ADDRESSED TO:

Parliamentary Joint Committee on the Australian Crime Commission

Parliament House

Canberra

Australian Capital Territory

Inquiry into Amphetamines and Other Synthetic Drugs (AOSD)

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Date: **22-02-06**

Background information on Author:

- Academic achievements in applied chemistry and biomedical sciences (Central Queensland University)
- 7+ years involvement in administration of Harm Reduction groups, including the RaveSafe Qld project (Qld Health Initiative)
- Consultant and researcher on issues of drug education, prevention strategies and toxicological issues relating to recreational drugs
- Designed initial “Crowd Care” guidelines for the annual “Big Day Out” events
- Designed Harm Reduction & Team Leader training courses
- Presented (two occasions) at the Harm Reduction conference “Winter Schools in the Sun”
- Key Expert for the Party Drugs Initiative and Ecstasy Market Indicator studies (QADREC)
- Conducted presentation at Adelaide Forensics (DAIS) on Reagent Drug identification of PMA and other drugs

This paper has been prepared in response to the submission request made by the Parliamentary Joint Committee on the Australia Crime Commission, to *Enlighten Harm Reduction*. Topics presented pertain to some of the points of reference, pursuant to the Committee's duties as set out in paragraph 55(1)(d) of the *Australian Crime Commission Act 2002:*

a. Trends in the production and consumption of AOSD in Australia and overseas

b. Strategies to reduce the AOSD market in Australia

c. The extent and nature of organised crime involvement.

d. The nature of Australian law enforcement response.

e. The adequacy of existing legislation and administrative arrangements between Commonwealth and State agencies in addressing the importation, manufacture, and distribution of AOSDs, precursor chemicals and equipment used in their manufacture.

f. An assessment of the adequacy of the response by Australian law enforcement agencies, including the ACC.

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Overview

This paper identifies a range of issues associated with reducing the supply and demand of illicit drugs. The focus is primarily on methamphetamine and MDMA, as these substances are presently deemed to be among the most widely used of the illicit party drugs.

Peer based methods for reducing health problems arising from drug use are first addressed, with a focus on pill testing, followed by a short review and discussion on some of the legislative approaches currently designed to prevent manufacture of methamphetamine and Ecstasy like compounds e.g. MDMA, MDA, MDEA etc. The effectiveness of these methods is also discussed. Health issues are identified which relate to commonly available chemicals being employed in the manufacture of drugs. Also addressed, are the recognized dangers that stem from the manufacture of MDMA alternatives, such as PMA. Suggestions are made by which some of these health risks may be minimized.

In summarizing, this presentation looks at both ends of the spectrum pertaining to drug availability; the manufacturing end, and how proposed legislative changes may affect the range and extent of problems currently faced by law enforcement; and the user end, where these changes could ultimately result in a diverse range of health related problems.

The points made in this submission are offered as topic suggestions for discussions on future drug policies and accompanying legislative changes aimed at reducing illicit drug use. Many of the areas addressed will be well known to the committee, however, some aspects such as the correlation of proposed legal changes to potential health related problems may not be well known or have been considered in detail.

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No Significant Results from Present Demand Reduction Strategies

The illicit drug market for amphetamines and other stimulants in Australia has increased significantly over recent years, facilitated by both a rise in user demand, and a corresponding increase in the availability of illicit substances. Drug research surveys indicate that Government initiatives aimed at limiting availability, together with social deterrent approaches directed at families, teenagers and young adults, have to date failed to significantly reduce the popularity of party drugs. [Safford J. et al, 2005]

Harm Reduction in Australia – Aims and Achievements

The Australian Federal Government has a zero tolerance stance on illicit drugs. Present policies aimed at preventing the harm caused by drugs tend to focus on limiting availability through law enforcement and industry codes of practice, as well as lowering demand (popularity) through deterrent based educational programs. A third approach, termed Harm Reduction (HR) currently receives less emphasis, particularly in state and federal funded outreach programs. This is despite the fact that Harm Reduction is listed as a fundamental part of the Harm Minimisation framework of the Australian Drug Strategy [National Drug Strategy, 2004] and that HR based outreach programs have been shown to achieve significant results. [Kamieniecki G 1998], [Brennan 2002]. These results are largely attained through successful drug related interventions, and dissemination of drug awareness and deterrent based information. Unfortunately, HR is viewed by some people as being ineffective. In a sense, HR is by definition somewhat at odds with the current zero tolerance philosophy, as advocates of HR, while not necessarily condoning drug use, nevertheless acknowledge that *some* degree of recreational drug use will probably always occur in a modern society.

Principles and Objectives

The principle objective of most officiated harm reduction groups involved in outreach activities is to provide assistance and advice to patrons and staff of rave and dance related events. Organisations such as *RaveSafe* and *Code Blue* do this by having groups of trained volunteers attend events, where Team Leaders and Peer Helpers offer help and assistance to patrons who may, or may not be, under the influence of drugs. Often this is done in a pre-emptive manner; whereby Peer Helpers actively seek out those who may be in need of help – a ***"catch them before they fall "*** philosophy. [ABC Television, 2001]

Interaction with Other Service Personnel

Harm Reduction groups tend to interact well with security, production staff, police, ambulance and paramedic personnel. Promoters of some events (e.g. Big Day Out) consult with HR groups prior to an event as an attempt to minimize potential hazards and related risks. While HR groups openly acknowledge that drug use occurs at most events they attend, a strict rule among HR workers is that drug use is never encouraged or recommended. Volunteers and Team Leaders are naturally required to be drug free when attending any event as a HR team member.

Other examples of groups typically involved in HR may be found on various internet sites. These groups may or may not participate in outreach activities, but usually offer information on various aspects of health and safety in relation to illicit drug use.

Pill Testing

Pill testing has a long history in Europe of being an effective and proven harm reduction tool. Since 1990 the Netherlands have run the DIMS program, which has tested over 40,000 pills. [Pijlman, Krul & Niesink 2003] Programs are also currently running in Switzerland, Portugal, Austria, Spain, Germany, Czechoslovakia, Belgium and France.

In Australia, however, pill testing has encountered substantial governmental resistance and no official or regulated trial has yet been permitted. The reasons publicly given for the denial of a trial have been consistently at odds with the European experience and seem to have had more to do with political expediency than any real assessment of the data at hand.

The Victorian Drugs and Crime Prevention Committee's Inquiry into Amphetamine And 'Party Drug' Use in Victoria Final Report (2004) recommended that pill testing was not proven to be effective harm minimisation as research indicated that users having their pills tested would consume them regardless of the result. [Winstock, Griffiths & Stewart, 2001]. What was not pointed out was that this research was carried out in England, where there has never been a pill testing program, and that the question was entirely hypothetical.

The research undertaken in Amsterdam, Hanover and Vienna [Benschop, Rabes & Korf, 2003], all cities with long running programs, came to very different conclusions:

- Pill testing services result in better-informed drug users and increasingly health-conscious behaviour.

- Pill-testing services enable drug workers to contact and communicate with drug users who were previously out of reach.

- Health warnings about dangerous substances are received with more credibility and acceptance when delivered in the context of pill-testing services.

- Pill-testing services result in better-informed drug users and increasingly health-conscious behaviour.

- Provided that certain conditions are fulfilled, pill-testing services can potentially enable the monitoring and analysis of synthetic drug markets.

- Pill-testing services do not stimulate the use of ecstasy and most likely will not extend the circle of ecstasy users.

- Pill-testing services lead potential ecstasy users to postpone or abstain from an initial use of the drug.

- As a secondary prevention measure, pill-testing yields valuable information for primary prevention efforts. The classical separation between primary and secondary prevention activities needs to be questioned.

- Pill-testing services serve to demystify synthetic drugs.

These findings appear to validate the report of the European Monitoring Centre for Drugs and Drug Addiction with their “Inventory of on-site pill-testing interventions” [EMCDDA 2001]:

- Pill testing interventions are important measures to enter into contact with hard to reach populations and to raise their interest in preventive and harm reduction messages.

- On-site pill testing interventions should closely be linked to information provision with preventive and “safer use” messages, through a wide range of information supports.

- Despite the lack of empirical data, for health systems in general and information and prevention projects in particular, it is crucial to know about new substances and consumption trends, otherwise there is a high risk of losing credibility with well-informed users of psychoactive substances.

- Pill-testing projects can be an important source of information on new substances and consumption trends as they are in closest possible contact with the relevant scenes, more so than other organisations within the prevention system. Furthermore, they have an insight into most of the

substances that are actually being consumed and know by whom, where, how and why these substances are being consumed.

- By using the information from on-site pill testing interventions, a national warning system could deepen its data pool in terms of social contexts: who are the people consuming these substances, how, where and why are they consuming these substances in this and that particular way and which information can be passed on to potential consumers in a meaningful and successful manner?

- Due to the lack and difficulties of evaluation, on the one hand there is still no strict scientific proof for the protective impact of on-site pill-testing interventions but on the other hand, there is also no scientific evidence to conclude that such interventions rather promote drug use or might be used by dealers for marketing purposes.

- There is a need for more research and evaluation studies on the whole range of effects of on-site pill-testing interventions. This appears to be a prerequisite in policy-making when completing the range of strategies to respond to drug issues in recreational settings.

It is important to emphasise the last two points as this was also the finding of an independent report, commissioned by the federal Department of Health and Aging (2004). In “The Prevention of Substance Use Risk and Harm in Australia”, on page 235, the authors write:

- An argument often advanced against the provision of timely pill testing data to users is that it gives impression of safety to the consumption of MDMA, which it is held may lead to increased consumption. There is no evidence to either support or refute this statement.

- There is no evidence available allowing comment on the impact of availability of testing kits on consumption levels.

- There is a need for more research and evaluation studies on the entire range of effects of on-site pill testing interventions.

The first statement is no longer correct as the data from Benschop, Rabes & Korf shows considerable evidence of a reduction in consumption but more research is still required.

This need for more research was recently backed by the Federal Council of the Australian Medical Association, who at their November 2005 meeting passed this resolution:

> *“That the AMA recognise that there is no data from Australia on the usefulness of ecstasy pill testing at large events, such as raves, as a harm minimisation strategy although there is evidence from Europe that it might reduce consumption, morbidity and mortality.*

Therefore the AMA supports in principle targeted, ethically approved research to clarify if there is a role for pill testing within the Australian context."

In November 2004 the Ministerial Council on Drug Strategy asked for the formation of a special Working Group to investigate pill testing and present their findings at their May 2005 meeting. After the May 2005 meeting a joint communiqué was issued stating that they had:

"…received a report from a special Working Group, established by the MCDS, to consider the issue of drug testing for personal use of illicit drugs. Ministers agreed that they could not endorse the development or use of drug testing kits for personal use in the light of the lack of evidence that they will lead to any net reduction in the harm caused by drugs. Ministers agreed to the need for the Working Group to further consider ways to make better use of existing law enforcement and health databases and to report back to the MCDS at its next meeting in November 2005"

When Enlighten contacted the Department of Health and Aging to discover what research had been used by the special Working Group we were informed that all MCDS meetings were confidential and that no records were kept. We consequentially entered a Freedom of Information Act request and discovered that documentation did exist but would not be released to us under Section 33A of the Act. This section states that the release of such documents:

(a) would, or could reasonably be expected to, cause damage to relations between the Commonwealth and a State; or

(b) would divulge information or matter communicated in confidence by or on behalf of the Government of a State or an authority of a State, to the Government of the Commonwealth, to an authority of the Commonwealth or to a person receiving the communication on behalf of the Commonwealth or of an authority of the Commonwealth.

Enlighten is continuing to appeal this decision. It is perhaps illuminating that the federal government feels that the release of these reports would damage their relationships with the states. There is growing support at a state level for more research into pill testing.

The South Australian Drugs Summit of 2002 had the following recommendation:

"The working group recommends that a broad review of the Controlled Substances Act and other drug laws be conducted to determine their efficacy, having regard to the primary objects of crime reduction and harm minimisation.

"With these criteria in mind, the work group recommends that:

• the use of pill testing be investigated as a way of enhancing the early warning system used by the police and others to reduce drug-related harm including overdose"

"The police are keen to save lives and hence make information available on the quality of drugs on the street. Consideration should be given to enhancing this harm minimisation approach, especially with respect to amphetamines and designer drugs. Pill testing also warrants consideration in this context."

"Indicative support by all delegates: Strong support"

Unfortunately that support has not become action, at least not yet. It is also unfortunate that this summit, as well as the MCDS inquiry, did not ask for input from any of the groups undertaking pill testing within Australia. MCDS also failed, to the best of our knowledge, to contact any of the relevant groups in Europe. This is why Enlighten is so determined to find out what research was used to inform their decision.

At this point Enlighten would like to thank the Committee for the opportunity to make this submission. Transparency of process is vital in regaining the public's trust. Recent studies by the National Drug and Alcohol Research Centre have found that government information on drugs is one of the least trusted sources [Gascoigne, Dillon & Copeland 2004]. Closed door meetings such as the MCDS are doing little to help this unfortunate situation. Enlighten would like to recommend that all submissions to, as well as the final reports of, this committee be made publicly available.

One recurring theme of the government's objections to pill testing has centred on the perceived inaccuracy of reagent testing kits. Enlighten would like to stress that it shares the concerns about reagent test accuracy. This is why Enlighten has always recommended the use of other technologies for field testing. The DCPC inquiry dismissed such technology as being prohibitively costly and hard to use. Again, the basis for this opinion was the paper by Winstock et al from 2001. Since that time technology has advanced considerably and devices such as portable Ion Mobility Scanners are now available which can be held in one hand and operated by personnel with limited training. The Sabre 4000 model (see attachment 2) is currently being trialled by Australian Customs and is essentially a portable version of Ion Scanners that have been used in Australian airports for many years now. The cost of these devices although still reasonably high are within the reach of smaller, privately funded groups such as Enlighten.

A government approved trial of field pill testing could be undertaken for very a modest budget. A trial could be funded by the groups authorised to undertake the trial, at no further cost to the government. Even if government funds were used, the total cost would be no more than the catering budget for a television ad. This is not a glib comparison So far the federal government has spent hundreds or millions of dollars on demand reduction television advertisements with the net result being an increase in the use of amphetamines and other stimulant drugs. Pill testing has been shown to have significant demand reduction effects. Could our money be better spent?

Deterrent Potential

As many HR groups are largely comprised of ex-ravers or clubbers, their potential to disseminate health and safety information to their peers should not be underestimated. As mentioned, intervention reports and studies on the impact of HR based groups have shown that RaveSafe and similar organizations are well received and trusted by target groups. Most importantly, the messages these volunteers pass on are often willingly accepted, unlike similar government and charity funded efforts where patrons may be unsure of the consequences from admitting or discussing personal drug use.

Therefore the success of RaveSafe and similar HR programs is deemed to be in part due to the involvement of Peers from the target groups [Kamieniecki G 1998] [Rumbold G & Hamilton M]. Because of this, Harm Reduction groups incorporating Peer Helpers have provided an important, and at times, indispensable link between officials, health workers and patrons. (see Attachment 1)

Government and Industry Responses

To facilitate clandestine production of MDMA, chemicals are often diverted from legitimate suppliers. In response to this activity, the Inter-Governmental Committee on Drugs together with the Plastics and Chemicals Industries Association (PACIA), and Science Industry Australia (SIA), assembled the *Code of Practice for Chemical Diversion into Drug Manufacture* (CPCDDM). The code was originally formed in 1994, re-launched nationally in 2002 and updated in 2004 and 2005.

While chemical suppliers are not yet bound by law to comply with the code, most companies - including larger Australian suppliers - are fully compliant. Based on forensic drug profiling of MDMA and other commonly synthesized drugs, most starting materials and precursors have recently been reclassified into the most restrictive category of the CPCDDM (Cat # 1). This scheduling requires that listed chemicals must only be supplied to account holders, and copies of the *End User Declaration* form must be provided to all suppliers involved in the sale. [Inter-Governmental Committee on Drugs, 2005]

Over The Counter Syntheses

While the CPCDDM to date has likely had considerable impact on reducing illicit drug manufacture in Australia, it is essential that when developing future regulation policies, a thorough account is also taken of synthesis routes by which many drugs and drug precursors can be prepared from non-restricted chemicals (e.g. peracid production of a ketone intermediate) [“Chromic”, 2001] These chemicals, often termed *over the counter* (OTC) ingredients, can be purchased directly from retail outlets such as supermarkets, hardware and paint stores, photography suppliers, and hobby shops. In many instances, the required chemicals are purchased as a component of a particular formulation, and may have to extracted or purified before using.

Many of these products are not easily controlled or regulated, which is significant in that diversion to future drug manufacturing could bypass normal monitoring systems and thereby present a new range of problems to law enforcement.

Criminal Responses to Existing and Future Legislation

In an effort to circumvent restrictions placed on “specialty” chemicals used to synthesize drugs, it is reasonable to assume that organized manufacturers will eventually turn to employing laboratories that are more clandestine in nature, but adequate enough to produce drug ingredients from OTC chemicals. Accordingly, restriction of chemicals may not ultimately affect some syndicated operations, as OTC

syntheses for producing most ring substituted amphetamines and related drugs have been well documented, and appear on many internet web sites. Examples of more widely known phenethylamines and amphetamines that can made via these methods include; MDA, MDMA, MMDA, PMA, PMMA, 2CB and 2CI. [Waumans D et al, 2003].

Methamphetamine Starting Materials

In addressing methamphetamine (speed, ice etc) production in Australia; the recent increased regulation of pseudoephedrine can be expected to, in the short term at least, impact positively on reducing local manufacture of the drug. However, it is also possible that pseudoephedrine may one day be sourced via extractions from varieties of locally grown Ephedra. Although the sale of Ephedra is banned in Australia, the plant is reportedly grown locally for use as a tea or in alternative medicine practices and is available from Australian based websites specializing in natural and/ or legal recreational drugs. [Herbalistics, 2006]

Another, even less desirable possibility is that the more industrious producers will employ alternative syntheses when pseudoephedrine is unavailable. Such syntheses, depending upon availability of other chemicals, could use any of several starting materials, including cinnamaldehyde, found in cinnamon oil. Also depending upon the availability of required chemicals, N-methylation (converting amphetamine to methamphetamine) can be accomplished using any of at least three synthetic routes. [Rhodium, 2004]

Available Starting Materials for MDMA Related Homologues and Analogues

The “Ecstasy Market” in Australia currently sees a high demand for MDMA. As seizure records show, MDMA production has increased in Australia in recent years. [Australian Crime Commission 2004] Although some Australian laboratories have no doubt relied upon smuggled chemicals to facilitate production, forensic profiling of different routes used to produce MDMA also suggests that criminals have the means to exploit other chemical syntheses, and despite tighter industry regulations and improved detection methods for locating contraband, in many cases the organizations are able to obtain restricted precursors and other chemicals. [Courier Mail 2004]

The most commonly used starting material for MDA or MDMA (safrole) is likely to be one of the most difficult chemical for producers to obtain. Successful restrictions on sassafras oil and other sources of safrole have significantly reduced availability. However, for the resourceful chemist, safrole will always remain available as it can be obtained from any one of many species of native and introduced flora that contain significant levels of the alkene. [Safrole FAQ, 2001]

PMA and other Phenethylamines

If for some reason safrole does prove to be unobtainable, as an alternative, in a process analogous to MDA & MDMA manufacture, safrole can be replaced by anethole to instead produce the toxic drugs 4-methoxyamphetamine (PMA) or 4-methoxymethamphetamine (PMMA). Anethole is used throughout the confectionary, beverage and food industries. It is completely unregulated, and would be extremely difficult to control. As mentioned by [Waumans D et al, 2003], using typical OTC routes, anethole has been shown to be a versatile starting material for many of the phenethylamine class of drugs.

Stimulant and Psychedelic Designer Drugs: The Future

Many people view an ideal legislative approach to reducing drug use as simply legislating against all known drugs as well as any possible future analogues. In attempt to circumvent legislation, drug designers have in the past resorted to molecular modifications that effectively produced a non- scheduled substance and thereby avoided prosecution. In response to these concerns, the Commonwealth of Australia introduced a system similar to the US Analogues Bill, whereby typical modifications to a scheduled substance do not result in legal products. [Drugs of Dependence Regulation, 1993].

While this has no doubt been effective in limiting some individuals from designing new drugs in this manner, there are now several known drugs which may fall outside the reach of current legislation, and thereby appeal to those wishing to circumvent present restrictions. Examples include but are not limited to: difuran analogues of amphetamines, aminomethylbenzocyclobutenes and some isoquinolines.

The act of supplementing ingredients in tablets and powders (mixtures of pharmaceutical and/ or illicit drugs) is commonplace among illicit drug producers. One avenue open to the determined producer would be to continually turn to new drugs, and thereby attempt to keep a step ahead of legislation. Many of these psychoactive compounds are discovered via journals on subjects such as medicinal or neurological chemistry, which is significant in that first knowledge of a parent compound often stems from results of legitimate research, and therefore is not preventable. As these compounds are legal in many countries, companies specializing in supplying the recreational drug market will often advertise these compounds at inexpensive prices. Known commonly as “Research Chemicals”, such availability means that some drug producers may even circumvent illicit production altogether and order directly from an overseas manufacturer. While the DEA has successfully closed US suppliers of these drugs, there remain online websites located throughout Asia and parts of Europe that continue to supply these drugs, often under legal sanction of their local drug laws, which in many cases are inconsistent with the laws of the countries they are supplying to.

If drug producers decided against importing research chemicals, and instead chose to disregarded proposed harsher legislation and operate in a more clandestine manner, then the required starting

materials for various psychoactive drugs could be easily obtained from a wide variety of essential oils, indigenous and introduced plants, and herbs and spices. Synthesizing PMA from anethole (from oil of anise) is but one example of how a seemingly innocuous substance can be converted to a psychoactive and extremely dangerous drug. The alkene, methyleugenol (4-allyl-1,2-dimethoxybenzene) is present in many spices, and with similar OTC routes to those employed in MDMA or PMA production, it can be used to prepare 3,4 Dimethoxyamphetamine. Likewise, the 2,4 isomer – osmorrhizole is found in carrots and other vegetables, and would produce the corresponding 3,4 dimethoxyamphetamine, which is reported to possess both stimulant and euphoric properties.

Other possible starting materials for “exotic amphetamine” drugs include, but are not limited to: myristicin (5-allyl-1-methoxy-2,3-methylenedioxybenzene) from nutmeg or oil of parsley which can be used to synthesise MMDA, Croweacin (2-methoxy-3,4-methylenedioxyallylbenzene) from citrus and rue varieties to produce MMDA-3, and asarone (2,4,5-trimethoxy-1-propenylbenzene) from varieties of sweet flag to produce TMA-2 (2,4,5-trimethoxyamphetamine). Many of these starting compounds could be further modified to produce other phenethylamines and amphetamines of varying potency and which possess a wide range of effects.

There is certainly potential for a new drug to replace the currently popular MDMA, particularly if the drug was initially released in large amounts. A similar situation occurred in 2003 with 2C-I (4-iodo-2,5-dimethoxyphenethylamine) in Britain. Before the EU formulated a broader scope drug policy and subsequently banned 2C-I [Council of the European Union 2003], large quantities had been produced in the Czech Republic and US based companies legally supplying the drug. 2C-I was introduced into the British rave and dance scenes where the general consensus was that consumers were ready for something different (from MDMA) [MIXMAG 2003]. Despite the drug being more expensive than MDMA, it was reportedly well received among users. An interesting point mentioned in British dance scene street press was that supply of 2C-I was successfully interrupted by increased policing and tightening of drug laws in both the US and EU countries. Recent reports indicate that these measures have meant 2C-I is now a difficult drug to source in the UK. [MIXMAG 2006], however, while 2C-I has also been scheduled in Australia, users frequently report that the drug is available.

There has been talk lately on drug discussion boards concerning the latest work of Alexandra Shulgin, a scientist who has recently researched a large range of isoquinolines, many available from cacti. Shulgin concludes that no compounds he has investigated are active when taken alone, but may have MAOI effects, that when mixed with phenethylamines that are also inactive, will create powerful psychedelic effects. The “companion drug” activity of such substances may present problems if attempting to legislate against these compounds, as without the associated companion chemical, these are effectively inactive substances, and thus may not meet the current criteria required for scheduling. Dr Shulgin’s next book titled *Psychedelic Index Book* is reportedly due out later this year. [Shulgin 2006].

Methamphetamine

Methamphetamine is a known neurotoxin and has been termed instrumental in the recent high numbers of psychosis related presentations to hospitals. Methamphetamine is often available in near pure form (ice) and is often smoked for maximum effect; a practice which is claimed as being largely responsible for exacerbating the negative effects of the drug. While the use among ecstasy users of less concentrated forms of Methamphetamine (speed) has remained fairly constant over the past 5 years, seizures figures are still relatively high, suggesting a large market exists for the drug. [Party Drugs Initiative 2005[1]]

As mentioned, methamphetamine is anything but a benign drug. However, it should be fully realized that if any alternative syntheses to the commonly seen reduction of pseudoephedrine was to become popular, it would present significant, additional health concerns. Almost all other available routes would require additional synthesis steps, each introducing variables that would invariably result in higher levels of impurities in the end product. This problem could also be further exacerbated if producers with little or no scientific training, having had success with converting pseudoephedrine to methamphetamine, then attempt the more complex methods of preparing the drug.

MDMA and Related Drugs

While methamphetamine and MDMA have been shown to possess varying degrees of toxicity, the acute dangers of these compounds are not comparable with the acute toxic nature of drugs like heroin. The dose response curves between the drugs are quite different in this example. A study published in the *Society for the Study of Addiction,* presented estimated lethal doses of various compounds based on a safety ratio, defined as *Usual lethal dose and range reportedly administered / Usual effective dose (and range) for non-medical purposes.* Where the safety ratio for both heroin (iv administration) and GHB were listed as 6, methamphetamine and MDMA (oral administration) scored 10 and 16 respectively. Alcohol was defined as having an associated risk ratio of 10 [Gable R.S, 2004]. While PMA was not listed, the toxicological properties of PMA are such that this drug has a dose response more like that of heroin, where an additional standard dose (60-100mg) may result in a life threatening situation [Refstad S.]. Thus PMA would be expected to have a similar risk ratio to heroin.

PMA has caused several deaths in Australia. These deaths in turn account for a large proportion of the total PMA related deaths recorded world-wide [Caldicott D.G.E] As mentioned, although PMA is chemically and structurally similar to MDA and MDMA, PMA is far more toxic. Studies have shown that MDMA is less toxic than MDA and possibly less than many related amphetamines and methamphetamines. Some of these substances, which could potentially replace MDMA as a recreational

drug of choice, have not been fully investigated as to their short and long term impact on health. Many of these drugs have not even been subject to toxicological evaluation.

Relative Unknowns

Unlike MDMA, which has been extensively researched over recent years, many of the newer, or yet to become popular drugs have not been well researched. In this regard, any widespread introduction of new psychotropic agents will pose unprecedented and possibly serious health problems to users. This would also extend to emergency management, where unknown drugs can present a multitude of problems, not least by the potential to cause adverse interactions with remedial drugs or other life saving procedures.

Recent topics on Internet Drug Discussion Forums have addressed the reliability and safety of the products some “Research Chemical” companies are supplying. In one instance, a young Australian male admitted to purchasing the phenethylamine 2C-I online. Upon receiving the drug – labelled 2C-I, he cautiously consumed a 1/3 normal dose of 2C-I, only to discover that the substance was not 2C-I. He suffered severe hypertension and was hospitalised. His story was posted to warn others and highlight the dangers of buying these chemicals from unknown companies. Other contributors suggested the effects sounded similar to DOI (4-iodo-2,5-dimethoxyamphetamine), a much more potent and potentially toxic amphetamine. As the nomenclature can be similar for both drugs, it was reasoned that a mix up could occur. Although conclusions in this case are entirely speculative, the question naturally arises regarding the level of quality control these companies may be operating under.

Drugs Requiring Enzyme Inhibitors

Future drugs that require a second drug (MAOI) to affect activation could present serious problems to emergency workers, as several MAOI could be utilised. Although pharmaceutical MAOIs are all regulated, there are several plants possessing MAO inhibiting properties. Various combinations could present unique problems, and potential for serotonin syndrome or other adverse reaction may be significant.

Drug Culture in Australia

In Australia, MDMA (3,4-methylenedioxymethamphetamine) was once largely associated with the dance or rave scenes. However, use of the drug today is no longer limited to particular social groups or countercultures. Present recreational use of MDMA is a widely known, and an often accepted practice throughout much of Australian society. Similar can be said of methamphetamine and cannabis use.

To reduce this level of acceptance will require changing the mindset of many Australians. In respect to deterrence programs regarding other drugs such as nicotine and alcohol, this has achieved some success due to the impact the drugs themselves have had on society in general. Most people acknowledge for example that drinking in excess and smoking can have a serious affects on a person's health. However, convincing target groups that even a small amount of MDMA can be harmful, or that occasional use is proven to be detrimental could be equated to convincing all Australians that any amount of alcohol is harmful. Many MDMA users are familiar with inaccuracies in major research findings published in 2001, where a widely criticised report claimed a single dose of MDMA could cause Parkinson's disease and other neurological disorders. When it was later admitted by the author that the research was flawed and therefore inaccurate [Green 2001] many users became convinced that other evidence of ill health research was probably also flawed. Despite this, the recent National 2004 IDRS reported that only 10% of users thought there are no risks with taking ecstasy, 3% were unsure and most ecstasy users (87%) identified some risk associated with taking the drug. The report also notes that there was a consistency in the types of perceived risks among users, which included mental and physical health issues, inconsistency or impurities in the drug, vulnerability due to intoxication and unknown long term risks. [IDRS, 2004 p32]

In light of these trends, any deterrent based approach needs to not only focus on how the messages are delivered, but also requires carefully assessing what information will be best received by users. This is not to suggest some information should be purposefully omitted from brochures; on the contrary, but by listing the *rationale* behind some of these immediate and future health concerns, the topics then become open to discussion among peers. Even Forensic science can assist with this, by highlighting some of the dangerous impurities discovered in Ecstasy tablets, and detailing aspects of coroners' reports concerning deaths involving MDMA and other drugs. To have maximum impact, cards, flyers, posters, visual media and other print matter need be continuously reformulated, so as to contain new and up to date messages. RaveSafe has found that new material, if it is presented appropriately and is culturally significant to target groups, is usually readily accepted and discussed among peers.

Pill testing services would also offer the ideal setting for the transmission of this information.

Policies Aimed at Limiting Manufacture

Methamphetamine has seen an illicit drug industry grow to a point where organisation is such that often, the chemicals required for the operation are likely to be often supplied by syndicated groups who do not necessarily produce the drugs themselves. These individuals would merely facilitate production at arms length. Because of more extensive processing involved in manufacturing MDMA, if the MDMA market was to be fragmented in this manner, and this fragmentation also resulted in the diversion and supply of large quantities of non-scheduled chemicals, any end product would very likely contain more impurities and side reaction products than are currently seen by forensic chemists. The situation is potentially made worse if ingredients for syntheses are in turn produced from non-reagent grade, OTC products.

Unless a comprehensive policy is implemented which can guarantee a sustainable reduction in demand and availability, then careful thought needs to be given to ensuring that if any manufacturing does occur, that it is likely to be done via preferable routes, that pose the least possible health risks to both drug users and the community as a whole.

Industry Regulations and Codes of Practice

While the CPCDDM is no doubt successful in preventing some diversion of chemicals for drug manufacture, there are still several avenues where chemicals may be purchased for the intent of manufacturing drugs. It is proposed that the voluntary element associated with the code of practice be made compulsory and uniform throughout Australia. Further to this, all associated industries and trades where drug precursors and chemicals used in the manufacture of drugs are employed or sold, should also be required to have a purchaser complete an end user declaration form. Exemptions could be sought by companies that use large amounts of certain chemicals, although a tight check list would need to apply, and the conditions of operation would need to be subject to random checks.

Regulation of all industrial, food and pharmaceutical chemicals would be technically very difficult to coordinate, however, it is suggested that this could be accomplished if introduced gradually over a 10 year or greater period. In a sense, this could follow on from, and add to the current CPCDDM, and be a continuously reviewed and amended process.

If Pill Testing services were to be offered government sanction and equipped with suitable ion mobility detection equipment, the effectiveness of the future CPCDDM planning could be greatly enhanced through incorporating results and findings of pill testing, and other harm reduction groups. Pre-emptive response time could also be reduced by the early identification of previously uncommon or novel drugs.

Harm Reduction – Safety, Assistance, Warning, Deterrence

Harm reduction volunteers have the potential to disseminate valuable deterrent base information to users. However, it must also be appreciated that this is largely successful because of peer education programs, where, honest, non-judgmental advice is often sought and given.

Illicit drugs, including MDMA, do have negative effects on many users, but considering the estimated number of people regularly consuming MDMA, only a small proportion of users have immediate health problems. Could the same be said if MDMA was prepared with less care and in a manner which introduces a multitude of variables such as toxic impurities and side reaction product "leftovers" from using less pure chemicals? At its worst, this could impact profoundly on the health of users. Even more undesirable is if, in response to harsher legislation regarding MDMA, drug producers turn to one of the myriad of alternative substances in an effort to avoid the more severe penalties associated with MDMA production and distribution.

As has been frequently demonstrated in the past, this substitution may occur in order to market a cheaper, perhaps more commercially available product, or it may result due to legislative changes that affect supply of the preferred drug. Past examples of intentional substitution include, but are not limited to:

- STP (DOM; 4-methyl-2,5-dimethoyamphetamine), used as an LSD replacement during the late 1960's.
- Tryptamines (e.g. alpha-methyl-tryptamine) used as a non-scheduled blotter LSD replacement.
- MDEA and MDA used as replacements for MDMA when supply was interrupted. Several other phenethylamines and amphetamines, and ketamine have been also employed in this manner.
- GHB was replaced by GBL, allowing in-vivo production of the drug
- GBL was replaced by 1,4 Butanediol. As vast amounts of this chemical are used in the production of PBT (polybutylene terephthalate) plastic, it is very difficult to control. GHB can also be produced via an OTC synthesis using the amino acid GABA (Gamma amino butyric acid) available from health food shops and pharmacies.
- Plant varieties containing lysergic amides are currently being offered as a natural LSD alternative. The initial widespread availability of these seeds from "Head Shops" and some Herbal High retailers seemed to coincidently occur during a period that LSD was reported as being hard to obtain.

Without initially, or at least concurrently reducing demand for illicit drugs, any significant increase in regulation or imposed legal penalties could likely have minimal effect on the availability of MDMA or its analogues. There is always the possibility that users will readily receive an MDMA alternative, particularly if this is claimed to offer a better effect than MDMA.

If laws are implemented that may inadvertently alter or diversify the range of available substances sold as recreational drugs, the importance of maintaining harm reduction as an integral and essential component in reducing drug use should be obvious. These groups offer a means by which deterrent based information can be successfully disseminated to target groups. Equally important is that these groups can also provide a framework by which trends can be accurately monitored, and by which the effectiveness of a wide range of policies including demand reduction and other preventative approaches can be evaluated and compared. [Rumbold G & Hamilton M, 1998]

Paradoxically perhaps, the value of having accurate analytical services available to users, increases with the augmentation of prohibitive legislation, as the range of substitutes sold as MDMA will no doubt also increase. Health problems will almost certainly occur if any success in reducing availability of currently fashionable drugs - and chemicals used to manufacture them - does not occur concurrently with a reduction in consumer demand. In this sense, Pill Testing services could offer significant deterrent value via the dissemination of testing results. Employing a government sanctioned, accurate testing facility to analyse street tablets and powders, would, if appropriate technology was used, also be able to reveal impurities. Information regarding the toxicity of these ingredients could be included with the results of tablet or powder testing.

With a National Online Drug Database, a sanctioned testing group could provide significantly valuable information to Police regarding the types of Ecstasy tablets circulating. Criminal syndicates operating interstate could be better tracked by noting common forms and where these had surfaced.

Educational policies need to adopt an honest and non-biased approach when formulating media announcements and print matter. There is adequate scientific information outlining the dangers of most drugs, however, its also important that the *relative* dangers associated with individual drugs also need to be focused on. Educating in this manner does not at all imply some illicit drugs are safer than others, but rather, that unknown factors associated with particular drugs and drug forms can make these substances considerably more dangerous.

All illicit and un-prescribed drug use carries risks associated with, not only the drug itself, but also from the possible contaminants, additives, supplements etc resulting from unregulated manufacture. Where recent awareness announcements and TV advertising have aimed at families, follow up ads should also focus on the harsh realities of drug laboratories, where unclean conditions often prevail, which ultimately pose undesirable risks to users. There is a strong hesitation shown towards highlighting aspects of drug manufacture, however, the potential disincentive value in emphasising this area should be considered and discussed at length.

Summary

Harm Reduction has been shown to provide a useful link between the drug using community and official bodies. If legislative changes are to be made that classify drug use as a more serious crime that it is at present, it is essential that suitable provision be also made for the continued operation and expansion of harm reduction related services.

Drug Diversion strategies aimed at reducing the production of illicit drugs need to be expanded into other areas of industry where over the counter chemicals can be easily diverted for drug manufacture. This requires building on, and adding to present CPCDDM and related codes. Legislative changes need to fully address the concerns of increased health problems which could stem from alternative manufacturing methods.

When addressing the reported health issues associated with AOSD use, it's imperative that changes to the legal system do not result in the party drug market being amplified and radically diversified. There are no easy answers to reducing the current and growing popularity of illicit substances, but regardless, if any changes are to achieve objectives, it is vitally important that demand reduction and harm minimisation policies sit side by side with any supply reduction mandate.

Michael Brennan and John Davidson

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Inquiry into Amphetamines and Other Synthetic Drugs (AOSD)

ATTACHMENT 1: Qld Harm Reduction Groups- References

Prepared by:

Michael J Brennan, as co-representative for

Enlighten Harm Reduction

BIG DAY OUT GOLD COAST
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RAVE SAFE
RAW DIVERSITY
MS KERRY BRENNAN
29 VICTORY CRESCENT
SUNRISE BEACH QLD 4567

3RD February 2003

Dear Kerry and staff

On behalf of the producers of the Big Day Out please accept our warmest thanks and appreciation for all your assistance and hard work with this year's Big Day Out, our ninth event on the Gold Coast.

The valuable contribution you made to Big Day Out has helped us achieve another sell out attendance and a fantastic, safe and fun day was had by patrons and staff alike.

Please pass on our thanks to all involved and we look forward to another successful event in 2004.

Regards and thanks

Brian, Stuart, Sarah, Kath, Ray, Cecilia, Grant
and all of us at Team Media Rare

Brian Chladil (for Team Media Rare)
Managing Director Media Rare Pty Ltd.
Queensland Representative for Big Day Out.

QUEENSLAND POLICE SERVICE

Fortitude Valley Juvenile Aid Bureau
Cnr. Wickham and Brookes Street, Fortitude Valley 4006

TELEPHONE (07) 31311072 FACSIMILE (07) 38522813

Our Ref:

Your Ref:

12 November 2001

Kerry BRENNAN
29 Victory Crescent
Sunshine Beach 4567

Livid Festival

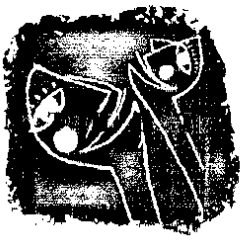
Dear Kerry

I would like to express my appreciation to you and your Rave Safe team for the professional manner in which you carried out your duties during the Livid Festival at the Brisbane Exhibition Grounds on the 13th October 2001.

I am sure that your organisation contributed to the welfare of patrons attending the event.

Yours sincerely

G.K. FISCHER
Detective Sergeant
Officer in Charge

L I V I D E  I N M E N T

TO WHOM IT MAY CONCERN.

May I introduce myself, Joc Curran, I am the Promoter's assistant for festival events including LIVID, HOMEBAKE and THE BIG DAY OUT. These events are of a one day nature, and now reach a combined audience of approximately 100 000 patrons.

I was approached by RAVE SAFE, to do volunteer work at this years HOMEBAKE, held in December 99 and BIG DAY OUT, held in January 2000. To act as a non judgemental support team, in helping young festival goers who may need to rest, relax, recuperate or seek further medical attention.

Throughout all my dealings with Rave Safe, I found the organisation to be very professional, but very approachable in their attitudes to the events and in working with the existing infrastructures of the festivals.

At both festivals it was a huge asset to have them involved and the results were very obvious in the amount of people that were responding to their facilities.

We will continue to use their services at all future events, I would thoroughly recommend Rave Safe to any possible event or organisation who may have need for their services.

I hope they can continue to provide this well needed service in the future.

Yours sincerely,

Joc Curran.

Boltcorp Pty Ltd
ACN 074 585 087
PO Box 5133 West End Q 4101
Phone: [illegible]
Fax: 07 3255 2215

Queensland Ambulance Service

To Whom it May Concern

As a senior manager with the QAS I was the responsible QAS officer in charge of ambulance services at the Big Day Out 2002. Part of my role I was to liaise with a group of volunteers known as RaveSafe. I found RaveSafe to be an excellent group of dedicated people who gave of their own time willingly for the safety of others.

I an environment such as Big Day Out young adults often do not trust the established organisations like the QAS until sometimes it is to late. RaveSafe played a key role whereby they were often a point of contact for young adults under the influence of alcohol or substance abuse. At Big Day Out RaveSafe intervened on behalf of the young adults, they offered non judgmental assistance, provided a safe environment, and worked close in hand with the QAS and St John.

I personally believe the concept to be valuable and worthy of substantial support.

Ken Purdie
QAS Regional Manger Communication
South East Region

PO Box 4
Southport 4215

6 March 2002

First in First Aid

St John

Christina Sleep, Divisional Superintendent
Stanthorpe Division
P.O. Box 258, STANTHORPE QLD 4380
Phone 07 46814 777 Mobile 0413 448 031

Michael & Kerry
Raw Diversity

Re: Exodus 2003

The purpose of this letter is to congratulate the team of Raw Diversity who provided such an excellent job at the Exodus 2003 in January 2003.

All our members of St. John Ambulance found the work and assistance carried out by Raw Diversity to be a wonderful help to both punters and first aiders alike.

Our task in first aid was made a lot easier with these volunteers, due to their knowledge of substance intervention and in attending unknown causalities. When called out to an incident both a first aider from St. John and a volunteer from Raw Diversity went together to assess the situation and assist one another. They were also invaluable in providing reassurance to bystanders, which helped to alleviate difficult situations. Their friendliness to us and their keen interest to educate us about substance abuse was very well received by all St. John members.

I would welcome the opportunity to work with members of Raw Diversity at any future event at any stage.

Once again, a big thank you for a job well done.

Christina Sleep

Divisional Superintendent
Stanthorpe Division

Southport Division

St. John Ambulance Australia (Qld)

P.O.Box 573
Runaway Bay
Qld 4216

Ph/Fax: (07) 5577 2276

29 April, 2000

Re: Assistance from RaveSafe at Homebake and Big Day Out

TO WHOM IT MAY CONCERN

As first aiders, we are extremely busy at all concerts. Injuries and illnesses we encounter vary from spinal injuries and drug and alcohol overdoses, to dehydration and heat exhaustion.

The assistance provided by the RaveSafe team at the *chill-out tent* enabled us to treat the casualties who required medical assistance rather than those who needed a place to rest and cool down. They also looked after the people we had already treated but who still required observation.

Their help made our job so much easier and one of our members commented on how professional and helpful the RaveSafe volunteers were.

As Superintendent of Southport Division I would like to see the RaveSafe volunteers continue their work at concerts and large events, and look forward to their assistance in the future.

Should you have any further questions, please don't hesitate to contact me on the above phone number.

Yours sincerely

Serena Reeves
Superintendent

FIRST -AID SAVES LIVES

ATTACHMENT 2: Sabre 4000

SMITHS DETECTION
Technical Information

smiths

SABRE 4000

HAND-HELD TRACE DETECTOR FOR EXPLOSIVES, CHEMICAL AGENTS, TOXIC INDUSTRIAL CHEMICALS OR NARCOTICS

Feature Highlights

- **Lightest trace detector available**
- **Added TIC detection capability**
- **Analyze either particle or vapor samples**
- **Weighs 7 lbs. with the standard 4-hour battery**
- **3.5" color TFT display**
- **Automatic analysis results in seconds**
- **USB port**

FROST & SULLIVAN
Chemical Detection Product of the Year Award

For those who work tirelessly to protect the public, everyday presents a new challenge. What will you be faced with today? Strange odors? Suspicious packages? Drugs?

You need to have an instrument by your side that can detect the widest range of substances.

The SABRE 4000 is the only portable trace detector that can detect threats from explosives, chemical warfare agents, toxic industrial chemicals or narcotics.

The *SABRE 4000* can detect and identify over 40 of these threat substances in approximately 20 seconds. With a cold time start of 10 minutes and weighing approximately 7 lbs. including the 4-hour battery, the SABRE 4000 is a small, powerful ally in the war on terror and drug trafficking.

With the added TIC detection capability, new features such as the 3.5" color TFT display and standard 4-hour battery, the SABRE 4000 is still the smallest, lightest hand-held trace detector available. It is also the only one that can detect and identify all the threats you face.

SABRE 4000

Trace Detection
A detection using the SABRE 4000 means that traces of a target substance have been found on the item sampled. This in turn means that the item or its handler has been in contact with the identified substance and appropriate actions need to be taken.

Sample Collection
Proper sample collection is key to the success of any trace detector. The versatile SABRE 4000 is capable of analyzing either trace particle or vapor samples, allowing the operator to apply the ideal sampling technique for the substance suspected.

For example, most explosive and narcotic substances do not have a strong vapor presence and in the real world are very difficult to detect by vapor. Therefore, the most reliable collection and analysis method for these substances is particle collection. The nature of CW Agents and Toxic Industrial Chemicals make vapor sampling more appropriate for detecting these substances.

The SABRE 4000's ability to analyze either trace particle or vapor samples lets the operator decide which sample collection method will yield the most accurate analysis results.

Technical Data

Technology	Ion Mobility Spectrometry (IMS)
Drugs Detected	Cocaine, Heroin, THC, Methamphetamine and others
Explosives Detected	RDX, PETN, TNT, Semtex, TATP, NG, Ammonium Nitrate and others
Chemical Warfare Agents Detected	Nerve and blister agents such as Tabun, Sarin, Soman, Cyclosarin, Agent VX und V_X, Nitrogen Mustard 3 and others
Toxic Industrial Chemicals Detected	Hydrogen Cyanide (HCN), Phosgene, SO_2, NH_3 and others
Display	3.5" TFT color display
Ready Time	Under 10 minutes from cold start
Analysis Time	Detection in 10 seconds, complete analysis in 20 seconds
Weight	Under 7 lbs. (3.2 kg) with the 4-hour battery
Size	14.5" x 4" x 4.5" (36,3 x 11 x 13 cm)
Operating Temperature Range	32°F to 113°F (0°C to +45°C), less than 95% relative humidity, *non-condensing*

Options
Protective cover with shoulder strap

Color-coded display shows status of instrument. Green when ready, yellow when analyzing and red when a detection is made.

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