clinics in the area for cannabis users. The North Coast Area Health Service (NCAHS) has opened the clinics in an attempt to provide support to the increasing number of people experiencing health and lifestyle problems from their cannabis use in the area. The clinics incorporate counseling and follow the models and successes of four state government funded trial clinics in Sydney and the central west in 2006. The clinics have been placed in Community Health Centres to encourage people otherwise unlikely to attend drug and alcohol facilities to seek help. Cognitive behavioural therapy is being used in the treatment, along with identifying any mental health issues and offering support.

what in the weird? Scientists have dope on skin

MX Brisbane: July 7, 2008

Scientists have found that the body makes chemicals similar to THC, the active ingredient in cannabis, to help the skin. Cells that produce oil for the skin were treated with endocannabinoids to make them produce more oil. Cannabis plants produce THC to protect them from pathogens and it is thought that humans produce similar chemicals for

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the same reason, thus helping maintain healthy skin. New skin creams may be developed from this discovery.

drugs and breastfeeding

Swan Hill Guardian: July 7, 2008

This article raises some concerns about the effects of a mother's cannabis use while breastfeeding. It states that babies exposed to cannabis in this way will test positive in urine screens for two to three weeks. These babies often show signs of sedation, weakness and disrupted feeding patterns. Other effects are said to include a decrease in milk production and the risk of the mother experiencing reality distortion, difficulty in coping with an emergency or in performing fine motor skills and a propensity for deep sleep, making her unresponsive to the child's needs. The article advises that using cannabis while breastfeeding is not recommended.

teen drug traumas

Herald Sun: July 8, 2008

This article presents the findings of Victorian state-government report, The State of Victoria's Young People. Although 48% of 16-to-24 year-olds in Victoria have tried cannabis, only a minority of them would go on to use drugs regularly. The findings also suggest that the number of young people experimenting with drugs is declining.

rates of disorder in court a worry

Blacktown Advocate: July 16, 2008

The prevalence of mental health issues and drug dependence among prison populations is raised in this article. More than half of defendants appearing in Blacktown and Newcastle courts have signs of psychiatric disorder and three quarters of these show signs of drug dependency, the most common substance being alcohol, followed by cannabis and amphetamines. These results were found in a Bureau of Crime Statistics and Research (BOCSAR) pilot study of 189 defendants from the two courts. Bureau Director Don Weatherburn emphasised that "dealing with these problems is absolutely essential if we want to reduce the risk of further offending".

joint not the same since the Dutch banned tobacco

Sunday Age: July 20, 2008

New Dutch laws banning people smoking tobacco in the workplace, including customers at cafes, are said to be creating a shift in cannabis consumption patterns and damaging the iconic café culture where customers can freely purchase and smoke cannabis. Previously, most customers mixed tobacco with cannabis and chose to smoke it in the cafes, often buying food and drink at the same time. Now however, they can't smoke joints or water-pipes containing any tobacco inside, and due to laws preventing cannabis being smoked on the pavement, they can't smoke this tobacco-cannabis mix outside either, unless the café has an outdoor area. This means most customers either smoke pure cannabis joints inside, or take their purchased cannabis away, thus reducing sales of food and drink. It also means that larger doses of cannabis are being smoked at a time, as it isn't being mixed with tobacco. Small cafes without outdoor areas are reporting a downturn in food and drink sales and some people are worried that "the unique Dutch cannabis-café culture will be weakened".

GP patient resource launched on cannabis

Australian Medicine: July 21, 2008

The AMA has released a brochure *'Take a closer look: Cannabis and your health 2008'*, as a resource for GPs to increase awareness in their young patients about the short and long-term effects of cannabis use. AMA President Dr Rosanna Capolingua says "Many Australians, including teenagers and their parents, visit their GP on a regular basis…[and] these visits are an opportunity for doctors to provide patients with credible and authoritative information about cannabis use."

illegal crop right at home in the suburbs

Daily Telegraph: July 25, 2008

A number of newspapers picked up on our media release about the Australian Institute of Criminology (AIC) bulletin which reported that most of Australia's cannabis is grown hydroponically in urban areas. The articles focused on this fact as well as the prevalence of organised crime being heavily involved in hydroponic cannabis production. Hydroponically grown cannabis is the most commonly detected form of the plant by police, but is seen by growers as easier to conceal and as producing better yields than bush crops. The ease of cultivation and the hydroponic cannabis industry's high profitability means it is unlikely to slow in the short to medium term.

babies benefit when mums kick substance abuse early

Australian Doctor: July 25, 2008

A large health plan in the US has revealed the significant benefits that can be attained if substance abuse is treated early on in pregnancy. Among almost 50, 000 women in the prenatal care program, those who received intervention for drugs including cannabis, were 16 times less likely to have a stillbirth than those who used the drugs but did not accept treatment. In addition, they were half as likely to have a pre-term delivery or a low birth-weight baby. These results were published in the *Journal of Perinatology*.

dope smokers not so mellow anymore

Sydney Morning Herald: July 30, 2008

This article, in response to the latest NCPIC Bulletin, focused on results of the Centre's study into cannabis-related presentations at two emergency departments in Sydney hospitals in a study between 2004 and 2006. Centre Director, Professor Jan Copeland says, "It's the first time we have ever gathered this sort of data and it is highly surprising. It's apparent that we need a higher level of early intervention to pick up these problems before they get to the emergency department."

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what do we know?

sniffer dogs and cannabis: what do we know?

Sniffer dogs' highly developed sense of smell is used to train them to detect all manner of things from drugs such as cannabis, heroin, amphetamines and cocaine to counterfeit DVDs. Police sniffer dogs are becoming a common sight at music festivals and dance parties in Australia as police target drug supply and use at these events. Many people feel concerned about what will happen if a dog detects drugs on them and what exactly these dogs can detect. There is some confusion about whether they can detect cannabis smoke in clothing or other personal items.

Sniffer dogs are able to detect cannabis itself, as well as clothing or other items which have cannabis smoke residue in them. This means that people who don't smoke cannabis themselves, but who spend time with others while they are smoking it, risk being identified by a sniffer dog. If a sniffer dog detects cannabis on you, an intensive police search could follow. If no cannabis is found, you will not be arrested or charged. However, to avoid such a situation taking place, it is advisable to avoid any exposure to cannabis smoke. It is prudent to note also, that studies have shown people who passively smoke cannabis can test positive to the drug in saliva tests such as those used by roadside police.

cannabis contamination: what do we know?

Over the past decade there has been increasing community concern regarding the possible contamination of cannabis. The contamination being referred to is the intentional or unintentional addition of potentially harmful substances to the cannabis plant, usually added to enhance the actual or perceived plant growth and quality.

When the cannabis plant is being grown, contaminants may be intentionally or unintentionally added. Contamination can surface in any of the three stages in cannabis production:

contamination in cultivation

Chemicals may be added intentionally to enhance plant growth or for pest and disease control. Although these chemicals have the potential to harm users, it is not thought to be a widespread problem. Those chemicals added for pest or disease control however, are potentially more concerning. Unfortunately, at present there has been no research into the extent of this potential problem.

contamination in storage

While cannabis is being stored (during cultivation or by the user) certain types of moulds and fungi may unintentionally grow on the plant. These moulds have been identified to usually be *Aspergillus flava, Streptococcus or Penicillium*. Although it is believed that these can be cleaned from the plant by flushing them with water, this is perceived to occur less often when cannabis is grown hydroponically. Although we know more about the health consequences of this type of contamination than any other, there is still little known about the extent of the problem.

contamination in retail

Some substances can be added by retailers to increase the weight or perceived quality of cannabis. Recently in the United Kingdom there have been reports of glass beads being added from a spray to increase the weight of the plant and mimic the appearance of greater potency. Separate reports from Germany of lead particles being added to increase weight have also more recently appeared. These occurrences, although rare, are of great concern and have resulted in hospitalisations.

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girls smoke dope just as much as boys: Study

AAP Newswire: July 30, 2008

Further media coverage about the latest NCPIC Bulletin was widespread among regional newspapers across Australia. The articles covered the Bulletin's discussion of the new statistics from the 2007 National Drug Strategy Household Survey which found that teenage girls are just as likely to smoke cannabis as boys. Despite overall rates of cannabis use for Australians aged 14 to 39 years dropping in recent years, men in their 20s and 30s are still more likely to use cannabis than their female counterparts. Professor Jan Copeland, NCPIC Director, says "What we are left with now is the hard core of both boys and girls, if you like, the committed cannabis users who have other problems in their lives…it's going to take more than an ad campaign on television to deter them."

family values the main course

Gold Coast Bulletin: July 30, 2008

This article focuses on findings by the University of Minnesota, that girls who eat with their family are less likely to drink, smoke or use cannabis five years later. However, the same trend cannot be seen for boys, for unknown reasons. Family meals are seen as an effective way for parents to connect with their children and detect any problems they might be facing, as early as possible.

ncpic contact details

NCPIC is a consortium led by the National Drug and Alcohol Research Centre and is an Australian Government Department of Health and Ageing initiative

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