

30 Years of Harm Minimisation – How Far Have We Come? (An Australian Perspective)

Evidence based review of the influence and impact on drug use in Australia under the ‘Harm Minimisation Strategy’.

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Abstract

The aim of this paper is to examine the period from 1985 until the present to critically evaluate the success or otherwise of the strategies to combat the harm associated with drug use in the Australian community including prevalence of drug use, drug related (overdose) death and transmission of infectious diseases. The strategy was ostensibly a three pronged approach to reduce supply, demand and harm to the community. The overall objective was to reduce the availability and accessibility of harmful drugs and to reduce the level of drug use. This paper presents the evidence to show that instead, policies that promoted greater permissibility and acceptance of drug use and a curtailment in supply and demand reduction strategies were implemented, and that such policies failed to reduce harm. The evidence from the period between 1998 and 2004, when a more stringent deterrent and supply reduction approach to illicit drug use was enforced, showed a clear decline in drug use and drug related harm when compared to the periods preceding and following this period when harm reduction strategies dominated.

An examination of the emerging evidence of the direct impact of harm reduction policies, such as needle exchange opiate substitute treatment and injecting facilities, shows that it has failed in reducing harm either to individuals as BBV infection has increased despite heavily funded harm reduction policies. Moreover, harm to the community has increased given the evidence of the detrimental effect that illicit drug use has on families. The emerging evidence indicates a potential upsurge in HIV and STD infections due to the rise in unsafe sex, stimulated by increasing use of stimulants, ICE in particular. To take a broader view of the evidential base this paper also examines the impact of various policies implemented in other countries and compared them to Australia.

To conclude, this paper makes several key recommendations based on the evidence. These include prevention including education about harm, early detection, including drug testing, mandatory treatment where individuals, families and communities are at risk of imminent harm, monitoring of methadone programs to ensure some exit strategy is included and trialling of naltrexone as a treatment option.

30 Years of ‘Harm Minimisation’ – how far have we come?

“Even the most ‘rational’ approach to ethics is defenceless if there isn’t the will to do what is right!” Alexander Solzhenitsyn

Introduction

The aim of this paper is to examine the period from 1985 until the present to critically evaluate the success or otherwise of the strategies used by Governments to combat the harm associated with drug use in the Australian community including prevalence of drug use, drug-related (overdose) death and transmission of infectious diseases. The strategy was ostensibly a three-pronged approach to reduce supply, demand and harm to the community. The overall objective was to reduce the availability and accessibility of harmful drugs and to reduce the level of drug use.

However, over time this objective was increasingly aimed at reducing harm to those who used drugs irrespective of levels of drug use and harm to the broader community. The impetus for this shift was the belief by many who designed and implemented drug policy that most people who used drugs, including those who injected them, experience little or no harm, that to use drugs recreationally and for pleasure was a legitimate lifestyle choice and that society was obliged to minimise the harm associated with drug use. However, this view seemed to be mainly associated with the use of illicit drugs, such as marijuana, heroin, ecstasy and stimulants such as cocaine and methamphetamines. Drug testing or detection methods such as sniffer dogs, road-side driver testing and searches, especially of school children or employees was considered an infringement of their human rights and an invasion of privacy (Reece, 2007; Sullivan, Buckingham, Maley & Hughes, 1999).

While it seems that the majority of Australians do not agree with this attitude the effect has been that the use of illicit drugs has increased and Australia has one of the highest rates of illicit drug use and subsequent harm compared to other developed countries (Reece, 2007).

On the other hand, the attitude of those who designed and implemented drug policy toward other, mostly legal drugs was different. The strategy was designed to make these other drugs less available and to reduce the number of users. Prescription drugs should be controlled by existing laws and medical authorities, and unauthorised and recreational use should be prohibited. Nicotine use should be discouraged, anyone smoking in public areas should be prosecuted, the price increased to deter use, that very confronting health warnings and public education campaigns against use be funded and deterrents and prohibitions enforced to prevent underage and other populations from using the drug. Alcohol be banned for those under 18 and should be enforced, sales and advertising strictly controlled and that people drinking alcohol and driving, using machinery or in positions where public safety was compromised should be prosecuted and trading hours restricted. Compulsory or random testing for alcohol impairment was accepted in many workplaces.

The evidence is clear that levels of usage of nicotine and alcohol has declined and that the harm has been reduced in overall terms. Since 1993 the proportion of people over 14 who smoke daily has declined from 25% to 15.1% in 2010 (Australian Institute of Health and Welfare, 2010) and to 12.5% in 2014 (Australian Institute of Health and Welfare, 2014). More modest reductions in alcohol use and harm have been achieved, seemingly, as laws on alcohol supply have not been toughened due to the influence of the alcohol lobby.

Notwithstanding, levels of alcohol consumption have declined from 10.2% of the population in 1991 drinking daily to 7.2% and from 41% drinking weekly to 39.1% in 2010 and from a single drinking occasion the proportion of risky drinkers declined from 41.5% in 2007 to 39.7% in 2010 (Australian Institute of Health and Welfare, 2010). The latest research shows that alcohol fuelled violence has declined significantly due to changes in early closing and lockout laws being enacted in Sydney and elsewhere (NAAPA, 2014). The same strategies were applied to road safety with much more impressive results due to a political imperative to respond to public concerns and the absence of significant opponents. Road fatalities have declined from over 3295 per year in 1980 to some 1193 in 2013 annually despite a much higher level of vehicle use. The reduction in fatalities is largely associated with random alcohol testing and severe penalties for drink-driving combined with safety awareness programs. In terms of population road deaths declined from 22.27 per 1000,000 to 5.16 over this period (Australian Bureau of Statistics, 2013). With strict enforcement of rules and regulations, and as rates of nicotine and alcohol use and road fatalities have declined, so the harm and cost to society has declined over the past 30 years.

This seemingly contradictory position was indicative of a social agenda, albeit mostly unacknowledged, by those who influence and set national policy and in contradiction to the attitude of the general public (Australian Institute of Health and Welfare, 2010; Australian Institute of Health and Welfare, 2014). What is considered ethical and moral, even though it seems to apply different standards in different situations, is usually arrived at by way of consensus. However, how this is translated into policy may not reflect that consensus. Whatever position is adopted is not always based on fact or evidence as the very nature of ethics is dependent on value judgements which can be influenced by evidence. However, it is the perceived nature (or interpretation) of the evidence, as well as what is accepted as evidence that is most influential. People differ to the extent that they are exposed to cultural influences or peer behaviour and by knowledge of the facts surrounding ethical or moral issues and the extent to which these beliefs impact on their attitudes. The way in which a society deals with illicit drugs and the harm to individuals and society is an important ethical decision that is influenced by individual experience, including self-interest and the social or cultural group to which people belong.

The reasons for these differences are complex and are explained by a number of factors, including: age, gender, educational and socio-economic status, ethnic origin and strength of religious views and exposure to information about illicit drugs. On one side, differences in attitude can range from a desire to uphold the rights of individuals to use drugs without

interference from the state, to compassion for the drug user and concern about the harm associated with unregulated and illegal use of drugs.

Conversely, attitudes can range from misgivings about the impact these permissive attitudes have on the vulnerable, including youth and mentally ill people to a belief that drug use is harmful to society as a whole and should be treated like any other behaviour that is a threat to civil order and the rights and safety of others. At one extreme are those arguing that there should be no restrictions on drug use. At the other extreme are those who believe that drug users should be prosecuted or at least mandated to have treatment in an effort to protect the community from harm that is either threatened or is done to others. These differences in beliefs held for cultural reasons, seem to influence attitudes to drug policy. Hence, differences in attitudes about the reasons for and harm associated with drug use are considered to be significant barriers to consensus (Rumsey, Hurford & Cole, 2003; Hyde, Wihardjo & White, 2012; Hyde & White, 2007; Newton, Burney, Hay & Ewin, 2010).

A closely related system of ethics relates to the law wherein either common or customary law or statute law is arrived at by consensus with the aim of protecting the rights of individuals and the protection of the community although sometimes these aims are in conflict. There are certain legal principles or foundational tenants of law that seem relevant to the use of illicit drugs. The first is that often laws are enacted as a deterrent to minimise acts that could cause harm. The second principle is that the law seeks to assign liability for harm. This is an important 'after event' pillar that ensures at least two things: firstly, those causing harm are brought to account and held responsible (punitive) and secondly, to determine what, if anything could be or has been done to negate, prevent or remove that harm.

When harm is caused by something or someone, then that cause needs to be held accountable. Responsible, safe, caring and functional societies need these laws to protect their communities.

Within the legal framework, the first principle establishes an expectation that pre-empts the facilitation of harm and endeavours to place social impositions to minimise the precipitation of harm. One such imposition is known as a 'duty of care'. There have been a number of legal interpretations of this principle, yet a couple of landmark legal cases saw the emergence of the following definition of 'duty of care' under what is known as the 'neighbour' principle:

"To avoid acts which you can reasonably foresee would be likely to injure persons who are so closely and directly affected by your act that you ought reasonably to have them in contemplation as being so affected when directing your mind to act in question"(Donoghue v Stevenson, 1932, and Caparo Industry PLC v Dickman, 1990)

Again a conflict arises as it is unclear to whom the duty is due as this is a matter of prevailing attitudes. In relation to drug use, is the duty of care to the broader society and those who

are yet to be harmed? Or is the duty of care due to the person who is at immediate threat of harm, either by their action or that of another?

When it comes to nicotine, alcohol and road safety the protection of the community comes first despite the possible infringement of freedom of individuals. Society expects that laws will protect its citizens, especially the young or vulnerable, from harm even if that infringes on others who want to use drugs. However, it is the drug user who is the one who will come to the attention of those who provide care from the health and social support systems. The decision as to the type of care that best protects a drug user involves a value judgement. If the user continues to use drugs and the carer takes no action to prevent harm then some harm will be inevitable and will not be alleviated and the onus may fall on the carer. If drug use is ceased either coercively or voluntarily and is resumed at some later time then the onus then falls back on the individual not, the carer, unless drug use is seen as involuntary or inevitable. From a logical perspective it seems that the duty of care is to provide the means to cease drug use, in the wider interests of society, to individual drug users.

Attitudes and behaviours of peer groups have a significant influence on behaviour as indicated by use of drugs and also by their respect for legal conventions. The conclusions drawn from the (Australian Institute of Health and Welfare, 2011) is informative. It states that people who used drugs on average had a more accepting attitudes towards drugs, were less likely to support measures to reduce harm and that recent drug users (both licit and illicit) were all more likely to support policies that legalised drugs, to approve of regular drug use, and showed less support for measures aimed at reducing harm associated with drugs. Also, knowing someone who has used drugs without obvious harm and has been prosecuted for drug use or, having a family member die from drug use tends to predict more permissive attitudes and less respect for the law around drug use and possession (Australian Institute of Health and Welfare, 2011).

Notwithstanding, the history of drug policy and the evidence that directly relates to the harm that arises from or is averted by these policies and practices must have a bearing on what future policy should be adopted and on the attitudes of the community.

The need to devise the best strategies to influence consensus are of some importance as authorities, while wanting to discourage drug use and to reduce harm to the community need also be mindful of the sensitivities of people on the issue and the rights of people to make free and informed decisions for themselves. Unlike some other countries Australia adopts a policy that emphasises the rights of citizens to make free choices as opposed to the rights of those who need to be protected.

Despite the human rights issues, as shown by the overwhelming response to illicit drug use the consensus should be that the use of illicit drugs is not acceptable. The National household surveys on drug use (Australian Institute of Health and Welfare, 2007, 2008, 2011 and 2014) show that the vast majority of Australians continue to disapprove of illicit drugs

and their use: 99% don't want use of hard drugs like heroin and amphetamines accepted and 98% disapprove of regular cannabis use; 95% don't want hard drugs legalised and overwhelmingly, the use of illicit drugs by adults continues to not be acceptable, as was the support for increased penalties for the sale and supply; 94% don't want use of cannabis accepted 79% don't want cannabis legalised; and, most Australians want tougher penalties for drug dealers (Australian Institute of Health and Welfare, 2008 & 2011).

Accordingly, issues of duty of care should to be more aligned with the duty to those who are vulnerable to being influenced to use drugs rather than those who choose to use them. Public opinion seems far removed from a position of tolerance for those who think it is their right to use illicit drugs and who want them legalised. The average Australian does not accept this argument as being responsible any more than the argument that drink driving is a right or socially acceptable.

Advocates of the right to use drugs would say that most users do no harm to themselves or others and that it is only a minority who become dependent, who need admission to treatment and who commit crime or acts of violence when under the influence of drugs. The same argument can be applied to drink driving. Most people who drink and drive do no harm. They get away with it. However, the frequency of harm done justifies the need to prohibit everyone from drinking and driving. For example, compared with 2007, there was higher support in 2010 (Australian Institute of Health and Welfare, 2008; Australian Institute of Health and Welfare, 2011) for alcohol reduction measures related to venues, such as restricted trading and limiting the number of venues. Most people would accept this position and see drug use as no different. If avoiding acts that are easily seen to facilitate injury to members of the community then the contemplation of potential harms by drugs that may be released, facilitated, presented or permitted, should be at the forefront of consideration in legislator's minds. What should also be intently focused on by these legal architects is not only the wider community, but as importantly the vulnerable, the young, mentally ill, socially isolated, poor, and homeless. Drug legislation that has such communities, families and individuals in mind, will ensure all measures of 'care' are taken to avoid these potential harms being perpetrated.

It follows that the application of this Law or Legislation regarding 'duty of care' in the Alcohol and other Drug arena should not only intervene to break the cycle of conduct we now see but further influence the drug using person into a healthier and safer drug-free focused recovery process. In this case, it seems that harm is reduced for both the drug user and the wider community.

In terms of consensus, it seems that health-care and social welfare professionals should see this as their proper duty of care rather than to facilitate conduct that enables continued dysfunction. Furthermore, this understanding of the duty of care should be at the very core of legislation that has to do with alcohol and other drugs. Moreover, this principle of law that should be the platform for all Australian Drug Laws.

However, the beliefs or attitudes of a community are not necessarily indicative of the evidence that should inform these opinions. It may be that the majority are misinformed or guided by prejudice or self-interest.

To facilitate the aim of this paper examines the evidence of the impact of drug policy over the past 30 years in Australia. The evidence bears on the level of harm that has been caused by or averted over this period to both users of drugs and the broader community.

It is proposed that four major areas of evidence indicate the success or otherwise of a strategy of harm reduction that has dominated drug policy for the last 30 years.

Firstly, the well-documented impact of the Howard Governments "Tough and Drugs" period and comparing that policy outcomes to the periods before and after, and secondly, the research (Colquhoun, 2010, Colquhoun and Christian, 2013) that has examined the direct impact of harm reduction policies such as methadone (opioid substitution therapy), needle syringe programs and supervised injecting facilities on rates of drugs use, death rates associated with illicit drug use and rates of transmission of HIV and HCV, which were strategies specially designed to reduce these rates. This examination of the evidence is designed to guide future policy to reduce the overall harm from illicit drug use.

Thirdly, this paper examines the strategies that have been successful in respect of other social issues that cause harm, such as alcohol, nicotine use and road safety. It then compares these outcomes to those achieved in respect of illicit drug policy. In the case of alcohol and nicotine use and road safety, the evidence indicates that policies that force changes in behaviour in the community tend to reduce the level of harm. The paper considers how outcomes may have been different had similar strategies to reduce drug harm had been implemented.

In conclusion, this paper looks at the experience of other countries that have implemented harm reduction policies. Notably, Portugal which decriminalised drug use in 1999 and Sweden that enacted a 'zero tolerance' strategy to combat drug use. A comparison of drug policies in Portugal, Sweden and Australia, and of drug usage and associated problems in the three countries, is highly suggestive of the comparative efficacy of the different approaches (Sullivan, 1999).

Background: The Evolution of Policy from Prevention to Harm Reduction

In 1985 in response to the outbreak of HIV/AIDS the issue of individual rights came to have a major influence on policy formation. A policy of harm reduction was adopted as a progressive strategy that exempted the behaviour that led to the spread of this disease and placed the responsibility on the rest of society to prevent harm. In time, this same attitude was adopted in respect of illicit drug use and illicit drug users as it was assumed that injecting drugs was a primary means of transmission of HIV. The primary focus of drug

policy shifted from the rights of the community and the responsibility of individuals to act in accordance with accepted social standards and away from drug use, to drug use as being defined as a legitimate lifestyle choice. The main thrust of policy was to protect society from the spread of HIV/AIDS, not drug use, as "HIV infection represented a greater threat to the community than drug use itself" (McKeganey, 2007; Penny, 1989).

Drug abuse treatment had been the focus in addressing client's drug dependency needs however a fundamental change in drug policy and provision occurred as a result of this belief. This paradigm shift toward harm reduction, not only made HIV prevention the major aim rather than reducing drug use, it also concentrated on injectors and injecting drug use as opposed to those using illegal drugs by other means, thus recognising that given the means (sterile injecting equipment, condoms) injecting drug users would seek to reduce their chances of becoming HIV positive. While the stated intention of drug policy was to minimise harm to the community that regardless of definitions or even intent, the first major step toward 'drug normalisation' was taken (McKeganey, 2007). In ADCA's (2000) report, a Parliamentary Committee recommended Governments should increase funding for prevention and early intervention, reduce substance misuse by Aboriginal Peoples and Torres Strait Islanders, provide support to families, reduce alcohol-related violence and disorder, develop a national approach to preventing and treating mental health and substance misuse problems, develop a national workplace alcohol and other drugs policy, a balanced national drug research, evaluation and monitoring agenda, reduce the high levels of smoking by young women, reduce the misuse of prescription drugs by older people and reduce fatal heroin-related overdoses, including the use of naltrexone. They were clear that prevention and early intervention, law enforcement, effective treatment and research should be prioritised stating: "Prevention and health promotion needs to be repositioned as key priorities in the national strategy and adequately resourced" (p9) with the aim of reducing the misuse of drugs. At the end of the report they make brief reference to trialling prescription heroin and safe injecting rooms although the focus of the report at that time was on supply and demand reduction.

According to the "National Drug Strategy" (National Drug Research Institute, 2008), the philosophy of harm minimisation that has underpinned Australia's National Drug Strategy since 1985. Harm minimisation aims to reduce harm to individuals and communities for those who continue to use drugs. There will always be a need to protect people from the harmful consequences of drug use. As harm minimisation focuses on the harms caused by drug use, it provides a framework in which a range of strategies can be legitimately used to achieve the overall goal. Strategies can be broadly classified into three areas: Supply reduction - reducing and controlling the amount of drug available; Demand reduction - encouraging people not to use, to delay use, or to use less of a drug; and Harm reduction - helping to reduce harm arising from drug use for those who continue to use

Sullivan (1999) put this balance between the protection of society and the individual user in clear terms. It is suggested that "Harm Minimisation" policy in Australia meant following

policies to achieve the lowest possible level of drug use. Therefore, policy should be designed to ensure the lowest possible harm as a result of drugs, to those who continued to use them, and also to non-drug-users who were adversely affected by the behaviour of those who did. She thought that the most effective policies for minimising usage tended not to minimise the harm caused by drugs among a few persistent drug users. However, the most effective policies in minimising self-inflicted and social harm of persisting drug use may raise population levels of drug usage. To Sullivan, it seemed sensible not to implement policies that reduced harm to and by drug users. More so, if at the same time, the number of drug users was raised and hence a greater potential for more harm to the community resulted. However, the rationale behind the harm minimisation policy that prevailed was that the drug use need not cause harm and could be purely recreational. Therefore it should not be illegal, and hence harm minimisation policy should concern itself only with problem drug users. It seemed that 'harm minimisation' proponents opposed the primary component of a balanced policy: the illegality of drug use and supply, policing and the justice system, and policies that were antagonistic to harm minimisation. Meanwhile, their favoured policies persistently undermined the effectiveness of the primary strategies. She held that this mutual antagonism need not occur (Sullivan, 1999).

The new interpretation of the original policy became synonymous with the promotion of 'safer drug use' and the passive promotion of 'normalised' illicit drug taking. The rights of the drug user seemed to take precedence over the rights of the community. By 2007, definitions and interpretations were becoming widely independent of National Strategies. The statements of Hume Health in Victoria exemplify this shift:

"A harm minimisation approach accepts that:

1. Drug use will continue to be part of society;
2. The eradication of drug use is impossible;
3. Continued attempts at eradication may well result in increasing harm to society."

As a matter of practical application, it made some sense and many drug and alcohol counsellors adopted this principle of harm minimisation in their work. No longer was the primary aim to assist people to stop problematic drug use, including for those people who sought this type of solution. The primary aim was to help the person to survive their drug use and reduce the damage associated with the drug use. Advocates of harm minimisation did not take a position on whether drug use is intrinsically a good or bad thing; they sought either to 'punish' or 'cure' the drug user. This approach accepted that people make choices whether to use drugs or not: "Some will choose to use them, while others will not". For them, the focus was to prevent harm while a person used the drug, not on whether they made the right choice. Therefore, workers shouldn't pressure users to give up a drug if they

don't want to: rather their aim was to change dangerous practices associated with their drug use (Hume Health Victoria, 2007).

The National Drug Strategy noted the key features and principles that harm reduction should include:

- "• That the primary goal is reducing harm rather than drug use per se;
- That it is built on evidence-based analysis (strategies need to demonstrate, on balance of probabilities, a net reduction in harm);
- That there is acceptance that drug use is a part of society and will never be eliminated;
- That harm reduction should provide a comprehensive public health framework;
- That priority is placed on immediate (and achievable) goals; and
- That pragmatism and humanistic values underpin harm reduction" (NSW Government, 2007, p134).

Illicit drug use within the harm minimisation framework was to advocates of Harm Reduction, an acceptable lifestyle choice. Quoting one submission:

"One Australian family support service redefined the concept of 'success' and utilised harm reduction strategies in its work with families. Our definition of success does not incorporate drug-free status as a definite and primary outcome. Instead we find that the by-product of having support, collective wisdom and coping skills is that the drug user is often healthier and moving more positively and quickly through his or her 'Stages of Change'" (House of Representatives Standing Committee on Family and Human Services, 2007).

This view of 'success' was shared by some drug treatment service providers. However, the New South Wales Government signalled such an attitude was unacceptable by announcing as its state plan target to "hold the proportion of people using illicit drugs below 15 per cent" (NSW Government, 2007, House of Representatives Standing Committee on Family and Human Services, 2007).

Another advocacy group considered that:

"A harm minimisation approach, as it is applied to drug use, considers the actual harms associated with the use of a particular drug (as well as, but not exclusively of the drug itself), and how these harms can be minimised or reduced. It recognises that drugs are, and will continue to be, a part of our society and that prohibition has historically been a counterproductive policy" (House of Representatives Standing Committee on Family and Human Services, 2007)

This approach was also advocated by Youth Substance Abuse Service, who considered that:

"While the National Drug Strategy 2004-2009 reinforces non-use as a desirable option it retains a level of pragmatism and recognises legal and illegal drug use and misuse will occur, despite the best efforts of all who seek to address illicit alcohol and drug use in the community" (House of Representatives Standing Committee on Family and Human Services, 2007).

Professor Margaret Hamilton, previously deputy chair of the now disbanded Australian National Council on Drugs (ANCD), stated that the harm minimisation approach accepted that:

- "• Psychoactive substances are and will continue to be part of our society;
- Their eradication is impossible; and
- The continuation of attempts to eradicate them may result in maximising net harms for society" (Hamilton & Rumbold, 2004, p 134).

Other elements of harm minimisation cited by Professor Hamilton were that 'harm minimisation assumes that an acceptance of abstinence is irrelevant' and that it was a value-neutral term that avoided moralistic arguments about whether drug use is inherently 'bad' or 'good', noting that: From the perspective of harm minimisation, drug use is neither good nor bad. This morally neutral stance has made it possible to begin to move away from a punitive and condemnatory approach toward a more humane framework.

Professor Hamilton also questioned the Prime Minister of the time, John Howard's policy stance of zero tolerance, stating that:

"Debate about [the application of harm minimisation] to the education area and to young people has continued. This has included the articulation by the Prime Minister John Howard of an apparently inconsistent policy stance of zero tolerance in the drug area and a subsequent explanation that this referred to a policy approach in the school context" (Hamilton & Rumbold, 2004).

It seems that the aim of a range of advocacy groups is to highlight only one component of Harm Minimisation; 'Harm Reduction' to the point where it dominates the policy and displaces the policy of prevention.

The original drug strategy had clear intention of trying to introduce another option for the recalcitrant or heavily dependent drug user (other than cessation and recovery), which might perhaps reduce the risk of accidental death. At the same time, the policy still enshrined prevention, early intervention and even abstinence as key elements of the policy. However, over time the policy shifted and seemingly undermined the original intent to the point that prevention and abstinence was less relevant with emphasis being placed on policies that seem to promote 'safe' drug use (Sullivan, 1999).

The shift in policy from an emphasis on prevention, education and supply and demand reduction is clearly illustrated by the shift in the position of such organisations as ADCA (2013). In 2000 ADCA's stated aim was to focus on prevention and treatment to reduce drug misuse and harm; by 2013 it was to reduce harm irrespective of levels of drug use: "Policy emphasis should shift towards health and human rights, noting that more effective responses to illicit drug problems require a primarily health and social approach. Health and social approaches are more effective, have fewer unintended negative consequences and are more cost-effective" (p6). This was rationalised by stating that the original intent of the harm minimisation approach of the National Drug Strategy was founded on the premise that: "it does not take a position on whether drug use is good or bad, rather it recognises that people will choose to take drugs regardless and focuses on reducing the harm associated with that use"(p2). Not only was this never the intention of the original architects of Australia's drug policy (Sullivan 1999), the 'revision' sends an unambiguous message to our community that drug use is inevitable and that drug use is normal. In fact a Parliamentary Family and Human Services Committee in 2007 confirmed that the original intent was to reduce and control the amount of drug available; encouraging people not to use, to delay use, or to use less of a drug; and to help reduce harm arising from drug use for those who continue to use. Moreover, they were concerned that the term harm minimisation appeared to encourage the maintenance of a drug habit and gave rise to the idea that taking drugs is alright. Instead, a prevention framework for the National Drug Strategy would be better than harm minimisation as it had come to be interpreted and more accurately reflect the community's sense of the best approach to substance abuse. Just as the ADCA had advocated in 2000, they recommended that harm prevention and treatment should be the focus of the National Drug Strategy and should move from a harm minimisation to a harm prevention and treatment approach.

The next section critically examines the evidence concerning the effectiveness of this harm reduction strategy on drug use and the harm to the Australian community. It is only in hindsight that the facts have emerged to enable society to reach a consensus and to implement effective policies in the future.

The Evidence on the Impact of Harm Minimisation

To critically examine the evidence of the impact on the levels and the harm associated with drug use of harm minimisation programs in Australia, which have held sway since the 1980s, there are two avenues for evaluation. Firstly, in the late 1990s there was a decisive shift in drug policy instituted by the Government of John Howard and implemented by the ANCD and its Chair Major Brian Waters. The move toward a more robust anti-drugs program, known as 'Tough on Drugs', resulted in very significant declines in drug use, particularly heroin that had reached unprecedented levels by the late 1990s (Degenhardt, Randell, Hall, Butler, & Burns, 2009). The evidence shows that the policy change had a dramatic impact on

drug use for the period immediately following its implementation and that when the policy ended drug use under a renewed emphasis on Harm Minimisation gradually increased.

The second avenue for evaluation is now to examine the emerging evidence directly related to the impact of Harm Minimisation policies, drug use rates and drug-related harm. At the time, that policies implemented under harm minimisation were introduced they had not been evaluated as no studies had been done. They were implemented for ideological reasons and because of the alarm that the rise in HIV cases caused. For example drug use, particularly drug injection was seen as a primary means of transmission of this disease. This mode of transmission has now been shown to be an unproven assumption, but it led to funding of national needle exchange and opiate substitute programs.

The next section examines evidence of the impact of the Howard Government 'Tough on Drugs' policy.

Tough on Drugs

Australia, implemented a 'Tough on Drugs' program in the late 1990s. During a time when for example, Police turned a blind eye to drug dealing in Cabramatta, the price went down, the selling became open (and many young people went there believing they would not be troubled if they wanted to try the drug for the first time and developed a habit), the use of the drug in Sydney exploded as did the death rate (Degenhardt et al., 2009).

The same thing occurred in varying degrees in other states and cities across Australia. With the coming to power of the Liberal Government in 1998 in Canberra, there was a shift in policy direction from harm minimisation and reduction to harm prevention, albeit under the broader banner of harm minimisation. This policy placed less emphasis on harm reduction and minimisation, that is, the rights of those who want to use illicit drugs, and more on preventing harm to those who were yet to experiment with drugs and the rights of the wider community who did not use illicit drugs. Hence greater emphasis was given to supply reduction and interdiction, demand reduction and prevention, mainly through education and deterrence, diversion programs and treatment with abstinence as the ultimate goal.

At the time, those who advocated for the continuation of harm reduction and minimisation policies fell into two broad and overlapping camps. Those who argued for the rights of drug users to be able to choose to use illicit drugs because they enjoy it (Madden, 2004; Hathaway, 2002), and those who argued that those who use illicit drugs are often the most marginalised groups who are alienated from the mainstream and suffer mental health problems which they medicate using these drugs (Goodfellow, 2004). In both cases they saw the shift to harm prevention, with an emphasis on deterrence and treatment, as an infringement on the civil liberties and persecution of these groups. For Madden (2004) the House of Representatives Standing Committee on Family and Community Affairs report "Road to recovery: Report on the inquiry into substance abuse in Australian communities" (House of Representatives Standing Committee on Family and Community Affairs, 2003)

spelt out the new, upcoming National Drug Strategy incorporating “harm prevention” to replace the harm minimisation approach. For Madden, harm prevention was seen as a two-pronged approach which included: prevention of all illicit drug use in the first place via supply and demand reduction strategies; and the promotion of drug treatment that sees abstinence from all drug use as the ultimate outcome.

Madden (2004) said that it carried the message that people who used illicit drugs had “self-inflicted” problems. Therefore, they do not deserve protection in terms of their health and human rights, do not deserve to be treated with dignity and respect, should at best be viewed as “sick” and as “victims” and should only be given two choices: don’t use drugs in the first place or stop using; or, if you can’t stop, “go into drug treatment but you must have life-long abstinence as your only goal” (House of Representatives Standing Committee on Family and Community Affairs, 2003).

The latter group viewed drug addicts as victims. They suggested that the reasons why some people may use and ultimately become dependent upon certain drugs are largely social and environmental and that genetic factors often predispose some people to addiction (Goodfellow, 2004). Goodfellow listed some of the risk factors which impact upon young people associated with drug dependence later in life including: depression, suicidal behaviour, exposure to crime, risk of homelessness, extreme economic deprivation, family conflict, low literacy and limited education, social isolation, and a lack of appropriate community education about drug use and harm reduction (Hawkins, Catalano & Miller, 2000).

Advocates of harm reduction suggested that a “zero tolerance” policy and deterrence, which the National Drug Strategy enshrined, tended to neglect the needs of those caught up in addiction. This was especially the case for those with social or psychological problems and could manifest as the persecution of these vulnerable groups. At the same time it had the effect of young people having easier access to addictive drugs and the harms associated with them as these policies tended to increase permissibility, availability and accessibility thus downplaying responsibility to the welfare of the community as a whole. The cry was that the “war on drugs” was not winnable, and so we should abandon the fight (Lang, 2004; Hamilton, 2004; Madden, 2004)

Sullivan (1999) argues that during the 1990s the majority of positions of public influence in the drug policy field were appropriated by proponents of ‘harm minimisation’. They had the ability to block, ignore or disregard research or argument that was contrary to their position. Further she argues that those with a particular interest in a field with socio-political as well as scientific ramifications (such as AIDS and drug use) set up the first specialist research units and research funding favoured institutions that advocated a harm reduction approach (Sullivan, 1999).

The Liberal Government at the time resisted this version of harm minimisation and attempted to implement the more balanced Swedish model. Despite the protests of a few

pro-drug advocates and the entrenched bureaucracy, increased law enforcement and interdiction, heroin use and overdose deaths declined dramatically (Sullivan, 1999).

Contrary to the suggestion that the “war on drugs” was not reducing drug use, the well-documented decline in the numbers using drugs and dying of overdose indicated that the reduction in supply and increased legal penalties seemed to result in a reduction in demand. It seemed that for policies to be effective they needed to be part of a broad-based and coherent policy on preventing harm from drug use. Just as a reduction in harm was associated with a reduction in supply, there also seemed to be benefits arising from abstinence-based treatments for those who wanted it (Sullivan 1999). The evidence was convincing that there was an overall reduction of heroin, an increase in price and reduction in purity and consequently in drug use and related harm, particularly of intravenous heroin use.

The death rate from overdose of opiates among persons aged 15-54 years increased from 36.6 deaths per million persons in 1988 to 101.9 in 1999 before falling rapidly again to 34.6 deaths per million persons in 2001. It subsequently declined to 31.3 deaths per million persons in 2004 (AIHW, 2008). Australia also had very well-funded and widely available harm reduction programs including Needle and Syringe (NSP) and Opiate Substitute Treatment (OST) Programs and yet despite these, HIV incidence continued to increase in the years preceding the 'Tough on Drugs' strategy, suggesting that harm reduction interventions that target it had little relevance. The pattern of HCV incidence in Australia shows a consistently increasing rate of HCV infections to a peak of 14,000 new HCV seroconversions in 1999. In other words despite the implementation of harm reduction strategies in Australia HCV rates increased. Surveys of IDUs using NSPs also found that HCV incidence declined in 2001 and 2002, followed by a plateau in 2004 and 2005. This decline coincides with the overall reduction in drug use following implementation of strongly enforced supply and demand strategies of the Australian 'Tough on Drugs' years (Degenhardt et al., 2009; Crofts, Aiken, & Kaldor, 1999).

However, in the face of these irrefutable reductions in drug use during this period, especially heroin supply and heroin-related deaths, the advocates for harm reduction suggested that other factors were responsible. They claimed that the 'heroin drought' was more related to a decline in opium production in South-east Asia and not the effect of the Howard Government policies. This has been shown to be "the least plausible explanation" as it did not explain why supply was not affected in other countries with no reduction in other drug use. Moreover, subsequent research has found it was domestic policy and not changes in drug production that was responsible for the changes that made such a difference to reducing the harm caused by drug use (Degenhardt et al., 2009).

The paper by Degenhardt and colleagues (2009) evaluated the competing explanations for the heroin shortage that occurred in Australia during 2001 with an abrupt onset at the

beginning of 2001. They made a number of important findings that bear on the question of the efficacy of a harm prevention policy as opposed to a harm reduction and minimisation policy. Firstly, they found that there was a surge in the heroin supply and drug-related problems in the late 1990s with the establishment of large-scale importation networks by high-level suppliers from Asia. With this came an increase in the availability of heroin, increasingly visible street-based drug transactions, increased purity and decreased the price of heroin around the country. They concluded that this was due to a decline in drug law enforcement. In turn, this decline was due to a belief that enforcement of drug laws would simply move the drug dealers to new areas and cause addicts to use where there was less access to health services resulting in more overdose deaths. The policy was in practice a quasi-decriminalisation of drug supply and use and for some advocates of harm reduction this was a deliberate and welcomed turn of events (Degenhardt, et al., 2009).

Secondly, it was discovered that there was a rapid decline in heroin availability in Australia from early 2001 that they believed was supply driven not demand driven. Thirdly there was no reduction in heroin use in countries that were supplied by the same syndicates in Asian at the same time that supply dropped dramatically in Australia. Surveys of countries, including Vancouver in Canada or Hong Kong and China, which did not adopt Australia's 'tough on drugs' policy showed that there was no reduction in supply during this period.

Fourthly, they found an alarming increase in drug-related death and harm associated with this surge in drug use and supply. As a result the Government as part of the National Illicit Drugs Strategy (Tough on Drugs) increased funding for the Australian Federal Police and Australian Customs resulting in seizures and arrests, which disrupted networks bringing in large shipments and increasing the risks and deterring suppliers.

Since then there has been a return to policies that focus on harm reduction rather than prevention. Increased drug use has seen a steady increase in morbidity and overdose deaths. In 2011 overdose deaths, had risen to over 715 from some 320 in 2004 (Degenhardt, et al., 2009). What is more alarming is that methamphetamine use has rapidly increased. Again this is driven by supply as efforts to deter drug supply and enforcement of drug laws has faltered. As an educational policy, "harm minimization" is defined as teaching safe use of drugs and abstinence is not seriously addressed. Students were taught that alcohol and cigarettes are more dangerous than cannabis (Hume Health Victoria, 2007). In fact, the worst health effects develop after a few years of heavy use of cannabis, compared with a 20-40 years delay for alcohol and tobacco, respectively. Further, the immediate and long-term effects of cannabis on motivation and mental stability are far worse (Sullivan, 1999).

Sullivan suggests they learned that apart from the social harm due to its illegality, the only serious side-effect of heroin was constipation. This is an erroneous and dangerous contention as a person using heroin is 12 times more likely to die prematurely than a person of the same age who is not. Drug use was portrayed as normal. Sullivan says an example was the material prepared for NSW schools encouraged children to make their choices from

various levels of use of drugs, despite the fact that these drugs were illegal. It seemed that teachers reluctantly admitted that there was a choice not to use drugs albeit an eccentric choice. This was part of an unrelenting campaign to normalise drug use; to promote the idea that drug use is a private matter that causes no harm and that drugs can be used safely if those taking them are adequately educated and drug constituents are known (Sullivan, 1999).

The evidence is indisputable. The era of "Tough on Drugs" directly impacted on the harm caused by drug use on both drug users and the wider community by reducing supply and demand and therefore rates of drug use (Degenhardt, et al., 2009). This period is in marked contrast to the periods both before and after "Tough on Drugs" which was dominated by harm reductions policies.

The argument for a harm reduction approach was that drug use would not increase if the focus shifted from supply and demand reduction and prevention, blood-borne virus transmission would be curtailed and overall harm to those who could not or would not stop using and injecting drugs. The main strategies to achieve these goals was the wide spread availability of free, sterile syringes and needles and prescribed opiate substitute medication the claim was that this policy was based on solid evidence.

The next section looks closely at the evidence of the impact of Harm Reduction policies on these areas where it was claimed would reduce harm, even if it did not reduce rates of drug use and injecting. It analyses the impact of harm reduction policies on families and rates of HIV and HCV transmission. The paper then examines the major strategies of harm reduction policies: needle exchange and opiate substitution treatment and their effectiveness in reducing harm and improving the well-being of drug users.

The Impact of Harm Minimisation Policies

Since the early 1980s there has gradually developed an uncritical acceptance among health authorities that the introduction and funding of harm reduction (HR) measures among intravenous drug users (IDUs) is an important strategy to prevent the transmission of blood-borne viruses that took precedence over reducing drug use. Not just within this community but to prevent transmission within the wider community with whom they may interact. The main cause for concern was the threatened transmission of HIV and HCV among IDUs through unsafe injecting practices, mainly sharing of needles and injecting equipment (McKeganey, 2007).

Australia's harm-minimization policy features free methadone maintenance for heroin addicts and an extensive free needle distribution programme. In Sweden second component of harm minimisation is treatment and rehabilitation. Sullivan (1999) suggests that they have had no place in Australian "harm minimisation" policy, as methadone is the only treatment option available, and these clinics make no serious attempt at treatment. The number receiving methadone trebled between 1987 and 1998, rising from 5,000 to 15,000

and then trebled again with some 46,000 dependent on opiate substitutes by 2010. Contrary to the prevailing hypothesis, free methadone has not reduced opioid deaths or criminality (Mattick, Breen, Kimber, & Davoli, 2009). As was the case in Sweden, clients often continue to inject heroin with reduced frequency, are poly-drug users and engage in trafficking, they often continue with unsafe injecting practices and they tend to remain dependent for many more years than someone who never started opiate substitution treatment (Bell, Ward, Mattick, Hay, Chan, & Hall, 1996; Sullivan, 1999; Reece, 2007; McKeganey, 2007).

To critically consider the success of these harm reduction policies, this paper examines two major areas of concern to the community: the impact of harm minimisation policies on the family and incidence and prevalence of HIV and HCV.

The Impact of Drug Policy on Families

The evidence indicates that drug use is associated with a breakdown in functioning of individuals and that this in turn impacts on the welfare of their families including childhood and adolescent development, and child well-being and protection. There is a documented relationship between parents who use illicit drugs and child well-being Australia and elsewhere and a need for protective services to intervene (Dawe, Frye, Best, Moss, Atkinson, Evans, Lynch and Harnet, 2007; Laslett et al. 2010; NSW Ombudsman, 2009; Ritter & Chalmers, 2009; McKeganey, 2007). In a prospective study of 7103 parents, Chaffin, Kelleher and Hollenberg (1996) found that substance abuse disorders appeared to be the most common and powerful factor associated with physical abuse and neglect in these drug using parents. The study concluded that the most significant predictor in the prediction of child maltreatment was the presence of a substance-use disorder with parent demographic and social variables playing only a limited role.

Many parents experiencing mental health issues, intellectual disability or substance abuse were identified as providing inadequate parenting to their children (McKeganey, 2007). Studies by Aionsworth (2004) and Jeffreys, Hirte, Rogers and Wilson (2008) suggest that up to 80% of child notifications involve concerns about parenting being affected by substance misuse, and that parental drug use was linked to 70% of case where children entered alternative care (Battams & Roche, 2011).

The numbers of children adversely affected by parental drug use are reflected in the number of children exposed to drug use: more than 40,000 children aged 12 years and under (or about 2.3%) live in a house where an adult uses cannabis daily and 14,000 children aged 12 and under (0.8%) live in a household with an adult using methamphetamines at least monthly and reports doing so in their presence (Battams & Roche, 2011). According to the Australian National Council on Drugs report by Dawe et al., 2007, elevated levels of

substance use are also linked to other risk factors such as exposure to violence, mental health issues and criminality.

In December 1990, Australia ratified the United Nations Convention on the Rights of the Child. The Convention purports to reflect Australia's collective view of the importance of children within the community. The Convention on the Rights of the Child spells out the basic human rights that children everywhere, without discrimination, have the right: to survival, to develop to the fullest, to protection from harmful influences, abuse and exploitation and to participate fully in family, cultural and social life (United Nations, 1959; United Nations, 1989).

The effect of parental illicit drug use on children has implications for Australia's commitment to the Convention on the Rights of the Child. The growing incidence of drug use within the Australian community necessitates the introduction of policies and strategies to address the issue of parental illicit drug use in accordance with the Convention on the Rights of the Child. However, due to the pervasive influence of harm minimisation policies child protection services and the Children's Courts seldom recognise parental substance abuse as a protective concern. Courts often refuse to acknowledge that parental substance abuse poses a significant risk to children (Patton, 2003). Patton urges that policies and strategies need to be implemented at a federal, state and local government level in relation to the rights of children affected by parental drug use. Article 33 requires states to take all appropriate measures, including legislative, administrative, social and educational measures, to protect children from the illicit use of narcotic drugs and psychotropic substances (United Nations, 1959; United Nations, 1989).

It has been estimated that 33% of parents involved in substantiated cases of child abuse or neglect are affected by illicit substance use (compared with 31% with alcohol abuse). Moreover, 30% of abused or neglected children go on to maltreat children in some way when they are adults (Higgins, 2008; Dawe et al., 2007). They concluded that children living with a substance-abusing parent are at considerable risk for poor health and behaviour outcomes that it is substantially larger when both parents have substance abuse problems. Moreover, governments needed to recognise that the effects of parental drug use increase the likelihood of children using substances themselves (Prom-Wormley, et al., 2014; McKeganey, 2007).

Appropriate measures need to be taken to protect children from the effects of parental illicit drug use, thus breaking the cycle of drug use in Australia's community. Children affected by parental illicit drug use have much in common with other minority groups of children in the community, particularly children living with parents with an intellectual disability or parents experiencing mental health issues. A Parliamentary Committee report on illicit drugs noted that:

"31.1 per cent of recent users of methamphetamines and 64.9 per cent of recent heroin users reported high or very high levels of psychological distress, as against 9.9 per cent of the general population" (www.aph.gov.au-house-committee-fhs-illicitdrugs).

Moreover, there has been a significant expansion of the number of children in out-of-home care (steadily increasing from about 14,000 in 1996 to more than 25,000 in 2006). The significant involvement of parental drug use in the child protection caseload would suggest that many of these children have been temporarily removed from a family member using illicit drugs. Patton contends that there seems to be more active protection of children by the court system when either parent has an intellectual or psychiatric disability as opposed to substance abuse issues (Patton, 2003).

The impact of drug use can impact on children either indirectly with many parents being among the prison population with as many as 59% having a history of injecting illicit drugs in 2004. And more directly among juvenile detainees as in 2003-04 88% had used an illicit substance within six months prior to their arrest (Australian Institute of Health and Welfare, 2007).

As well as reducing overall harm to users and their families, the other major objective of harm reduction policy was to reduce transmission of blood borne viruses (BBVs) among injecting drug users (IDUs). The next section examines the evidence for how well this objective was realised

HIV and HCV Infection among Drug Users

The primary aim of drug harm reduction/minimisation programs was to curtail the spread of blood borne viruses (BBVs), especially among the MSM (men who have sex with men) community. The main harm minimisation strategies implemented were the provision of sterile needles and syringes, often in exchange for used items, the provision of long-acting and supervised substitute opiates (methadone and buprenorphine). Supervised injecting facilities included medical support in case of overdose, provision of information on safer injecting techniques and other risky behaviour and information about treatment options. Needle exchange and opiate substitution programs were introduced on the basis that they made some sense, particularly in the face of concerns that HIV would become a pandemic and spread to the wider community. When these programs were introduced, there was no evidence to support them or to indicate that they may cause more harm than good. More so, as these strategies did not necessarily seek to reduce frequency or duration of injecting drugs but to minimise harm among those who continued to practice these risky behaviours (Colquhoun & Christian, 2014; McKeganey, 2007).

Countries and regions vary in fundamental ways in terms of the origins of blood-borne viral diseases, the pre-existing prevalence before introduction of HR policies, lifestyle and cultural factors and attitudes toward drug use and risky sexual behaviour that may foster or impede transmission rates. These differences highlight the need to make a clear distinction between the transmissions of HIV as opposed to HCV. Because they are both blood-borne viral diseases the assumptions often made are that they are similar in the way they are transmitted and that similar policies or strategies will have the same impact on infection rates. In Australia, there was an estimated 20,171 people were living with HIV and 211,000 with chronic HCV at the end of 2009. It is well understood that in Western countries HIV is predominantly transmitted through unprotected anal intercourse, often in the presence of other sexually transmitted diseases (STDs). Moreover, the evidence indicates that transmission by needle sharing is minimal with an estimated transmission rate of 3-4% (Fleming & Wasserheit, 1999).

On the other hand, it is well established that HCV is transmitted largely as a result of risky injecting practices among IDUs and the use of contaminated blood during medical procedures. Transfusion of blood products had been a leading cause of transmission of HCV. However, due to improved screening, transmission through transfusions has decreased in most developed countries. It has meant that some countries had a high underlying prevalence rate. The evidence indicates that sexual transmission of HCV is rare but for some reason is higher among those with high-risk sexual activity. Further to this, an IDU sharing an unclean needle used by another user of unknown infection status is at between 150 and 800 times higher risk of infection with hepatitis C than HIV. The likelihood of HIV infection after being injected by a needle from a HIV positive person was estimated to be 0.3% or one in 316 occasions compared to the risk of contracting hepatitis C (up to 7%) and hepatitis B (23% to 37%). Unlike HIV, HCV is found in high concentrations in filters, spoons, and rinsing liquids that may be used when injecting drugs. The probability of becoming infected with HIV compared with hepatitis C or hepatitis B is very much lower as HIV is a fragile virus. Once outside the body, especially when exposed to unfavourable environmental conditions it does not survive for long (Resnick, Vere, Salahuddin, Tondreau & Marham, 1986; Hamilton, 1994; Thompson, Boughton & Dore, 2003; Sy & Jamal, 2006).

While some studies indicate that risky behaviour of people attending NSPs decreased or at least did not increase, no studies have found convincing evidence that as a consequence transmission rates of HIV have been impacted (Palmateer, Kimber, Hickman, Hutchinson, Rhodes & Goldberg, 2009; McKeganey, 2007). Studies suggest that injection risk-taking and HIV transmission are not necessarily related. For example, in jurisdictions of the United States where free needles are not available and drug laws were strictly enforced, a higher prevalence of HIV infection was observed despite lower risk taking behaviour. In cities in Canada with the highest concentration of needle exchange programs, studies found higher rates of HIV than among those not attending needle exchanges and hence sharing needles

more frequently. The evidence is that other factors other than access to free needles and syringes drive HIV transmission (Dolan, MacDonald, Silins & Topp, 2005).

This position is often tied in with whether the society believes that drug injecting is a legal or health issue, therefore, with how drug users and suppliers should be treated and the extent of any responsibility toward partners or the community. Often these policies are implemented without clear evidence of effectiveness and in defiance of public opinion (Colquhoun & Christian, 2014).

HIV: Prevalence, Patterns and Rates of Transmission

Of the 22.5 million people infected with HIV prevalence and rates of infection varies from one country to another, and from one population centre to another within countries.

In Australia, Western Europe and North America most of the HIV infections are transmitted between MSM with an estimated 20,171 people living with HIV at the end of 2009.

However, the distribution within the population varies considerably and reflects the most common modes of transmission of the disease. In Australia, only 3% of those diagnosed with AIDS in 1991 were among women. Sexual contact between men has resulted in AIDS infection in 90% of reported cases. Another 4% was among homosexual men who also injected drugs, particularly related to the increase in the injecting of methamphetamines among this group (Perry, Halkitis, Parsons and Stirratt, 2001). Only 2% occurred among men and women who injected drugs and a further 4.2% were medically acquired, which was similar to the pattern of transmission in Northern Europe and the West Coast of America (Giles, Edmiston & Fisker, 2000; Kaldor & Rubin, 1994). Rates of HIV among heterosexual men ranged between 0.7 to 1.5% whereas for homosexual and bisexual men the rate ranged between 13 and 20.6%. In the period 1987–94 it was reported that there was a decline in needle sharing, however the was limited change:

“in rates of condom use with casual sexual partners, suggesting that IDUs have come to perceive themselves as being at risk of viral transmission from injecting rather than from sex” (Feachem, 1995). As early as 1995 it was recognised that “male IDUs in Australia mainly became infected through homosexual sex” (Feachem, 1995).

It seems that injecting drug use was not a significant vector, if it was at all for HIV transmission especially when the rate among heterosexual men and women could be almost entirely accounted for by unsafe heterosexual contact. This conclusion seems more likely than sharing needles as HIV transmission among women often entails sex work in circumstances where unsafe sex is practiced (Feachem, 1995).

In Australia, the incidence of HIV among IV drug users is low. However, it is much higher among homosexual men who also inject drugs and who have other STDs and practice unsafe sex, which further confounds the actual means of transmission even though there is a much higher chance of acquiring the disease from someone who is infected if blood is the vector (Kaldor & Rubin, 1994; Wodak & Van Beek, 1994). Research surveys show that sharing

needles among UDIs does not significantly affect transmissions rates for HIV, which was estimated at 1.2%, as the figures for IDU men were 22.5% of MSM (men who have sex with men) and 0.7% for heterosexual men with an estimated sharing rate of 31% (Wodak & Van Beek, 1994). This seems to confound the relationship between needle sharing and MSM and suggest that unsafe anal sex was the major factor in transmission and being an IDU was coincidental (Colquhoun & Christian, 2014).

Again the incidence varies considerably both in terms of percentage of the population infected from one country to another. The prevalence of HIV infection among injecting drug users attending drug treatment agencies was 2.3% in London and 0.5% elsewhere in England, 2% of IV drug users in Australia compared to 40% in some areas of the USA where methamphetamine injecting among MSM is high. It does not mean that HIV was transmitted through needle sharing. Rather, that rates of unsafe sex were higher, possibly fueled by drug use and a lack of concern for consequences (McKeganey, 2007; Perry, Halkitis, Parsons & Stirratt 2001; Lowndes, et al., 2003; Kaldor & Rubin, 1994; Wodak & Van Beek, 1994).

Even within countries there is significant variation in HIV prevalence. Use or non-use of condoms, among non-drug users or drug users, seems to be the dominant preventative factor (McKeganey, 2007; van den Hoek, et al., 2001; Weller Davis-Beaty, 2002; Perry, Halkitis, Parsons & Stirratt, 2001).

Recently in Australia the incidence of new HIV infections has been rising. Authorities have been alarmed by this trend and have publically advocated for greater efforts at prevention. It is clear from all the various experts that prevention relates to changes in sexual practises among MSM. Among cases of newly diagnosed HIV infection, the proportion that acquired the infection in the 12 months prior to diagnosis gradually increased from 26% in 2007 to 32% in 2012. New surveillance reports for sexually transmissible and blood-borne infections in Australia in 2013 indicated that the incidence of HIV increased by 10% from the year before, from 1137 in 2011 to 1253 in 2012 (The Kirby Institute, 2013; Colquhoun & Christian, 2014).

In response HIV prevention strategies, which aim to reduce the incidence by 50% by 2015, comprised increasing access to rapid HIV testing and antiretroviral therapy, introducing new prevention strategies such as pre-exposure prophylaxis and increasing funding for ongoing surveillance (The Kirby Institute, 2013; Lord, 2013).

The experts tend to agree that transmission rates were determined by factors such as condom use, the number of sexual partners those at risk are having and how transmissible HIV is. Surveys show that attitudes toward condom use with casual partners put upward pressure on HIV transmission and were the major factor in new cases (The Kirby Institute, 2013; Lord, 2013).

Not one commentator mentioned the value of needle and syringe programs (NSPs) or of methadone (OST) in having any significant impact on transmission rates. Clearly needle

exchange and methadone are thought to have had negligible or no impact on HIV transmission. It seems that four decades of widespread needle distribution and methadone dosing was related to an increase in HIV if, in fact, there was any relationship at all. Of some importance, commentators failed to mention the link to STDs and HIV. Strong evidence indicates that both ulcerative and non-ulcerative STDs promote HIV transmission by augmenting HIV infectiousness and HIV susceptibility via a variety of biological mechanisms. Moreover, receptive partners with STDs may be at greater risk of HIV infection. Therefore, the need is to implement prevention strategies for these diseases and to educate receptive partners about the increased risk (Colquhoun & Christian, 2014; Fleming & Wasserheit, 1999).

HCV: Prevalence, Patterns and Rates of Transmission

In 1999, the WHO estimated a worldwide prevalence of HCV of about 3% with the virus affecting 170 million people worldwide. In Europe, the general prevalence of HCV is about 1% but varies among the different countries. In Australia to the end of 2005, over 225,000 diagnoses of hepatitis C virus (HCV) with an estimated prevalence in Australia has been recently reported at 2.3% with the virus (Sy & Jamal, 2006; Colquhoun & Christian, 2014).

The risk factors most commonly cited for the transmission of HCV are blood transfusions from unscreened donors, injection drug use, therapeutic injections and other health-care related procedures. In most developing countries, the evidence shows that injecting drug use is the predominant means of transmission. In countries such as USA and Australia, where the highest prevalence is among older people, injection drug use has been the dominant mode of transmission for 30 years, and accounts for 68 to 80% of current infections respectively. Among those with duration of injecting for more than six years, or more prevalence is up to 94%. Fewer sharing partners are necessary to sustain HCV transmission compared to other blood-borne diseases, which may also be transmitted through sharing of drug injection equipment. Occupational, perinatal and sexual transmission are unlikely (Sy & Jamal, 2006; Mohd Hanafiah, Groeger, Flaxman & Wiersma, 2013). The evidence supports the fact that sexual transmission of HCV is still rare but for some reason is higher among those with high-risk sexual activity (Sy and Jamal, 2006).

The Falster study concluded that despite widespread availability of NSPs throughout Australia they found little indication that transmission of HCV infection among more recent initiates to injecting changed between 1995 and 2004, appearing to reach saturation levels around 90% in the older cohorts (Falster, Kaldor & Maher, 2009).

Needle and Syringe Programs

Needle distribution to IVD users in New South Wales was piloted in 1987 and began formal operation in 1988. By 1989, there were 40 public outlets in NSW and by 1994, 250, supplemented by 500 distributing pharmacies. By the early nineties the programme was firmly established and its growth has shown no sign of stabilizing. Two million needles were

distributed in 1989, 3.5 million in 1994, and 5.5 million in 1996 (Sullivan, 1999; Sullivan, 1999a). This was also accompanied by an increase in distribution via pharmacies from 106,000 in 1991, to 226,000 in 1996, an increase that parallels that of total distribution. Since then over 3,000 needle and syringe programs, of varying types, have been established across Australia. In 2005, almost 30 million units of injecting equipment were distributed in Australia, with the majority distributed in NSW (29 per cent) and Victoria (25 per cent). It was estimated that, in 2002-03, state and territory governments spent \$33.7 million on NSPs with the Commonwealth contributing \$4.6 million. The Commonwealth's current commitment to funding of supporting measures relating to NSPs totals \$48.1 million over the 5 years from July 2003 to June 2008 (House of Representatives Standing Committee on Family and Human Services, 2007). By 2011, Commonwealth funding had ballooned to over \$40m per year. Despite this, this paper argues that increases in BBV pathology have accompanied increases in needle distribution. Thus it appears that rather than the promised safety of clean needles in reducing the harm of ID use has not materialised despite the efforts of proponents to suggest otherwise. From the mid-1990s, the evidence was that the needle exchange policy was not effective and yet it has been persisted with (Sullivan, 1999; Kall, et a., 2007; Colquhoun & Christian, 2014).

The introduction of free needle distribution was justified on the grounds of preventing transmission of HIV among intravenous drug users (IDUs). The evidence that the persistent low incidence of HIV was due to availability of free needles is unconvincing, as Hepatitis C (HCV), which is also blood-borne, has spread alarmingly among ID users and had prevalence among them of up to 80% (McKeganey, 2007; Sullivan, 1999; Kall, et a., 2007; Colquhoun and Christian, 2014). However, easy access to sterile syringes and needles may encourage earlier and increased injecting as it may appear more acceptable and there may be less incentive for others to give up injecting. This may lead to an increase in the number of severely dependent individuals. Not only has the abundance of free needles not prevented needle-sharing but due to the communal feeling in the drug sub-culture and the influence of drugs compliance to safe injecting practices less likely and other factors such as unsafe sex become far more problematic (McKeganey, 2007; Ghodse, 2007). Moreover, free needle distribution was not used as a window for rehabilitation. Under NSW policy (1994), although condoms were supplied in needle packs, clients were encouraged to introduce friends to the service and staff could not provide information on drug treatment services unless requested. As with free methadone, needle distribution has escalated since its inception, and deaths from injected drugs have increased over the same period with a peak of overdose deaths in the late 1990s, a dramatic decrease in the period to 2004 and a steady rise since then (Sullivan, 1999).

Today the accumulated evidence is that NSPs have had negligible effect on either HIV or HCV transmissions for quite different reasons: The pattern of HCV incidence shows a consistently increasing rate of HCV infections to a peak of 14,000 new HCV seroconversions in 1999. In other words despite the rapid increase in NSPs in Australia HCV rates increased.

Surveys of IDUs using NSPs also found that HCV incidence declined in 2001 and 2002, followed by a plateau in 2004 and 2005. This decline coincides with the overall reduction in drug use following implementation of strongly enforced supply and demand strategies. Moreover, the major factor impacting prevalence rates is number of years injecting drugs and HCV has been found to be independent of risky injecting practices including needle sharing among IDUs and to reach saturation levels in time despite the 3,000 NSPs and 30 million needles distributed each year in Australia (Colquhoun & Christian, 2014).

Despite availability of syringe and needle exchange programmes in some countries, surveys showed drug users continued to reuse syringes, they injected in groups where extensive sharing of needle and injecting paraphernalia took place, a large proportion of men reported having sexual relationships with female sex workers and having sex with males with up to 65% saying they never used condoms and it has had no or minimal effect on HIV rates (Colquhoun & Christian, 2014; Emmanuel & Fatima, 2008; Kall, et al., 2007).

The surveys of NSPs attendees have consistently shown that HCV has continued to increase among IDUs despite HR programs in Australia that are the best funded and most widespread and reach a larger number of at risk IDUs than any other country. However, the most telling arguments that cast doubt on the effect of NSPs on HCV transmission were the reviews of all HCV and NSPs studies to date (Palmateer, et al., 2009; Kall, et al., 2007). They found no randomised controlled studies. They found seven primary studies which reported positive findings yet mainly involved weaker designs. They found that the stronger study designs (cohort studies) showed mainly either no association or negative association between NSP and HCV transmission. They concluded that given an absence of clear statements from the core reviews, and inconsistent evidence from the primary studies they and previous reviewers had identified the level of evidence was insufficient to demonstrate any benefit of NSPs in the transmission of HCV (Colquhoun & Christian, 2014; Palmateer, et al., 2009; Kall, et al., 2007).

The evidence is also clear regarding injecting drug use and HIV. Prevalence of HIV among IDUs has remained low and stable over many years and contrasts the increasing HCV rates. The evidence is that HIV is primarily transmitted by MSM having risky sexual encounters and through co-infection with other STDs and by unprotected sex associated with poverty and prostitution. HIV is highly unlikely to be transmitted by sharing needles or injecting equipment as it is far less viable than the HCV outside the host's body (Colquhoun & Christian, 2014). In 2007, Guy and colleagues (2007) reported that the most frequent route of HIV exposure was male-to-male sex, accounting for 70% of diagnoses. Heterosexual contact accounted for 18% of cases, with just over half of these people born in or having a sexual partner from a high-prevalence country. Exposure by injecting drug use remained infrequent (Guy et al., 2007).

They concluded that the number of HIV diagnoses had risen in the previous seven years and there was a need for effective, innovative and evidence-based programs for HIV prevention,

particularly among men having male-to-male sex. They did not mention NSPs as a preventative measure. Accordingly, they concluded that attention needed to turn to other factors that do promote infection and the implementation of strategies that do work (Guy et al., 2007).

However, many research papers examining the effectiveness of these harm reduction (HR) strategies commence with the assumption that these strategies have been proven to be effective. For example, papers on HCV transmission and HR strategies will often declare that HR programs including NSPs and OST are effective in preventing spread of HIV (Colquhoun & Christian, 2014; Falster, Kaldor & Maher, 2009; Shepard, Finelli & Alter, 2005). A 2005 review of the evidence for the effectiveness of NSPs claimed the evidence was "consistent and compelling" and was sufficiently convincing to persuade many major scientific authorities and governments around the world about the substantial benefits of these programs and yet more recent reviews of the relevant evidence have not found this to be the case (Palmateer, et al., 2009; Dolan, MacDonald, Silins & Topp, 2005). Palmateer, et al. (2009) found that Wodak and Cooney (2004) referred to only one HCV study, Tilson et al. (2007) identified six and Gibson, Flynn and Perales (2004) included three. They considered that none of these reviews examined HCV in any depth, and only Tilson et al. (2007) drew conclusions, stating there was moderate evidence that "HIV prevention programs that include NSPs have less of an impact on HCV transmission than on HIV transmission". They also concluded that the reviews of HIV transmission and NSPs by Wodak & Cooney (2004) and Gibson et al. (2001) who stated: "there is compelling evidence that increasing the availability and utilization of sterile injecting equipment by IDU reduces HIV infection substantially" and that there was "substantial evidence that syringe exchange programs are effective in preventing HIV risk behaviour and HIV seroconversion among IDUs" respectively, had come to conclusions that were apparently inconsistent with the HIV studies reviewed. And yet it is these studies that have been relied on health authorities to promote these programs in the belief that NSPs are a critical component of strategies to reduce the spread of HIV, hepatitis C and other blood-borne viral infections among injecting drug users and the wider community, that these programs have been found to be highly cost-effective compared to the cost of treating HIV and hepatitis C infection without providing any further evidence to support these statements (Colquhoun & Christian, 2014).

Moreover, proponents of NSPs have not always been convinced that needle exchange plays any significant role in BBV prevention. Stephen Milgate made this plain in his address to the International Drug Prevention Symposium in 1998. He reported that at the 1989 Drugs, The Law and Medicine Summit Dr Wodak stated:

“Attempts to discourage intravenous use of drugs should have the highest priority. Substitution from injecting to other forms of administration is preferable to continued injecting with the inevitable consequence of HIV infection”.

Dr. Alex Wodak was one of the foremost advocates of 'harm reduction', who illegally distributed needles and syringes to drug users, but had not anticipated the emergence of the hepatitis C problem. By 1994 Dr Wodak's anti-injection message was stronger:

"Most new infections of hepatitis C in Australia occur among drug injectors. About 60% of drug injectors in Australia are already infected with hepatitis C. This means that there are 30 times as many drug injectors infected with hepatitis C than HIV. Hepatitis C is also far more infectious than HIV. The implications of this, I believe, are that we must virtually eradicate drug injecting from Australia if we are to gain control of the hepatitis C epidemic" (Wodak, 1994).

Milgate (1998) quoted Professor G Farrell of the Gastroenterological Society, as saying:

"This is why the behaviour [injecting drug use] is so dangerous, and while harm reduction is important, I think strategies to prevent IDU behaviour are probably more fundamentally important" (Lamont, 1997).

Opiate Substitution Treatment

According to the report of the New South Wales Chief Health Officer, "Health-related behaviours: Methadone/buprenorphine program use" methadone maintenance is declared to be an effective treatment for opioid dependence. Further, it is claimed that while methadone is the major treatment used in Australia, the risk of overdose death is substantially reduced in opiate-dependent people who are enrolled in methadone treatment (Warner-Smith et al., 2001) and that a recent study based on court appearance records in NSW shows that methadone maintenance programs are effective at controlling crime when people are taking methadone (Bell, Mattick, Hay, Chan and Hall, 1997; Wodak, 2011; Lind et al, 2005).

However, recent research shows that these claims are not supported. Mattick, Breen, Kimber and Davoli (2009) in a review of the research literature, stated that while methadone maintenance remains the most researched treatment for this problem, and despite the widespread use of methadone maintenance treatment for opioid dependence in many countries, it remains a controversial treatment whose effectiveness has been disputed (Colquhoun, 2012).

The introduction of methadone was an attempt to reduce the harm associated with heroin addiction. The rationale was that the major harm would arise from BBV transmissions through IDU and methadone was one arm of that harm reduction policy. Some observational research has shown that methadone tends to reduce heroin use, improve health outcomes and to reduce crime in the short term. However, it is also more addictive than heroin and has negative long-term consequences in terms of health and social outcomes. Moreover, many people on methadone continue to use heroin and to develop

addictions to other drugs. They also often find it very difficult to find or retain employment, they find it difficult to be emotionally available to their partners or children and their freedom is compromised; retention in these programs is also poor with less than 50% staying in the programs at 6 months. The record for the use of buprenorphine is even worse, despite the claims that this drug is a superior alternative maintenance medication to methadone. It is poorly accepted by most addicts, it is often abused and sold to others to be injected and the consequences of injecting the drug are frightening. Suboxone is buprenorphine with naloxone (Narcan) added to prevent the drug from being injected. Its introduction is an admission of the failure of buprenorphine as a maintenance medication. It now means that those injecting the drug are at risk of going into life-threatening withdrawal if they are currently using heroin or methadone (Colquhoun, 2012).

When methadone was introduced, it was meant to provide a means by which people could be stabilised and then moved from addiction to abstinence. These aims have clearly not been met, with people now having been on these drugs for 30 years or more and a black market in them thriving, meaning that they are often more accessible than heroin. Most disturbing is the fact that health authorities have no idea how to get people off methadone or buprenorphine once its usefulness has expired. At present in Australia there are around 46,000 people on agonist maintenance programs, which directly cost our community some \$150m each year at an estimated cost of \$4500 to maintain each person on methadone for a year (Dolan, MacDonald, Silins & Topp, 2005; NIDA, 2012). As more people join these programs, albeit reluctantly given the lack of choice, one can only speculate what it will be like in 20 years' time; "methadone on wheels" for the pensioners and tens of thousands of people condemned to a life of mundane routine and pointless existence (Milgate, 1998; Colquhoun, 2012).

Despite claims to the contrary, methadone does not directly impact on HCV or HIV transmission other than being shown to reduce some risks such as reducing frequency heroin injection (Reece, 2007; Mattick, et al., 2009). In the case of HIV, very limited, if any, transmission is related to injecting drug use, meaning that any effect OST had on injecting behaviour would have had virtually no impact on HIV transmission rates. Moreover, injecting drug use among the populations most affected by HIV would favour amphetamines and therefore they would be unlikely to have been caught up in OST programs (Perry, Halkitis, Parsons & Stirratt, 2001). In any case, in the long term overall duration of injecting behaviour is unlikely to be less than those who never enter OST treatment as their duration on opiates would be longer. In the case of HCV, prevalence rates are higher among attendees of OST programs compared to non-attendees and needle and injecting equipment sharing is no less than non-attendees (Reece, 2007; Colquhoun, 2012).

According to Reece (2007), methadone tends to intensify addiction as tolerance to the drug continues over time, often leading to concomitant heroin use and methadone frequently lead to secondary side effects, especially anxiety, so that many addicts report 50-70% rates of being prescribed strong benzodiazepines, particularly alprazolam, frequently associated

with fatal overdose. A study of three private clinics dispensing methadone revealed that: urine testing, the means of determining a drug-free status was considered inaccurate in all three clinics; it was not rare to hear of people selling and injecting take-away doses of medication; half the subjects in one clinic were said to continue to use heroin infrequently, in a third clinic "there was no reduction in heroin use with increasing duration of treatment" (Milgate, 1998; Bell, et al., 1996). This was persistent behaviour substantiated by the Cochrane Reviews some years later (Mattick, et al., 2009).

The Bell (1996) study as Milgate (1998) emphasised, revealed that:

"In treatment use of non-opioid drugs there was usually a continuation of pre-treatment pattern use. There was no dramatic change on entering treatment. About one-third of cannabis smokers increased their level of consumption during treatment. Persistent cannabis use was associated with greater social dysfunction and involvement in crime" (Bell et al., 1996).

Moreover, methadone tends to prolong the period of injecting drug use and to minimally impact on sharing rates (McKeganey, 2007; Reece, 2007). Despite these programs being in operation since the early 1980s, the rates of HCV infection have increased and reached saturation levels among OST clients. Methadone also showed no better outcomes for mortality or criminality compared to no treatment (Mattick, et al., 2009). These findings suggest that although methadone maintenance may reduce injection frequency, it may increase duration of drug injecting and other drug use and the resultant increased risk of harm and it does not reduce other HCV and HIV-related risk behaviours above and beyond what can be accomplished through other educational and outreach intervention. Treatment facilities and outreach intervention programs should collaborate to provide a comprehensive approach to reducing HIV and HCV risk behaviours among drug injectors both in and out of drug treatment (Kwiatkowski & Booth, 2001; Reece, 2007; Colquhoun, 2012).

Evidence of the benefit of methadone in reducing HIV and HCV transmission is absent or at the very best, it may reduce risky behaviour in the short term among opiates addicts, it may reduce injecting of opiates in the short-term and hence it may reduce needle sharing although even these claims are questionable (Colquhoun, 2013; Palmateer, et al., 2009; McKeganey, 2007; Kwiatkowski & Booth, 2001).

The results of the Mattick (2009) study comparing methadone recipients to no treatment groups, showed that "methadone appeared statistically significantly more effective than non-pharmacological approaches in retaining patients in treatment and suppressing of heroin use as measured by self-report and urine/hair analysis but not statistically different in criminal activity or mortality" (Colquhoun, 2012).

Moreover, of those in the methadone treatment group 37% tested positive for other opiates. None of this group tested negative for opioids although some were involved in out-

patient rehabilitation programs. Included in the no-treatment group were those who were treated with placebo medication, withdrawal or detoxification, drug-free rehabilitation and no treatment or wait-list controls. It would be expected that those receiving no-treatment would continue to use opiates and yet 25% of this group who were not receiving replacement treatment (methadone) were opiate free. The conclusion to be drawn is that even if minimal treatment is available many more are able to become drug free compared to the very few when maintained on methadone. Even after many years of methadone treatment and the inclusion of other interventions very few are able to be drug free (Colquhoun, 2012; Mattick et al., 2009).

In this Cochrane review of the clinical research of Mattick and colleagues (2009) reported that “Methadone can cause death in over dosage, like other similar medications such as morphine, and for this reason it is a treatment that is dispensed under medical supervision and relatively strict rules” (Colquhoun, 2012). However, there is a large black market for methadone and a lack of adherence by practitioners to the Guidelines for Prescribing Methadone severely compromises the safety of those who are put on this treatment. Recent coroners reports tend to confirm these fears (Bucci, 2012; Lowe, 2011).

They conclude that “evidence on reduction of criminal activity and mortality from clinical trials is lacking” and that “a number of measures (e.g., of other drug use, physical health, and psychological health) were too infrequently and irregularly reported in the literature to be usefully integrated in the quantitative review” (Mattick et al., 2009).

Further, they concede:

“The effects of methadone may be modest if they are judged by unrealistic expectations of patients can easily achieve enduring abstinence from opioid drugs. Methadone nonetheless attracts and retains more patients than alternative treatments, and it does produce better outcomes amongst those who complete treatment. Methadone maintenance appears to provide better outcomes than simple detoxification programs, where the evidence suggests that short-term detoxification has no enduring effect on drug use” (Mattick et al., 2009; Colquhoun, 2012).

It is quite clear from the published research that the claims made for methadone have been overstated. The number of addicts accessing OST’s (mainly methadone) on any given day is over 46,000, double that of only ten years earlier (Australian Institute of Health and Welfare, 2009). In 2010, it was estimated to cost some \$4,500 per person each year to maintain some 46,000 people in Australia on opiate substitute therapy (at a cost of the order of \$150m) it is hard to justify the cost but also the impact on those who are addicted to it (Colquhoun, 2012).

According to the National Drug and Alcohol Research Centre at the University of NSW latest study, almost 80% of Methadone users want to get off the substance and they would prefer

not to be on the drug (Ritter, 2003). This seems at odds with the emphasis of methadone programs, in keeping people on treatment as a benchmark of success as people are not encouraged to get off methadone and be drug free.

The poor treatment outcomes for people on methadone maintenance programs are supported by a Glasgow University's Centre for Drug Misuse Research government-funded study. In Scotland prescriptions for methadone have risen from 98,131 in 1994 to 411,339 in 2005. And the annual cost to the Scottish NHS of methadone is about £12million. In Scotland for example, where evaluation of the Methadone Program saw only 3% of heroin users getting off methadone and more than that the number of addicts on methadone had quadrupled in a ten year period. They reported that there had been child deaths due to methadone overdosing (McKeganey, 2006).

According to McKeganey's study, addicts treated in residential rehabilitation centres were far more likely to kick the habit. Almost 30% were drug-free three years later. They concluded that the way forward if "we are serious about reducing drug addiction in Scotland and helping to keep more people off drugs, is to expand rehabilitation facilities" (Womersley, 2006).

A 2008 study of older people on methadone maintenance warned of the dangers of long-term methadone dependence. As individuals aged 40-50 are the largest cohort receiving methadone maintenance treatment for heroin use (representing 27.5% of that group) those dependent on opioids are known to be at risk of adverse health conditions and mortality:

"substance-related syndromes" (including methadone dependence) "are known to harm every organ system" and the long term physical effects include liver and kidney diseases and increased susceptibility to infectious diseases (Rosen, Smith & Reynolds, 2008).

Among older methadone patients, 76.4% were found to continue to use illegal drugs while on methadone although the frequency was reduced. Co-morbid mental health disorders and chronic physical health conditions (arthritis and hypertension) and overall health functioning were worse for the older methadone group compared to populations norms for their age group and older cohorts. While it appears that an older group who still actively use illegal drugs whether on methadone or not have poorer mental and physical health, those older addicts who no longer use illegal substances and are not in methadone maintenance have better health outcomes (Rosen, Smith & Reynolds, 2008).

Moreover, opioid use increases the risk of premature mortality due to drug overdose, suicide, trauma (MVAs, homicide and other injuries) and HIV and the longer people remain dependent on opioids, the greater the risk. The mean length of time dependent on opiates for those who never enter opioid substitution treatment is 5.5 years, whereas many on methadone have been dependent for 30 to 40 years and they tend to inject for many more years. Not only is the risk of harm increased by being dependent on methadone for

prolonged periods, the usefulness of methadone in reducing the spread of HIV is questionable as any increase in mortality of HIV among drug users is only the case where HIV is already prevalent among people who inject drugs. In countries where prevalence is low, it appears that injecting drug use does not increase the risk of spread of HIV infection. Further to this, while HIV has remained low, the prevalence of Hep C infection is very high with the prevalence of 74% among IV drug users (Sladden, Hickey, Dunn & Beard, 1997).

Degenhardt and colleagues (2009) found that over an average of 9.2 years person-years in treatment there have been nearly 4000 recorded methadone deaths over 20 years. Based on these figures it is estimated that there are over 200 deaths annually attributed to methadone compared to some 400 heroin-related deaths. This is over ten times higher for someone dependent on methadone compared to the general population. Another paper based on Coroner's reports in Victoria estimates methadone deaths at .833% per annum. That equates to about 383 deaths per year for 46,000 on methadone in Australia in 2012. As there are reported some 400 heroin-related deaths each year in Australia the figures tend to confirm a similar or higher death rate for methadone users depending on the numbers of heroin users (Pilgrim, McDonough & Drummer, 2013).

Degenhardt reported that average length of time in the methadone program was 198 days with some 50% dropping out of treatment within six months and returning to illegal opiate use. People tend to cycle in and out of treatment and are exposed to higher mortality rates during induction (35 times the general population) and in the period following cessation. They state that as there is evidence of increased overdose death on induction onto the methadone treatment there is the need for alternative treatments, including alternative pharmacotherapy such as buprenorphine and conclude that those entering treatment have an "unacceptably elevated mortality rate". The Mattick Cochrane review found no difference in mortality rates for this group compared to a no-treatment group (Mattick et al., 2009) and no other advantages for people who do not complete treatment. Moreover, it states that there are no RCTs that include HIV as a variable and hence no reliable data that shows protection from HIV, despite their claims (Colquhoun, 2012).

Mattick et al (2009) further reported that the conditions associated with the clinical trials would produce more favourable results for methadone as higher doses are used compared to outside the studies (in the real world) and subjects also receive ancillary services such as counselling within the trials, but not often in practice. When this is coupled with the annual death rate it appears that methadone treatment is not effective, it kills people at a similar rate to heroin and it costs the taxpayer a substantial sum (Colquhoun, 2012).

However, it gets much worse as, to quote Mattick et al.: "it (methadone) retains people in treatment longer compared to no treatment". This is not surprising given the addictive nature of the drug and that it is relatively more difficult to detox from (McKeganey, 2006). Now instead of being a virtue, retention in treatment adds up to many more years dependent on the drug, with many more years of injecting (at a lower annual rate) and

more deaths, more morbidity and a much lower quality of life, compared to an addict who NEVER goes into a ORT, as the average time a person stays on heroin is about 5.5 years compared to many more years for methadone (Colquhoun, 2012). Moreover, if people had been treated in abstinence-based settings more people would have been able to become drug-free and as a consequence mortality among those who have ceased opioid use would be much lower. Methadone is associated with continued injection of heroin and other drugs as the overall median duration of injecting is longer for those who start methadone compared to those who don't. For those who do not start methadone treatment the medium time of injecting around 5 years (with nearly 30% ceasing within a year) compared to a prolongation of opiate use and injecting for some 20 years for those who do start substitution treatment. This means that if injecting drugs is four times as long the associated risks are higher. It is therefore estimated that because people stay on opioid substitution for many years they are dependent for much longer once they enter methadone treatment and inject drugs for many more years, compared to those addicts who never used methadone, the overall death rate is higher (Colquhoun, 2012).

Medically Supervised Injecting Centres

The Kings Cross Injecting room was trialled and subsequently made a permanent feature of harm reduction policy despite it being contrary to International Treaty obligations. The United Nations International Narcotics Control Board (INCB) specifically singled out the Kings Cross Medically Supervised Injecting Centre as being in breach of the International Conventions against illicit drug use (Christian & Colquhoun, 2011).

Data from the 2003 government-funded evaluation of the Kings Cross Medically Supervised Injecting Centre showed that despite injector safety being the main publicised reason for establishing the injecting room, based on the claim that every heroin injection is potentially fatal, on average only one out of every 35 injections per user in the immediate vicinity was in the injecting room. The overdose rate in the injecting room was 36 times higher than on the streets of Kings Cross; with government-funded evaluation of the injecting room stating that the high overdose rate was due to clients taking more risks with higher doses of heroin in the injecting room. The obvious conclusion is that the injecting room has increased the local drug trade by increasing the amount of heroin sold by local dealers.

Currently, only 1.6% of Australians have used heroin. However, surveys show that 3.6% of NSW respondents would use heroin if an injecting room were available to them, most for the first time, potentially doubling the number who would use the drug. The government-funded evaluation's estimate of 4 lives saved per year failed to take the enormously increased overdose rate into consideration, an estimate based on the raw number of overdoses in the injecting room as the basis of its calculations. Taking the increased rates of overdose into account, statistically the injecting room saved only 0.18 lives in its first 18 months (Christian & Colquhoun, 2011).

Despite claims that interaction with medical staff would increase referrals to treatment, only 11% of injecting room clients was referred to maintenance treatment, detox or rehab. 3.5% of clients were referred to detox and only 1% referred to rehabilitation. None of Sydney's major rehabs such as Odyssey House, WHOS or the Salvation Army ever sighted one of the referrals. No figures have been published of those referred and were successfully treated. Of concern to local residents and contrary to expectations by the policy-makers, the injecting room created a honey-pot effect, attracting drug dealers to Kings Cross station directly across the road from the injecting room, and others to its rear door on Kellet Street. Moreover, it was publicised that the injecting room would reduce the number of public injections and discarded needles on the streets of Kings Cross, but reductions in both of these measures of public amenity only decreased in line with the decreases in the number of needles distributed from pharmacies and needle exchanges due to the onset of the heroin drought 6 months before the injecting room opened (Christian & Colquhoun, 2011).

In contrast to these HR approaches to reducing the risk of disease transmission and overdose, other approaches aim to reduce the harm associated with the use of dangerous and illicit drugs through the reduction in supply and demand for drugs through various means such as law enforcement and interdiction of supply, education and treatment with the primary aim of curtailing the use of drugs in the community. These latter policies have been shown to reduce supply and drive up prices of illicit drugs; they have been shown to reduce demand and to reduce overall drug use (Degenhardt et al., 2004).

Alternative Approaches and Opportunities Lost

Prevention

As with most chronic diseases lifestyle factors play a significant role and can be changed. Most chronic diseases involve changes in personal behaviour such as diet, exercise and nutrition. For example, Hepatitis A prevention requires changes in hygiene practices to contain infection rates. The difficulty of convincing people to take responsibility for their behaviour and to make changes in their lifestyle to prevent disease is a problem faced by all communities. The question arises as to the extent these prevention strategies can be implemented in the drug and alcohol field. Long-term recovery orientation will require a radical transformation of how addiction treatment and recovery support services are planned, designed, delivered, and evaluated (White, 2004). As well as requiring individuals to make changes to protect their health it also entails radical changes to the prevailing policies that emphasise harm minimisation.

An obvious area of comparison is that of our attitude to nicotine use and road fatalities. Fundamental to the strategy to prohibit nicotine use was the health implication for users but also for 'passive smokers'. Tacit permission for use of this substance has existed for over a century as it was legal to supply and consume it. More than permission was a social incentive to partake - it was fashionable. That some medical doctors were prescribing

cigarette smoking as a stress management tool is difficult to contemplate in today's social climate.

The growing and relentless assault against tobacco via the QUIT campaign in Australia is well known and widely supported. This vital and productive demand-reduction and education 'crusade' against tobacco has been evident from its inception and has continued to burgeon, ever more aggressively to the veritable 'war' we now see today. The message is unambiguous. The aim of the anti-smoking campaign on this 'legal' drug is unequivocal. The message and mandate, at least in Australia, is not 'slow down', it is not 'moderate' it is to QUIT. While there are no illusions about the time it may take for many to reach that goal that goal is the only target to aim at and as a consequence measures and outcomes are effective as more and more Australians are quitting (Varcoe, 2012).

In 1945, approximately 72% of Australian men smoked. The rate has been dropping ever since then. In 2007 only 18% of Australian males were daily smokers. In 1945 26% of Australian women smoked, in 2007 women were smoking at a lower rate than men with 15.2% still smoking daily. Increases in getting help to quit smoking, especially use of the Quitline (2% to 4%) and nicotine replacement therapy (7% to 10%); increase in one year quit rate from 8% to 11% among smokers and recent quitters; a statistically significant reduction of about 1.5% in the estimated adult prevalence of smoking (Varcoe, 2011).

As successful as this message has been, the fight is not over yet, as the following excerpt affirms:

“ANTI-SMOKING campaigners have far from finished their battle with the tobacco industry, with some pushing for a "license to smoke" and many predicting that cigarettes could be outlawed within a decade.”

The opening statement in a recent article in The Age Newspaper read: “Now butt out: new push seeks to outlaw cigarettes”. The report went on to note that if such a ban were to take place the government would stand to lose around \$6 billion dollars in tax revenue, but save an estimated \$31 billion dollars currently spent per annum on smoking-related health problems. To everyone who is not a smoker, this makes good health and fiscal sense and maybe even to some smokers (Varcoe, 2011).

The social consensus is that a ban could be possible on a legal drug – tobacco; that during the 40's, 50's and 60's was a key socially acceptable, even desirable activity? The processes included: A clear and uncompromising acknowledgement from the health, government and fiscal sectors are that cigarette smoking was damaging our community. The conclusion that this must change for both economic, but more importantly, health reasons stopped the pro-smoking academics/doctors and recognised that 'every smoke you have is doing you damage'. There arose a sustained political will to create and implement policies to bring about change, including increased taxation, total advertising 'blackouts' and bans or 'prohibition' on smoking in defined places followed by the creation and implementation of

Demand Reduction strategies including health warnings and plain packaging on cigarette packets; and the relentless public education campaign on the dangers of smoking. It would appear from both anecdotal and empirical data that such resolute policies work, even with a once widely accepted and socially palatable 'legal drug' like tobacco. It seems that this relentlessness, 'war' on this 'legal' drug – tobacco, which some 17% of Australians still use, is not only waged, but affirmed; while at the same time an apparent 'war' on illicit drugs is declared 'lost' (Varcoe, 2011).

Road accidents claimed 1,323 lives nationally in 2011 while 1383 people died of drug overdoses Australian Bureau of Statistics (ABS) figures reveal (ABS, 2013) With more than three in four drug deaths deemed accidental the revelation that the crossover point between road deaths versus overdoses had been reached underlined the success in fighting the road toll and the need for greater efforts to tackle rising drug deaths. Road safety programs work because they address the cause of the problem and work to change the behaviour of all drivers and road users. As well as safer cars and roads the death toll has been driven down due to awareness and enforcement of safety measures such as driver fatigue, speed and alcohol and drug use.

Reports suggest that since reliable drug overdose data first became available in 1997, road deaths have fallen from 23.9 per cent of all deaths by unnatural causes to 14.5 percent, slightly below the 15.2 percent of deaths due to drug overdoses (Mickelborough, 2013).

It seems to make lasting changes and to reduce drug-related harm we need to reduce levels of drug use and other risky behaviours involving the types of multi-million-dollar public education programs over many years. As increased overdose deaths are related to increased pharmaceutical drug misuse in particular education and enforcement of relevant laws need to be implemented and enforced.

Attention, therefore, needs to shift to other preventative strategies such as those that have been employed to reduce nicotine consumption and the road toll. The most important factor in overdose deaths and transmission HIV and HCV is persistent risky behaviour. It is drug use that is often the catalyst for this behaviour. Accordingly, the message from health authorities was that: Primary prevention of overdose deaths and HIV and HCV infection should target a reduction in risky behaviour; and, prevention of drug use, safe sex education and behavioural change (including abstinence) and condom use. Prevention should target those at risk of using drugs and should involve providing education, risk reduction counselling and substance abuse treatment, safe sex and drug use practises reducing drug usage including alcohol (The Kirby Institute, 2013; Sy and Jamal, 2006).

What becomes clear is that the most important factor in the prevention of harm is to reduce drug use either through supply and demand reduction, education and early intervention and effective treatment. The best approach is undoubtedly to encourage drug users become to cease injecting and to be abstinent from drugs. If it is attempted early in a drug-taking career, before self-injection becomes established severe physical and psychological

dependence can be reduced and makes treatment far more effective. There are no more effective means of curtailing the impact of overdose deaths and BBV transmission than to target directly drug use and the risky behaviour that is a prominent feature of this action (Ghodse , 2007; Colquhoun, 2014). The outcomes of groups such as the Twelve Step Programs, Salvation Army, Teen Challenge, Jackie Pullinger and other welfare agencies shows remarkable and lasting impact in both recovery of addicted persons and more importantly the proactive work of prevention policies, including demand reduction, supply reduction and better policing. The evidence supports the proposition that long-term recovery can be the expected outcome of substance use disorder treatment (DuPont, 2014).

The next section examines the evidence for the effectiveness of recovery-based treatment.

Treatment

Since the mid–1970s scientific research shows that treatment can help patients addicted to drugs stop using, avoid relapse, and successfully recover their lives. Addiction is a complex but treatable disease and while no single treatment is appropriate for everyone treatment needs to be readily available. There is ample evidence for its effectiveness of treatment and long-term recovery, including abstinence from any alcohol or drug use. Treatment should include strategies to deal with other co-morbidities such as mental health and social issues such as homelessness. Time in treatment and early initiation of treatment seem to be important in obtaining good outcomes. The central principles of appropriate psychotherapeutic intervention, as identified by researchers looking at the efficacy of treatment for those who are opiate dependent, and mental health problems, are that patients are engaged, they are motivated, they receive psychotherapy from professionals, they are retained in treatment for a reasonable period, and that pharmacotherapy is used to optimise outcomes (Woody, McLellan, Lubursky & O’Brien, 1986; Kaufman, 1994; Khantzian & Schneider, 1985; Miller & Rollnick, 2002; Evans & Sullivan, 2001).

Research has consistently shown that the qualities of the therapist has a prominent influence on outcomes, so not only is it important to employ professionals in the program, but also to review their capacity for engagement of the patient, retention in therapy and outcomes (Woody et al., 1986; Miller & Rollnick, 2002; Rothenberg et al., 2002; Duncan, Miller & Sparks, 2004). More importantly, research has consistently shown that therapeutic interventions work (Evans & Sullivan, 2001; Duncan et al., 2004). Outpatient programs including self-help (NA) and professional counselling either individual and/or group, and other behavioural therapies are the most commonly used forms of drug addiction treatment and are best when they incorporate these elements (Colquhoun, 2010). When combined with counselling and other behavioural therapies medication can assist in reducing withdrawals and reduce or eliminate craving for the drug (Institute for Behavior and Health, 2013)

Discharge data show that half of the individuals that are admitted to publicly- funded programs successfully complete treatment. In the United States, of the 1.6 million

discharges from publicly-funded treatment in 2008, 47% completed treatment and another 14% were transferred to further treatment. One-quarter of discharges dropped out, 6% were terminated by the facility, 2% were incarcerated and 5% neglected to complete treatment for other reasons. Research has demonstrated that to be effective treatment does not need to be voluntary (Substance Abuse and Mental Health Services Administration, 2010).

In addition to stopping drug abuse, the goal of treatment is to return people to productive functioning in the family, workplace, and community. Behavioural treatments help patients engage in the treatment process, modify their attitudes and behaviours related to drug abuse, and increase healthy life skills. These treatments can also enhance the effectiveness of medications and help people stay in treatment longer. Treatment for drug abuse and addiction can be delivered in many different settings using a variety of behavioural approaches (National Institute on Drug Abuse, 2012).

Residential treatment programs can also be very effective, especially for those with more severe problems. For example, Therapeutic Communities (TCs) are highly structured programs in which patients remain at a residence, typically for 6 to 12 months. TCs differ from other treatment approaches principally in their use of the community—treatment staff and those in recovery—as a key agent of change to influence patient attitudes, perceptions, and behaviours associated with drug use (National Institute on Drug Abuse, 2009). Patients in TCs may include those with relatively long histories of drug addiction, involvement in serious criminal activities and seriously impaired social functioning. TCs are now also being designed to accommodate the needs of women who are pregnant or have children. The focus of the TC is on the re-socialisation of the patient to a drug-free, crime-free lifestyle (Moos & Timko, 2008).

According to longitudinal research, most people who get into and remain in treatment stop using drugs, decrease their criminal activity, and improve their occupational, social, and psychological functioning. Successful treatment should not see relapse as treatment failure for addiction typically requires continual evaluation and modification as appropriate, similar to the approach taken for other chronic diseases (National Institute on Drug Abuse, 2015). Research from the National Institute on Drug Abuse (NIDA) conservatively estimates that:

“every dollar invested in addiction treatment programs yields a return of between \$4 and \$7 in reduced drug-related crime, criminal justice costs, and theft. When savings related to healthcare are included, total savings can exceed costs by a ratio of 12 to 1. Major savings to the individual and society also stem from fewer interpersonal conflicts; greater workplace productivity; and fewer drug-related accidents, including overdoses and deaths” (NIDA, 2012).

Naltrexone

Naltrexone is an opiate antagonist that can be used both for detoxification, and for long-term recovery from heroin, methadone and other opiate addiction. There is now abundant evidence of the effectiveness of Naltrexone for the treatment of Opiate addiction. Clinics in Sydney, Melbourne and Perth have successfully detoxified thousands of opiate addicts, and the use of Naltrexone implants has enabled many of these people to resume normal life. Despite this, minimal support from Governments, especially from the states, has prevented many people from being able to access these programs (Colquhoun, 2010).

The evidence demonstrating the effectiveness of naltrexone treatment for the treatment of alcohol and opiate dependence is convincing. In clinical studies of alcoholics it appears that naltrexone has been successful in improving outcomes for this difficult group when coupled with one-on-one counselling (Colquhoun, 2010). Certainly, clinical trials indicate that when naltrexone is compared to placebo there have been significant improvements in outcomes for those dependent on alcohol (Latt, Jurd, Houseman & Wutzke, 2002) and there has been some evidence that naltrexone used with acamprosate in combination, may prove more beneficial (Sass, Soyka, Mann & Zieglansberger, 1996; Whitworth et al., 1996). At a conference in Sydney in 2003, Dr Stephen Jurd, Medical Director of the Northern Area Health Drug and Alcohol Program, suggested that outcomes may be improved if the medications were used together and called for ongoing research to test this therapy (Jurd, 2002).

A number of randomised controlled trials among those dependent on opiates have found statistically significant results, including comparing naltrexone implants to oral naltrexone and placebo (Colquhoun, 2005 & 2013; Kunoe et al., 2009; Hulse et al., 2009). A recent NIDA press release states that sustained release naltrexone is not only effective but also safe when used to treat opiate dependence (Teagle, 2006).

Trials of slow-release naltrexone have shown very promising outcomes, although more studies appear warranted especially comparing groups on methadone and naltrexone and following participants up over longer periods. A paper published in 2005 compared 42 and 41 patients either taking oral naltrexone or having a naltrexone implant respectively showed much better outcomes for the latter group (Colquhoun, Tan & Hull, 2005). Follow-up showed that 19 of the 42 individuals taking oral naltrexone (45%) relapsed to opiate use or were non-contactable at twelve months, while only eight out of 41 individuals (19%) were using opiates (or non-contactable) after receiving an implant at six months. This advantage was maintained for the implant group at twelve months with relapse rates at 61% and 40% respectively. That is, at twelve months 61% of the implant group were abstinent, while 40% were abstinent in the oral group (Colquhoun, 2010, 2013).

Since then two randomised controlled trials (RCTs) have been published that also demonstrate the efficacy of the implant. In a Norwegian study 56 abstinence-oriented patients after detoxification were randomly and openly assigned to receive either a 6-month

naltrexone implant or their usual aftercare. The results showed that patients who received a naltrexone implant had on average 45 days less heroin use and 60 days less opioid use than controls in the 180-day period (both $p < 0.05$) and naltrexone serum blood levels stayed above 1 ng/ml for the duration of the 6 months. They concluded that naltrexone implant treatment was safe and significantly reduced opioid use in a motivated population of patients (Kunøe, et al. 2009). In the second study 70 patients (35 in each group) were randomised to active a naltrexone implant (2.3g of NTX) and placebo naltrexone tablets or placebo implant and 50mg oral naltrexone each day. At 6 month follow up more implant than oral patients had levels above 2ng/ml ($p < 0.001$); more oral patients returned to regular heroin use at 6 months ($p < 0.003$) and at an earlier stage (115 vs 158 days). They concluded that the naltrexone implant effectively reduced relapse to regular heroin use compared with oral naltrexone and was not associated with major adverse events (Hulse, 2009).

More recently studies have shown similar results. Krupitsky and colleagues (2011) published results of a RCT trial of a monthly injectable formulation of naltrexone approved by the US Food and Drug Administration for preventing relapse to opioid dependence in 2010. The percentage of opioid-free weeks was significantly higher in the injectable naltrexone group than the placebo group ($p = 0.0002$), Total abstinence was reported in 36% of patients in the former group compared with 23% in the placebo group ($p = 0.0224$).

In summary, clinical studies of patients recovering from opiate addiction indicate that patients who have receive a naltrexone implant have better outcomes than those who receive placebo naltrexone or oral naltrexone (Colquhoun, 2013; Krupitsky et al., 2011; Krupitsky et al., 2010; Krupitsky and Blokhina, 2010; Kunoe et al, 2010a, 2010b, Kunoe, 2010; Hulse, Morris, Arnold-Reed & Tait, 2009). Moreover, the reliability of the implant to maintain protective blood levels for extended periods has been demonstrated, hence alleviating some of the concerns about safety (Hulse, Arnold-Reed, O'Neil, Chan & Hansson, 2004; Colquhoun, 2013).

Studies show that not only is naltrexone an effective treatment, but more so when assessment and treatment of psychological problems is integrated into the program. Moreover, the evidence shows that mental health and other drug use tends to improve, while those who continue with their substance abuse, including methadone become worse (Colquhoun, 2010 & 2013), Dean, Saunders and colleagues (2006) reported on findings from a RCT comparing a group on naltrexone to a group on methadone and showed that participants who received naltrexone did not exhibit worsening of depressive symptoms and in participants attending all follow-up assessments, there was a trend for those receiving naltrexone to exhibit an improvement in depression over time compared with the control (methadone) group. Participants who were adherent to naltrexone treatment exhibited fewer depressive symptoms than those who did not or were on methadone. They concluded that depression need not be considered a common adverse effect of naltrexone treatment or a treatment contraindication and that engaging with or adhering to naltrexone treatment may be associated with fewer depressive symptoms (Colquhoun, 2012).

Policy makers need to understand that people seek naltrexone treatment because they have made a decision they did not want to have the life of an addict. The vast majority of addicts come to that decision at some time, often when they realize that they can't get off it and that it is having a detrimental effect on their physical and mental health. They need and have a right to an effective alternative to methadone. Research shows that 80% of those being dosed with methadone want to be free of it. Naltrexone is undoubtedly an effective way to do that, albeit with some risk, but much less than methadone, which is described as unacceptable by NDARC researchers, and especially in the long term, compared to staying on heroin or methadone (Colquhoun, 2012).

However, the use of naltrexone to facilitate detoxification and maintenance of abstinence will require a paradigm shift and will mean a major change in the way clinicians conceptualise and treat opiate dependency. Such a shift will mean relinquishing the prevailing view that opiate dependency is essentially an untreatable condition, or that people need to be maintained on methadone for many years. Moreover, research has become increasingly suggestive that effective treatment of opiate dependency involves combining treatment modalities and integrating treatment approaches. Interventions that harness the patient's resources, support the fostering of a therapeutic alliance and attend to the psychological and social aspects of opiate dependency are essential components of a psychopharmacological approach using naltrexone (Colquhoun, 2010).

The ICE Epidemic

National Drug Strategy Survey (AIHW, 2012) and the Australian Crime Commission (2014) statistical reports inform us of the extent of the 'ICE' epidemic and indicate that current policies have done nothing to stem this growth in harmful use. Noticeably, Australia has one of the highest rates of use of Amphetamine Type Stimulants (ATS) in the world, particularly methamphetamine or ICE, increasing 10% since 2011; drug seizures are at record levels and the weight of amphetamine-type drugs detections has increased 230% from 2010/11 to 2012/13 (Turner, 2014).

Recent studies looking at the trends in South East Asia indicate an association between ICE use and increased HIV prevalence and an elevated risk of sexual transmission of HIV in people who use ICE (Fischer, Curruthers, Power, Allsop & Degenhard, 2012), although the association between stimulant use and HIV transmission and non-injecting drug users has been well-documented over a number of years (Molitor, Truax, Ruiz & Sun, 1998). The researchers note, that the enhancement of sexual pleasure is one of the more common reasons given for stimulant use among some groups. These increased levels of use of stimulants like ICE and HIV-risk behaviours have been found among MSM, adult heterosexuals, especially among sex workers and young people are particularly alarming (Fischer, Curruthers, Power, Allsop & Degenhard, 2012). The behavioural, physiological and psychological effects of ICE and other stimulants are enhanced libido, elevated mood and

sex drive with increased unprotected sexual activity with multiple and higher numbers of partners (Fischer, Curruthers, Power, Allsop & Degenhard, 2012).

There is an emerging literature linking stimulant-affected sexual behaviour and increased risk of HIV in other regions. Of great concern is the potential spread of HIV and STDs between drug users and into the non-drug using community associated with methamphetamine use and unsafe sexual behaviour. The inherent dangers of this drug to users and the community has been apparent for some time and yet policy does not reflect the urgency to implement effective strategies needed to avert a looming social crisis. The evidence is that policy makers have ignored this emerging problem while continuing to advocate for harm reduction strategies that are shown to be ineffective (Colquhoun & Christian, 2014).

Not only are there no practical harm reduction measures available, including needle exchange (as stimulants are largely smoked or snorted) and drug substitutes, but it seems that treatment is difficult as users are unlikely to seek or engage in treatment. However, particularly heavy or dependent users (some 73,000 in Australia) are more likely to come into contact with law enforcement and the courts and, as a result the court system has an important role in responding to ATS related problems and dependence. There exists an opportunity for the courts and health systems need to take an integrated approach along the following lines: Mandatory detention is of vital importance in any treatment response as it takes some time to overcome the prolonged withdrawal (psychosis/depression) and it is virtually impossible to retain people in treatment during this phase. As crime is so closely linked to ATS use some period of detention (3 months) is legitimate, justified and necessary for effective treatment. Specifically designed ATS prisons/detention centres need to be established, as happens in other jurisdictions (i.e. Canada).

Focus needs to be integrated with health/mental health services responding to withdrawals and other health related problems (cardio-vascular, dental, STDs, HIV etc.), D&A services focussing on education about the harm and psychological and social change required and an out-reach service (like parole) to monitor progress and prevent relapse by looking at and intervening in other social risk factors, especially among indigenous communities. In other words, instead of diversion into health or treatment services, which have failed, involuntary treatment including dedicated secured facilities need to be a part of those health and treatment services for treatment to be effective (NIDA, 2009). Civil libertarians and advocates of harm reduction will be up in arms, but if we are to tackle this severe and growing problem then an integrated and uncompromising approach as suggested is imperative.

Further, there is the need for a vastly enhanced education and information program about the risks associated with ATS used to users, families, including children and to the community. Also, a program of peer identification and support should be encouraged in schools, workplaces and indigenous communities, including training of identified peer

mentor modelled on the Aust Navy program. Also, the use of naltrexone should be considered (trialled) post-withdrawal to reduce craving and relapsed as there is some research evidence to support its use

Naltrexone was shown to reduce cued behaviour for methamphetamine in animals (Chiu, et al., 2005). In humans, naltrexone may reduce the reinforcing effects of amphetamine use (Jayaram-Lindstrom, 2004; Karila et al., 2010). In a double-blind placebo-controlled design, naltrexone significantly reduced the subjective effects in dependent patients and craving was also significantly blocked (Jayaram-Lindstrom, 2008a). Moreover, it also was effective in reducing amphetamine use in a recent double-blind, placebo-controlled outpatient clinical trial (Jayaram-Lindstrom, 2008b), Naltrexone, therefore, appears to be a highly promising medication for amphetamine dependence (Karila et al., 2010)

Among those with experience working in the field and reviewing the research the evidence indicates the primary strategies to reduce social harm from ICE use involve supply and demand reduction, rather than about user's rights or harm reduction. This is due to the associated high levels of mental illness, crime and violence, harm to family members and the community, the highly addictive nature of these drugs and high-risk sexual behaviour.

As there is no evidence that the harm minimisation policies have benefited users or the community and with the looming ICE crisis as gay men, the largest at-risk group, do not identify as drug users as they don't inject drugs and there are no funded strategies to counter this rising problem (Turner, 2014; Findlay, 2014). Perhaps we can learn from the experience of Sweden in dealing with consumption of illicit drugs.

Sweden went from being one of the first European countries to experience a large scale drug problem in the 1960s to now being a country with one of the lowest rates of marijuana and hashish use amongst only 7% of 16 year olds? In contrast, based on survey data in 2007, four times the amount of teenagers in the Netherlands (28%) and the United Kingdom (29%) admit to consuming hashish or marijuana by 16 years of age (Johansson, 2010) by employing early intervention and mandatory treatment.

The next section examines the evidence from other countries, notably Portugal and Sweden, which has emerged in recent years on the comparative benefits of different approaches to reducing drug harm from illicit drugs.

A Comparison of Drug Policies in other Countries

Portugal - Drug Decriminalisation

Drug use was decriminalized in Portugal in the year 2001 and the results seem to indicate that there has not been an increase in drug use or harm any more so than neighbouring countries in Europe that did not implement similar policies. Hughes and Stevens (2010) state that the evidence indicates no significant increase in drug use, reductions in problematic use, drug-related harms and criminal justice overcrowding since the decriminalisation of

drug use came into force and that "decriminalization does not inevitably lead to rises in drug use" (p. 1016). Kain (2011) reported a public health expert Joao Goulao, President of the Institute of Drugs and Drugs Addiction was reported as saying that decriminalising drug use had worked. He stated that drug addiction and drug harm was in decline in Portugal and that the number of addicts considered "problematic", those who repeatedly use "hard" drugs and intravenous users, had fallen by half since the early 1990s, when the figure was estimated at around 100,000 people and was largely attributable, although not entirely, to the decriminalisation of drug use (Kain, 2011). Greenwald (2009) stated that decriminalization had no adverse effect on drug use rates in Portugal and that drug usage rates had remained roughly the same or even decreased slightly when compared with other EU states.

This interpretation was disputed by Manuel Coelho, Chairman of The Association for a Drug-Free Portugal and member of the International Task Force on Strategic Drug Policy. He suggested that these reports were very selective in their use of statistics and were misleading. He instead showed that rather than any decrease in drug that between 2001 and 2007, the drug consumption in Portugal increased by 4.2% in absolute terms and the percentage of people who have experimented with drugs at least once in their lifetime, climbed from 7.8% in 2001 to 12% in 2007 (66% increase). Individual drug use also grew: Cannabis 12.4 to 17% (37% increase); Cocaine 1.3 to 2.8% (215% increase); Heroin .7 to 1.1% (57% increase); Ecstasy .7 to 1.3% (an 85% increase). He claimed that homicides related to drug use have increased 40%, and was the only EU country to show an increase from 2000 to 2006 and the number of deceased individuals that tested positive for drugs (314) in 2007 registered a 45% rise, "increasing fiercely after 2006" (p. 216) and that Portugal was the European country with the highest rate of consistent drug users and IV heroin dependents (Coelho, 2011).

While some of this data is undisputed, some of it is contradicted and different interpretations are offered by other reports. Hughes and Stevens (2010) documents similar increases in drug use as stated by Coelho (2011), although some of the data varies considerably and in both cases it seems to have been used selectively to support their conclusions.

Hughes and Stevens reported that between 2001 and 2007, lifetime and last-year use increased in Portugal for almost all illicit substances. Comparing the trends in Portugal and neighbouring Spain and Italy, they say that while some trends clearly reflect regional shifts in the increase in use and related harm amongst adults and/or the expansion of services throughout Portugal. They state however that the reduction in problematic drug users and reduction in the burden of drug offenders on the criminal justice system were in direct contrast to those trends observed in neighbouring Spain and Italy. However data suggests that that increases in levels of cannabis use in Spain were similar and were higher in Portugal for cocaine and ecstasy and that in each of these countries and the EU there has

been a significant decline in illicit drug use and cannabis among young people (EMCDDA, 2009).

However, the EMCDDA (2011) report stated that problem drug use and drug-related harms in Portugal were generally above, the European average. The most recent (2005) estimate of the number of problem drug users in Portugal was about 42,000, which is slightly below six cases per thousand population aged 15–64. Contradicting the findings of Hughes and Stevens (2010), the EMCDDA (2011) report estimated that there were at least 61,400 high-risk opioid users in Spain in 2011. This number corresponds to a rate of 1.91 per 1 000 inhabitants aged 15–64, which is much lower than Portugal. The estimated number of recent injectors in Spain ranged between 12 067 and 17 659, or 0.38 to 0.55 per 1 000 inhabitants aged 15–64. These estimates indicated a decline in the number of high-risk opioid users and injecting drug users in Spain.

At best Hughes and Stevens (2010) concluded that there were no signs of mass expansion of the drug market in Portugal in contrast with apparent market expansions in neighbouring Spain and that it was impossible to state that any of these changes were the direct result of the decriminalization policy and that the reported increases in general population use in Portugal reflected regional trends and thus were not solely attributable to the decriminalization.

While Greenwald (2009) stated that drug use decreased slightly when compared with other EU states, he also claimed that in numerous categories, rates of drug use were among the lowest in the EU, particularly when compared with states with stringent criminalisation regimes. Not only have these assertions been disputed (Coelho, 2011), but Greenwald forgot to add that Portugal historically had low rates of drug use, particularly for cannabis and that despite this, compared to states such as Sweden drug use rates were much higher.

Hughes and Stevens (2010) also reported that there have been significant reductions in mortality, HIV, HCV and Greenwald (2009) claimed that the empirical data indicated drug-related pathologies, such as sexually transmitted diseases and deaths due to drug usage, had decreased dramatically. Drug policy experts attributed those positive trends to the enhanced ability of the Portuguese government to offer treatment programs to its citizens made possible by decriminalization. However, these statements are contrary to EMCDDA (2009b) and IDT (2009) reports. These show that drug-related deaths increased from some 160 deaths in 2002 to over 330 in 2008 and that there were declines in drug-related deaths in Spain (580 to 360) and Italy (1550 to 1200) over this period.

EMCDDA data indicated that in Spain in 2011 there were registered 361 drug-induced deaths and the number of deaths due to an acute reaction to drugs fell between 1999 and 2001, remained stable until 2005 at approximately 670, and then resumed a downward trend. Being mindful of these figures they conceded that the recent increase was 'unique' to Portugal, but suggest it was due to changes in reporting rates in Portugal but seemingly not in Spain or Italy (Hughes & Stevens, 2010). Coelho claimed that Portugal recorded a 30%

increase in drug overdose deaths, and along with Greece, Austria and Finland and had one of the worst records in the EU. This estimate seems to under-estimate the death rate compared with the data from the EMCDDA (2009b) and IDT (2009) reports (Morgan, 2010).

In marked contrast from the Special Registry of the National Institute of Forensic Medicine estimated that there were 19 drug-related death cases in 2011 with 52 deaths in 2010, 56 in 2009 and 94 in 2008. The General Mortality Registry of the Statistics National Institute registered 10 cases of drug-related deaths in 2011 (the lowest number of deaths registered since 2006) and 27 deaths in 2009 (EMCDDA, 2013).

Coelho (2011) also reported that Portugal remained the country with the highest incidence of IDU (Injection Drug Users) related AIDS and was the only country in Europe which recorded an increase; 703 newly diagnosed infections followed from a distance by Estonia with 191 and Latvia with 108 reported cases and that the number of new cases of HIV/AIDS and Hepatitis C in Portugal recorded 8 times the average found in other EU countries (Morgan, 2010). However, Hughes and Stevens (2010) claim that the number of cases of HIV reduced amongst drug users fell from 907 to 267 between 2000 and 2008.

However, EMCDDA data suggests the number of newly diagnosed HIV cases among drug users (13.4 per million population in 2009) is well above the European average (2.85 cases per million in 26 countries) and one of the highest in the EU. In Spain the number of new HIV cases among PWID and the proportion of new HIV cases attributed to injecting drug use declined significantly from 2004 to 2012 (EMCDDA, 2011).

Hughes and Stevens conclude that there was a small increases in reported illicit drug use amongst adults, reduced illicit drug use among problematic drug users and adolescents, at least since 2003, reduced burden of drug offenders on the criminal justice system, increased uptake of drug treatment and a reduction in opiate-related deaths and infectious diseases (Hughes and Stevens, 2010). Greenwald (2009) went further and concluded that the data showed that the Portuguese decriminalisation was been a resounding success.

However the conclusions of Hughes and Stevens (2010), Goulao (Kain, 2011) and Greenwald (2009) appear to be mistaken based on the data produced by the EMCDDA. Goulao's claim that drug use had declined since the 1990s seems to be correct however, decriminalisation was not enacted until 2001 and there had been declines in drug use before that time that obviously had no relationship to this change in policy and occurred during a time when punitive measures were still in place. The data indicate a steady an increase in drug use, particularly of problem drug users in Portugal coupled to a sharp increase in mortality between 2005 and 2011 and the highest incidence of HIV infection in Europe and that the situation in Spain was marked by a reduction in drug use, drug-related deaths and HIV infections in spite of not decriminalising drug use. In the case of Sweden the very significant changes in drug use and harm from having one of the highest rates in Europe to the lowest came with the introduction of a 'zero tolerance' to drug use, mandatory treatment and

harsh penalties for drug use and supply. The next section examines the Swedish experience in some detail

Sweden - Zero Tolerance

Sweden in effect legalised drug consumption in the 1960s. Doctors were allowed to prescribe drugs to patients for non-medical use to keep individuals from obtaining them through illegal sources. Initially, 110 drug-addicted people were enrolled in the program for which more than 4 million doses were prescribed, mostly stimulants or opiates. Many of these prescribed drugs were given to friends or resold flooding Stockholm with drugs and spreading the drug epidemic in Sweden instead of limiting it as the program's sponsors naively expected. In 1967, the tragic and widely publicized death of 17-year-old offered drugs by one of the patients in the program led to an abrupt halt to this legal prescription experiment (Bejerot, 1975). Official drug prevention policy at that time directed police to concentrate on trafficking and smuggling and not arrest drug users for drug possession, hoping that it would be attractive for individual to voluntarily seek treatment and other help from social services providers or hospitals. People dealing in small amounts of drugs were overlooked until, after much publicity and public debate, the Swedish Prosecutor General issued a directive in 1980 that waived prosecution for small amounts of narcotic drugs would not be allowed any longer. However, drug users were not subject to any prosecution until after 1988 after a period of debate and lobbying by concerned individuals and organisations, so that consumption of narcotic drugs was made illegal. By 1993, police were given powers to use drug tests (using urine or blood samples) to obtain evidence of drug consumption. The punishment for illegal use was a monetary penalty related to the offender's income, although drugged driving could lead to imprisonment (Hartelius, 2008).

Sullivan (1999) recounts that Swedish policy concentrated on law enforcement, treatment and education, with the goal a drug-free society, and there were increasingly severe penalties for infringement from 1968. However, in the 1970s it was again forcibly argued that it is counter-productive to target personal use. She says that by the mid- seventies when heroin had gained a footing for the first time, the societies ethical duty was to intervene on behalf of the individual at risk again. While Sweden moved from tolerance of private drug use to more proactive prevention strategies, both in trafficking and private drug use, by 1976, the government in the Netherlands went the opposite way. They allowed permissive enforcement of soft drug use and a more restrictive enforcement of hard drugs, under a banner of tolerance and hoping that individuals sought voluntary treatment. Thus, there was a blowout in the number of teenagers participating in drug taking increasing to 28% by 1998. Sweden discovered through hard experience, that just focusing prosecution of those dealing with drugs was not enough (Sullivan, 1999).

Subsequently, Sweden consciously moved back to a more restrictive anti-drug policy with the aim of a drug-free society and zero tolerance. Sullivan (1999) showed Sweden adopted drug policies that encompassed a broad range of harm minimisation strategies, and

modified the balance of elements to respond to changed circumstances including the introduction of a compulsory drug testing scheme implemented by the Swedish Police. The Swedish drug testing was found to be effective in identifying drug abusers and referring them to receive treatment at an earlier stage. Swedish Police do not require physical signs and presence of drugs to trigger drug testing. The offence of drug consumption in Sweden is, comparatively lenient with imprisonment is technically possible, but the maximum penalty in practice is a fine, and the criminal record can be completely erased after three or five years. Sullivan (1999) suggests that Australia has blindly adhered to a policy that puts harm reduction as the foremost strategic components and has not responded to the evidence that drug use and harm has increased compared to nations such as Sweden (Sullivan, 1999).

Not only did the legislation and enforcement need to be maintained, but with a minor recession impacting on Sweden in the 1990's, the focus in school programs and community education strategies warning of the dangers of using illicit drugs declined and consequently drug use amongst teenagers increased (up to 10% of 16 year old boys and girls) despite the drug preventative legislation being in place. In 1998, the Government appointed a Narcotics Commission that put forward many suggestions for action and change including demand reduction strategies and other educational measures which resulted in a flattening out of the increasing uptake and subsequent decline of illicit drugs amongst teenagers. Increased vigilance in enforcement of existing legislation and policies also contributed to regaining control of the illicit drug use across the community.

The Secretary General of the Swedish National Association for a Drug Free Society, Per Johansson said at the time:

“One of the common stereotypes in global drug policy debates is that successful welfare states adopt permissive drug policies as part of their commitment to compassion and tolerance of diversity. Sweden, a country noted for its liberal views stands out as an exception to this stereotype and offers a model for a more restrictive drug policy, not because it is repressive politically but because it promotes the public health and lowers both drug use and the harms caused by drug use” (Hartelius, 2008).

Involuntary treatment of adult drug abusers was introduced in 1982, but treatment was more generally an optional alternative to imprisonment. The coercion provided by the law and the care provided by treatments were used cooperatively. Methadone-assisted rehabilitation of heroin addicts was implemented, with a strict limit on numbers. Drug use was criminalized in 1988, and a maximum penalty of six months imprisonment for illicit drug use was introduced in 1993. Possession of small quantities of cannabis or amphetamines often resulted in a fine, but possession of heroin or cocaine received a strict term of imprisonment. Drug trafficking may be punished by 20 years imprisonment. Police targeted street trading so that known centres for obtaining drugs could not develop. Schools and

municipal social services provided extensive education against drug use. Harm minimization, as implemented in Australia, has been rejected, because such policies as needle distribution would convey an ambiguous message about society's attitude to drug abuse. The response to the HIV threat was to increase programmes of rehabilitation and safe sex education. In Australia "Harm minimisation", in its limited sense, has been the driving force in Australia's National Drug Strategy since the mid-eighties. Despite the fact that these policies have produced nothing but escalation, not only of use, but harm, there has been little to no move to reverse them (Sullivan, 1999).

In Australia, generally the maximum penalty for possession of small amounts of cannabis is two years imprisonment. In South Australia and the Australian Capital Territory, however, possession of small amounts of cannabis has been decriminalized. Trafficking in illegal drugs may be punished with life imprisonment. In Sweden the law provides for prison for possession, but this never occurs. The law is designed to allow drug testing of those suspected of using illicit drugs and to act as a deterrent. Through the late eighties and most of the nineties, there was a movement, in the allocation of funding, from law enforcement to "education". Sweden changed from liberal policies in response to evidence of lack of success toward zero-tolerance models of early intervention and strict enforcement of drug laws. In Australia "harm minimisation" advocates have ignored the evidence and pursued liberal policies which seek to displace the law and are counter to public opinion. Not content with free needles and methadone they push for extensions of these policies including free heroin and injecting rooms and decriminalisation and regulation of 'recreational' drug use (Sullivan, 1999).

The comparative statistics compiled by Sullivan (1999) for Sweden and Australia clearly indicate the relative success of the respective policy approaches, given the considerable similarity of the two countries in culture, general civility, and standard of living. Australia has 2.4 times the population of Sweden - which has 30,000 problem drug users (Swedish National Institute of Health, 2012), while Australia has an estimated 270,000 injecting drug users.

Table 1: Comparison of Drug Use Prevalence in Sweden and Australia in 1997

	Sweden	Australia
Lifetime prevalence of drug use:		
16 -29 year olds (Sweden) & 14 -25 year olds (Australia)	9%	52%
Use in the previous year (as above)	2%	33%
Percentage of dependent users aged <20	1.5%	8.2%
Methadone patients per million population	50	940
Drug -related deaths per million population	23	46
Percentage of all deaths at age < 25	1.5%	3.7%
IDUs per million population	842	7,391
Drug offences per million population:		
(Sweden - arrests; Australia - convictions)	3100	1000
Average months in prison per drug offence	20	5
Cumulative AIDS cases per million population	150	330

Source: United Nations World Drug Report (1997).

Table 2: Illustrates the more recent figures from the EMCDDA and the United Nations Drug Report 2012 indicate drug use trends that have continued since 1997.

	Sweden	Australia
Lifetime prevalence of drug use:	17%	39.8%
Annual Drug Use Prevalence:		
Cannabis	3.4	10.6
Opioids	0.23	0.4
Cocaine	0.5	10.6
Amphetamines	0.8	2.7
Ecstasy	0.1	4.2
Cannabis 16 -17 year olds (Sweden) & 14 -18 year olds (Australia)	7%	15.7%
Drug -related deaths per million population	69.2	118.9
Number of drug related deaths	419	1705
Methadone patients per million population	544	1916
Number of methadone patients	5300	46,000

Annual Prevalence of Drug Use: 15 – 64 year olds: (UN World Drug Report 2010)

Substance	Sweden	Australia
Opiates	0.17	0.4
Cocaine	0.5	1.9
Cannabis	2.1	10.6
ATS	0.2	2.7
Ecstasy	0.2	4.2

The evidence indicates that Australia's policy of "harm minimisation" has induced widespread drug usage. For example nearly 40% lifetime usage (i.e. used at least once) in Australia compared 17% in Sweden. This suggests Australia's drug education policies have not reduced drug use, particularly among school children. Further data indicates that the change from the liberal to the prohibitive in Swedish policy has been effective in reducing the initiation of young users, whereas usage by young people in Australia has been increasing over the same period. Only 1.5% of Swedish young people (aged < 20) are drug dependent, compared with 8.2% of Australians in the same age group in 1997.

The information conveyed in "harm minimisation" education is clearly unable to counteract the effect of higher rates of usage as drug-related death rates are twice as high in Australia as in Sweden - 118 versus 69 per million population (Sullivan, 1999). Moreover, the prevalence of drug use in Australia compared to Sweden has continued to widen in recent years in relation to all illicit drugs. Of particular concern is the rising rate of stimulant use in Australia (2.7%). By 2011 Australia rate was nearly 3.5 times that of Sweden (0.8%). Even starker is the difference in cannabis use: 10.6% in Australia in 2011 with 210,000 persons dependent on cannabis (Copeland, 2015) compared to 1.2% in Sweden (UNODC, 2013).

With 180 (of 180 nations) being the best rating, nations were ranked (UNODC, 2008) in order of the severity of their drug problem, Sweden has been ranked at 168. Australia was ranked at 5. Hepatitis C is almost always transmitted by sharing unclean injecting equipment. Australia has 250,000 Hepatitis C sufferers, Sweden has 43,000. Thus it seems clear that Sweden's attention to supply and demand reduction as well as harm reduction as components of harm minimisation, had better outcomes for continuing users, without reducing the protection of the community, especially young people and has produced far better outcomes in minimising harm than has Australia's concentration on harm reduction (Sullivan, 1999, UNODC, 2008).

Conclusions

“You are right in speaking of the moral foundations of science, but you cannot turn round and speak of the scientific foundations of morality.”

Albert Einstein

At each new phase of “harm minimisation” policy, its proponents have confidently predicted that harm to users and the community will be reduced, and face validity in their arguments has enabled them to carry their case. Yet each time they have been wrong. It seems likely that the source of error lies in their misunderstanding and interpretation of the motivational elements in the interaction of their policies and the actual behaviour of both potential and current drug users. The antipathy to prohibition and the belief that to legalise drugs will improve matters appears to arise from a belief in a non-cooperative or anarchic streak in human nature which means that to forbid something is to make it more attractive; and that to permit it is to make it unappealing. This element in human nature no doubt exists, but other factors are at work too. Firstly, the effects of drugs which makes them appealing, once experienced, whether they are forbidden or not, do harm, often irreparable harm. Moreover, secondly, to forbid something that is intrinsically dangerous, permitting its use signals safety.

To rational people prohibition, if perceived to be well-founded will function more strongly than the tendency to non-cooperation. Only if, as “harm minimisation” and drug education have sought to portray, what is believed to be harmless is forbidden, will the former predominate. We do not fail to notify the public of a dangerous rip in the surf, or of live electric wires, nor decline to take steps to prevent the foolish nevertheless putting themselves at risk. Equally, it is important not to ‘cry wolf’. The “harm minimisation” lobby have believed that prohibitionists are crying wolf as regards drugs, but it is now transparently clear that their belief is dangerously wrong.

The logic that promotes harm minimisation is clearly flawed. However, this paper goes further and presents the evidence that shows that whatever the rationale for greater permissibility and acceptance of drug use and a curtailment in supply and demand reduction strategies, such policies have failed to reduce harm particularly the transmission of blood borne viruses and drug related mortality and morbidity. The evidence from the period between 1998 and 2004 when a more stringent deterrent and supply reduction approach to illicit drug use was implemented showed a clear decline in drug use and drug related harm when compared to the periods preceding and following this period when harm reduction strategies dominated policy.

The paper by Degenhardt (2009) makes clear that these policies were responsible for this decline in drug use and harm rather than other coincidental factors. Since then all illicit drug use except ecstasy has increased and the influence of peer pressure as a reason to use illicit drug among young people has increased from 43.4 to 48.8% from 2007 to 2010 indicating a

more permissive attitude and a perception of decreased harm among first time users (AIHW, 2011).

Moreover, an examination of the emerging evidence of the direct impact of harm reduction policies shows that it has failed in reducing harm either to individuals as BBV infection has increased despite heavily funded harm reduction policies such as needle exchange and OST. Moreover, harm to the community has increased given the evidence of the detrimental effect that others illicit drug use has on families due to illicit drug use. The emerging evidence indicates a potential upsurge in HIV and STD infections due to the rise in unsafe sex, stimulated by increasing use of stimulants, ICE in particular. This is of great concern and underlines the need for a new approach in Australia.

To take a broader view of the evidential base this paper also examined the impact of various policies implemented in other countries and compared them to Australia. The evidence again indicates that harm reduction policies including the decriminalisation of illicit drug use as has occurred in Portugal has not resulted in any significant reduction in harm and has led to increased drug use in the community. On the other hand, more preventive and proactive approaches as implemented in Sweden have demonstrated reduced overall rates of use of drugs and reduced harm.

As well as a reduction in drug use being favoured by the majority of Australian population the evidence is clear that overall reduction in supply and demand and hence in accessibility, succeeds in reducing levels of use and hence reduces levels of harm for both users and the wider community. A focus on harm reduction with the tacit permissibility that this implies has been shown to fail to reduce harm and is not favoured by most people. Further, the term conveys the pessimistic and inaccurate message that substance dependence is not susceptible to effective treatment and that all that is possible is a reduction in the harm that it causes (Ghodes, 2007). The policy makers need to take heed and implement policies and ensure accurate information is disseminated that reflects this consensus.

As stated in the introduction, an important aim of this paper is to make recommendations that arise from the evidence to direct drug policy in the future. The next section makes recommendations based on the evidence to produce improved outcomes.

Recommendations

The first recommendation flows from the evidence from the period of 'Tough on Drugs and the experience of other countries that have implemented policies aimed at supply and harm reduction the evidence is very clear that a strong emphasis on enforcing deterrents reduces drug availability, increases price and reduces harm.

In terms of prevention, it is recommended that State governments actively discourage materials that promote the drug liberalisation/legalisation agendas and instead encourage the use of materials, such as those from Life Education and other Resiliency and Values/Affective Domain education specialists and which instil a resilience model education

program to discourage drug use and the development of peer support programs in schools and which do not contain drug normalisation agendas.

It is also recommended that Life Education be funded to expand their materials to include the following drug education aspects: Why illicit drugs are illicit, their specific harms and why they are not socially accepted; the history of the International Conventions against illicit drugs; discussion on resurgence of illicit drugs, the role of counter-culture and the ongoing attempts to legalise all drugs; discussion on the push for illicit drug user rights and why these 'rights' are not accepted by the community; discussion on the success of restrictive drug policies in Sweden; information on what interventions are required if a peer is suffering the deleterious effects of an illicit drug, in other words: empowering young people to make healthy life choices.

The evidence indicates that programs such as needle exchange and methadone do not work. Neither program has succeeded in reducing the prevalence of HIV or HCV; indications are that they have most probably led to increased drug use for longer and increased levels of harm. With the increased incidence of methamphetamine use it is known that neither of these programs will reduce usage nor harm from use of these stimulants. It is recommended that both programs be phased out and the funds redirected into treatment programs aiming to reduce overall drug use in the community.

As demonstrated by the policies adopted in Sweden, early intervention before harm becomes serious should be the primary strategy for prevention among younger people who have started to use drugs. Young people often have very low motivation to quit drugs, especially when the message is that they are harmless and controllable. The evidence is that many only seek help when they are incapacitated and unable to lead a normal life. Sometimes coercion to take up treatment and counselling programmes is required. Medical evidence shows that drug-induced brain damage hampers the cognitive function of drug abusers, hence their ability to make decisions, such as self-protection, which might be natural to an average person. Research has found that the longer the duration of drug abuse, the poorer the chance of complete recovery. The earlier intervention and treatment decreases the long-term permanent damage to the body in relation to drug abuse (Ghodse, 2007). The evidence is that the earlier the treatment can be given to the drug abuser, the better the result.

To facilitate early intervention, it is recommended introducing a compulsory drug testing scheme. Police should not be required to identify physical signs and presence of drugs as the prerequisites to trigger drug testing. As with random roadside drug testing it should be seen as a preventative strategy to discourage drug use. Settings such as 'rave' music concerts have resulted in serious harm and death of young people. Drug testing would have the effect of significantly reducing harm at such events. The Swedish drug testing scheme shows that the concept has been tested and proven effective in identifying drug users who would otherwise be out of the reach of the help network. It has provided a very successful

model of collaboration between police officers and social workers in the identification and subsequent counselling and treatment of drug users.

Despite high rates of relapse treatment can be effective and when relapse occurs it should not be thought of as a failure as is the case with the QUIT campaign on tobacco. Successful treatment for addiction requires continual evaluation, modification and re-admission to treatment as occurs for other chronic diseases. Most people who get into and remain in treatment stop using drugs, decrease their criminal activity, and improve their occupational, social, and psychological functioning. Research shows that for most people who need or want treatment that treatment places are not readily available (NIDA, 2009).

It is recommended that treatment facilities be better funded and that people who relapse can more easily re-enter recovery-based treatment programs.

Based on the emerging evidence a further recommendation is that mandatory treatment of drug users who pose a danger to themselves, their families and society be implemented. Especially in respect of heroin and methamphetamine use as retention in treatment is very poor with high levels of criminal activity and harm to the community among these groups.

Mandatory treatment is recommended when the individual and/or their families are being endangered by continued use of a drug that leads to morbidity and mortality, criminality, mental illness and loss of social functioning. There is a precedent for such a policy as mandatory or involuntary treatment already exists at RNSH for those convicted of drug-related crime. The RNSH Drug and Alcohol treatment facility consists of a general detox for a period of 7 - 10 days. The patient is released without any support other than referrals to a rehab or counselling service elsewhere. The current legal arrangement provides for involuntary admission on the recommendation of a GP or medical officer followed by ratification of the Court where the Magistrate deems the detox necessary and orders an inpatient admission for a period of 28 days (involuntarily). The patient has to have failed rehab and have a pattern failed attempts to detox and hospital admission for drug related illness before a Magistrate will enforce the involuntary admission. The facility at RNSH has a 4-bed facility allowance for the involuntary patients.

If the involuntary patient attempts to leave the Unit within the 28 day period, the Police are informed and the patient is returned to complete the ordered period (Christian & Colquhoun, 2011). The facility prescribes Naltrexone to their patients for ongoing management of alcohol abuse as well as opiate addiction. The service does not offer methadone as a treatment option, although there is a methadone clinic nearby in Herbert Street, the facility is only interested in abstinence.

It is recommend widening of the criteria for involuntary admission to protect families, to extend the period of treatment, such that it is effective and to offer an effective treatment approach that incorporates naltrexone as a treatment choice.

Establishment of mandatory drug rehabilitation for problem drug users of amphetamines, particularly 'ice', should be an alternative to jail sentences. Corrective Services funding could be diverted to organisations that can provide either residential rehabilitation followed by intensive psychosocial counselling and support for amphetamine users. The Swedish experience provides strong evidence for the efficacy of this approach. The Hassela Education Centres, residential rehabilitation centres with a track record of success of almost 30 years, have verified drug-free outcomes in excess of 60% of clients 12 months after completing rehab. In Sweden, rehabilitation is mandatory and is seen as a more compassionate and effective alternative to gaol. It is likely that Sweden's low drug use percentages are the result of early intervention with drug use in that country.

It is recommended that mandatory drug rehabilitation for heroin users as an alternative to jail sentences be established. Again, Corrective Services funding could be diverted to organisations that can provide either residential rehabilitation or intensive psychosocial counselling and support for heroin users, whether assisted by Naltrexone implant or not. Evidence comes from the Swedish Hassela Education Centres, residential rehabilitation centres with a track record of success of almost 30 years, have verified drug free outcomes in excess of 60% for clients 12 months after completing rehab. In Sweden, rehabilitation is mandatory and is seen as a more compassionate and effective alternative to jail. It is likely that Sweden's low drug use percentages are the result of early intervention with drug use in that country (Christian & Colquhoun, 2011).

It is recommended that all proposals for Medically Supervised Injecting Centres be rejected due to the low benefit for high cost of the Kings Cross (NSW) centre presents and its continued encouragement and probable expansion of the local drug trade. It is recommended that in the event of the NSW government closing the existing injecting room, the \$2.5 million required to operate the centre would best be diverted into rehabilitation of drug users. At the time the Kings Cross MSIC was opened, the annual funding from the NSW government would have funded 109 residential rehabilitation beds (at \$23,000 each for an entire year) many of these programs would rehabilitate up to 4 drug users per year with each \$23,000 of funding.

It is further recommended that State governments work with the Federal government in establishing a monitoring system for government-funded organisations, general practitioners and pharmacies that dispense methadone and buprenorphine, with defunding of any of these operatives who do not show a general trend of reduced methadone prescription quantities and abstinence outcomes for clients. The Road to Recovery report (released 2003), was a bi-partisan Federal government study of illicit drug policies in Australia and included this recommendation.

A final recommendation is for the urgent trialling of naltrexone, especially naltrexone implants for alcohol, opiate and amphetamine dependence. Naltrexone implants are a proven treatment that keeps heroin users free of the threat of overdose. As noted on page

159 of the Federal Government Road to Recovery report of 2003: “Naltrexone is unlike other pharmacological treatments for heroin addiction which are opioid substitutes. Professor Mattick and Dr Currie told the committee that naltrexone blocks the opioid receptors from responding to opioids and so reduces craving for heroin and protects against its impulsive use. As Drug Beat of South Australia noted, it is:

“Not a drug substitution treatment, but rather a treatment that promotes abstinence. Support for its use comes from those who believe there should be greater opportunities for individuals to opt for abstinence rather than an opiate substitute like methadone, and from those who favour a range of treatments being available” (Drug Beat South Australia, 2012).

The RCT trial in WA conducted by Dr Gary Hulse (and independently overseen) showed a significant advantage in using naltrexone implants (Hulse, Morris, Arnold-Reed & Tait, 2009). Other RCTs from a number of other research groups from a number of countries have convincingly demonstrated the efficacy and safety of naltrexone (Colquhoun, 2013; Krupitsky et al., 2011; Krupitsky et al., 2010; Krupitsky and Blokhina, 2010; Kunoe et al., 2009, 2010a, 2010b, Kunoe, 2010; Kunøe, Lobmaier, Ngo & Hulse, 2012). The critics ignore this evidence and continue to use arguments that have now been proven to be incorrect to oppose the use of naltrexone.

There is an urgent need to implement these changes to improve the way we treat alcohol, amphetamine and heroin and methadone dependency, to provide wider choices for addicts and their families.

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