



A Compendium of Conference Papers

The First International Conference on Drug Abuse Convened by Drug Free Australia

**Friday 27 - Sunday 29 April 2007
Stamford Plaza, Adelaide SA**

'Exposing The Reality'

A National and International Perspective on Illicit Drug Use

'Not just a Conference - but a catalyst for possible change in Australia's Drug Policy'.

On behalf of the Board, Drug Free Australia, I extend thanks to delegates and presenters who attended our First International Conference on illicit drug use.

This inaugural event was highlighted by a dynamic and diverse program incorporating a wide range of international and Australian keynote speakers and presenters.

The Conference theme was to build greater public awareness of the devastation caused by illicit drugs in this country and internationally.

Conference presentations and plenary sessions resulted in 22 recommendations from the floor which will guide the Board and Drug Free Australia in its future strategic direction. This information will also provide input to enhance Drug Free Australia's 10-point Plan, and will enable the voice of both community and professional stakeholders to be heard by key decision-makers throughout the country.

The Board and Management also wishes to express appreciation for the funding support received from the Commonwealth Department of Health & Ageing. Without this support, a Conference such as this would not have been possible.

Thank you for being part of this landmark event - the 2007 Drug Free Australia Conference - *'Exposing the Reality - a National and International Perspective on Illicit Drug Use'*. We commend the copies of presentations to you and your networks.



Craig Thompson
Chair, Drug Free Australia
'Promoting National Drug Prevention Initiatives'



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Contents Page

<i>Presentations</i>	<i>Page</i>
Message from the Prime Minister , The Hon. John Howard	4–5
Elements of Patho-physiology of Drug Addiction and Related Consequences , Dr Ivan Van Damme, Flemish Platform against Drugs, Belgium	6–64
Flawed Research into Needle and Syringe Programs , Dr Kerstin Kall, Chief Medical Officer Addiction Clinic, Linköping University Hospital, Sweden	65–89
Critical Analysis of the Kings Cross Injecting Centre , Gary Christian, ADRA, NSW	90–131
Drug Abuse and Modern Scientific Research , Dr Joe Santamaria, VIC	132–154
Addiction and Recovery , Bronwen Healy, Hope Foundation, QLD	155–163
Prevention Teaching in Schools , Jade Lewis, WA	164–165
Mothers - What They Really Feel About Drug Policy , Wendy Herbert, Fellow, Drug Free Australia	166–167
Impact of Drug and Alcohol on the Developing Brain , Trevor Grice, Educationalist, Counsellor and Author, NZ	168–169
Drugs - An Educational Perspective , Jay R Bacik, CEO, Life Education Australia, NSW	170–171
Going Dutch? - A Critical Appraisal of the Dutch Drug Policy , Frans Koopmans, Netherlands	172–200
School Drug Policy , David G Evans, New Jersey, USA	201–202
A UK Schools Drug Testing Experience and Beyond , Peter Walker, UK	203–216
Subverting the Paradigm of Medicine: Medical Marijuana, Beachheads and Licence , Dr Gregory K Pike, Southern Cross Bioethics Institute, Adelaide, SA	217–218
The 'No-Way Campaign' - a Drug and Alcohol Awareness Campaign , Darren Marton, Campaign Manager, The No-Way Campaign, NSW	219–220
Law Enforcement - The Swedish Model (supporting UN drug conventions) , Detective Superintendent Eva Brannmark, National Swedish Police Board, Sweden	221–227
Law Enforcement's Role in Supply Reduction in Australia and Internationally , Peter Drennan, Assistant Federal Police Commissioner, ACT	228–236
The State of the Nation - Amphetamines and Other Drugs , John Herron, Chair ANCD, ACT	237–244
Drugs - An International Perspective , Brian Watters, Member of the UN International Narcotics Control Board, NSW	245–259
'Federal Government's 'Tough on Drugs' Approach , Hon Christopher Pyne, Minister for Ageing, ACT	260–273
Addictions - A Practitioner's Perspective , Dr Stuart Reece, GP, QLD	274–275
An Indigenous Perspective , Abdul Khan, Director, CAAAPU, NT	276–277
Links Between Mental Health and Cannabis - A NSW Practitioners Perspective , Craig Thompson, Chair, Drug Free Australia, NSW	278–283
Appendix 1 Delegate's Recommendation's	284–289



**Message from
the Prime Minister, Hon. John Howard
Canberra, ACT**





PRIME MINISTER

CANBERRA

MESSAGE: DRUG FREE AUSTRALIA

I am pleased to provide this message to the Drug Free Australia Conference 'Exposing the Reality – a National and International Perspective on Illicit Drug Use.'

The Australian Government considers that there is no such thing as a safe level of drug use. Our primary goal in relation to drugs policy is to ensure that there are strong measures in place to prevent as many people as possible from taking illicit drugs.

There is much that the government has done in recent years to combat substance abuse in Australia. Since the launch of the "Tough on Drugs" strategy in 1997, my government has spent more than \$1.3 billion on law enforcement, education and rehabilitation programmes, making it the largest initiative of its kind in Australian history. Since the strategy was introduced, our law enforcement agencies have prevented more than 14 tonnes of the most serious illicit drugs from reaching Australia's streets. The government is now turning its efforts to the best strategies to prevent the use of newly emerging illicit drugs such as methamphetamines.

The theme of the Conference, building greater public awareness of the devastation caused by illicit drugs in this country and internationally, is vitally important. Australians can feel proud of recent achievements in reducing the demand and supply of illicit drugs in the community. With the help of organisations such as 'Drug Free Australia' we can continue to make a positive difference to the health of Australians, helping them to live drug-free. I commend the conference to you all and trust that you will have a productive and valuable three days.

A handwritten signature in black ink, which appears to read 'John Howard'.

(John Howard)

Dr Ivan Van Damme

**Flemish Platform Against Drugs,
Belgium**

**Session Title:
Elements of Patho-Physiology of Drug
Addiction and Related Consequences**



Elements of patho-physiology of drug addiction and related consequences.

Contribution to the Drug Free Australia Conference "Exposing the Reality"
Adelaide, 27 April 2007

Dr. Van Damme Ivan
Flemish Platform against Drugs
Email: ma191526@skynet.be

Good morning members of parliament, distinguished guests, ladies and gentlemen. I am honoured to be here to participate in this groundbreaking conference in search of solutions to drug addiction which is one of our most serious problems.

Even through the dangers of addiction are usually well known, people still initiate drug use and continue using drugs until they become addicted. Only then do they discover just how difficult it is to stop using drugs, when they have encountered the many problems that result from drug use. People lose their jobs, health and families, and still continue their drug use. The single best way to avoid the risks of addiction, no matter what one's genetic makeup, is not to use the substance at all.

When a drug of abuse is used for the first time, the user either stops when the drug fails to deliver all that was promised, or when external controls are applied, or if neither happens, he/she continues to use. The slavery of addiction is especially painful, humiliating and cruel because it is self-imposed by freely choosing to start using drugs. But all people are responsible for their own lives and for their own choices and drug users remain fully responsible for their behaviours during every stage of addiction.

The first use of alcohol and other drugs occurs usually during the teenage years. Sharing of drugs by so-called friends is a major way that drug use spreads: close mates who use drugs tell the novice user that the particular drug can be used safely and with pleasure. But drug-using friends are not real friends. Drug users are allies and accomplices in drug use. They help provide the drugs, and they sustain the environment in which drug use takes place. They help the addict rationalize the drug use with the view that "everyone is doing it, not just me".

Non-users contemplating drug use look to these non-dependent users as models for using drugs without significant consequences. New users' novel, pleasurable experiences, combined with their desires to normalize their own use, can lead them to recruit other new users. In this way, the drug epidemic amongst youngsters is spread.

The younger the person is when drug use starts, the more rapid and the more likely the progression to loss of control over drug use. The brains of younger users are still immature and are more vulnerable to the seduction of the mood change.

Another reason why young people are the most vulnerable to addiction is they have not developed and practiced effective ways of dealing with life's problems. Adolescence is a growing and learning period, where young people get to practice

their responses to life. Intensive drug use prevents, interrupts and derails this important training. Drugs are opportunity destroyers and every child is at risk.

Drug use is a deviant coping mechanism to “solve” problems. This so-called solution may not be real to the rest of the world, but the changes induced in the brain by the drug make this so-called solution real enough to the user. In this way, drug users forfeit the opportunity to develop and practice adaptive, healthy responses to the challenges of life. Gradually replacing the experience of life with drugs is how addiction develops. Teenagers who use drugs aren’t thinking of the future. They’re thinking in the moment and about how much better they can look or perform. They may hear warnings from parents or school administrators, but they feel a certain sense of invincibility. Disaster won’t happen to them...

Why people begin to use drugs: TO OBTAIN MOOD CHANGE!

The journey of addiction starts when the individual makes a conscious choice to use drugs and experiences the high – the mood change – produced by the first act of drug taking.

For the drug user, these mood change experiences are often very intense and give the user a euphoria beyond anything else. This sensation is self-reinforcing. Feel it once, and you want to feel it again. But pleasurable sensations, despite their transcendent quality, do not last. Pleasure is always a temporary state.

The mood change created by acting out (the search and the use of drugs) is a very seductive process in which the addict is emotionally seduced into believing his/her needs have been met. Drug users have such strong and highly valued experiences with drug use that they put those sensations above everyday responsibilities and risk serious harm to themselves and others by pursuing their addictive pleasures. No mood change is as good as the first, but the addict will continually try to recreate that feeling. The drug user’s feelings lose touch with reality, and artificial relief, pleasure, contentment, and relaxation take over. The drug user confuses the intensity of drug taking with moments of intimacy.

The mood change creates the illusion of control, the illusion of comfort, and the illusion of perfection. The mood change gains control over the person, always promising relief from the emotional pain. Ultimately, the emotional pain returns, deeper and more persistent, until it turns into grief and despair. Grief is the major emotional bi-product of a life dedicated to pleasure. When addicts are attached to something that is bound to fade away, leaving them empty, they are bound to grieve, and, ultimately, become bored and depressed.

What is addiction?

Addiction is an emotional relationship with an object or event, through which addicts try to meet their needs for intimacy. Addiction (on its most basic level) is an attempt to control and fulfil the desire for happiness. Drug addiction is a pathological way of trying to get emotional needs fulfilled by taking drugs, to produce a desired mood change, state of intoxication or trance state. Drug addiction is a process of buying into false and empty promises: the false promise of relief, the false promise of emotional security, the false sense of fulfilment and the false sense of intimacy with the world.

According to the DSM-dependence criteria, drug addiction is clinically defined by at least 3 of the following characteristics:

Tolerance

Withdrawal

Use in larger amounts or for longer than intended

Desire to cut down or control use

Great deal of time spent in obtaining substance or getting over effects

Social, occupational or recreation activities given up or reduced

Use despite knowledge of physical or psychological problem

Simply said, drug addiction is the loss of control of drug-taking behaviour. The drug user is no longer capable of choosing to use simply because of the apparent benefits. The drug user cannot stop using drugs despite adverse social, legal, and health consequences.

Addiction is a relationship problem.

The drug user has a relationship with drugs!

People turn toward addictive or compulsive behaviour when they don't like the way they're feeling, and they seek out a mood-changing experience. Addiction begins and grows when a person abandons the natural ways of getting emotional needs met through connecting with other people. *In natural relationships there is a connecting with others – an act of giving and an act of receiving. In addiction there is only an act of taking.*

Drugs can't ask questions, as humans do. Drugs will never complain about the way the addict acts.

Addicts feel connected to the moment of drug use because of the intensity of the mood change. Drug addicts have such strong and highly valued experiences that they put those sensations above everyday responsibilities and risk serious harm to themselves and others by pursuing their addictive pleasures. It is a destructive but committed relationship. To addicts, drugs start to become more and more important as they try to get their emotional and intimacy needs met through this relationship. Eventually, it becomes their primary emotional relationship. Drug addicts continually hurt their family members and put the drug(s) before them.

Addicts believe the mood change can be trusted, in the beginning. Because they experience a mood change, they start to believe their emotional needs have been met. This is an illusion. It's dishonest to believe drugs can bring anything more than a temporary mood change.

What determines possible evolution to addiction

Protective factors:

Positive relationships

Parental monitoring and support

High academic performance

Anti-drug policies in schools and communities

Strong neighbourhood attachment

Self-Control

Risk factors:

Isolation

Early drug use

High Potency of the drug

Frequent drug use

High amount of drug use

Method of administration: Smoking or injecting a drug

Mental illness

Exposure to physical or sexual abuse

Early aggressive behaviour

Poor social skills

Lack of parental supervision

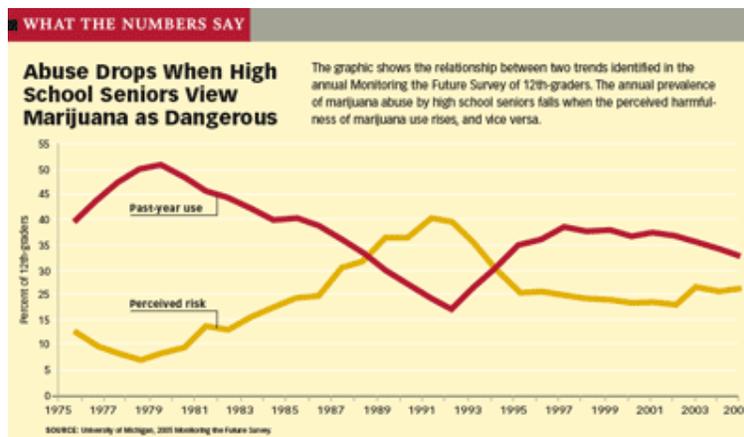
Substance abuse and pro-drug attitudes of peers

High drug availability

High drug continuation rate

Not everyone who seeks and experiences a mood change becomes an addict. But when a person with a high genetic vulnerability such as parents or siblings who are addicted to alcohol and/or other drugs, and impulsive character traits is exposed to a highly addictive drug taken by a high-risk route of administration (smoking or injecting) in a setting that promotes drug intoxication with an expectation of getting good feelings, the gun of addiction is loaded.

The two major factors in the decision not to use or to stop the use of drugs are the perception that the use is harmful to one's health and that drug use is socially disapproved.



(Picture: Marijuana use of 12th graders in the U.S., related to the perceived risk of marijuana use)

Users of all kinds of drugs typically select routes of administration that maximize the drug effects they are seeking. Because of the increased time required for absorption, the onset of the effects of a drug are slower when people take it by mouth (passes through the liver) than when they inject or smoke it. But because heroin is now so

much more pure than it used to be, snorting it has become an effective and popular route of administration.

Snorted (powder) cocaine is not nearly as reinforcing (and thus addictive) as smoked (crack) cocaine, simply because smoking can deliver a much larger amount of cocaine to the brain more rapidly than snorting. The rush (the mood change) that results from smoked cocaine is much more profound than that induced by snorting.

Drug continuation rates are highest for drugs that are more tolerated. (from highest to lowest continuation rates: alcohol, cigarettes, marijuana and cocaine.)

Continuation rates, like levels of drug use within the society, reflects primarily the environment in which drug use occurs rather than any pharmacological property of the drug.

The development of addiction: Multiple factors are into play

The reasons for drug addiction are a combination of the factors of heredity, environment , the use of psychoactive drugs and the personality of the individual. Because individual personalities, heredity, physiology and lifestyles vary, each person's resistance or susceptibility to drug use also varies.

The drug user with a higher biological predisposition for addiction likes the (initial) drug high(s) more than do users who lack this heightened risk. The more important the use of drugs is to anyone, the more rewarding the drug experience, the greater the risk of addiction. In contrast, many people who fool around with drugs and then drop them, without ever progressing to having a love affair with drug use, say that the drugs did little or nothing for them. Although it is not possible at this time to test for genetic trait associated with addiction, it is possible to determine just how much the use of the addictive substance means to the person using it by asking the person.

Diversity of risk does not mean that some people are vulnerable to addiction and others are not, but it does mean that some people are relatively more vulnerable than others. A person who starts with a low inherited susceptibility and low environmental stress might need intense use of drugs to push him/her into addiction. The greater the environmental stress, the fewer drugs are needed to develop addiction. *But everyone can become addicted to drugs if they repeat the experience of drug reward often enough!!*

Environmental change can trigger loss of control of drug use

When a person uses a substance for a long period of time without loss of control and then later loses control of drug use, there may have been an environmental change that shifted drug use from benign to malignant. The change in the user's life triggered the previously latent progression of the disease of addiction. The pressures and influences of the environment actually shape and connect nerve cells. The stronger the environmental influences and the more they are repeated, the more indelible the imprinting on the brain. These influences include physical/emotional/sexual abuse during adolescence, poor nutrition, or social attitudes that permit drug use.

People can also become more susceptible to use drugs if society tells them in word and deed that drinking, smoking and using drugs is a normal part of life.

The environment can make a person more liable to use and abuse psychoactive substances:

-If stress is common in the home.

- If drug use is common in the home.
- If different ways of reacting to stress or anger aren't learned and self-medication becomes the only solution.
- If there are mental health problems triggered by home environment.
- When an unbalanced diet (lack of vitamins and proteins) impacts brain chemistry.

The role of genetics in addiction

Since every person is unique, every person has a different genetic susceptibility. Those with low genetic susceptibility have more room for drug experimentation (until recreational use, habituation, abuse and finally addiction develops...) than those with high genetic predisposition. This susceptibility is most often reflected by the brain's structure and neurochemical composition. For example, the determining factor might be an inherited lack of dopamine receptors.

Drugs of all kinds can cause changes in gene expression in the brain. Changes in gene expression cause changes in protein synthesis that can have both short-term and long-term consequences on behaviour. Since these proteins affect the functions of neurons, such changes are ultimately manifested in altered behaviour of the individual. The long-term effects brought about during the process of substance dependence are usually mediated by alterations in gene transcription, which leads to altered gene expression and subsequent changes in the proteins synthesised. Gene transcription and expressions in neurons are regulated by transcription factors. It has been shown that the functions of several transcription factors are altered by substance use and therefore are implicated in dependence. Cyclic AMP stimulates the expression of cyclic AMP response element binding protein (abbreviated CREB), which is a transcription factor. Transcription factors are proteins that bind to regions of genes to increase or decrease their expression.

Role of the transcriptional regulator FOS:

Other transcription factors induced by exposure of psychoactive substances belong to the Fos protein family of the immediate early genes. The products of these genes are induced very rapidly and play important roles in transducing receptor-mediated signals into changes in gene expression. These changes in gene expression affect neuronal protein expression and function.

Single administrations of a substance cause transient increases in several members of the Fos protein family, but with chronic use, a modified variant of Fos B, delta Fos B, which is more stable, accumulates and persists in the Nuc. Accumbens. Delta Fos B, once generated, has an unusually prolonged half-life resulting in persistently elevated levels. The accumulation of delta Fos B occurs in the Nuc. Accumbens and dorsal striatum, and constitutes a process specific for psychoactive drugs. The elevated delta Fos B can then continue to affect the expression of many other genes, within the same neurons, which in turn by alterations in synaptic transmission will be able to affect many neuronal functions locally and in other areas of the brain, to which these neurons project.

Genetic vulnerability, or predisposition, to substance dependence is likely to be tied to several distinct genes, each producing a small effect, which might increase risk of developing substance dependence. Any one of the genes on its own will be insufficient to cause dependence, but several different genes may all contribute to the vulnerability.

Substance dependence is polygenically inherited, and each gene is likely to account for only a small percent of the variance. Not everyone who carries a "risk gene" for

substance use or dependence will become dependent, and likewise some of those who become dependent will not carry that particular risk factor.

These genetic contributions to vulnerability seem likely to be distributed over several distinct regions (loci) on the chromosomes. The chromosomes are made up of a distinct set of instructions, (or genes) that “code” for proteins.

One overwhelming finding from genetic studies of psychoactive substances is that the heritability (genetic contribution) of dependence for one substance correlates highly with dependence for other substances. For example, recent studies of ethanol and tobacco use by humans suggest that common genes may influence the dependence on tobacco and ethanol.

People who smoke are also at greater risk for severe alcohol dependence. This may occur by diminishing the effects of alcohol, because nicotine can increase the activity of the alcohol-metabolising enzyme CYP2E1. Alcohol dependence is associated with more serious nicotine withdrawal. Data from twin studies suggest that cigarette smoking may contribute to the development of tolerance to the effects of alcohol and a diminished sense of intoxication, suggesting that smoking induces increased alcohol metabolism.

Twin studies that have been done in several countries over several decades show evidence that addiction has an inheritable component. Regardless of the foster parent family environment, adopted children developed alcohol abuse or abstinence patterns similar to their biologic parent’s use of alcohol. Statistics (USA) show that if one biological parent were alcoholic, a male child was about 34% more likely to be an alcoholic than the male child of non-alcoholics. If both biological parents were alcoholic, the child was about 400% more likely to be alcoholic.

There are 2 main types of genes that have been associated with drug dependence: those that are likely to be specific to the particular drug dependence and those that may play a common role in either all or a subset of dependencies.

Genes related to smoking:

There is some evidence that smoking behaviour is associated with at least 14 different chromosomal locations. Studies suggest that the effect of any one gene on smoking behaviour is likely to be weak. The genes involved in nicotine metabolism may be important risk factors for smoking; for example, the metabolic enzyme CYP2A6 is responsible for about 90% of the metabolic inactivation of nicotine to cotinine.

Candidate genes for alcohol dependence:

Alcohol is metabolised to acetaldehyde, which in turn is metabolised to acetate before elimination from the body. The mitochondrial form of aldehyde dehydrogenase (ALDH2) is the enzyme primarily responsible for the metabolism of acetaldehyde to acetate. ALDH2 deficiency leads to an aversive response to alcohol due to elevated levels of acetaldehyde, resulting in increased hangover symptoms, and the alcohol flushing response.

Alcoholdehydrogenase (ADH) metabolises alcohol to acetaldehyde.

The subtype ADH2*2 is lower in populations with alcohol dependence, indicating a protective effect.

Cytochrome P-450 2E1 (CYP2E1) is a hepatic enzyme that also metabolises ethanol to acetaldehyde. The levels of hepatic CYP2E1 activity in humans were found to vary by 15-fold. Nicotine increases hepatic CYP2E1 activity.

Chronic ethanol consumption results in the induction of CYP2E1, which is believed to play an important role in the pathogenesis of alcohol-induced liver disease and is

responsible for the increased rates of ethanol metabolism observed in those consuming relatively high amounts of alcohol.

Some common candidate genes for addiction:

1)Catechol-o-methyltransferase (COMT) gene

The COMT-gen is responsible for the demolition of dopamine and has 2 types:

The MET type

The VAL type

Example:

Individuals who have the VAL type are more susceptible to the deleterious effects of cannabis.

People with the MET/VAL genotype are 2x more likely to develop psychosis when cannabis is used during adolescence.

People with the VAL/VAL genotype are 10x more likely to develop psychosis when cannabis is used during adolescence.

The differentiation of the COMT-gen is a reason why some individuals with the MET/MET genotype are able to smoke a lot of cannabis without becoming psychotic or schizophrenic.

However nobody knows which type of the COMT-gen he/she possesses, we only know that $\frac{1}{4}$ of the population has the VAL/VAL genotype, $\frac{1}{4}$ of the population has the MET/MET genotype and $\frac{1}{2}$ of the population has the MET/VAL genotype.

2)Dopamine (D1, D2, D3 and D4) receptor genes

3)Monoamine Oxidase A gene

4)Tryptophan hydroxylase gene

5)Serotonin transporter gene

How the brain works

The brain's job is to process information. Brain cells operate in a chemical bath maintained by the blood passing through and around them. Because the brain is exquisitely vulnerable to changes in this bath, the blood is separated from the brain by the blood-brain barrier, a filtering system that limits the movement of chemicals from the blood vessels into the brain.

Brain cells, called neurons, receive and send messages to and from other neurons. In a neuron, a message is an electrical impulse. The electrical message travels along the sending branch, or axon, of the neuron. The cells in your brain communicate by releasing neurochemicals.

When the message reaches the end of the axon, it causes the release of a chemical called a neurotransmitter. A neurotransmitter is a chemical substance that is released in the synapse between 2 neurons. The neurotransmitter travels across a tiny gap, or synapse, to other neurons. It affects a neuron in a specific manner. Specialized molecules called receptors on the receiving end of a neuron pick up the neurotransmitter. The branches on the receiving end of a neuron are called dendrites. Receptors there have special shapes so they can only collect one kind of neurotransmitter. In the dendrite, the neurotransmitter starts an electrical impulse. Its work done, the chemical is released back into the synapse. The neurotransmitter then is broken down or is reabsorbed into the sending neuron.

When you learn new information or a new skill, your brain builds more axons and dendrites first, as a tree grows roots and branches. With more branches, neurons can communicate and send their messages more efficiently. Clusters of neurons with similar structure and function make up "nuclei" of the brain.

Receptors are protein complexes that are located in distinct regions of the cell membrane and that neurotransmitters bind with to initiate the communication of a signal between neurons.

Behaviour has a biological basis: The brain governs how you behave.

All behaviours and psychological processes have a neural substrate. These substrates consist of interconnected physical locations in the brain with definable patterns of activity that generate the behaviour or psychological state.

The brain manages the body functions and is the source of all thoughts and feelings. It enables you to make choices and decisions and to plan and carry out your movements so you can act on those decisions. This immense, hyperactive communications system, which is the brain, enables you to monitor what's going around you rapidly and effectively. It also allows you to constantly adapt to changing circumstances. You do this by changing your behaviour.

The brain can cope with complex tasks because of the way it is organized. Specific places in the brain carry out specific functions of the brain.

The nerve cells in the brain are organized into thousands and thousands of groups (nuclei).

Each group of nerve cells concentrates on a small aspect of a bigger job. To get the big job done, all the relevant groups of nerve cells work simultaneously on their own small parts of that parallel processing. This explains how the brain takes care of all the sensory and motor jobs directly related to complex task such as driving, while you can do other things as well. While driving, you may be talking on a car phone, or tuning the car radio, figuring out a problem you have at work. You can do all these things at once because your brain divides up the work into small jobs and distributes the information needed to perform each one to the pertinent specialized regions. The brain monitors your thoughts, memories, needs, and wants and creates the emotional and motivational context for all of your activities.

No single part of your brain handles a job by itself. Most functions depend on circuits that link together groups of nerve cells. As the job becomes more complicated, the circuits themselves link up with other circuits to form even larger constellations of brain regions that all work together to complete complex jobs.

The limbic system of the brain is responsible for our emotions and feelings.

Figure AB-16: Limbic System

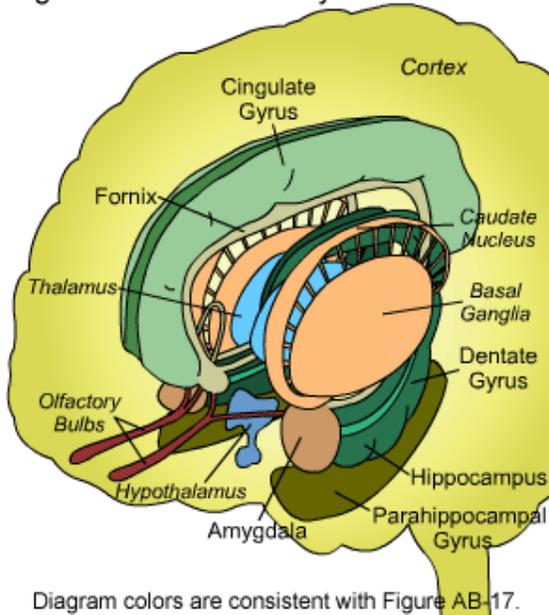
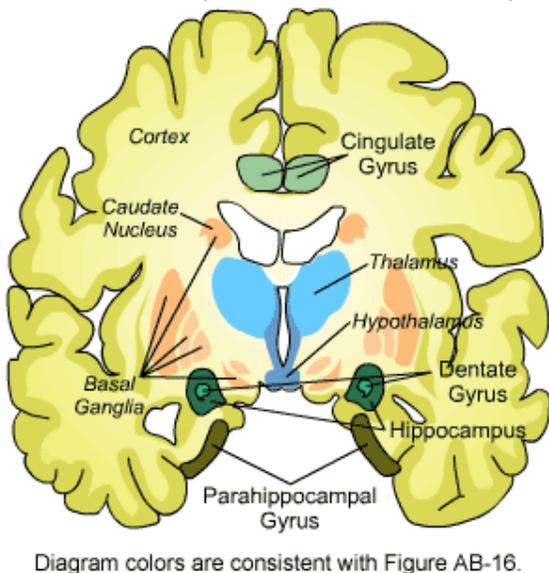


Figure AB-17: Limbic System
(Cross-Coronal Section)

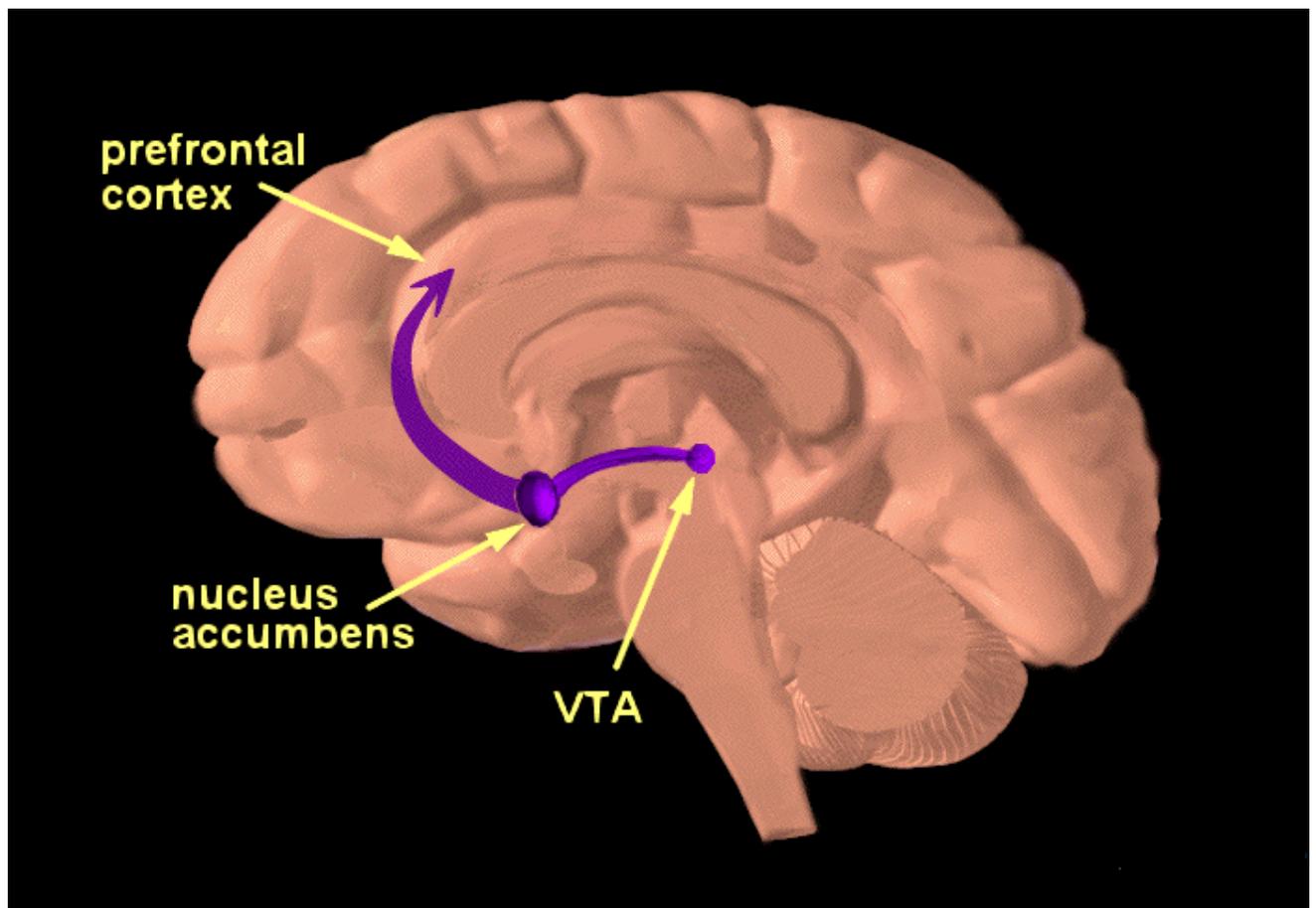


Buried deep within the brain lies the limbic system, which is responsible for survival. It remembers and creates an appetite for things that keep you alive, such as good food and the company of other beings. The limbic system not only changes your feelings as circumstances change, it also changes motivation. It's the part of your brain that tells the rest of the brain what to do. It connects the survival-oriented brain stem with the cognitively oriented cortex. The limbic system generates the commands that get the individual moving to meet the survival needs the brain stem identifies. The cortex must figure out exactly what to do to get those needs met and then get the body to do those things. After the limbic system informs the cortex of the

decision to act, the cortex can do all the things that must be done to let you carry out the action.

Most important, pleasurable events (eating when hungry, drinking water when thirsty , having sex) stimulate a group of neurons in the midbrain, called the Ventral Tegmental Area (VTA). These neurons contain a neurotransmitter called dopamine. VTA neurons connect to a variety of places within the limbic system (the amygdala, the ventral pallidum), including a part of the cortex (the prefrontal cortex), but the key target is the Nucleus Accumbens in the basal ganglia (ventral striatum) of the limbic system. Dopamine release in the Nuc. Accumbens through stimulation of the neurons in the VTA makes you feel excellent when you do the things you need to survive (eating, drinking, having sex).

The dopaminergic projection from the Ventral Tegmental Area (VTA) to the Nuc. Accumbens is known as the mesolimbic dopamine pathway. The mesocortical dopamine pathway, which projects from the VTA to regions of the cortex.



(Figure of the brain that shows the location of the Ventral Tegmental Area and the Nuc. Accumbens, together with the mesolimbic and mesocortical dopamine pathway, which form the brain reward circuitry.)

Drug addiction is a brain disorder

Initially, drugs dramatically affect the brain reward circuitry, causing molecular changes that can last for months, and even forever. Research shows that the drug-induced biochemical and structural redesign of the brain starts from the first experience with a drug. Continued drug use recruits and redesigns more areas of the brain via neurochemical sensitisation. More specifically, when drug use continues, the glutamate-mediated drug seeking system will gradually take over the command from the dopamine-mediated brain reward system.

The changes in brain structure and function predominantly occur in areas involved in sophisticated reasoning as well as in areas responsible for day to day survival.

Frighteningly, these changes are beyond the reach of will power and beyond the reach of psychological insight.

All the drugs that people abuse have one action in common

Initially, drugs change the way the limbic system works in a specific limbic circuit that generates feelings of pleasure, which is called the brain reward circuitry. More specifically, all psychoactive substances share the common property of increasing dramatically dopamine levels in the Nuc. Accumbens.

Drugs hijack the brain's survival system!!

When a drug activates the VTA neurons, they release huge amounts of dopamine into synapses within the Nucleus Accumbens. The brain becomes flooded with dopamine. When this happens, drug users feel immense pleasure. Dependence-producing drugs differ from conventional reinforcers in that their stimulant effect on dopamine release in the Nuc. Accumbens are significantly greater than natural reinforcers such as food. Illegal drugs turn on the brain reward system with a potency that natural rewards can rarely match. Because of the effect of drugs on the brain reward system, the brain of the drug user believes that drugs are essential for the drug users' survival. It is literally a hijacking of the brain's survival systems confusing day to day survival with the need for more drug. Whereas food increase dopamine levels by 45%, amphetamine and cocaine increase dopamine levels by 500%. When it comes to many natural pleasures, the brain has built-in protections. It has powerful feedback systems to say "enough" when it comes to natural behaviours, such as feeding and sex. But there is no natural feedback loop in the brain turning off the effects of drugs on the brain reward system. Due to adaptive alterations in the brain reward circuitry, drug addicts may no longer be able to feel the benefits of natural rewards (food, water, sex) and can't function normally without the drug present.

So addictive substances hijack the brain's survival system, weakening our resolve to make wise choices even when painful consequences are sure to result. *It is a fact that automatic brain mechanisms like the brain reward system do not consider other people's feelings or needs or know the importance of delayed gratification.*

Addicts don't act like rational humans because drugs also changes the role of the cerebral cortex, the very brain region that gives us our ability to evaluate a variety of contingencies and make reasoned choices by weighing them appropriately. As drug use continues, glutamatergic projections coming from the prefrontal cortex increase glutamate concentration in the Nuc. Accumbens, which may lead to behavioural changes in the individual, such as drug seeking.

How drugs change the way neurons communicate

Drugs work in the brain because they have a similar size and shape as natural neurotransmitters and interact with receptors and other components of the synapse. Drugs masquerade as neurotransmitters and therefore interfere with normal synaptic transmission by introducing false messages or by changing the strength of real ones. Disrupting the transmission of information at the synapse is the basic mechanism by which drugs change behaviour. Drugs lock into receptors and start an unnatural chain reaction of electrical charges, causing neurons to release large amounts of their own neurotransmitter.

Every type of drug has its own individual mechanism for changing how the brain functions.

Regardless of which drug a person is addicted to, many of the effects it has on the brain are similar. Since there is much more dopamine released, there is increased activation of dopamine receptors. This causes increased production of Cyclic AMP (Adenosine monophosphate) inside the post-synaptic cell which alters the normal activity of the neuron. Cyclic AMP is an intracellular second messenger that can initiate a wide variety of changes in the postsynaptic cell. Effects of an upregulated cyclic AMP system have been demonstrated in many of the relevant brain regions regarding substance use, such as the Nuc. Accumbens and the VTA. Through upregulation of cyclic AMP, drugs induce a variety of molecular changes in neurons, thereby remodelling and restructuring neurons. Synaptic plasticity (the reorganisation of neural circuitry) by psychoactive substances can occur via changes in neurotransmitter release, the status of the neurotransmitter receptors, receptor-mediated signalling or the number of ion channels regulating neuronal excitability.

Repeated stimulation of receptors by drugs can lead to alterations in receptor number and function. Many of the synaptic changes are thought to be mediated by processes similar to those for learning and memory. There are both presynaptic changes (increased dopamine release) and postsynaptic changes (changes in receptor sensitivity).

The result of this process is that drugs change the way the brain works, and that changes how people perceive the world, how they feel about themselves and their world, and how they behave. These changes have a huge influence on all aspects of a person's behaviour. A drug can become the single most powerful motivator in a drug abuser's existence. This does not mean that the addict has no ability to make choices. But it does mean that the ability to make choices is altered.

Drugs teach people to take more drugs

The development of drug addiction can be seen as part of a learning process, in the sense that enduring changes in behaviour result from interactions with drugs and drug-related environments. The repetitive, profound stimulation of dopamine transmission induced by drugs in the Nuc. Accumbens abnormally strengthens drug-taking behaviour. The powerful memory of early drug experiences is one of the things that drives users to keep taking drugs.

The huge release of dopamine in response to a reward leads to a strengthening of the synaptic connections in neural pathways that led to the behaviour that was associated with the reward.

Structural changes in the synapse of connecting neurons enable people to learn and retain what they have experienced by using drugs. This reinforces the behaviours that led to the occurrence of that reward. And the brain becomes more sensitive to

the motivational and rewarding effects of psychoactive substances. The process of long-lasting adaptation and sensitisation of the brain creates a state of what is called incentive salience. Incentive salience is a characteristic of the mental representation of a stimulus that allows it to become attractive and wanted, thereby eliciting approach behaviours towards a specific goal. Incentive salience attributed to drug-taking and to drug-associated stimuli becomes pathologically amplified, leading to compulsive drug-seeking and drug-taking. The sensitisation of incentive salience can occur at the same time that the pleasurable effects of the drugs are diminished, due to the repeated drug administration producing tolerance to this effect. The researchers emphasize that the neuronal systems responsible for excessive incentive salience are dissociable from the systems mediating the pleasurable effects of drugs. 'Wanting' is not 'liking' – a person may strongly want a drug without actually liking the experiences that it produces.

Conditioning is the key

Over millions of years, the brains of animals have evolved a motivational system that helps animals survive and reproduce. Behavioural responses that lead to positive consequences, such as the reduction of hunger, are likely to be repeated. Moreover, animals learn to escape from or avoid painful or noxious stimuli.

Conditioning is a learning mechanism through which the brain becomes more sensitive to the motivational and rewarding effects of a stimulus. Conditioning teaches us to link a stimulus to a behaviour, that occurs because of the consequences that it produces. A previously neutral stimulus (conditioned stimulus) gains power over behaviour through association with a biologically relevant stimulus (unconditioned stimulus) and can elicit the same behavioural or physiological response (unconditioned response) as the unconditioned stimulus.

Example:

A stimulus, such as the appearance of a light, normally elicits no particular response. It is a neutral stimulus. When a puff of air is blown into the eye, it reliably elicits a response: the eye blinks. The puff of air is the unconditioned stimulus and the eye blink is the unconditioned response. The unconditioned response occurs in response to the unconditioned stimulus. The unconditioned stimulus (puff of air) is repeatedly paired with the neutral stimulus (light). Eventually the light alone is able to elicit the same response (eye blink) as the puff of air on the assumption that a puff of air will follow. The light is now known as a conditioned stimulus and the response to it is the conditioned response.

People are motivated by incentives, stimuli that predict reward. Responding is a function of the perceived value of the stimulus. The basis of this form of motivational responding is hard-wired by evolution in the brain of humans. Through conditioning, our brain teaches us to do things that help us get food to eat, sex to create the next generation, and all the other things we must do to ensure our own survival and that of our species. It allows us to react to threatening situations and alerts us to such necessities as food and sexual partners; they shape behaviour. It reinforces what we do by making us feel pleasure. The brain uses the feelings of reward to teach us to repeat these pleasurable behaviours. Conditioning processes operate outside conscious awareness and do not involve a decision-making process.

Positive reinforcement is the process whereby a behaviour brings about a pleasurable stimulus, which reinforces the repetition of the behaviour.

Example: Animals can be trained to press a lever to obtain a food pellet. The behaviour (pressing the lever) produces the food (which is the stimulus).

Mechanism of positive reinforcement:

We do something (behaviour, for example take the drug(s))

It makes us feel good (reward)

We do it again (repeat drug using behaviour)

Important is the immediacy of reinforcement. It is well-established that the sooner a reinforcer follows a behaviour, the more powerful its effect will be on that behaviour and the more likely the behaviour is to be repeated. Positive reinforcement when using drugs can be rapid and powerful: if natural reinforcers turn on a light, drugs set off fireworks.

Conditioning can also take place if bad feelings like anxiety, stress or pain are removed.

A behaviour that eliminates or prevents an aversive stimulus (any event in the environment that is detected by the sense organs) is called negative reinforcement. Negative reinforcement increases the likelihood that the behaviour that relieved the bad feelings will be repeated.

Negative reinforcement can be demonstrated in the laboratory by training a rat to press a lever to avoid being punished by, for example, a small electric shock to the feet. Each time the animal receives the cue (a light predicting impending shock), it will perform an operant response (to press a lever) to avoid the shock being delivered.

Mechanism of negative reinforcement:

We feel bad.

We do something (behaviour)

It alleviates the bad feelings

The next time we feel bad, we do it again.

Example: The dependent heroin user may take the drug to avoid impending withdrawal symptoms and the associated physical and psychological discomfort.

Conditioning teaches drug users unconsciously to associate ordinary things with the act of drug-taking. It is a form of learning that occurs while people are on the road to addiction. In the beginning, the triggers in developing addicts are not particularly strong. As time goes on, triggers add power to the urge to use drugs. Addicts, who have advanced degrees in drug use, have retained explicitly learned memories of powerful early drug experiences. Their brain's survival system has learned about the rewarding effects of drugs. By repeatedly practicing this lesson, drug addicts have powerfully reinforced it. The learning processes that we must undertake to survive have been commissioned to help addicts learn behaviours to get drugs into the body on a regular basis, no matter what obstacles might be in the way. These behaviours are maladaptive for anyone who wants to live a normal life.

To a drug addict, the sight of drug paraphernalia (syringes, smoking devices) or exposure to environments in which drugs have previously been used can induce craving for drugs and relapse through conditioning . Stimuli (such as environmental contexts associated with drug use or drug paraphernalia) are known as secondary reinforcers because they derive their ability to influence behaviour by association. A

reinforcer is a stimulus that strengthens responses upon which it is contingent. Example: If one puts money in a vending machine to obtain a bar of chocolate, the chocolate acts as a reinforcer for the behavior of putting money into the machine. The motivation is the expectancy of the primary reward. Thus, one person may want to eat a doughnut when they see the bakery assistant who regularly sells them their favourite vice, while another person may want to inject heroin when they see their regular dealer. These stimuli, by virtue of their pairing with the drug effects, become conditioned stimuli capable of eliciting conditioned responses (= drug-seeking behaviour). Through associative learning, the enhanced incentive value becomes focused specifically on drug-related stimuli, leading to more and more compulsive patterns of drug-seeking and drug-taking behaviour. Once drugs become conditioned reinforcers, their motivational value can become higher than all other competing motivations.

The neurobiological basis of conditioning

Projections from the Ventral Tegmental Area release dopamine throughout the brain in response to a motivationally relevant event, such as drug use or drug-associated cues.. (see figure of neural circuitry mediating the activation of goal-directed behaviour)

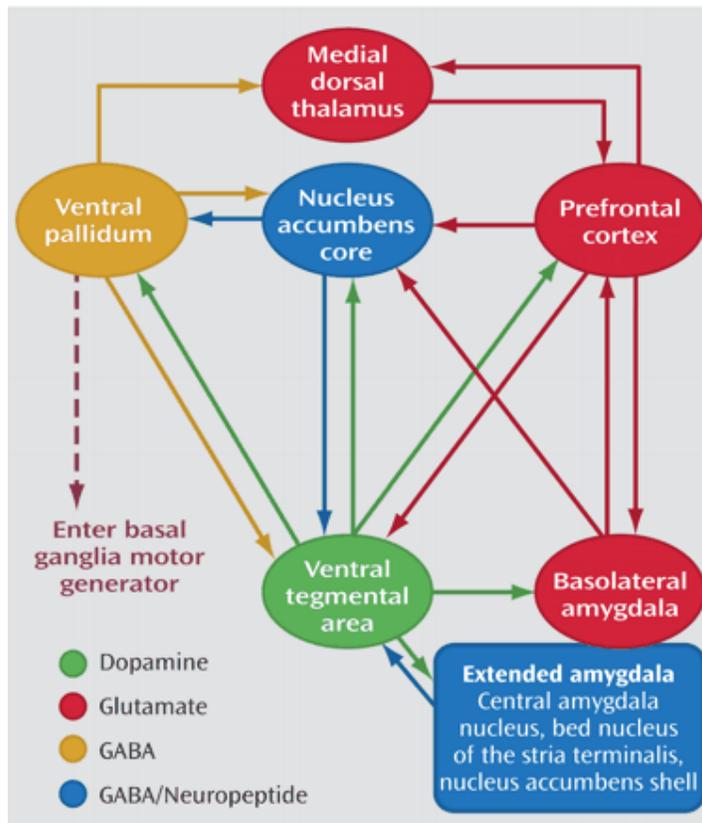
The release of dopamine act as a signal to initiate adaptive behavioural responses to the motivational event (drug use or drug-associated cues). The release of dopamine facilitates cellular changes that establish learned associations with drug use. In this way the organism can more effectively emit an adaptive behavioural response should the event reoccur.

Dopamine has 2 functions in the brain:

- 1) To alert the organism to the appearance of (sometimes novel) salient (important) stimuli, thereby promoting neuroplasticity (learning).
- 2) To alert the organism to the pending appearance of a familiar motivationally relevant event (such as drug use), on the basis of learned associations made with environmental stimuli predicting the event.

Conditioned stimuli (that predict the event of drug use) continue to trigger release of dopamine.

The amygdala (that belongs to the limbic system) is especially critical in establishing learned associations between motivationally relevant events and otherwise neutral stimuli that become



(Neural circuitry mediating the activation of goal-directed behaviour)

predictors of the event (drug use). (see figure of neural circuitry mediating the activation of goal-directed behaviour)

The anterior cingulate and ventral orbital cortices in the prefrontal cortex are recruited by motivationally relevant events, as well as stimuli that predict such events, and contribute to whether a behavioural response will be emitted, as well as the intensity of that response.

It needs to be stressed that the involvement of the Nuc. Accumbens in expressing adaptive behaviour depends mainly on glutamatergic projections (afferents) from the prefrontal cortex. The increase of the neurotransmitter glutamate is essentially a “go” signal. It urges the individual to act.

Also, glutamate is released in the VTA when a person experiences desire. In response to stimuli that predict a rewarding effect, glutamatergic afferents to the VTA, originating in the prefrontal cortex, increase firing of dopamine neurons in the VTA, which results in increased dopamine levels in the Nuc. Accumbens, that are, however, of less importance regarding modulation of the expression of adaptive behaviour, in comparison with the more important influence of glutamate.

Counteracting glutamate is a neurotransmitter called GABA (Gamma-aminobutyric acid), an inhibitor. The strength of a craving depends on the balance of glutamate and GABA in the brain. When an addict confronts a martini or cigarette, GABA is overwhelmed by glutamate.

Repeated use of addictive drugs induces a dysregulation in the neural circuitry mediating the activation of goal-directed behaviour .

3 general principles in the reorganization of this neural circuitry:

(see figure of neural circuitry mediating drug seeking)

1) *A final common pathway*

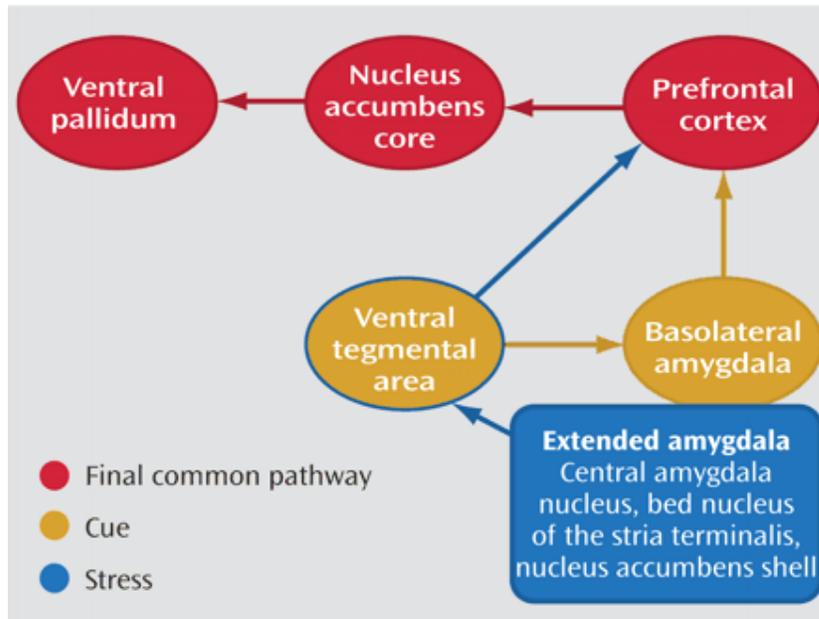
The glutamatergic projection from the prefrontal cortex to the Nucleus Accumbens to the ventral pallidum is a final common pathway for drug seeking initiated by stress, a drug-associated cue or the drug itself. This means an increased release of glutamate in the Nuc. Accumbens and in the Ventral Pallidum.

2) *Different modes of stimuli involves distinct components of the circuit*

Notice the involvement of the amygdala (that belongs to the limbic system): cue-primed drug seeking requires involvement of the basolateral amygdala, while stress- and drug-primed drug seeking do not.

3) *Drug-seeking stimuli require dopamine transmission*

While the rewarding effects that accompany drug use depend on increased dopamine release in the Nuc. Accumbens, the reinstatement of drug seeking requires dopamine release in the prefrontal cortex and in the amygdala, not in the Nuc. Accumbens.



(Neural circuitry mediating drug seeking)

A consequence of conditioning: the constant threat of relapse to drug use

Addicted people remain vulnerable to relapse throughout their lives. Drugs permanently alter the brain chemistry making them forever liable to redevelop uncontrolled use quicker than before. Relapse has much to do with the selfish brain's selective memory of the good times associated with the use of drugs and its selective forgetting of the bad times associated with drug use.

Relapse is triggered by cues previously paired with substance use, by stress, or by the presence of the drug itself. All of these phenomena are mediated by increased dopamine release, but even more important, by increased glutamate release.

If the environment continues to pile stress on a former drug user, he/she will move to a level of susceptibility where he/she will return to uncontrolled addictive use with just one hit of drugs.

Conditioned withdrawal can play a role in relapse.

Researchers believe that these compensatory mechanisms can eventually be triggered by stimuli and cues previously associated with drug administration, and this can happen even before the drug is taken. In situations where the predictive stimuli appear but no drug is taken, the body's compensatory mechanisms come into play and go unopposed because there is no drug effect.

This can be expressed as overt physiological reactions and/or form the basis for the subjective experience of withdrawal sickness and craving.

Example:

A person is drinking alcohol every evening to reduce the anxiety they have experienced from working in a stressful job. The clock at work approaching 17h acts as a conditioned stimulus to the anxiety-alleviating effects of alcohol. If the person were to attend a school play one evening, without going to the pub, their body's compensatory mechanisms would come into play but not to be diminished by the physiological effects of consumed alcohol.

The person would experience the opposite subjective effects to those produced by alcohol: anxiety!

Harm reduction messages, such as "responsible drug use" reinforces drug use through the mechanism of conditioning by associating these harm reduction messages with previous drug-related rewards! Exposure to psychoactive substances and substance use in everyday life and through the media, particularly when presented in a positive environment, can create pleasurable emotions. An individual can easily become conditioned to associate these emotions with substance use. And the mental ability to act responsibly is itself impaired by drugs, making the term "responsible drug use" both nonsense and contradictory.

The mechanism of tolerance

Tolerance can be defined as a given drug producing a decreasing effect with repeated dosing, or when larger doses must be administered to produce the same effect. The user requires a larger dose of that drug to get the effect that a smaller dose first produced. It reflects the body's adaptation to a new chemical environment, one that includes the continuous presence, often at high concentration, of a particular drug.

Tolerance can be understood through the principle of homeostasis, which describes how the body manages to keep its internal environment relatively stable.

For example, a neuron that receives increased numbers of messages from another neuron that uses dopamine as a neurotransmitter might begin to remove dopamine receptors from its membrane and make fewer dopamine receptors overall. This process helps to keep the activity of the receiving neuron stable. The neurons in the brain can reduce the effects of the drugs that do get there, due to changes in receptor number or sensitivity.

Tolerance can also develop as a result of metabolic enzyme induction (enzymes that are involved in the metabolism of a drug can increase their activity in the presence

of increasing concentrations of the drug), that increases the body's ability to eliminate a drug.

The metabolism of alcohol and nicotine by the cytochrome P450 enzymes in the liver can be increased in this way, thus larger doses are needed for the drug to achieve the same effects as it had prior to enzyme induction.

The removal or the installation of receptors or enzymes takes time and energy, and neurons do it only when a drug is at abnormal levels for a relatively long period of time.

These changes require the neuron to alter the way that some of its genes are working.

A new environment has less tolerance to drugs

A complete account of tolerance requires an appreciation of the role of environmental influences or cues. There is now abundant evidence showing that animals that are pre-administered a drug repeatedly in one environment and tested behaviourally in another environment, will not show as much tolerance as those animals given chronic drug and behavioural testing in the same environment. If tolerance to heroin was partially conditioned to the environment where the drug was usually administered and if the drug was administered in a new setting, much of the conditioned tolerance would disappear, and the person would be more likely to overdose. Many heroin users admitted to hospitals suffering from a heroin overdose reported that they had taken this near-fatal overdose in an unusual environment, or that their normal pattern of use was different on that day.

The mechanism of withdrawal after drug use

Withdrawal occurs because the cells of the brain and body not only have become accustomed to the presence of a drug, but have come to rely on it to maintain physiological "balance" in their activity. An addict goes through withdrawal when drug use stops, because the addict's brain (and body) has not yet adjusted to the absence of a drug that had been present for a long time. Withdrawal ends when cells have reached a new level of adaptation that allows them to function normally without the drug. The intensity of withdrawal depends on the type of drug the person took, how long it was taken, and how much was consumed.

For example, locus coeruleus (located in the brain stem) neurons contain opiate receptors, and heroin inhibit these neurons. During heroin withdrawal, these neurons are released from inhibition and become very active. As a result, the sympathetic nervous system also becomes very active. Because of this, many of the symptoms of heroin withdrawal, such as dilated pupils, increased heart rate and blood pressure, and chills, look like part of the fight-or-flight response.

There is one withdrawal symptom that all drug addicts experience universally - the craving for drug use. Craving is the desire for the previously-experienced effects of a psychoactive substance. This desire can become compelling and can increase in the presence of both internal and external cues, particularly with perceived substance availability. It is characterized by an increased likelihood of drug-seeking behaviour and in humans of drug related thoughts. Drug craving is an indication of long-term neuroadaptations in the brain: the primitive brain systems have developed an intense hunger for the particularly drug(s).

This craving may inevitably lead addicts to increasingly intense activity to acquire more of the drug.

The motivation to use drugs, which addicts perceive as drug craving, emanates from the very same neural structures that give rise to the motivation to seek food, which everyone perceives as hunger.

The adverse physical consequences of withdrawing from some drugs are viewed as a key motivational determinant of sustained drug taking through negative reinforcement mechanisms.

It is possible to have dependence without withdrawal and withdrawal without dependence.

A person may have cocaine or alcohol dependence, but not to experience withdrawal symptoms between episodes of use.

The addictive personality as a consequence of drug addiction

The addictive personality consists of 2 different elements:

The Self, which represents the "normal", human side of the addicted person.

The Addict, which represents the human side that is consumed and transformed by the addiction.

This personality does not exist prior to the illness of addiction, nor it does represent a predisposition to addiction. Rather, it emerges from the addictive process, in which the Addict becomes the dominant personality.

The Addict side within does not care about family and friends. The Addict side doesn't care about the Self either. What it cares about is acting out and achieving the trance.

There is an almost constant conflict between the Self and the Addict when facing the choice of acting out (the search for drugs and/or take drugs) or not. This great internal tension can go on for hours, days or weeks at a time, and is a large part of the suffering caused by addiction. But in the end of this struggle, the Addict invariably wins.

The Self and Addict continue to fight for control: The Self regularly fights and argues with the Addict, but loses. The Self makes promises to control the Addict, uses willpower to control the Addict, but loses. We see how the gradual loss of the Self occurs in addiction, and how the Addict slowly gains more and more control. The Self witnesses the addictive ritual and is often sickened by what it is forced to participate in, but it is held captive by the power of the disease of addiction. To fight and struggle against something that has more power than oneself drains one's energy. For each defeat there is some loss of self-esteem.

The Addict develops its own way of feeling

Addiction often creates the sense and sensations of power.

The amphetamine addict who has just shot up feels as if he's accessed all the knowledge of the universe. "It made me feel able to do everything."

The crack addict gets this feeling of power every time he lights up, and the trance produced is enormously addictive. A cocaine addict testifies: "A coke shot: It's like... injectable sex, an orgasm in every cell."

For the power-centered, drug addicted person, everything flows from the premise of being right, which gives the illusion of control and bolsters self-confidence, but not self-esteem. Dedication to power produces a narcissistic and paranoid lifestyle that

attempts to avoid anxiety and fear by using drugs. Being wrong is a sign of failure and weakness. To protect themselves, they attempt to control situations, things and people.

Being in control and right is all-important. Blame is essential, for to keep power, one cannot be wrong. When someone challenges the dominance and the rightness, power-centered, drug addicted individuals become threatened and transform into predators, seeking power and seeking to dominate. Thus, confrontation or difference of any kind scares these drug addicted people unless they can control it. If not, they attack it. This behaviour is especially dangerous when a relationship is involved. For addictive couples engaged in this type of relationship, love is unstable. This is because any act of independence is automatically judged as an unloving act and immediately creates a personal or relational crisis. Interactions are not judged by their quality but by their dominance/submission content.

Addiction creates feelings of shame

"Then it stopped working, but I kept using it to cover up the shame I felt."

The more the person seeks relief through drug use, the more shame he/she will start to experience and the more he/she will feel a need to justify the addictive relationship.

Shame is a judgement we place on our own being, rather than against our actions.

Drug addicts feel shame because of how they act out. Shame creates a loss of self-respect, self-esteem, self-confidence, self-discipline, self-determination, self-control, self-importance and self-love.

Shaming is tearing someone else down to build oneself up. The person who puts others to shame will rarely take responsibility. A shaming family is one in which members can never do anything right or good enough. Shaming families victimize their members in a routine, systematic way. Children of shaming families feel tension in their family system, which is often translated into a general mistrust of human beings. Children in shaming families often believe they are bad people and are responsible for their parents' unhappiness.

Addiction creates feelings of emotional pain

The search and the use of drugs, the withdrawal, the lying and the denial are all acting-out behaviours. It's through these forms of acting out that internal pain and suffering is created. As the emotional pain or stress increases, the addict feels more justified in acting out. They feel a need to act out more frequently and with greater intensity, which is of course a deviant and false coping mechanism.

The Addict develops its own way of thinking: The developing of addictive logic

Through the development of addictive logic, the Addict side of the individual justifies his/her drug taking behaviour. Every time the addict chooses to act out in an addictive way, he/she is saying to himself/herself one or more of the following:

"I don't need people."

"I don't have to face anything I don't want to."

"I'm afraid to face life and my problems."

"Drugs are more important than people."

"I can do anything I want, no matter whom it hurts."

"I want what I want and I want it now."

"Even though I had seen what it could do to folk, I thought I would be fine – that they were junkies and that somehow I was different."

"I just use drugs occasionally."

"I can stop when I want."

This type of thinking continually supports and reinforces an addictive belief system in the addict. It's through the development of addictive logic that the addicted person finds a way to cope with his/her drug using behaviour. Addicts must make sense of this to themselves, and they do so by denying the fear and emotional pain caused by their inappropriate behaviour. After intense episodes of acting out, the addict needs to make sense out of what happened and turns to his/her delusion system and addictive logic for an answer. This is where the addict turns to denial, repression, lies, rationalizations, and other defences to help cope with what is happening. Because of the delusion system, it is nearly impossible for addicts to see the true reasons for their addictive behaviour. They believe it's because people don't understand them or because the world is a tough place to live. The truth is that drug addiction is an assault against the individual, but the addict is unable to see this.

Addictive logic is not based on truth, but on the delusion of the addictive relationship. Addictive logic denies the presence of an addictive relationship. Addictive logic says it is all right to hurt one's Self because the Self is not important – it's the mood change or trance that counts. Addictive logic says it is all right to hurt others because relationships with people are not important. What is important is a relationship with the drug. Once addicted, people feel that drug use has become a matter of survival.

The Addict develops its own way of behaving.

As addiction develops, it becomes a way of life. In addicts, drugs fill a central role in life: addicts have learned to use drugs to fulfil almost all needs, especially emotional needs.

There are many ways a person's behaviour adapts to the addictive process, bringing about an addictive lifestyle. The addict may display inappropriate and irresponsible behaviour in several ways:

Examples:

"Often, I love my mother, but I rob her, I want to please and serve my employer, but I abuse his confidence, I love my drug using mates, but I betray them."

"I found I was taking money meant to buy presents for my children."

"I knew I hit a low point when I used toilet water to shoot up."

-The addict may lie to others, even when it is easier to tell the truth.

-The addict may blame others, knowing others are not to blame.

-The addict may ritualise his / her behaviours.

Rituals are a language of behaviour. In addiction, rituals become value statements about the beliefs of the Addict. *Each time a person acts out, his/her addictive belief system is strengthened.* Addictive rituals push a person deeper into the addictive process. *Addicts may become fanatics about their rituals.*

Rituals are based on consistency: first you do this, then you do that. Addicts ritualise their behaviour for the comfort found in predictability. (= *reaching the mood change*) *Each part of the rite is important to the Addict and is designed to heighten the mood change.*

When Addicts face crisis and stress, they run to the comfort they find in their rituals. *The pain-free state lasts as long as the individual remains in the mood change created by the addictive ritual. But the trance always fades away and sensations*

always disappear, leaving the addict with the original pain plus the loss of the pleasurable sensations.

Addicts no longer put faith in people, but in their addictive rite. Addictive rituals most often take place alone or within a group whose members have no real caring connection to each other.

-The addict may withdraw from others.

Addiction makes life very lonely and isolated, which creates more of a need for the addict to act out. A practicing addict is an emotional loner, truly preferring to be alone. The presence of other people, especially someone who wants to be close, is an annoyance.

-The addict may manipulate other people and treat them as objects.

People around the addict get tired, frustrated, angry and eventually fed up with being treated as objects. This leads to greater distance between others and the addict, who becomes even more isolated.

-The addict may be out of control.

Addicts develop tolerance, which means they get used to the mood change produced by their acting out. The mood change that once provided a high isn't enough anymore.

Because of this tolerance and the increased anger and pain levels, addicts start to act out more frequently and in more dangerous ways. This is very frightening for addicts because something they have felt inside for a long time is confirmed - they are out of control.

-The addict may suffer from exhaustion, due to a shortage of energy.

Ironically, it is the addict's search for control that causes him/her to have less energy. The addict's increased search for control, increased loss of control, and increased shame all lead to more emotional isolation and produce tremendous emotional and psychological stress, and finally, exhaustion..

The addictive process is a cycle downwards, which may lead to destruction.

Addiction occurs gradually and must be viewed as a progressive and continually changing process. Over time, addicted people give up more and more of their lives that do not involve the addiction itself.

Addiction just gets worse over time, slowly or rapidly, until there are painful and inescapable consequences of drug use. This phase is called "hitting bottom".

Over time, bottoms get more severe, or lower as the disease worsens. Commonly, addicts hit a painful bottom, decide to stop drug use and then slip back into denial and use once more, only to encounter new, lower bottoms.

"When you do drugs, you burn up all your resources. Finally there is nowhere to go, no money left and no one to call."

Experience of emotional pain and/or discomfort leads to acting out (search for drugs and/or drug use) which gives momentary and temporary pleasure, resulting in experience of more emotional pain, when the effects of the drug(s) fade away.

Or:

Feeling power when using drugs leads to momentary and temporary feeling in control and being right, resulting in feeling out of control when the effects of the drug(s) fade away, which as a consequence demand more power (by using drugs) to alleviate the negative feelings of being out of control.

These addictive cycles are endless unless the addict seeks help. Once the addict surrenders to the need for help, the process of recovery and the renewal of the Self begins.

How addiction begins: The stage of falling in love with the drug(s).

In the beginning, acting out and experiencing the mood change creates fun, excitement, new ideas and stimulation. This forms the basis for what is known as euphoric recall – remembering the pleasurable aspects and denying or forgetting the emotional pain. The person behaves mainly within socially acceptable limits. But inside the mind, there starts to develop a deep and totally consuming mental dependency. Like many other diseases, addiction grows and develops within, long before it reaches a stage where it is recognized by the addict and others. Addiction starts out as an emotional illusion and becomes entrenched in the addict before others around the addict or even the addict himself realizes that an addictive relationship has been formed. The person becomes hooked on the drug(s).

What happens in the brain at this stage:

Initial substance use produces a huge release of dopamine in the Nuc. Accumbens and throughout the neural circuitry mediating the activation of goal directed behaviour.

Dopamine D1 receptor stimulation results in the activation of cyclic AMP-dependent protein kinase (PKA), PKA-induced phosphorylation of the transcriptional regulator cyclic AMP response element binding protein (CREB), and the induction of immediate gene products, such as Fos. The induction of Fos and other immediate early genes promote short-term neuroplastic changes in response to occasional drug use.

Addiction is progressive and leads to lifestyle change

When drug use continues, acting out starts to lose some of its seductiveness; the drugs always retain their ability to change one's mood, but over time much of the fun starts to vanish.

More energy is redirected to the addictive process. Like any other progressive illness, addiction will take more of a person's energy, focus and ability to function, eroding the ability to be a "normal" human being. *Activities and people who were important in the past are now less important. Time with family, old friends, and hobbies is set aside to make room for the addiction.* Addiction will continuously demand more, and because the addicted person has lost control, he or she must give in to the demand. *There is an almost constant battle between Self and Addict. Should I act out or shouldn't I act out?*

The behavioural aspects of addiction become more prevalent. Others start to notice that something is wrong or abnormal and start to see the presence of the Addict. The addicted person may get labelled as "irresponsible", "troubled", "tense", "crazy", "strange" or "weak".

And the addict starts to build a defence system against attacks from others.

A behavioural dependency starts to develop, which means that the person starts to act out the addictive belief system in a ritualistic manner, and the person's behaviour becomes more and more out of control.

What happens in the brain at this stage

Repeated drug use causes gradual recruitment of the prefrontal cortex and its glutamatergic projections to the Nuc. Accumbens. Adaptations in this stage are the stimulation of proteins with long half-lives, such as Delta-FosB, that modulates the synthesis of certain AMPA glutamate receptor subunits. There is also an elevation of the GluR1 glutamate receptor subunit in the Ventral Tegmental Area.

The switch from dopamine to glutamate-based behaviour reveals that the development of addiction occurs in a chronological sequence and in different stages during which different parts of the circuit are pre-eminent.

Addiction is progressive and may finally lead to life breakdown.

Acting out no longer produces much pleasure. *The addictive personality is in total control.*

Addicts start behaving in ways they never thought possible. The dangerous life-threatening aspects of the addictive process become obvious, not only to the addict, but also to friends and family.

Addictive logic breaks down:

The person's behaviour doesn't even make sense to him or her anymore, so the addict gives up trying to make sense of it and falls into a lifestyle based entirely on addictive ritual.

Addictive logic becomes very simple at this stage: "get high and exist."

Interacting breaks down:

Many addicts start to feel less secure about interacting with people. Addicts start to feel very unsure of themselves and often start to lose some of their ability to manipulate.

Emotionally, the person starts to break down:

The addict has so many unresolved feelings that he or she reaches a point of great emotional weakness. The person may cry uncontrollably for the slightest reason. People also may go into fits of rage for no apparent reason.

Coping skills breaks down:

Existing coping skills do not provide enough safety to deal with the pressures that are being created. The addicted person's life will literally start to break down under the tremendous stress caused by ever-increasing emotional pain, anger and fear that results from continuously acting out.

There is a point where a person emotionally, mentally, and finally physically breaks down under the stress and the emotional pain produced by the addiction.

Wanting to be alone:

In this late stage of addiction, addicts may totally withdraw from others. The ritual of acting out is most often a solitary act done with no one around or done only in the presence of other addicts.

Physical signs of breaking down:

Addicts often don't take care of their bodies and see them as objects to be used and abused.

Thoughts of suicide:

The internal pain is so great that the person wants it to stop. The addictive promise of relief isn't working anymore. Addicts want the emotional pain to stop, but they don't believe they can stop it.

An addicted person doesn't believe in his/her Self any more, and suicide starts to make sense.

Addicts become so ashamed of and hate the addictive side of themselves so much that they want to end the addictive relationship at all costs – to the point of performing a homicidal act against the Addict.

What happens in the brain at this stage

Pathophysiological plasticity in the mesolimbic dopamine pathway (from VTA to Nuc. Accumbens) and mesocortical dopamine pathway (from VTA to the prefrontal cortex) reduces the capacity of the prefrontal cortex to initiate behaviours in response to biological reward and to provide executive control over drug seeking. Simultaneously, the prefrontal cortex is hyperresponsive to stimuli predicting drug availability, resulting in a supraphysiological glutamatergic drive in the Nuc. Accumbens, where excitatory synapses have a reduced capacity to regulate neurotransmission. This produces a decreased value of natural rewards, decreased cognitive control (choice) and increased glutamatergic drive in response to substance-associated stimuli.

Addiction is a process of denial

Drug users rationalize their addictive behaviours to protect the forbidden fun of their addictive drug use. *People who are addicted act as if they were hypnotized, as if their pleasure centers told them to do things in a voice that was not accessible to their conscious minds.* It is as if the disease of addiction whisper softly in the ear of the addict: “Do it again, right now. Go ahead. It’s okay.”

Drug addicts refuse to recognize the loss of control that is happening on an emotional level.

This will evolve into obsessive thoughts or preoccupation and rationalizations. Addicted people deny the negative consequences of their drug use to themselves and to anyone who might try to come between them and their chemical lovers. This characteristic distortion of thinking produces one of the most distinctive features of the addictive disease: dishonesty and deceit when it comes to the use of drugs.

The families of addicts often display tolerance and denial towards drug use. Friends are often tolerant of whatever the addict does. Families often hide behind denial, not willing to see drug use or its negative consequences. Only late in the disease do family members confront addiction and then only with great reluctance and hesitancy.

Addictive parents abuse their children

In families, learning takes place as we watch and interact with other family members. If parents are addicts, they will be teaching their children addictive values and logic. Addicts teach addiction through their actions. Growing up in an addictive system creates emotional pain due to the lifestyle of their addictive parent(s).

Addictive parents display emotional instability. Good times in an addictive family are not to be trusted. They are followed by crises and personal danger on a emotional level. One minute they may be all-loving, concerned parents, and the next minute they may act like irresponsible children. In emotionally inconsistent families, the developing children are deprived of consistent relationships. They always feel unsafe and unsure of their social and relationship skills, and tend to be very dependent.

As rules, behaviours and views change on a day-to-day basis, there is nothing for the children to attach to and be nurtured by in order to develop.

Children may sense that what is happening in the family is crazy, but their parents continually tell them that nothing is wrong. The child is taught not to believe his/her

own feelings or intuition. Young children especially will choose their parents' version of reality, because their survival depends on it. To survive in an addictive system, children learn to deny their healthy responses that tell them they are in danger. Children in addictive families are taught not to betray the family by revealing family secrets.

If adults are misconstruing the facts surrounding drugs for their own benefit, how can a 13 or 14 year-old be prevented from using drugs? If children and even adults perceive something to be the norm, they tend to alter their behaviours to fit the norm. Children from addictive families develop self-doubt and confusion. It is this self-doubt, confusion and lack of consistency that leads children of addicts to develop addictive relationships of their own. In this way, they are attracted to the consistency is found in addiction. And these children are very susceptible to peer pressure. If they end up in a group where drug use is the norm, they are likely to become drug users as well.

All children growing up in an addictive system are growing up in an abusive system. Addiction is a form of abuse because it handicaps children in their development. The child's needs are not important, but the needs of the abusing parents are. The child is being taught that he/she is just an object to be used to fulfil someone else's needs. Neglect is a more subtle form of abuse. Growing up in a neglectful family tends to leave people emotionally underdeveloped. To develop as a child one needs input, interaction, and nurturing. In neglectful families, children don't get this.

If children grow up in a family where one parent abuses the other, you are forced to watch people treating others as objects and not as humans. The children's humanity is denied.

Children are taught that people are objects to be controlled and manipulated for one's own benefit. Because children are being taught that their Self doesn't count, over time they will likely develop low self-esteem and low self-confidence.

Addiction is an impulse-control disorder

As children watch their parents turn to hitting, yelling, or sexually abusing others to handle their emotional distress, children learn how to be undisciplined when it comes to their own emotional impulses. Children are taught to be reactive. Children learn not to take initiative but to wait for things to happen and then react inappropriately.

Family members and friends of the drug addict are often caught in the trap of codependence

They try to reduce the harm of the drug addict, but in contrast, they are participative in the process of destruction of themselves and of the drug addict.

Codependence is a disease of lost selfhood, of having one's self and self-esteem defined by someone else's behaviour. The codependent person is as hooked on the addict as the addict is hooked on drugs. Codependents neglect their own inner, deeper needs as they try tirelessly but futilely to fix themselves by fixing the addicted person in their lives. Codependent people have trouble of thinking of themselves without thinking of their addicts. Their lives and self-concepts, to a large extent, are defined by their relationships with their addicts. The harder codependents struggle to free themselves by trying to control the behaviour of an addicted person, the more deeply they are enslaved in this family disease. The more the person loves the addict, the more eager the person is to hear and believe the lies of the addict and the easier it is for the addict to get away with the lies in the short run.

The family tries to make the addict more responsible and respectful but fails because a practicing addict is not able to change. The struggle continues, becoming a ritual embedded within the fabric of the family. As family members feel attacked, used, abused by the addict, they want to get even and fight back. Family members then become locked into the same fight that the Addict and the Self are locked into.

If an individual grew up in a family in which one parent was an addict, he/she has a certain likelihood of developing an addiction or becoming involved with an addict. If both his/her parents were addicts, his/her chances increase greatly. Others will develop unhealthy ways of dealing with the addict based on the addictive logic they have been taught to use in the home. As the addiction progresses within the family, everyone slowly adjusts to it. Family members are caught in a dilemma: They hate the Addict but love the Self within the person.

When children from these families begin their own families, they tend to find a counterpart: a co-addict marries an addict, or an addict marries a co-addict. This selective search doesn't take place on a conscious level. It takes place on a much deeper emotional level.

People may ask: "Why do I keep connecting up with addicts?" The answer is: "You speak the same language".

The solution to the problem of codependence is that family and friends need to be independent and to live their own life to save the addict: Detach with love! One need to love the Self of the person, but not the Addict side of his/her personality. One must not give in to the wishes of the addict, in order to continue the addictive process.

The costs of drug addiction – on the users themselves, their families, and society as a whole – are incredibly high.

All illegal drug abuse lowers inhibition and promotes antisocial behaviour.

Even when drug abusers do not inject drugs, they are at increased risk of HIV infection because of other high-risk behaviours, especially promiscuous sexual activities.

Drugs, by changing the personality and impulse control, can therefore induce criminal acts.

Some drug abusers and addicts resort to violence either to fund their habits or as a result of the psycho-pharmacological impact of some illicit drugs.

Drug addiction is most often accompanied by multiple drug use, with related consequences of the different drugs involved.

Drug addiction often co-occur with many psychiatric disorders.

Drug use and drug addiction induce environmental damage.

Illegal drug use is detrimental for our precious nature on earth. In South-America, many acres of rainforest are destroyed due to cocaine cultivation. In Morocco, the monoculture of cannabis is dangerous for the ecosystem, especially because the farmers are making an extensive use of noxious fertilizers and pesticides. Forested areas, which are among the specificities of the Rif area, are destroyed to accommodate new cannabis fields, thus accelerating soil erosion.

Metamphetamine and ecstasy labs are throwing tons of chemical waste in the environment.

Cannabis cultivation requires a lot of water. Water is diverted to the cannabis cultivation, resulting in less water supply for food crops and soil erosion, leading to the progression of the desert, Afghanistan being one example.

Food shortages in Africa are becoming more serious because of a shift from growing food crops to cultivating cannabis.

A higher global demand of drugs by drug users and drug addicts results in an incremental production of drugs which leads to the accelerated destruction of the environment.

Drug use and drug addiction leads to child abuse and neglect.

Drugs are involved in 7 out of 10 cases of child abuse and neglect.

For example, children in cannabis grow houses are at risk not only from the chemicals and often dangerous electrical hook-ups that are used to grow dope but also from the threat of armed home invasion by thieves looking to rip off the marijuana or any available cash on hand.

INTERESTING THINGS TO KNOW ABOUT DRUGS

Heroin

Heroin acts like an inhibitory neurotransmitter: Heroin inhibits neurons, they fire off fewer action potentials. Heroin binds to specific kinds of receptors (opiate receptors), which work to prevent GABA neurons from firing action potentials. The GABA neurons send fewer inhibitory signals to the dopamine neurons, and the latter generate more action potentials to release more dopamine from their axon terminals in the Nucleus accumbens.

Cessation of chronic heroin use is associated with an intensely dysphoric withdrawal syndrome, which may be a negative drive to reinstate substance use.

Heroin may impair stress response:

Animal studies suggest that the use of opiate drugs, which include morphine and heroin, can leave users more vulnerable to stress, creating a vicious cycle of use and abuse.

Not only does stress trigger drug use, but in return the drug leaves animals more vulnerable to that stress. <http://content.apa.org/journals/bne/119/4/1034>

In the absence of stress, opiate-treated rats behaved the same as the other rats.

But when subjected to stress, they appeared to suffer twice as much as non-drugged rodents.

The longer the duration or the higher the dose of morphine, the greater the difference in this stress reaction. The research could explain why people who use opiates such as heroin have very high rates of anxiety problems, including post-traumatic stress disorder, even after they stop using. That emotional fragility also can make them more likely to start using again.

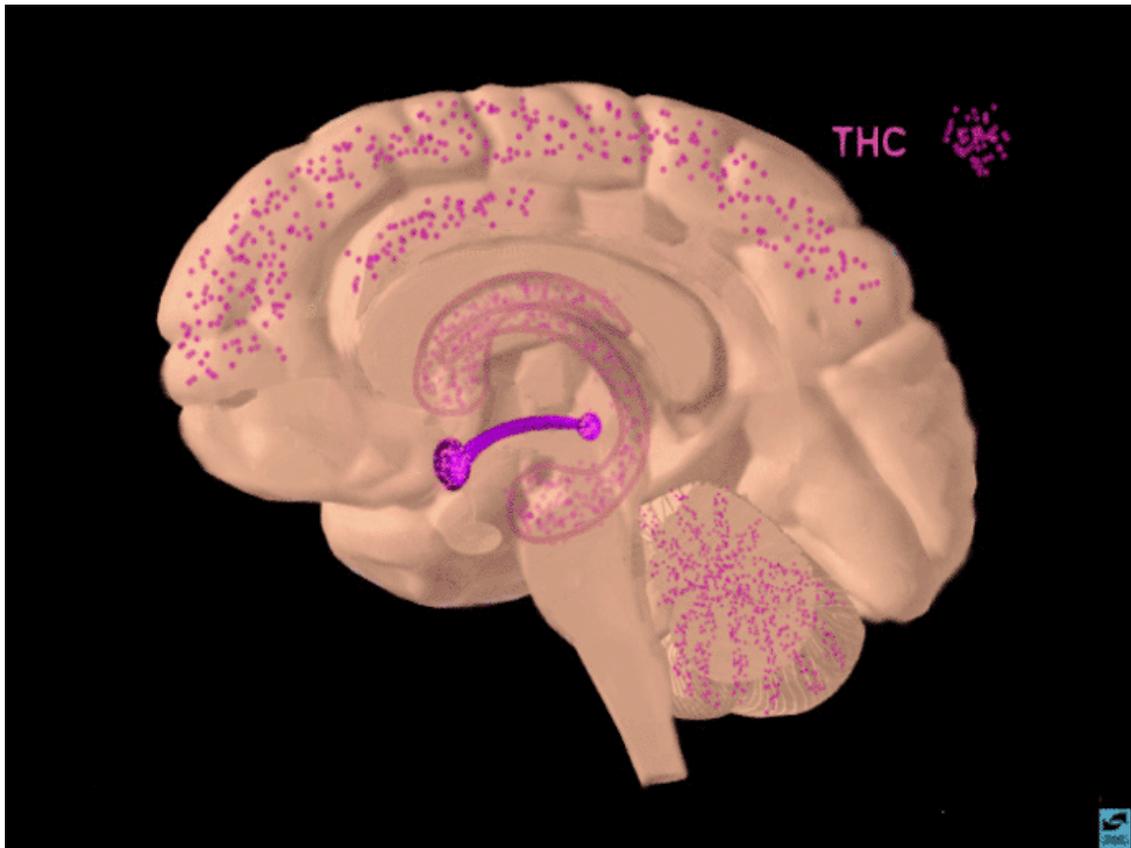
Cannabis

Tetrahydrocannabinol (THC), the active ingredient of marijuana, acts on cannabinoid receptors. There are 2 kinds of cannabinoid receptors:

CB-1 receptors in the brain, which is widely and densely distributed throughout the brain.

CB-2 receptors in the peripheral tissues

The brain distribution of CB-1 binding sites correlates with the effect of cannabis.



(Figure: Location of CB-1 cannabinoid receptors in the brain)

THC increases dopamine activity in the mesolimbic pathway, projecting from the VTA to the Nuc. Accumbens, which activates the brain reward system.

Cannabis (and also ecstasy) acts on the hippocampus. The hippocampus receives information from all parts of your brain. The hippocampus sends the information on to the prefrontal cortex.

The hippocampus is crucial for learning, memory, and the integration of sensory experiences with emotions and motivations. All this information reaches your hippocampus through the dentate gyrus, which acts as a relay station for the rest of the hippocampus. This relay station is loaded with cannabinoid receptors. THC changes the way in which sensory information gets into and is acted on by the hippocampus. As a result, marijuana can make time appear to slow and can distort perceptions of the world. Marijuana can make users feel as if they are not really part of themselves. The ability to carry out short-term memory tasks depends on a properly working hippocampus. Marijuana disrupts short-term memory by activating these cannabinoid receptors at the entrance to the hippocampus. This disruption can have profound effects.

People high on marijuana have a hard time conducting a coherent conversation. The more complex the subject, the more difficult it is. If they have to deal with a complex situation in the real world, it can become a significant problem. The inability to hold thoughts in working memory makes it difficult to have good judgment. This also makes it difficult to learn effectively because thoughts that can't be held in working

memory also can't be stored in long-term memory. This cognitive deficit, combined with other effects of marijuana, like impaired motor coordination, makes complex physical tasks like driving risky activities and endangers security in workplaces.

The influence of chronic use affects the cognitive processes in such a way that you can't question or criticize your behaviour and will therefore be unable to change it if necessary.

This creates a "cannabis pattern", a new identity, which is a continuous process, so the longer the use continues, the stronger the cannabis pattern will grow. It is a kind of filter which filters out everything negative said about cannabis.

Marijuana is the most insidious of the illegal drugs because of the seductive, but often wrong rationale that you can quit at any time you want. Unlike cocaine, which often brings users to their knees, marijuana claims its victims in a slower and crueler fashion. Marijuana users sink lower and lower in their performance and in their goals in life as their marijuana smoking continues. Their hopes and their lives literally go up in marijuana smoke.

Cannabis use delays and even stops the psychical maturation process during adolescence.

Cannabis can be harmful because of the unpredictable way the body reacts

Cannabis use can induce the whole spectrum of psychiatric illnesses; cannabis use is associated with an increased risk of experiencing schizophrenia symptoms, depression and anxiety.

Frequent cannabis use during adolescence and young adulthood raises the risk of psychotic symptoms later in life.

The risk was much higher in young people who were already genetically vulnerable to developing psychosis.

Cannabis not only precipitates psychosis in some patients with a predisposition to the illness but can cause mental health problems in people who would otherwise be considered low – or no –risk.

Long-term use of cannabis may lead to harder drug use:

Teenagers and young adults who occasionally smoke cannabis over long periods are more likely to turn to more addictive drugs such as heroin. Prof. Yasmin Hurd's experiments (Karolinska Institute) show that, after training to self administer heroin by pushing a lever, rats exposed to THC took more heroin as adults than those not given the chemical.

They were more sensitive to lower concentrations of heroin than unexposed rats and took more in response to stress.

Tolerance develops rapidly to most effects of cannabis.

A residual effect of smoking marijuana can be observed on attention, psychomotor tasks and short-term memory during the 12-24 hour period immediately after cannabis use.

Both age during exposure and duration of exposure are critical determinants of neurotoxicity.

Effects on the immune system

Marijuana impairs the activity of the immune defence against infections of bacteria and viruses. Thus, infections can have severe harmful consequences and recovery is prolonged.

A consequence of long term marijuana use is the dependence on the psychoactive effects of THC and a withdrawal syndrome on cessation of use. A distinctive marijuana withdrawal syndrome including restlessness, irritability, mild agitation, insomnia, sleep disturbance, nausea and cramping has been identified, but it is relatively mild and short-lived.

Marijuana addictions are increasing

Today's cannabis is 5 to 10 times as strong as it was in the 1970s.

The number of adults using marijuana in the U.S. had remained the same between 1992 and 2002, but the number of adults addicted to the drug had increased 25%.

The 2002 DAWN

survey showed a dramatic increase in marijuana-related hospital emergency room visits. Data showed that in 1992 there were 45 treatment admissions for marijuana use per 100,000 people aged 12 or older. This number more than doubled to 93 admissions by 1997 and in 2002 was 118. Marijuana use also leads to more teenagers entering drug treatment in the U.S. than does the use of all other drugs combined, including alcohol.

Early use and positive experiences in early use increase the risk for cannabis dependence.

Once they're dependent, teens often tumble into truancy, crime and depression.

They can't concentrate. They don't go to school. They get totally detached from life.

Because marijuana distorts perception, impairs judgement and verbal skills, compromises the ability to learn and remember information, induces memory loss and causes attention deficits, the more a person uses marijuana, the more he or she is likely to fall behind in performing an intellectual job or social skills.

Marijuana use increases tendencies toward stealing, fighting and violence.

Marijuana use contributes to risky sexual behaviours that increase the likelihood of disease and unwanted pregnancies.

Exposure to cannabis in the womb could cause children to experience learning difficulties and hyper reactivity.

Cocaine

Cocaine blocks the reuptake of dopamine by the neurons that originally released it.

Cocaine binds to the dopamine transporters. In this way, cocaine blocks its ability to transport dopamine from the synapse. This prevents the axon terminals from retrieving dopamine from the synapse. Dopamine is now trapped in the synapse, stimulates and restimulates dopamine receptors.

A run of cocaine use ends with a reversal of the user's initial experience: euphoria is followed by depression, energy by exhaustion, pleasure by malaise. Cocaine users not only feel terrible after a run of cocaine use, they find they are unable to experience life's normal pleasures. Their brain's pleasure system has been overstimulated and exhausted by cocaine use, which is a depletion of dopamine. The brain requires weeks or even months to re-establish a normal equilibrium in the synapses of the dopamine transmitting neurons, and there is a risk of producing a lifelong state of diminished ability to experience normal pleasures.

Structural changes in neurons have also been seen following sensitisation to cocaine, such as a marked increase in the number of dendritic spines of the neurons of the Nuc. Accumbens and the prefrontal cortex.

Long-term cocaine use causes profound changes in the brain, affecting 50 different proteins in the Nuc. accumbens. The study involved comparisons of brain tissue from 10 people who died of cocaine overdoses and 10 people who died of other causes. Most of the alterations involved proteins that enable brain cells to connect and communicate with each other.

Cognitive deficits are associated with chronic use of cocaine. This affect can severely interfere with rehabilitative programmes. Individuals who are dependent on cocaine have specific defects of executive functions (decision-making and judgement), and this behaviour is associated with dysfunction of prefrontal brain regions.

There is evidence for persistent neurological impairments associated with chronic use of cocaine, such as:

Multifocal and global ischemia

Cerebral haemorrhages

Brain infarctions

Optic neuropathy

Cerebral atrophy

Cognitive impairments

Psychiatric illnesses may include deficits in motivation and insight, behavioural disinhibition, attention deficits, emotional instability, impulsiveness, aggressiveness, depression and anhedonia. Anxiety, paranoia and psychosis also may occur.

Activation of the sympathetic nervous system may cause arrhythmias, tachycardia, hypertension and myocardial infarction.

As the effects of cocaine subside, the user feels dysphoric, tired, irritable and depressed, which may lead to subsequent drug use to regain the previous experience.

There is little tolerance to the effects of cocaine.

Amphetamines

Amphetamines also block the dopamine transporters to some extent.

Amphetamines get inside the axon terminals of the dopamine-containing neurons and release dopamine directly into the synapse.

Most of the consequences of amphetamine use are similar to those of cocaine use.

Hallucinogens

All hallucinogenic drugs deplete the neurotransmitter serotonin.

The pontine raphe, which is richly supplied with serotonin receptors, acts as a filtering station for incoming sensory stimuli. This part of the brain screens sensations, sorting out the important from the unimportant. Drugs such as LSD disrupt the sorting process, flooding the brain with jumbled sensory inputs that overload the brain's sensory processing circuits. The brain, intoxicated by a hallucinogenic drug, is unable to assign relative importance to the many stimuli coming continuously to the brain, however routine and trivial they may be.

Like a three-month-old infant fascinated by the sight of his hand moving across his field of vision, a person high on LSD or Ecstasy can become fascinated by a dripping faucet or a glowing light bulb.

The three common types of chronic adverse reactions to hallucinogenic drug use are panic or anxiety reactions, depressive reactions and psychotic mental disorders.

Because of the demonstrated neurotoxicity and reports of lasting neurological disturbances of ecstasy, this drug should be considered as dangerous despite its reputation in the youth culture as safe.

XTC (Ecstasy or 3-4-methylenedioxyamphetamine = MDMA) has a non-linear pharmacokinetic profile.

Consumption of elevated doses of the substance may produce disproportional elevation of plasma levels of XTC. Its clearance depends partially on metabolism by the liver.

Between 3 – 7 % is converted to the active substance methylenedioxyamphetamine (MDA), and 28% is biotransformed to other metabolites. Around 65% is eliminated, unchanged, via the kidneys. The half-life of XTC in plasma is 7,6 hours. 6 – 8 half-lives are necessary for complete elimination of XTC, giving a total time of around 48 hours for the drug to be completely eliminated.

A plasma level of 8 mg/l (severe intoxication):

More than 24 hours would be necessary to decrease to a plasma level lower than 1 mg/l, which produces less clinical effects. Therefore, 24 hours would be the estimated time of intensive care needed by intoxicated patients who had taken a few XTC capsules.

This effect appears to be dose-related. But it is clear that any dose is not safe.

The effects of XTC are related to several neurotransmitters including serotonin, dopamine and norepinephrine. (release of dopamine is increased)

Serotonin plays the main role in mediating the effects of XTC.

There is increased serotonin release because XTC binds to and blocks the serotonin transporter, thus blocking serotonin reuptake. Eventually, this leads to long-term depletion of serotonin.

XTC may reduce gray matter in key brain regions

A small study using a new imaging technique revealed an association between MDMA abuse and lower gray matter density in key brain structures that affect language, movement, and vital functions such as breathing and heartbeat. serotonin promotes the growth of neurons and glial cells, which together comprise the brain's gray matter.

They showed smaller concentrations of gray matter in the MDMA abusers than in the controls. Subtle but statistically significant differences were seen in several brain regions.

Regions with less gray matter were parts of the neocortex, the cerebellum, and the brainstem.

Tolerance develops rapidly with the use of XTC, and some individuals use progressively larger amounts of XTC to reinforce its psychological effect. But there is no tolerance to the physical collateral effects.

For 2 – 3 days following XTC use there may be residual effects associated with acute withdrawal of the drug: Muscle stiffness and pain, headache, nausea, loss of appetite, blurred vision, dry mouth and insomnia. Psychological effects may also be observed, most commonly depression, paranoia, anxiety, panic attacks, fatigue, difficulty in concentrating.

Impairments of memory, decision-making and self-control are observed. There can also be major hepatic and cardiovascular effects and impairment of body temperature control.

Alcohol

Alcohol increases the inhibitory activity mediated by GABA-A receptors and decreases the excitatory activity mediated by glutamate receptors, especially the NMDA receptors.

Ethanol tolerance and dependence may be explained, in part, by changes in the function of GABA- A receptors.

Chronic alcohol consumption can induce alterations in most if not all brain systems and structures.

After prolonged use of alcohol, impairment of the prefrontal cortex functions, due to neuronal lesion, may compromise decision-making and emotion, including a lack of judgement and loss of control in reducing alcohol use.

New brain cells develop during alcohol abstinence:

Their findings for the first time provide a neuronal regeneration mechanism that may underlie the return of normal cognitive function and brain volume associated with recovery from addiction during abstinence from alcohol.

More recently, studies have shown that the adult human brain is capable of producing new brain cells throughout life, a neurogenesis resulting in formation of hundreds of thousands of new neurons each month. Chronic alcoholism produces cognitive impairments and decreased brain volumes, both of which are partially reversed during abstinence.

Tobacco

Nicotine is the primary compound in tobacco that establishes and maintains tobacco dependence. Nicotine binds to nicotinic acetylcholine receptors. There are a variety of subtypes of neuronal nicotinic acetylcholine receptors. The receptors are composed of 5 subunits around an ion channel. Agonist nicotine binding causes the resting conformation of the subunits to change to open conformation and allows sodium ion inflow, which causes cell depolarisation.

Nicotine promotes dopamine synthesis by increasing tyrosine hydroxylase release through activation of nicotinic acetylcholine receptors in both nigrostriatal and mesolimbic dopamine pathways.

Cigarette smoking exacerbates alcohol-induced brain damage:

It is also known that chronic alcohol dependence can damage alcoholics' brains, particularly the frontal lobes, which are critically involved in higher-order cognitive functions such as problem solving, reasoning, abstraction, planning, foresight, short-term memory and emotional regulation. Results indicate that chronic cigarette smoking increases the severity of brain damage associated with alcohol dependence. Exacerbation of alcohol-induced brain damage to the tissue of the frontal lobes by chronic cigarette smoking may further compromise recovering alcoholics' abilities to successfully execute more challenging activities of daily living or anticipating the consequences of their actions, particularly with increasing use.

ADDICTS CAN'T BREAK THE ADDICTIVE PROCESS ALONE
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Stopping outright is necessary to treat the disease of addiction and ensure the patient's survival. However, drug addicts are not likely to begin fighting to save themselves until those around them permit the addicts to feel the full force of their harmful choices. In real addictive behaviours the bottoms keep coming, even deeper, until the addicted person dies or figures out that life cannot go on without real change.

Intervention is needed:

The addict is totally committed to the addictive process and will not be able to break this cycle without some form of intervention. Consequently, addicts rarely enter treatment without pressure because, from their point of view, treatment means having to give up the one thing that is most important to them. Addiction is not a self-curing disease. Addicts cannot learn or think their way out of it. Recovery is not part of the disease that addiction is. It does not just happen; it requires a plan and hard work.

Rehabilitating drug addicts sneer at harm reductionists and yell: "Who are you to come over here and tell us that drug use is OK when we're struggling to get our lives back together?"

Screening for drug use (which include drug testing in schools, at home done by parents and roadside drug testing) followed by immediate intervention and, if necessary, referral to treatment, are keys to ensuring drug users' long-term health. And as with all progressive diseases of a catastrophic nature, earlier diagnosis and treatment produce better outcomes. In order to solve the drug problems, one would have to stop all abused drugs - for example, not only marijuana but also stop smoking cigarettes and stop alcohol consumption.

Detoxification is only the beginning of the solution for drug addiction

Recovery is not only about not acting out, it is also about redirecting the addictive process. Detoxification alone does little to help a drug addict over the long haul because the addict's primary problem is the desire to get high.

Addicts must not only break off their relationship with addictive substances but also must take the necessary steps to transform their addictive attitudes, beliefs, values and behaviours. Addicts must give their brain time to readjust to the absence of drugs and then learn behaviours that will allow them to stay off drugs. If people don't claim and redirect their pleasure-centered or power-centered impulses, they may return to some other deviant form of acting out. They will find another substance or event that helps them achieve the trance. Or, they may become a "dry drunk" – they have stopped drinking but have not surrendered their addictive personalities. Addicts are not relaxed or happy with their drug(s) deprivation, but rather they are resentful and angry.

Addicts often ask:" Other people can drink and use drugs. Why can't I?"

These episodes of white-knuckle sobriety are not part of recovery, they are part of the active disease of addiction.

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Detoxification, followed by psychotherapy and/or attendance to self help groups such as NA, is the key to recovery. Psychotherapy, treating the underlying cause of drug abuse, can only be successful in people being free of intoxication and having a clear head. A brain high on drugs is a brain that is dysfunctional.

Addicts only need to think about today, about taking care of recovery one day at a time.

The longer an addicted person stays in treatment, the better that person does over the long term.

Recovery is about allowing us to feel guilt.

Guilt means we have committed an action that was wrong or not helpful to others or to ourselves. Many people, therefore, enter recovery with a deep sense of shame. These people enter a period of deep shamefulness as they look more honestly at their past actions.

Parents as a barrier to drug use

Parents remain the most important influence on children.

Parents must make clear that drug use will not be tolerated. Children need to understand that parents are concerned because they love them. Parents need to set a positive example and get involved in their children's lives and know what they're doing. Parents need to talk early and often to them about the dangers of drugs. But even if you have a good relationship with your children you might not know the whole story. Drug using teens are unlikely to admit drug use because they often are in denial that they have a problem. Why would you worry or get treated when you're doing something you enjoy doing? Drug testing cuts through the denial of drug using children.

"Mom, if you trusted me I would be dead right now." Otherwise, what may happen is that: "You die, before you get help. That's the way I've lost most of my mates."

We looked at some essential features of drug addiction.

The question arises: Suppose every member of society uses illegal drugs, do we still have a viable society? When every member of society smokes cigarettes daily, you would still have a functioning society, although this is not a healthy behaviour. Cigarettes are a legal drug, but regulations are necessary, like prohibition for youngsters not older than 18 years.

When every member of society takes two alcoholic drinks daily, you would still have a functioning society. Alcohol is a legal drug, but regulations are necessary, like prohibition for youngsters not older than 21 years. One of the reasons why alcohol and cigarettes are prohibited to youth is that these substances act as a gateway to illegal drugs.

When every member of society smokes a few joints daily, or takes a few cocaine or heroine hits daily, society, as it functions now, would be severely damaged. Society would no longer be viable. That's why illegal drugs like marijuana, cocaine and heroin are prohibited.

And the best answer to the drug epidemic is the application of strict anti-drug laws, strong societal disapproval, and increased awareness of the devastation drugs are producing.

Too many people, especially children, are in trouble with drugs, and it is our responsibility and moral obligation as their caretakers to do something about it. We owe it to them, and to all people that have been affected directly or indirectly by this very ugly disease. Let us unite and fight the drug epidemic, before it gets even more out of control.

Thank you very much for your attention.

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Elements of Pathophysiology of Drug Addiction and Related Consequences

By Dr. Van Damme Ivan
Flemish Platform against Drugs
Adelaide, 27 April 2007

**No drug addiction
without drug use!**



Why people begin to use drugs: TO OBTAIN MOOD CHANGE!

Also:

- To enhance athletic or cognitive performance
- Curiosity
- Peer pressure

What is addiction?

DSM dependence criteria:

- Tolerance
- Withdrawal
- Use in larger amounts or for longer than intended
- Desire to cut down or control use but inability to do so willingly
- Great deal of time spent in obtaining substance or getting over effects
- Social, occupational or recreation activities given up or reduced
- Use despite knowledge of physical or psychological problem

Addiction is a Relationship Problem

The drug user has a relationship with drugs:

- In natural relationships there is a connecting with others – an act of giving and an act of receiving.
- In addiction there is only an act of taking.
- Addicts feel connected to the moment of drug use because of the intensity of the mood change.
- Addicts believe the mood change can be trusted, in the beginning.

What determines possible evolution to addiction:

Risk Factors:

- Early aggressive behaviour
- Poor social skills
- Lack of parental supervision
- Substance abuse and pro-drug attitudes of peers
- High drug availability
- Isolation
- Early drug use
- High Potency of the drug
- Frequent drug use
- High amount of drug use
- Method of administration: smoking or injecting a drug
- Mental Illness
- Exposure to physical or sexual abuse

Protective Factors:

- Self-control
- Positive relationships
- Parental monitoring and support
- High academic competence
- Anti-drug policies in schools and communities
- Strong neighborhood attachment

The Development of Addiction: A Combination of Factors:

Interplay of:

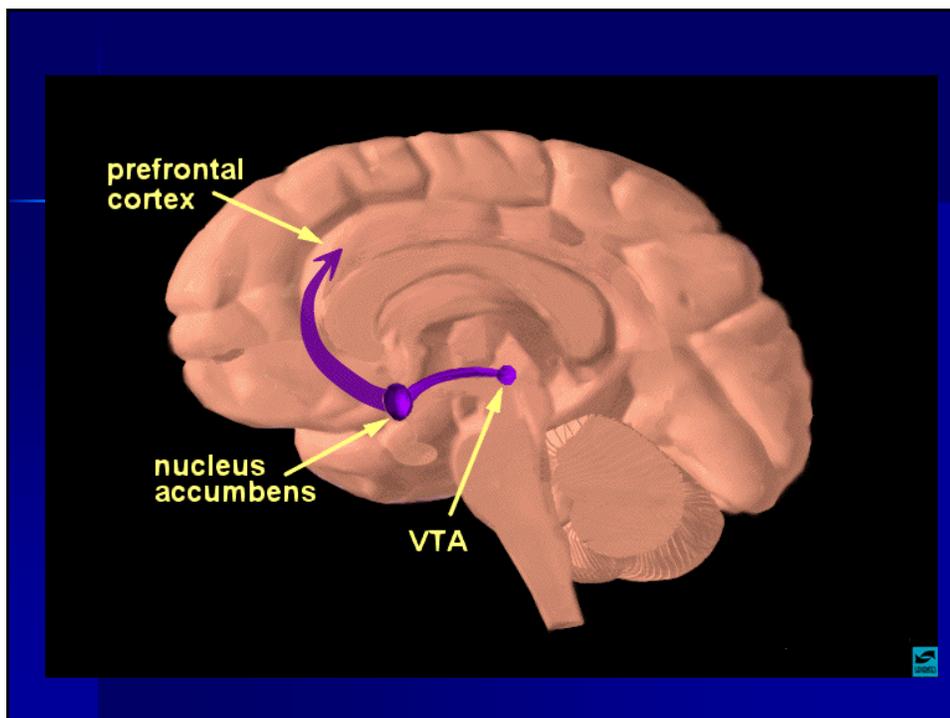
- Genetic vulnerability
- Environmental factors
- Personality of the individual

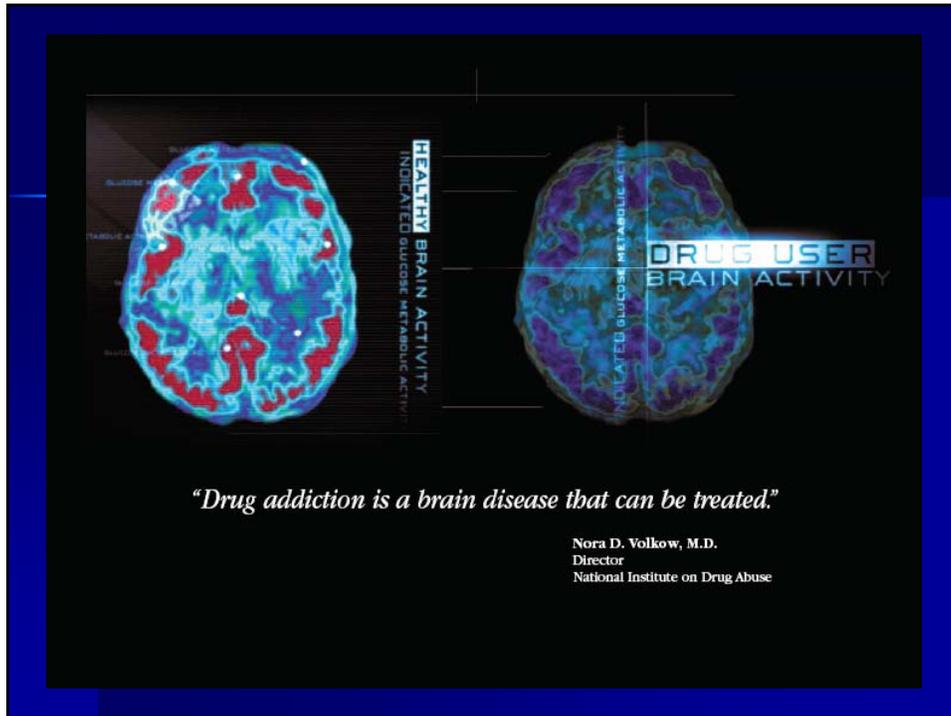
But...

Anyone can potentially become addicted to drugs if they repeat the experience of "drug reward" often enough!!

The Role of Genetics in Addiction:

- Drugs of all kinds can cause changes in gene expression in the brain.
- Changes in gene expression cause changes in protein synthesis that can have both short-term and long-term consequences on behaviour.
- Genetic vulnerability to substance dependence is likely to be tied to several distinct genes, each producing a small effect, which might increase risk of developing substance dependence.
- Any one of the genes on its own will be insufficient to cause dependence, but several different genes may all contribute to the vulnerability.





All the Drugs that People Abuse Have One Action in Common:

- Drugs change the way the limbic system works in a specific limbic circuit that generates feelings of pleasure, which is called the brain reward circuitry.

Drugs hijack the brain's survival systems!!

All Addictive Drugs Interfere With the Way Neurons Communicate

- Disrupting the transmission of information at the synapse is the basic mechanism by which drugs change behaviour.
- Drugs work in the brain because they have a similar size and shape as natural neurotransmitters.
- In the brain in the right amount or dose, these drugs lock into receptors and start an unnatural chain reaction of electrical charges, causing neurons to release large amounts of their own neurotransmitter.

Drugs Teach People to Take More Drugs:

- Through activation of emotional and motivational centres of the brain, learning processes are invoked.
- The powerful memory of early drug experiences is one of the things that drives users to keep taking drugs.
- The huge release of dopamine leads to a strengthening of the synaptic connections in neural pathways that led to the behaviour that was associated with the reward.

Conditioning:

A mechanism through which the brain becomes more sensitive to the motivational and rewarding effects of psychoactive substances.

- We do something (behaviour)
- It makes us feel good (reward)
- We do it again (repeat behaviour)

Conditioning:

Can also take place if bad feelings like anxiety, stress or pain are removed:

- We feel bad.
- We do something (behaviour)
- It alleviates the bad feelings
- The next time we feel bad, we do it again.

Conditioning:

- Conditioning processes can become automatic.
- Behaviour can be influenced without conscious, decision-making process.

A consequence of conditioning: relapse

- Relapse is triggered by cues previously paired with substance use, by stress, or by the presence of the drug itself.
- All of these phenomena are mediated by increased dopamine release, but even more important, by increased glutamate release.
- So if the environment continues to pile stress on a former drug user, he/she will move to a level of susceptibility where he/she will return to uncontrolled addictive use with just one hit of drugs.

Conditioning:

- Harm reduction messages, such as “responsible drug use” reinforce drug use through the mechanism of conditioning, by associating these harm reduction messages with previous drug-related reward!!

The Addictive Personality:

Consists of:

- The Self - represents the “normal”, human side of the addicted person.
- The Addict - represents the side that is consumed and transformed by the addiction.

The Addict Side of the Individual:

- Does not care about family and friends.
- Doesn't care about the Self either.
- What it cares about is acting out and achieving the trance.

The Addict Develops Its Own Way of Feeling

- "It made me feel able to do everything."
- "A coke shot: It's like... injectable sex, an orgasm in every cell."
- "Then it stopped working, but I kept using it to cover up the shame I felt."

The Addict Develops His/Her Own Way of Thinking (Addictive Logic)

- "I want what I want and I want it now."
- "Even though I had seen what it could do to folks, I thought I would be fine – that they were junkies and that somehow I was different."

The Addict Develops His/Her Own Way of Behaving

- "Often - I love my mother, but I rob her. I want to please and serve my employer, but I abuse his confidence. I love my drug using mates, but I betray them."
- "I found I was taking money meant to buy presents for my children."
- "I knew I hit a low point when I used toilet water to shoot up."

The Cycle of Addiction:

- Emotional pain, acting out, momentary pleasure, more emotional pain...

And/or

- Power, control, being right, feeling out of control, demanding more power...

Addiction is Progressive:

Stage One: acting out and experiencing the mood change

- The individual behaves mainly within socially acceptable limits.
- But inside all of these people, there starts to develop a deep and totally consuming mental dependency.

Addiction is Progressive:

Stage Two: lifestyle change

- Others start to notice that something is wrong or abnormal.
- Time with family, old friends, and hobbies is set aside to make room for the addiction.
- Addiction will continuously demand more, and because the addicted person has lost control, he or she must give in to the demand.
- There is an almost constant battle between Self and Addict.
- Should I act out or shouldn't I act out?

Addiction is a Lifestyle

- As addiction develops, it becomes a way of life.
- In addicts, drugs fill a central role in life: addicts have learned to use drugs to fulfil almost all needs, especially emotional needs.

Addiction is Progressive:

Stage Three: life breakdown

- Acting out no longer produces much pleasure.
- Addicts start behaving in ways they never thought possible.
- Addictive logic breaks down.
- Emotionally, the person starts to break down.
- Interacting breaks down.
- The addict: wanting to be alone.
- Physical signs of breaking down
- Thoughts of suicide

The Ritual of the Addict:

Rituals are a language of behaviour.

- In addiction, rituals become value statements about the beliefs of the Addict.
- Rituals are based on consistency: first you do this, then you do that.
- Addicts ritualise their behaviour for the comfort found in predictability.
- When Addicts face crisis and stress, they run to the comfort they find in their rituals.
- Addictive rituals push a person deeper into the addictive process.

Addictive Parents Abuse Their Children:

- In the emotional inconsistent family, a relationship of any depth is never allowed to form – all attempts are sabotaged and the developing child is deprived of consistent relationships.
- Children who come from this type of family almost always feel unsure of their social and relationship skills and tend to be very dependent.
- In this way, they are attracted to the consistency found in addiction.
- These children are also susceptible to peer pressure.

Addictive Parents Abuse Their Children:

- Inconsistent parents will often tell their children that their own behaviour is normal and the rest of the world is crazy.
- The child is taught not to believe his/her own feelings or intuition.
- Children may sense that what is happening in the family is crazy, but their parents continually tell them nothing is wrong.
- In this way, they are forced to choose between their parents and themselves.
- Young children especially will choose their parents' version of reality, for their survival depends on it.

Addictive Parents Abuse Their Children:

- If adults are misconstruing the facts surrounding drugs for their own benefit, how can a 13 or 14 year-old be prevented from using drugs?
- If children and even adults perceive something to be the norm, they tend to alter their behaviours to fit the norm.

Addictive Parents Abuse Their Children:

- The child's needs are not important, but the needs of the abusing parents are.
- The child is being taught that he/she is just an object to be used to fulfil someone else's needs.
- The child's humanity is denied.
- Because the child is being taught his/her Self doesn't count, over time he/she will likely develop low self-esteem and low self-confidence.

Addictive Parents Abuse Their Children:

- All children growing up in an addictive system are growing up in an abusive system.
- Addiction is a form of abuse because it handicaps children in their development.
- The needs of the addict come before the developmental needs of the child.
- Neglect is a more subtle form of abuse.
- Individuals growing up in neglectful families often don't see themselves as being abused.
- Growing up in a neglectful family tends to leave people emotionally underdeveloped.
- To develop as a child one needs input, interaction, and nurturing.
- In neglectful families, children don't get this.



MEDICAL



SOCIAL



ECONOMIC



CRIMINAL JUSTICE

The consequences of drug abuse are vast and varied and affect people of all ages.

Suppose every member of society uses illegal drugs, do we still have a viable society?

- The answer is NO!
- That's why illegal drugs like marijuana, cocaine and heroin are prohibited.

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Session Title:
Flawed Research into Needle and
Syringe Programs



THE EFFECTIVENESS OF NEEDLE EXCHANGE PROGRAMMES

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Purpose

In dealing with HIV among injecting drug users (IDU) we are in fact dealing with two parallel epidemics. First, the epidemic of illicit drug injecting, starting in big cities in the developed world after World War II, but during the last 20 years increasingly hitting the developing world, particularly in the countries producing illicit drugs and along transit lines. The epidemic of HIV among IDU travels the same path, beginning around 1980 in some big cities in the USA and Europe but now hitting hardest in East Asia and the former Soviet Union. In these parts of the world the epidemic among IDU is indeed driving the HIV epidemic so there is an urgent need for a good strategy to combat this epidemic.

In the strategy for HIV prevention among IDU outlined by WHO Needle Exchange Programmes (NEP) along with substitution treatment of opiate dependency are the main elements. The importance of NEP was stressed by the Wodak & Cooney report issued by WHO in 2004. The claim here is that NEP is an evidence based method to prevent the spread of HIV among IDU. The purpose of this paper is to question this claim.

Background

The reason why this critique comes from Scandinavia is that particularly Sweden chose a different strategy at the start of the epidemic. I will briefly outline the experience of this. In 1985, when commercial HIV tests became available the HIV prevalence among heroin injectors in Stockholm turned out to be over 50%. There was an intense debate on how to handle this situation and a number of measures were undertaken, e.g. free HIV testing and counselling in prisons, hospitals and treatment units, increased possibilities for methadone maintenance treatment, still high threshold, with a priority for HIV positive heroin users, a special hospital unit for drug users with infectious diseases and increased possibilities for drug treatment (abstinence oriented). On the matter of NEP the decision was that this was not in line with the Swedish restrictive drug policy.

An epidemiological study of HIV and risk behaviour among IDU was initiated at the Remand Prison in Stockholm in 1987. In the first report in 1988 (Käll et al 1990), the yearly incidence of HIV had already gone down to 1.2% and by analysing frozen sera it was established that the rapid spread of HIV among Swedish IDU was mainly 1983-1985. The situation was similar in Norway and Denmark (Amundsen et al 2003). Today the seroincidence is still around 1% and seroprevalence is around 6% in Stockholm, similar for heroin and amphetamine users.

The experience from the Remand Prison Study is that IDU are quite willing to be tested for HIV. New cases, with some exceptions the last two years, tend to be older heavy IDU, often homeless with multiple problems. There is a paradox of high risk behaviour, over 60% share needles and syringes and few use condoms, and low incidence of HIV. It seems as if the most important factor to keep the incidence low has been the high testing uptake in combination with a group norm of being frank about ones HIV status within the IDU community. As a drug injector, when you need to borrow a needle you try to make sure that the person you borrow from does not have HIV.

Since the adopted strategy had been rather successful there seemed to be no good reason to change it except for the pressure from WHO and the international community. But the question came up in the Swedish parliament again in 2004, which was the reason for us to take a look at the scientific evidence for the effectiveness of NEP on HIV prevention among IDU.

Method

A total of 143 articles were found by data base searching and reference lists and after applying the criteria that there should be some effect measure and some control/comparison group we were left with 69 articles.

Only two met the criteria of randomly control trials, both from Anchorage, Alaska. The first used needle sharing and cleaning, the other injection frequency as outcome variables and neither showed a significant difference between NEP-users and non-users.

The majority of studies used some sort of self reported risk behaviour, like "needle sharing" or "treatment seeking" as outcome variable. The total picture was rather contradictory and difficult to

interpret and in the end we decided to focus our attention on studies with HIV sero-incidence or prevalence as outcome variable. We then ended up with 14 articles.

Results

(Table)

To sum up the table there was one study showing a positive effect of NEP on HIV incidence, one showed a negative effect and seven were inconclusive. Using HIV prevalence as outcome variable three showed a negative outcome on baseline prevalence, 2 showed a positive effect on change of prevalence (one in the whole sample, one in a sub-sample) and one was inconclusive.

Before going into the further analysis of these studies let's look at the natural course of the HIV epidemic among IDU. The epidemic tends to be local, as IDU tend not to be very mobile. In cities hard hit by the epidemic there is usually a phase of rapid increase followed by a peak and a decrease that can be slow or rapid. Prevalence curves are influenced not only by HIV incidence but also by the death rate (if it differs between HIV positive and negative IDU) and by the inflow of new IDU. Some cities have a low incidence all along. In Sweden this has been the case for the amphetamine users.

NEP was introduced in different phases of the epidemic in different cities. Often the introduction came after the peak of the epidemic as a result of the rapid increase. But in some cities it was introduced before the rapid increase. Vancouver is an example of that. When NEP was established in 1988 the HIV seroprevalence was only 1-2% among IDU in Vancouver. In fact it was at the time the largest NEP in North America and they were giving out millions of needles and syringes. But in 1994 Vancouver was hit by a rapid increase of HIV among IDU, during which the three studies in the table were performed, that all failed to show any protective effect of NEP. The study from Montreal covering the period 1988 to 1995 showed a baseline prevalence of 16% for NEP-users and 5.8% for non-users (significant difference). Of the 1599 IDU enrolled in the study the 974 HIV-negative IDU were followed and the HIV incidence was 7.9 per 100 person years for NEP-users and 3.1 for non-users (significant difference). The meta-analytic study from New York City in 1996 looked at the period past the peak of the epidemic and showed a positive effect of NEP on HIV-incidence. Gender, age and frequency of injection was controlled for but not homelessness. The comparative study of the three Scandinavian countries using a method of back calculation from official statistical data for the period 1991-96 (past peak) showed a lower HIV incidence in Norway and Sweden than in Denmark, where both Norway and Denmark but not Sweden had NEP, whereas HIV testing and counselling was promoted in Norway and Sweden as opposed to Denmark, indicating that HIV testing and counselling may be more important than NEP.

All of the above mentioned studies were performed in one or a few areas and recurring predictive factors for HIV seroconversion were: frequent injection, cocaine injection, homelessness/unstable housing but most often not NEP (exception: one positive and one negative).

Three Australian studies compared cities from all over the world where measurements of HIV seroprevalence among IDU were available on at least two occasions with at least one calendar year in between. The first study used 81 cities, the second 99 and the third 103 and the basic methodology was the same, and most likely the second and third study used the same cities only adding some more. The increase or decrease in seroprevalence was calculated and cities with NEP were compared to cities without NEP. The outcome was positive for cities with NEP, although not significant in one case. As these studies have often been cited as the strongest evidence for the effectiveness of NEP it is important to look closely at them. As Ellen Amundsen pointed out in her letter in *Addiction* (Amundsen 2006) they do not consider the stage of the epidemic in the cities included. And as NEP is most often introduced past the peak of the epidemic the measurements from cities with NEP tend to represent the downward slope of the epidemic, whereas cities in general would tend to react with prevalence measurements when they notice an increase of HIV which causes alarm. Furthermore cities without an HIV epidemic or with a very slow epidemic may not be included at all unless they also have NEP. It is also important to note that other preventive measures that could influence HIV prevalence are not included. So these studies need to be re-evaluated where at least the stage of the epidemic must be considered.

The conclusion of these analyses was that of 14 studies on the effectiveness of NEP to prevent the spread of HIV among IDU one showed a positive result, two a positive result with questionable methodology and eleven showed either negative or inconclusive results. Not a very impressive case for NEP.

The report of Wodak and Cooney was published after we finished our review, but since it was published by the WHO, and hence was regarded as an official guideline, not least by the Swedish

government, we also wanted to compare our results with theirs, since they had come to the opposite conclusion. This was all the more surprising since they had looked at much the same studies. They included eleven studies with HIV incidence or prevalence as outcome and claimed that the case was 6 positive vs 5 negative or inconclusive. When looking closer at their classification it turned out that one study (Monterosso et al) was misclassified as positive when it was not significantly so. One study (Heimer et al) did not measure HIV prevalence among IDU but only in returned needles, which cannot be directly transferred to the IDU population (and it was not done by the authors of the paper). And finally they included a Swedish study (Ljungberg et al) comparing HIV seroprevalence in the south of Sweden with two experimental NEP introduced 1987/1988 and no severe HIV epidemic with Stockholm, that had had a severe epidemic as mentioned above but by the time of the study already had reduced the HIV incidence to about 1%. The authors are very cautious to ascribe any causal effect of NEP to the fortunate epidemic situation in the south but Wodak and Cooney still include the study as positive for NEP. If included it should be moved to the inconclusive. This leaves Wodak and Cooney with 7-3 against NEP.

Conclusion

In conclusion, it has not been shown that NEP are effective in preventing HIV among IDU. Neither has the opposite been shown. Of course it is better if a drug injector uses a clean needle and syringe than one that has been contaminated by somebody else's blood, but it does not automatically follow that society has to provide this for free, since IDU tend to be quite clever to get what they need for their habit one way or the other. On the other hand once established NEP sites may have a positive effect if they offer other health promoting measures like HIV testing and counselling, referral to drug treatment, hepatitis A and B vaccination, birth control, dental care and treatment of skin infections etc. But for poor countries with a severe IDU and HIV epidemic it is important to know what is most important to do if they can only afford very few things, and perhaps NEP is not what they should spend their money on first.

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The effectiveness of needle exchange programs



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Ellen Amundsen, Ulric Hermansson



Content

- HIV and injecting drug use
 - The experience from the Swedish epidemic
 - Review of the literature on needle exchange programmes effect on HIV among injecting drug users (IDU)
- 

HIV and Injecting Drug Use

- Two parallel world wide epidemics:
 - an epidemic of injecting drug use, starting in the developed world after WW II, now spreading in producing countries and along transit lines
 - an epidemic of HIV among IDU, also starting in the developed world in late 1970:s, now hitting hardest in the developing countries and former Soviet Union

WHO/UNAIDS recommendations

- Needle Exchange Programmes (NEP) and substitution treatment are the main elements suggested to combat HIV among IDU in all WHO/UNAIDS documents, suggesting that these are indeed evidence based methods to do this.
- Is it true that NEP is an evidence based method to prevent HIV among IDU?

The Swedish example

- In 1985 HIV prevalence among iv heroin users was over 50% in Stockholm
- The debate on how to meet the epidemic of HIV among IDU resulted in: Continued fight against drug addiction; HIV testing, counselling and education
- The fight against illicit drugs should have priority, also as a means to minimise the vulnerable population

The Swedish example, cont.

- If HIV prevention policy comes in conflict with anti-drug policy it should not be implemented.
- Needle-exchange was seen as coming into conflict with the policy to discourage young people from trying drugs and particularly injecting drugs

The Swedish example, cont.

- Thus it was not implemented on a national basis and particularly not in Stockholm, where the majority of the HIV infected IDU lived.
- This was in conflict with WHO recommendations and we have been much criticised for this. In Sweden it is still under debate and last year a law was passed that opens up for NEP in the whole country.

The Swedish example, cont.

- Many other HIV-prevention policies were however employed:
 - Free HIV testing and counselling in prison, hospitals and treatment units
 - Increased possibilities for methadone maintenance treatment (high threshold) with priority for HIV positive heroin users
 - Special hospital units for drug users with infectious diseases
 - Increased possibilities for drug treatment

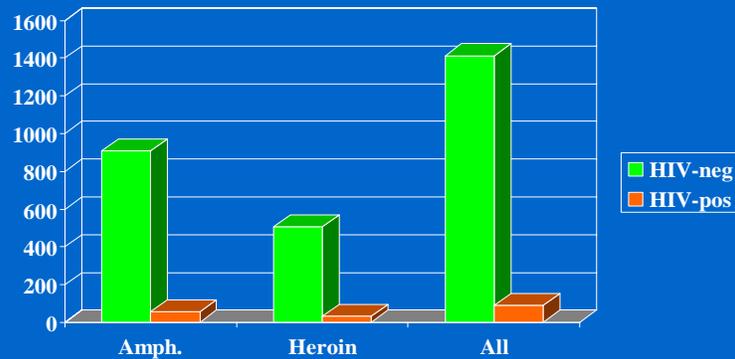
The Remand Prison Study

- In 1987 a study of HIV and HIV risk behaviour of IDU was initiated in Stockholm. It closed in 1999 and then reopened in March 2002.
- An independent team performs a structured interview of risk behaviour and takes an HIV test of IDU entering Remand Prison in Stockholm

Yearly incidence (%) of HIV among IDU at Remand Prisons in Stockholm (95% Confidence Interval)

	All participants	Amph. users	Heroin users
1988	1.2 (0-3)	0.9 (0-2)	4 (0-6)
2005	0.7 (0.3-1.6)	0.6 (0.2-1.8)	1.0 (0.3-3.0)
2006	1.6 (1.0-2.8)	1.3 (0.6-2.7)	2.5 (1.0-5.6)

IDU participating 2002-2006. N=1501



Amph.:56/963 (5,8%) Heroin 33/538 (6,1%) All 89/1501 (5,9%)

The Remand Prison Study

- The new HIV cases in recent years are mainly older, heavy, male IDU, often homeless with multiple problems
- However the last two years some new cases among young IDU have appeared
- The willingness to test is high as well as the interest in information about HIV and hepatitis

The Remand Prison Study, conclusion

- Paradox of continued high risk behaviour (both in terms of needle sharing and condom use) but decreased HIV spread
- The most important factor in the reduction of HIV incidence seems to have been the high testing uptake among IDU in combination with
- The group norm of frankness of IDU among themselves about their HIV status. They avoid sharing with HIV positive users.

The Swedish experience

- Since the strategy had been relatively successful there seemed to be no good reason to change it
- Since the discussion on needle exchange had again come up we decided to look at the scientific data collected on needle exchange programmes (NEP)

A NEP a literature review

- A total of 143 articles were found by data base searching and reference lists
- 2 criteria: some effect measure of NEP and some sort of control/comparison group
- 69 articles met these criteria and were included

NEP - Randomised Controlled Trials (RCT)

- Only two RCT were found, both from Anchorage, Alaska (2002 and 2003)
- The first study looked at needle sharing and cleaning the other at injection frequency

NEP - RCT

- No significant difference between study and control groups were detected, but both groups in each study improved their habits
- The authors conclude that the initial HIV information given to all was the effective measure

NEP - non-randomised trials

- The majority of the reviewed studies used self reported change of behaviour - e.g. “needle sharing” or “treatment seeking” as outcome variables without any measure of actual effect on HIV incidence or prevalence. Contradictory and confused picture.
- Focus on studies of HIV incidence and prevalence - 14 studies

Effect of NEP on HIV seroprevalence and incidence in 14 studies. (NS=not significant at 5% level)

Study	IDU population	Effect on incidence	Effect on prevalence
Van Ameiden et al 1992, case-control in cohort 1985-91	Cases: 22 Controls:202	NS	
Des Jarlais et al 1996, NYCity, meta-analytic from 3 studies	N=1630	Positive	
Schoenbaum et al 1996, Bronx NYCity, 1985-93	904 metha-done patients	NS	
Strathdee et al 1997, Vancouver, 1996-97	N=1006		Negative (baseline)
Patrick et al 1997, Vancouver, case-control	Cases: 89 Controls: 192	NS	
Schechter et al 1999, Vanc., prospective cohort 1996-98	N=694	NS	

Cont.

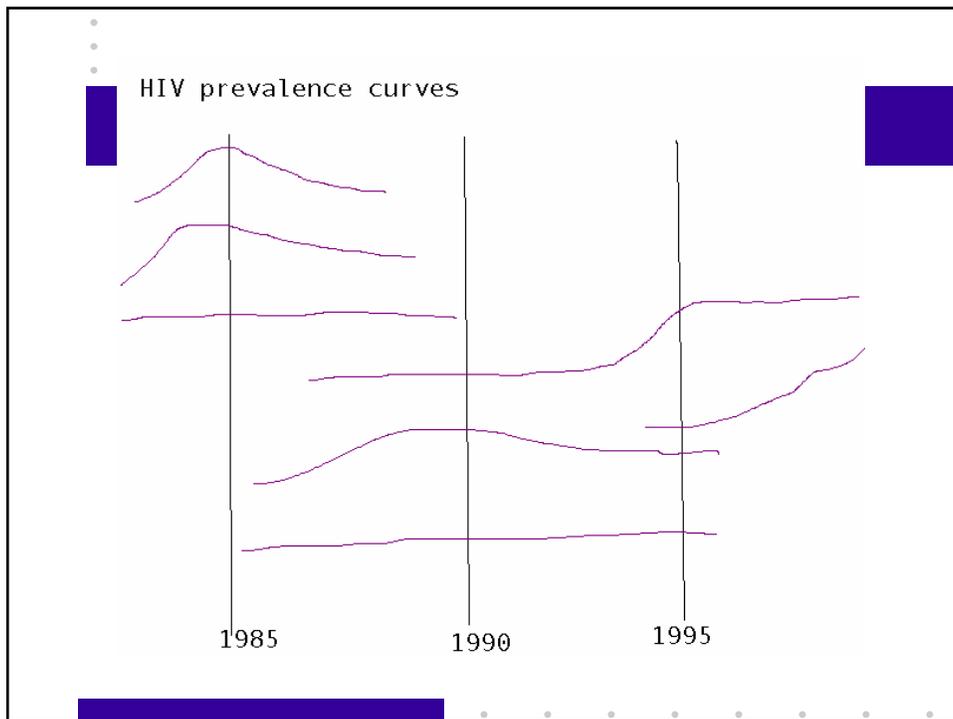
Study	Population	Eff. on inc.	Eff. on prev.
Bruneau et al 1997, Montreal, baseline, seroconv.&case-contr.	N=1599	Neg.	Negative (baseline)
Hurley et al 1997, data on prevalence	52/29 cities no NEP/NEP		Positive (total)
MacDonald et al 2003, data on prevalence	63/36 cities no NEP/NEP		Positive (subsamp.)
Health Outcomes International 2002, data on prevalence	67/36 cities no NEP/NEP		NS
Monterosso et al 2000, USA, data from 6 cities	N=3773	NS	
Valente et al 2001, Baltimore	N=262	NS	

Cont.

Study	Population	Eff. on inc.	Eff. on prev.
Millson et al 2003, Ontario	N=551 from 9 Ontario cities		Negative (baseline)
Amundsen et al 2003, Scandinavia, back calculation 1991-1996	Official data from three countries	NS reg. incidence differences	

Summary of table

- Incidence: 1 pos, 1 negative, 7 inconclusive
- Prevalence: 3 negative (baseline measure) 2 positive (change of prevalence, one in whole sample, one in sub-sample), 1 inconclusive



Incidence & prevalence studies

- The Vancouver studies
- NEP established in 1988 when prevalence was 1-2%
- Rapid phase of epidemic started 1994
- None of the studies showed any protective effect of NEP

Incidence & prevalence studies

- The Montreal study 1988 to 1995: 1599 IDU enrolled
- Baseline prevalence: NEP-users 16% non-users 5.8% (sign. diff.)
- 974 HIV-neg IDU followed
- Incidence: 7.9 for NEP-users 3.1 for non-users (sign. diff.)

Incidence & prevalence studies

- New York 1996 meta-analytic study 1988-95
- High prevalence, around 50%
- Past peak of epidemic
- Significantly higher incidence among non-NEP users compared to NEP users
- Sex, age and frequency of injection controlled for but not homelessness

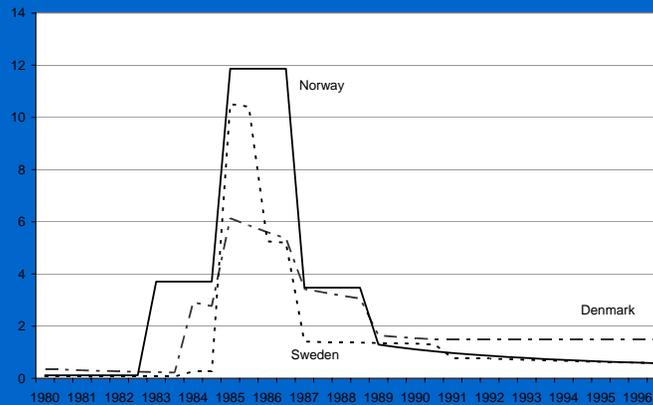
Incidence & prevalence studies

- Scandinavian study on population and register data 1991-96 using back calculation
- Similar epidemics in Denmark, Norway and Sweden (mainly in capitals) with peak in mid 1980s
- NEP in Denmark and Norway, not in Sweden

Incidence & prevalence studies

- HIV testing & counselling promoted in Norway and Sweden, but not in Denmark
- Lower incidence in Norway & Sweden compared to Denmark indicating that HIV testing and counselling may be more important than NEP in preventing HIV

Incidence of HIV among IDU Scandinavia, per 1000 IDUs per half year



Incidence & prevalence studies

- Recurring predictive factors for HIV seroconversion:
- Frequent injection
- Cocaine injection
- Homelessness/unstable housing
- NEP most often not significant - exception: one negative and one positive

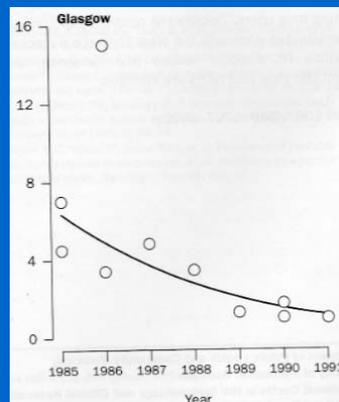
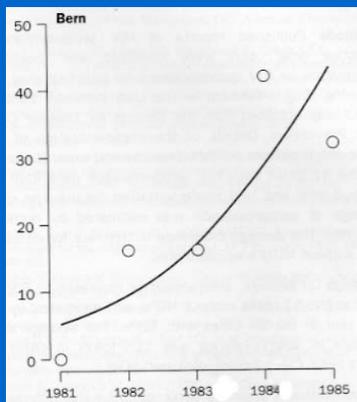
Incidence & prevalence studies

- Three studies comparing cities with and without NEP
- using measurements of HIV seroprevalence from at least two calendar years
- Hurley et al: 81 cities and MacDonald et al: 99 cities, HOI 103 cities
- The average change in seroprevalence is significantly lower in NEP cities than in non NEP cities in two of the studies indicating a positive effect of NEP.

Studies on change on prevalence

- Methodological problems:
- The stage of the epidemic in the included cities not stated
- NEP often introduced after rapid phase
- Measurements often done during the rapid phase
- Cities without an epidemic may not have been included unless they had NEP
- Other preventive measures not included

Hurley et al. 1997 I



Incidence & prevalence studies

- Conclusion:
- Of 14 studies on the effectiveness of NEP in preventing the spread of HIV among IDUs
- one showed positive result
- two positive but with questionable methodology
- 11 either negative or inconclusive

Comments on Wodak et al report

- Much the same studies - opposite conclusion
- Incidence and prevalence table 3a-c:
 - 6-5 (positive vs neg/inconclusive)
- Monterosso et al misclassified as positive
- Heimer et al does not measure prevalence in a population of IDU, but only in returned needles

Comments on Wodak et al report

- Ljungberg et al: compares HIV prevalence in Lund and surrounding areas with NEP introduced in 1987/1988 (without a severe epidemic)
- with Stockholm, without NEP, that had an rapid phase in 1983-85 with a prevalence of around 50% among heroin injectors
- ignoring that by the time of the study HIV incidence was already down to around 1% in Stockholm

Comments on Wodak et al report

- With these corrections the case stands
- 3-7 - not a very strong case for NEP

Conclusion

- NEP has not been shown to be very effective in preventing HIV among IDU
- Well established tools like HIV testing and counselling, contact tracing etc seem to have been neglected in many places
- Perhaps as a result of the overemphasis of NEP

Conclusion

- The question to ask is not "NEP right or wrong?"
- But "How should we most effectively fight HIV among our IDU?"
- The data so far indicate that NEP as an isolated measure does not solve the problem
- When resources are limited all the more important to use them effectively

Gary Christian

ADRA, NSW, Australia

**Session Title:
Critical Analysis of the Kings Cross
Injecting Centre**



Critical Analysis of the Kings Cross Injecting Centre

Case Study

Justification

In May 1999 the NSW Government's Drug Summit recommended the trial of a safe injecting room, approved on three grounds. These were that the proposed injecting room might:

1. decrease overdose deaths
2. provide a gateway to treatment
3. reduce the problem of discarded needles and users injecting in public places

Predictions

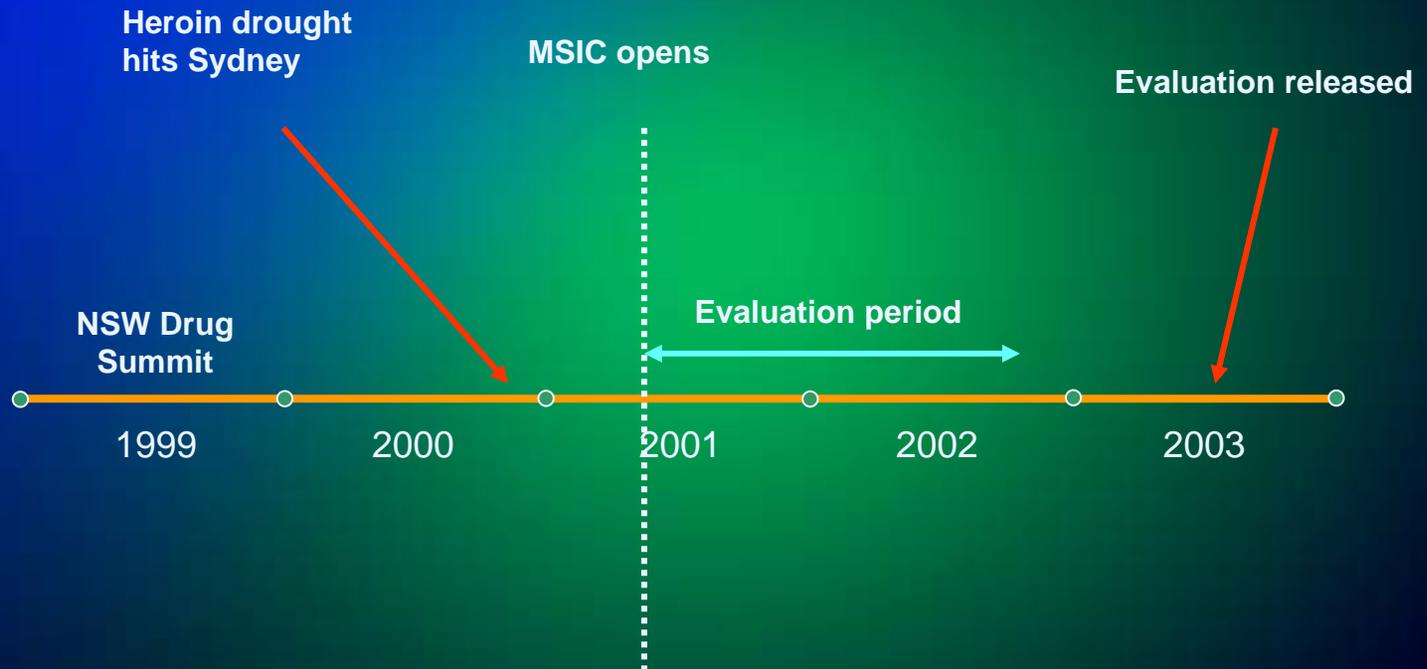
The International Narcotics Control Board condemned the experiment on the grounds that it would:

- encourage greater illicit drug use
- increase drug trafficking

“ . . . the operation of such facilities, where addicts inject themselves with illicit substances, condones illicit drug use and drug trafficking and runs counter to the provisions of the international drug treaties.”

United Nations International Narcotic Control Board, in its 2001 report, paragraph 559

Injecting Room Timeline



2003 Independent Evaluation

Released 9 July 2003

214 pages

**FINAL REPORT OF
THE EVALUATION OF
THE SYDNEY MEDICALLY
SUPERVISED INJECTING CENTRE**

MSIC Evaluation Committee

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Professor C. D'Arcy J. Holman
Chair in Public Health and Head of School
School of Population Health, The University of Western Australia



the Kings Cross injecting room

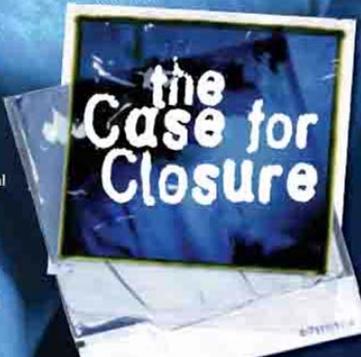
Drugs used in Injecting room January to June 2006

Heroin:	38%
Ice:	6%
Cocaine:	21%
Prescription Morphine:	31%

"The Sunday Telegraph can reveal that ice addicts make up eight per cent of users at the Medically Supervised Injecting Centre..."
Sunday Telegraph Dec 10 2006

"... they (injecting room clients) may have taken more risks and used more heroin in the MSIC." Final Report of the Evaluation of the Sydney Medically Supervised Injecting Centre (MSIC) p 62 per 6

"... the operation of such facilities, where addicts inject themselves with illicit substances, condones illicit drug use and drug trafficking and runs counter to the provisions of the International Drug Treaties." United Nations International Narcotic Control Board (INCB) 2001 report, paragraph 559



the
Case for
Closure

Was the Public Misled?

Four overdoses have been recorded on site. In each case the user had arrived at the centre alone, which is a known risk factor in drug overdose death, Dr van Beek said.

“POTENTIALLY WE’VE SAVED FOUR LIVES IN THE FIRST MONTH.”

Kelly Burke - SMH 22/6/2001 p 3

Was the Public Misled?

- “In the first month of operation, **FOUR LIVES WERE SAVED**, people who would otherwise have probably overdosed; and 42 people, those in the depths of the addiction cycle, were referred for further treatment services and counselling.”

John Della Bosca, NSW Special Minister of State,
NSW Legislative Council Hansard 4 July

Was the Public Misled?

- Kings Cross centre, has provided hundreds of users with clean safe facilities and referred them to rehabilitation and welfare agencies. **AND THE CENTRE SAYS ITS STAFF HAS SAVED MORE THAN A DOZEN LIVES FROM OVERDOSES.**

The World Today Archive - Wednesday, 15 August , 2001

Reporter: Joe O'Brien

Was the Public Misled?

- “To date, the trial injecting room has reported that there were 2,729 registered clients and 250 overdoses. Therefore, because of the available trained medical staff **250 LIVES WERE SAVED.**

The Hon Bryce Gaudry MP, NSW Legislative Assembly Hansard
29 May 2002

Was the Public Misled?

A final report on the controversial Kings Cross injecting centre is expected to declare it a resounding success that has

SAVED HUNDREDS OF LIVES.

Reporters: Steve Dow and Frank Walker

June 15 2003 - The Sun-Herald

Was the Public Misled?

- Agreement with the establishment of the MSIC by local Kings Cross residents moved from 68% in 2000 and 78% in 2002
- Agreement with the establishment of the MSIC by NSW business respondents moved from 58% in 2000 and 63% in 2002

Statistics you need to know

MSIC

- Evaluation period – 18 months (544 days)
- 3,810 clients p xi
- 56,861 injections p xi
- 61% heroin (35,000 injections) p xi
- 329 heroin overdoses p xi

Kings Cross

- Estimated 6,000 heroin injections per day p 58
- 431 ambulance callouts for overdose p 52
- 17 deaths p 59

10 crucial things you need to know

1. Only 38% of injections in the injecting room in 2006 were heroin injections. Substances such as cocaine and 'ice', highly destructive in the longer term but not presenting high risks of immediate overdose, are commonly injected, as is prescription morphine.

Drugs used in injecting room January to June 2006:

Heroin:	38%
Ice:	6%
Cocaine:	21%
Prescription Morphine:	31%

10 crucial things you need to know

2. The International Narcotics Control Board (INCB) specifically singled out the Kings Cross injecting room trial as being **in breach of the International Conventions** against illicit drug use. This trial does not utilise legal heroin but rather depends on clients illegally procuring heroin, illegally transporting heroin, and illegally using heroin.

Furthermore, if the injecting room trial had been valid, the 2003 evaluation should have marked the end of the trial. Results should have been forwarded to the INCB and the injecting room closed.

10 crucial things you need to know

3. On average **one out of every 35 injections** per user was in the injecting room, despite the public being told that every heroin injection is potentially fatal. So under-utilised is the injecting room that it has averaged just 200 injections per day despite having the capacity to host 330 per day.

10 crucial things you need to know

4. Based on the overdose figures published by the Medically Supervised Injecting Centre (MSIC) the **overdose rate** in the injecting room was **36 times higher** than on the streets of Kings Cross.

Street Overdoses

- 431 overdose ambulance callouts
- Ambulance 51% of all overdoses
- 845 overdoses estimated
- 3.2 million street injections
- One overdose per 3800 injections

Table 3.5: Kings Cross area: Ambulance

	Total number of ambulance attendances for overdose	Number attending during opening
Pre MSIC (May 1999 – October 2000)	1,059	355
Post MSIC (May 2001 – October 2002)	431	129

averted. This is likely to be an overestimate as many overdoses are known to occur in the community but do not have an ambulance attend. Darke et al. (1996) showed that an ambulance attends in 51% of non-fatal overdose events and Darke et al. (in press) reported an estimate of 4.1 fatal overdoses for every 100 non-fatal overdoses in the community, overall (i.e., 0.041 or 4.1%). Therefore, using this figure of 4.1%, approximately 13 deaths ($329 \times 0.041 = 13.49$) may have been averted in the 18-month trial period.

Injecting Room Overdoses

- 35,000 injections
- 329 overdoses
- One overdose every 106 injections
- 36 TIMES the street overdose rate

10 crucial things you need to know

5. The high overdose rate was attributed by the MSIC's own evaluation report to **clients taking more risks with higher doses** of heroin in the injecting room. More injected heroin means more heroin sold by Kings Cross drug dealers.

“In this study of the Sydney MSIC there were 9.2 (sic) heroin overdoses per 1000 heroin injections in the MSIC, and this rate of overdose is likely to be higher than among heroin injectors generally. The MSIC clients seem to have been a high-risk group with a higher rate of heroin injections than heroin injectors who did not use the MSIC, they were often injecting on the streets, **and they may have taken more risks and used more heroin in the MSIC.**”

Final Report of the Evaluation of the Sydney Medically Supervised Injecting Centre
p 62 par 6

High-Risk Group?

Study	Ever Overdosed	Overdosed in Last 12 Months
MSIC	44%	12%
Australian IDRS study 1999	51%	29%
Sydney study 1996	68%	20%
British study 1999	58%	30%

10 crucial things you need to know

6. Currently a disturbing 1.6% of Australians have used heroin. However surveys show that **3.6% of NSW respondents** say they **would use heroin** if an injecting room was available to them, most for the first time, potentially doubling the number who would use the drug.

Table 8.4: Number (percentage) of Kings Cross and NSW residents reporting that they would use the MSIC and the reason for use

Characteristics	Kings Cross		NSW	
	2000 n=515	2002 n=540	2000 n=1018	2002 n=1070
Would use a SIC	19 (4%)	0 (0%)	47 (5%)	28 (3%)
Reason for MSIC use				
Safety	12 (2%)	-	19 (2%)	18 (2%)

10 crucial things you need to know

7. The government-funded estimate of 4 lives saved per year failed to take the enormously increased overdose rate into consideration. Adjusted for the high rates of overdose, the injecting room **saved statistically 0.18 lives** in its 18 month evaluation period.

Lives Saved

‘saved between 6 and 13 lives’

upwards). However, in the absence of any other reliable multiplier, using the figure of 81 cases there would have been six cases where death may have been prevented in the 18 month period ($81 \times 0.0812 = 6.58$).

averted. This is likely to be an overestimate as many overdoses are known to occur in the community but do not have an ambulance attend. Darke et al. (1996) showed that an ambulance attends in 51% of non-fatal overdose events and Darke et al. (in press) reported an estimate of 4.1 fatal overdoses for every 100 non-fatal overdoses in the community, overall (i.e., 0.041 or 4.1%). Therefore, using this figure of 4.1%, approximately 13 deaths ($329 \times 0.041 = 13.49$) may have been averted in the 18-month trial period.

The streets

- 6000 injections per day
- 3.2 million injections in 18 months
- 17 overdose fatalities
- 1/190,000 injections

- Approximately half of the 2080 (55%) MSIC clients reported heroin as their main drug injected in the month prior to registration. Using this and the previous estimate it is likely that half the IDU in the Kings Cross area are regular heroin injectors, and it is plausible that 2000 IDU are regularly injecting heroin in the Kings Cross area. Allowing for an average of at least three heroin injections per day per regular heroin users, there would be 6,000 injections of heroin in the Kings Cross area per day.

Injecting Room

- Less than 35,000 heroin injections p xi
- Statistically saved 0.18 lives in 18 months
- Statistically saved 0.12 lives per year

Adjusting these estimates to a 12-month period yields a lower estimate of four (4) deaths prevented and an upper estimate of nine (9) deaths prevented per annum by the clinical intervention of the staff in the MSIC itself. The lower estimate is the more conservative and plausible, especially as there were only 17 documented drug related deaths in the Kings Cross area during the trial period, an average of 11 deaths per annum.

Injecting Room Success?

- .12 lives per year saved
- 8.33 years to save one life
- \$19.99 million to save one life
(\$2.5 million p.a. p 205)

10 crucial things you need to know

8. Only 11% of injecting room clients were 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.

10 crucial things you need to know

9. The injecting room **did not improve public amenity.** The injecting room quite evidently drew drug dealers to its doors. Reductions in the number of public injections and discarded needles in Kings Cross decreased only in line with reduced distributions of needles due to the heroin drought. Recent reports indicate increases in publicly discarded needles.

Syringe Distribution & Counts

KINGS CROSS	July '00	July '02	Change
Local Residents			
Observed discarded syringes	38%	35%	-8%
Observed public injecting	10%	8%	-20%
Local Business			
Observed discarded syringes	35%	31%	-11%
Observed public injecting	9%	9%	-0%
Needle/Syringe Counts			
KRC Needle Exchange clean-up team	60%	55%	-8%
Injecting room staff research team	7	3	-57%
South Sydney Council clean-up	284	240	-15%

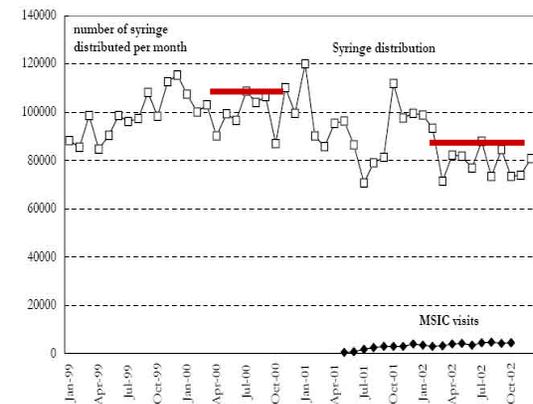


Figure 6.6: Syringe distribution from major NSP and pharmacy services in the Kings Cross/Darlinghurst area and MSIC visits, January 1999 – December 2002

Honey-pot Effect

- “We have a few more problems with drug activity out the front of the train station. You can tell some of them are drug-related. **They run back and forth between the MSIC and the Tudor Hotel.** You catch on that’s what it’s about.”

(City Rail worker, 6 month interview – page 144)

Honey-pot Effect

- “The police who participated in the twelve-month discussion group commented that they had received complaints from the public and the City Rail staff about the increase in the number of people loitering at the train station. They noted that, while other factors, such as police operations, would have contributed to the increase in loitering outside the train station, *there was a notable correlation between the loitering and the MSIC opening times.*”
(page 146)

Honey-pot Effect

- “The increase in loitering was considered to be a displacement of existing users *and dealers* from other locations.”

(page 146)

Honey-pot Effect

- “The train station never featured as a meeting place before. It used to be Springfield Mall and Roslyn Street.”

(Police 12 month interview – page 147)

Honey-pot Effect

- Evaluation team's conclusion?

“Police evidence indicated that the MSIC had very little impact on drug dealing in Kings Cross. On the other hand there appears to have been increased drug dealing activity at Kings Cross station, *although it is difficult to establish whether this increase was causally linked to the operations of the MSIC.*”

(page 193)

10 crucial things you need to know

10. The 'independent' government-funded evaluation of the injecting room, released July 9 2003 and from which much of the data in this report is drawn, was done by a research team of five, three of whom were colleagues in the same NSW University medical faculty as the Medical Director of the injecting room. A fourth researcher was one of those who, during the 1999 NSW Drug Summit, shaped the proposed injecting room trial. **Drug Free Australia has questioned the independence** of this evaluation team.

Scorecard

Number of overdose deaths in the area	no evidence of any impact p 62
Ambulance overdose attendances in the area	no evidence of any impact p 61
Ambulance overdose attendance during hours the injecting room was open	no evidence of any impact p 60
Overdose presentations at hospital emergency wards	no evidence of any impact p 60
HIV infections amongst injecting drug users	worsened p 71
Hep B infections	no improvement p 71
Notifications of newly-diagnosed Hep C	Worsened p 71
Frequency of public injection	injection on the street - 57% (2001) to 46% (2002) in a public toilet - 40% (2001) to 33% (2002) in a public toilet - 40% (2001) to 33% (2002) use of commercial shooting galleries - 16% (2001) and 14% (2002) p 94
New needle and syringe use	no advantage by injecting room over the nearby needle-exchange p 92
Re-use of someone else's syringe	no improvement p 93
Re-use of injecting equipment other than syringes	No improvement p 93

Scorecard

Tests taken for HIV and Hep C	No improvement p 96
Tests taken for Hep B	improved in 2001, worsened in 2002 p 98
Referrals to drug rehab and treatment	extremely poor - 8% of clients referred to methadone or buprenorphine maintenance. Only 4.7% referred to abstinence-based detox or residential rehab. pp 98-99
Publicly discarded syringes	Declined and increased in line with the number of distributed needles during heroin drought pp. 117-123
Perception of public nuisance caused by drug use	decreased only in line with heroin drought impact p 113
Public injections sighted	mixed – residents reported less in line with heroin drought impact, businesses reported no improvement p 116
Acquisitive crime (break & enter etc)	no improvement p 147
Drug dealing at rear door of MSIC	continual p 148
Drug dealing at Kings Cross station	Worsened p 149
Injecting related health/vein care	Improved, but can be viewed as teaching people how to be better junkies.



The report exhibits curious silences, exclusions, occlusions and veilings around any evidence that supported the somewhat prescient predictions that might have led to its closure

The End in Sight

- “Damien died in Feb 1997 - since then I have shared the grief and struggles of many hundreds of families struggling with all the negative aspects of heroin dependence. As I read the comments below of the Prime Minister of Australia in Sept 2002 - when 5000 young Australians have died since Damien died - I ask What hope is there?”

Update National AOD listserver: 5/9/02 11:03 PM by Tony Trimmingham after John Howard stated he would not support more injecting rooms

- “I hope that you do not think that my response to your question is flippant but the answer is: 'regime change'. The 26th Australian PM and thereafter will be from younger generations. Young Labor and Young Liberals and Greens and Democrats all have the same policies on this issue. Common sense and compassion will prevail. We just have to be persistent and patient.”

Update listserver: 5/9/2002 11:25 PM by Dr Alex Wodak, President of Australia's most prominent drug legalisation Foundation

Dr Joe Santamaria

Victoria, Australia

**Session Title:
Drug Abuse and Modern Scientific
Research**



DRUG ABUSE AND MODERN SCIENTIFIC RESEARCH

Dr. J.N.Santamaria

**Presented at the International Conference on
Drug Abuse**

Adelaide April 27, 2007

Abstract.

This paper discusses the present state of scientific research in the field of Drug Abuse. It addresses the concept of Evidence Based Medicine against a background of scepticism of the reliability of much that appears in peer reviewed journals. Particular attention is given to research using meta-analysis and ecological studies. The situation is now such that every reader of research papers must apply a critical approach to all publications in the field of drug abuse wherever or however they are published. The role of the statistician/epidemiologist becomes critically important in the phase of research design and in detecting the deficiencies in published reports.

Slide 1. Drug Abuse

Slide 2. Historical Introduction

HISTORICAL INTRODUCTION

It was in the early 1980s that I began to take a critical interest in medical research. It was a time when Reproductive Technology burst on the scene and captured the public imagination. Louise Brown was born in July 1978, although the technology had its early development in the veterinary sciences. This scientific achievement resulted in the formation in Australia of the Monash Bioethics Centre which was initially funded by the National Health and Medical Research Council. This centre, directed by Professor Peter Singer, prompted the formation of other bioethics centres, both in Australia and abroad as the community began to struggle over the question of ethical principles that should govern scientific research. Of course, the issue had earlier been addressed in the Nuremberg Code of 1949 and the Declaration of Helsinki in 1964. There are several documents of the United Nations that appeared in the middle of the 20th. century that laid down fundamental bioethical principles and research institutes were advised to establish Institutional Ethics Committees; but little appeared that could be applied to the field of drug abuse.

However, drug abuse, especially in the western world emerged as a major public health issue in the 1960s and with it there appeared many research papers and commentaries that revealed the impact of ideological overtones and a struggle to find a formula to determine national drug policy. In several countries of the Western world, books and articles were written by political activists, both on the right and the left of politics, that sought to influence not only national policy but international agreements. Many organizations were launched, often heavily backed by large sums of money, with opposing philosophies, and both sides claimed that justice should prevail, based on sound scientific evidence.

Various professional disciplines became involved – public health officers, physicians, nurses, social workers and sociologists, psychologists, criminologists, the legal profession, law enforcement officers, government advisory bodies, and religious organizations. All marshalled evidence based on their particular area of expertise. Their advocacy of a platform of measures to deal with the use of so-called illegal drugs was often heralded as evidence based and so arose my interest in the quality of that evidence.

Most of the evidence is found in scientific journals, proceedings of conferences, official reports of government bodies and non-government organizations (NGOs), annual reports and review articles

in lay and scientific journals and newspapers. Often the evidence becomes incorporated into textbooks and printed materials used for public education and policy decisions.. A great deal of this material can be accessed on the internet or online services of various institutions. Medline is a well-known service of such a nature.

Slide 3. Publication of papers

But how reliable are all these sources?

As published in scientific journals, the authors and editors follow a certain format, popularly known as IMRaD – Introduction, Methods, Research and Discussion. When the paper is submitted, the editor will send the article for Peer Review and the paper is returned to the editor with the reviewer’s comments. The final decision rests with the Editor. This process of research and the communication of its findings has been the accepted norm for a long period of time and millions of papers using this format have been published in an expanding field of journal development. At first sight, this appears to be an excellent way of presenting a scientific paper but in the last 25 years, there has developed significant scepticism about what actually happens in practice.

Slide 4. Peer review

Peer Review & Editorial Decisions

In a recent issue of the Journal of the Royal Society of Medicine (December 2006), there appeared an article entitled Scientific Journals are ‘faith based’: ‘is there science behind peer review?’¹ The article commented that “Jefferson recently presented an outstanding review of peer review and could find only 19 studies on peer review that were scientifically sound. We could find only 14 articles examining the editorial board/editorial decision making. Thus, with over 50 million articles and 300 years of traditional journal approaches, there has been only a handful of studies questioning or testing the journal process itself.” The article further comments that

¹ Linkov,F, Lovalekar,M & LaPorte,R. Scientific Journals are ‘faith based.’: Is there science behind Peer Review?
J.Roy.Soc.Medicine 2006. December. Vol.99 p596-598.

“(r)ecent studies reveal that peer review often misses major methodological problems in articles.”²

Slide 5. Editors & reviewers

It is a well-known fact that editors of scientific journals reveal a bias (publication bias) towards the publication of results that show a “statistical significance.” Those articles are more likely to appear in the scientific journals than articles that reveal no “positive outcome.” This becomes most important when researchers conduct a literature review as they will fail to detect papers that have been rejected for publication. This also applies in the reverse direction when studies that reveal a significant outcome are not published when the finding is inconvenient for the “politically correct.”

The questions of peer review and editorial selection are well recognized and international conferences are now held on these very subjects.³ (see A.C. Weller. *The Scientist* 2001, 15(21):39).

Slide 6. Altman

One of the major contributors to such conferences is Douglas G. Altman, an internationally acclaimed biostatistician and epidemiologist who wrote as follows in the *JAMA* (2002;287:2765-2767)⁴

“ A study should not mislead; other wise it could adversely affect clinical practice and future research. In 1994 I observed that research papers commonly contain methodological errors, report selectively, and draw unjustified conclusions. (*BMJ* 1994;308:283-284).⁵

² *ibid*

³ Weller,A.C. *The Scientist* 2001; 15(21):39

⁴ Altman,D.G. How Statistical Expertise Is Used in Medical Research. *JAMA* 2002; 287: 2765-2767.

⁵ Altman, D.G. The scandal of poor medical research. Editorial *BMJ* 1994;308:283-284

Slide 7. Methodology

Methodology covers such items as STUDY DESIGN, COLLECTING AND RECORDING DATA, ANALYSIS OF THE DATA AND THE CHOICE OF STATISTICAL PACKAGE.

Slide 8. Meta-analysis

(a) Meta-analysis

For a variety of reasons, Altman's admonition can escape the scrutiny of peer review and this is well described in the scientific literature. Of particular interest to me are the questions of methodology, especially the use of meta-analysis and ecological studies, together with the complex statistical formulae that are used to deal with confounding variables. These measures are well demonstrated in articles and reports that claim to evaluate needle exchange programmes, medically supervised injecting rooms, maintenance programmes and use tolerance of drug use.

Slide 9. Medical statistics

The majority of scientists and readers of scientific journals are not proficient in their knowledge about biostatistics, epidemiological principles, appropriate biostatistical applications and what constitutes hard or soft evidence. This applies also to the discernment of confounding variables that may affect the data when meta-analysis is done. In an article in the British Medical Journal in 1994, D.G.Altman, wrote as follows:

“What should we think about researchers who use the wrong techniques (either wilfully or in ignorance) use the right techniques wrongly, misinterpret their results, report their results selectively, cite the literature selectively, and draw unjustified conclusions? We should be appalled. Yet numerous studies of the medical literature, in both general and specialist journals have shown that the above phenomena are common.”⁶

⁶ Ibid.

The picture is further complicated when premises, based on the analysis, are adopted for the evaluation of costs, benefits and outcomes. Virtually all these studies are based on the epidemiological device of Meta-analysis, a statistical tool that has become very popular in the drug field. Theoretically, meta-analysis sounds a very reasonable methodology, especially when it is very difficult and very costly to conduct randomised controlled trials with sufficient numbers of patients or clients. So we need to understand the method and the present controversy over its use and application.

Slide 10. Meta-analysis

Meta-analysis is a statistical technique for combining the data and findings of independent studies that seem to deal with a common hypothesis or research question. An outstanding example in the field of Drug Abuse is the EVALUATION OF NEEDLE EXCHANGE PROGRAMMES. There are numerous studies published in the journals, across a broad range of disciplines. They usually deal with small numbers of clients and try to study a relatively simple question, which can be affected by many variables, often called confounding variables. The classical example is the EFFECT OF NEPS ON THE INCIDENCE OF HIV INFECTION in Injecting drug users (IDUs). A very legitimate question. Here are three commentaries.

Slide 11. US Surgeon general

1. "After reviewing all of the research to date, the senior scientists of the Department and I have unanimously agreed that there is conclusive scientific evidence that syringe exchange programs, as part of a comprehensive HIV prevention strategy, are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs."

Source: U.S. Surgeon-General Dr. David Satcher, Department of Health and Human Services. (2000).

Slide 12. Payne

2. "Early in the course of this pandemic, it seemed that needle/syringe exchange programs might provide an

effective intervention in the growing epidemic of HIV disease among drug injectors but hard evidence to show this is lacking. Without credible evidence of efficacy, the provision of clean needles and syringes appears primarily to support the individual's addiction and alongside with it, drug related high-risk sexual behaviour.”⁷

Source: An Evidence Based Review of Needle Exchange Programs.

Author: Dr. F.J. Payne. F. Payne MD, formerly a medical epidemiologist with the Centers for Disease Control and former Senior Research Epidemiologist with the National Institute of Health and now Medical Advisor to the Children's Aids Fund.⁸

(www.childrensaidsfund.org/printerfriendly.asp?id=246)

Slide 13. Lapley

3. “Many drug prevention experts have long feared that the proliferation of NEPs, now numbering over a 100 in the U.S. would result in a rise in heroin use, and indeed this has come to pass. This rise in drug use was ignored by all the federally funded studies which recommended federally funding NEPs. The National Center on Addiction and Substance Abuse at Columbia University reported on August 14,1997 that heroin use by American teens doubled from 1991 to 1996. In the past decade, experts estimate that the number of U.S. heroin addicts has risen from 550,000 to 700,000. “”⁹

Source : Janet Lapley MD. Commentary on 1998 Report on Needle Exchange Programs in the U.S.A. Reproduced in Drugs Dilemma 2000.

Slide 14. Problems with Meta-analysis

These three scientists reviewed the studies using meta-analysis of data in the course of doing literature searches. The conflict of

⁷ US Surgeon- General, D. Satcher. Department of Health and Human Services 2000.

⁸ Payne, F.J. An Evidence Based Review of Needle Exchange Programs.2005. www.childrensaidsfund.org.

⁹ Lapley, J. D. Needle Exchange Programs: 1998 Report. www.drugwatch.org/Documents/Jlneedles498.html

opinions is the outcome of the selection process of the relevant data and the discussion of the heterogeneity of the studies. An important principle of good meta-analysis is the complete coverage of all relevant studies (both published in peer reviewed journals or elsewhere) and an assessment of the robustness of each study in supporting the conclusions of the author(s).

Another important principle is the quality of the data. Payne makes the point that much of the data collected in the NEP studies is based on the self-reporting of the intravenous drug users. He observes "The reliability of self reported behaviour by addicts is always open to question under the best of circumstances."¹⁰

A final point about meta-analysis is the question of the statistical packages that are used to arrive at a sound interpretation of the data when confounding variables must be accommodated. At this point, most readers of these articles are at the mercy of the statisticians who alone have the necessary expertise to determine the best formula. Moreover it is not simply a question of excluding the possibility of chance but also of establishing the credibility and integrity of the conclusions.

Slide 15. Ecological studies

Ecological studies are about populations of peoples and such studies have an inbuilt fallacy.

Slide 16. Report on the investment in NEPS

(b) Ecological Studies

The Report – RETURN ON INVESTMENT IN NEEDLE AND SYRINGE PROGRAMS IN AUSTRALIA (2002) under the aegis of the Department of Health and Ageing is an ecological study.¹¹ Very few people, including members of the medical profession, know anything about such studies. Having done a postgraduate course in Epidemiology, I had to revisit my textbooks to refresh my memory.

¹⁰ Payne, F.J. op.cit.

¹¹ REPORT : Return on Investment in Needle and Syringe Programs in Australia 2002. Released by the Federal Department of Health and Ageing.

The study entailed a comparison of data in Australia with data from 41- 67 cities in Asia, Europe, North America, South America, the United Kingdom, and New Zealand. This was a formidable task. In the Executive Summary, it stated: “The analysis found that cities that introduced NSPs had a mean annual 16.6% decrease in HIV seroprevalence, compared with a mean annual 8.1% increase in HIV seroprevalence in cities that had never introduced NSPs.”

Then followed an unintelligible description of the statistical methodology. Having reached its conclusions, premises were then established to determine a significant cost-benefit equation in favour of the Australian programme on NEPs.

My reaction at the time was that it did not make sense. I needed help from other sources. None of my medical colleagues knew about ecological studies, much less anything about the methodology. Those in the field of epidemiology commented that there were problems with ecological analyses, especially when used in comparing data from many countries.

Slide 17. Ecological studies

The World Health Organization, in its publication BASIC EPIDEMIOLOGY (1994) stated :

“Although easy to conduct and thus attractive, ecological studies are often difficult to interpret since it is seldom possible to examine directly the various potential explanations for findings.”¹²

¹² WHO Publication. WHO/ENG/94 Teacher's Guide-2nd Edition FOR BASIC EPIDEMIOLOGY

Slide 18. Ecological studies

The studies are population studies and consequently such variables as cultural differences, socio-economic factors, sexual behaviours, ages and sexes, the basic prevalence rates at the time of entry, the rate of needle sharing, and other variables are either unknown or not analysable. What follows therefore are inferences or estimates of causality derived from aggregated data.

Slide 19. The Ecological fallacy

The Ecological Fallacy consists of inferring that there is a causal relationship between the provision of NEPs and a lowering of HIV and HCV infections in IDUs. As D.A.Freedman states: “ It is all too easy to draw incorrect conclusions from aggregate data.”¹³ (Technical Report No 549, October 1999).

The inference drawn in the above document may be true but it is not proven by the methodology of ecological studies. The observations of A.J. Payne, as reported above, suggest that the inference is not true.

(Note: As reported in the NEJM 1997 ; 337 : 536-542 by Leloirier et al, when controlled trials were done, 35 % of the matched meta-analyses were wrong in their predictions).

Slide 20. Concluding remarks

Concluding Remarks.

My brief in this short paper has been to discuss the state of scientific research in the field of drug abuse. I have indicated that the outcomes of Research need to be communicated to others and so has arisen an explosion of scientific journals. These have adopted a format of presentation, popularly known as IMRaD – Introduction, Methods, Research and Discussion. In recent years, considerable scepticism has been expressed about the present state of Peer Reviewed Journals, mainly due to the emergence of ideological

¹³ Freedman,D.A. Technical Report No. 549, October 1999

factors and vested interests of researchers and sponsors. The development of modern day computers has transformed the field of research, with their enormous power to crunch numbers, with their packages of statistical analyses and their power to do literature searches. In many fields, computer modelling has become awe-inspiring and at the same time highly suspect.

The situation has now developed where readers of these communications must exercise great caution and critical judgment when reading any paper or document, no matter where it is published. It is wise to have available a biostatistician as a consultant, both to give an opinion on any paper or document or to assist in the design of any study in the field of research. One must know the vested interests of authors and sponsors and often one needs to know the identities of those who do peer reviews.

One needs to scrutinize the references and sources of information and there will be times when one needs to have access to the raw data of the research that has been done.

Slide 21. Evidence based medicine

As the doyen of the concept of EVIDENCE BASED MEDICINE, David Sackett has said: The honorary degree of SACKETTISATION is defined as

”the artificial linkage of a publication to the evidence based medicine movement in order to improve sales.” (BMJ 2000;320:1283) ¹⁴

¹⁴ Sackett, D. L.
BMJ 2000; 320:1283

Drug Abuse

Modern Scientific Research

Dr. J.N. Santamaria

Historical Introduction

- **1980s The Birth of Bioethics Centres**
- **Establishment of IECs**
- **Drug Abuse & Drug Policy**
- **Impact of Ideology**
- **The Growth of Evidence Based Medicine**

The Publication of Papers

- Peer Reviewed Journals
- Format - IMRaD
 - Introduction, Methods, Research and Discussion
- Submission, Review, Editorial acceptance

Peer Review

Jefferson recently presented an outstanding review of peer review and could find only 19 studies on peer review that were scientifically sound.

We could find only 14 articles examining the editorial board/editorial decision making.

Thus, with over 50 million articles and 300 years of traditional journal approaches, there has been only a handful of studies questioning or testing the journal process itself.

(R)ecent studies reveal that peer review often misses major methodological problems in articles.

Economist 2004; June 4th

Editors and Reviewers

- The Process
- The Editor
- The peer reviewers
- Publication bias
- Impact on literature searches

Editors and Reviewers

A study should not mislead; otherwise it could adversely affect clinical practice and future research.

In 1994, I observed that research papers commonly contain methodological errors, report selectively and draw unjustified conclusions.

Methodology

Methodology includes:

- 1. Study design**
- 2. Collecting and recording data**
- 3. Analysis of data**
- 4. Choice of statistical package**

Meta-analysis

- Statistical technique for combining the data and findings of independent studies that seem to deal with a common hypothesis or research question.**
- In drug abuse, the effect of NEPs on the incidence of HIV infection among IDUs**

Medical Statistics

- **Most readers are not proficient with statistics**
 - Possibility of incorrect conclusions
- **Conclusions from studies are often used as premises for evaluation of costs, benefits & outcomes**

Meta-analysis

- **Combines data and findings from independent studies**
 - Original studies often have small numbers -
? validity of conclusions
- **Try to answer simple questions**

"After reviewing all of the research to date, the senior scientists of the Department and I have unanimously agreed that there is conclusive scientific evidence that syringe exchange programs, as part of a comprehensive HIV prevention strategy, are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs."

U.S. Surgeon-General Dr David Satcher,
Department of Health and Human Services 2000

"Early in the course of this pandemic, it seemed that needle/syringe exchange programs might provide an effective intervention in the growing epidemic of HIV disease among drug injectors but hard evidence to show this is lacking. Without credible evidence of efficacy, the provision of clean needles and syringes appears primarily to support the individual's addiction and alongside with it, drug related high-risk sexual behaviour."

An Evidence Based Review of Needle Exchange Programs
Dr A J Payne www.childrensaidfunf.org

Many drug prevention experts have long feared that the proliferation of NEPs, now numbering over a 100 in the U.S. would result in a rise in heroin use, and indeed this has come to pass. This rise in drug use was ignored by all the federally funded studies which recommended federally funding NEPs. The National Center on Addiction and Substance Abuse at Columbia University reported on August 14, 1997 that heroin use by American teens doubled from 1991 to 1996. In the past decade, experts estimate that the number of U.S. heroin addicts has risen from 550,000 to 700,000. "

Janet Lapley MD. Commentary on 1998 Report on Needle Exchange Programs in the U.S.A. Drugs Dilemma 2000

Problems with Meta-analysis

- **Selection**
 - Inclusion of all relevant data
- **Quality of papers**
 - Some papers use self-reported data
- **Statistical packages**

Ecological Studies

Studies of populations
with an in-built fallacy

Report on Investment in Needle and Syringe Programs in Australia (2002)

- **Comparative Study**
 - Australia & 41-67 international cities
- **16.6% decrease in HIV seroprevalence in NSP cities**
- **8.1% increase in HIV seroprevalence in non-NSP cities**

Ecological Studies

“Although easy to conduct and thus attractive, ecological studies are often difficult to interpret since it is seldom possible to examine directly the various potential explanations of the findings.”

World Health Organisation. Basic Epidemiology 1993

Ecological Studies

- Population based
- Unknown factors
 - Cultural, socio-economic, sexual behaviour, ages & gender, prevalence, rates of needle sharing
- Provide inferences and estimates of causality.

Ecological Fallacy

- **Inferring that there is a causal relationship between the provision of NEPs and a lowering of HIV and HCV infections in intravenous drug users**
- **Inference may be true BUT:**
 - **It is not proven by the methodology of ecological studies**

"It is too easy to draw incorrect conclusions from aggregate data."
Technical Report No 549 October 1999

Concluding Remarks

- **Scientific research in drug abuse**
- **Explosion of scientific journals**
- **Problems with peer review process**
- **Frequent use of complicated statistics**
- **Importance of proper reading of journal articles**

Evidence Based Medicine

- The need to exercise vigilance, caution, critical judgment and to seek expert help on any paper or document to determine the robustness of its conclusions.
- Sackettisation - an honorary degree. *“The artificial linkage of a publication to the evidence based medicine movement in order to improve sales”*.

Bronwen Healy

Hope Foundation, QLD, Australia

**Session Title:
Addiction and Recovery**



Bronwen Healy

Biography

Bronwen Healy is a Brisbane based author, charity founder and director, wife and mother and public speaker.

Her book is called TROPHY OF GRACE takes the reader on the journey of her life so far; through a good upbringing to some bad personal choices, to drug addiction and prostitution through to rehabilitation and recovery in 1999.

In 2006, together with her husband Jason she founded and now directs their charity HOPE FOUNDATION – which exists to bring hope, help and healing to those caught in addiction and the sex industry.

With regards to her public speaking Bronwen shares a message of freedom from her past with each group and shows them the way to hope and freedom through her presentations.

Many lives have been touched and blessed by her honesty, vulnerability and boldness.

Abstract

Addiction and Recovery.

My presentation will consist of me sharing my personal journey of addiction – having come from a “normal” family through to making some bad choices at university to drug addict and prostitute...back through to rehabilitation through support house in 1999. Now a wife, mother of 3 daughters, author of auto-biography TROPHY OF GRACE, co-founder with husband Jason of HOPE FOUNDATION – existing to bring hope, help and healing to the hurting people that we both used to be, public speaker and advocate for truly drug free living!

I will be mentioning that the core to my personal journey and turning point was becoming a Christian almost 8 years ago, whilst in rehab. Knowing that it is the key to true change and transformation.

The steps that we take people through to true change are:

There is a way out of addiction –

1. Willingness – to be treated for the addiction
2. Submission – to a program that will help to set you free from the addiction
3. Commitment – agreeing to follow through with it 100%
4. Support – build up and accept a support network; re-establish trust
5. Return – give back to others the help that has been given to you

ADDICTION AND RECOVERY

Bronwen Healy



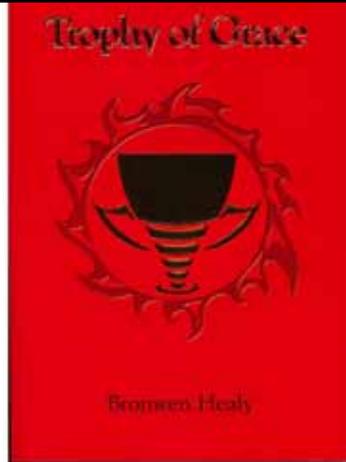
MY LIFE STORY....SO FAR















STEPS TO CHANGE

- WILLINGNESS – to really want to get better!
- SUBMISSION – to change, to God
- COMMITMENT – to follow through 100%, don't give up when it gets tough
- SUPPORT – network of people you can trust, you need them.
- RETURN – give back to others the help and knowledge that has been given to you!

Jade Lewis

Western Australia, Australia

**Session Title:
Prevention Teaching in Schools**



Jade Lewis

Biography

Jade Lewis' story of once being a medal winning aspiring young athlete at 15, turned heroin addict by 18, has all people interested. Jade found freedom at 22 when she entered the *Teen Challenge* program in Western Australia. Today she is an author, speaker and mentor to many and desires to see people overcome life's challenges. Jade has won many awards for her dedication to her goals. She was a finalist in the Young West Australian of the Year 2003 and was Co-Chair Person at the WA State Drug Summit, Parliament House in 2001 to name some.

Jade, with husband Tristan, is dedicated to protecting youth and families from the global drug menace. Sought after speakers, Jade and Tristan have over 7 years speaking/presenting in the Australian schools, and with the extremely positive feedback they continue to build and expand their schools program '*How to Say NO to Drugs*'. They use their personal testimonies and real life lessons to bring a message of freedom and success to all people around the nation. Jade's story has featured on Channel Seven's Today Tonight program and many other Australian newspapers and magazines. A sought after speaker, Jade speaks at schools, women's events, businesses, community groups, churches and organisations around Australia and more recently, other parts of the world.

Her book *Golden Haze – Jade's Story* is now in over 500 schools Australia wide. This will be available at the conference for a special price of \$10 (RRP \$15.95).

Abstract

Prevention Teaching in Schools.

Purpose: How to Say No To Drugs is a prevention teaching program in schools. Jade, with her husband Tristan are determined to see all school students and their families reached with a positive drug prevention message. They aim to equip young people with the necessary steps to say NO in the face of temptation. They have an on line support to help students, their families and teachers get any help they require. Desire to see young people Jade, with her husband Tristan use their personal stories and real life lessons to bring a message of freedom and success to people around the nation.

Methods: Using their personal stories and real life lessons, they present the impact it had on their own and their family's lives and also the consequences they still face today. They present the necessary steps to say NO by providing each student with a handout with different ways they can avoid drug use. The use of powerful visual aids and a DVD presentation add a very real life approach. A question and answer time at the end allows the students to interact and always proves successful. Every school that has a presentation receives a copy of Jade's book, *Golden Haze* to put in the library for students or staff to access after our visit. Any further questions or support is encouraged by contacting our webpage www.jadelewis.com

Results: With over seven years of conducting school presentations and countless repeat bookings, this expanding school drug prevention work proves successful. Added to this *Golden Haze – Jade's Story* is in 500 schools Australia wide and in a number of schools it is being used as a class resource in English and Health. Also the Australian media has followed her story since 2000 and among them her story has featured on Channel Seven's Today Tonight program. Through her presentations and media reports, many young people have made decisions to get on going help, have connected in with other programs we run and in some cases gone through rehabilitation programs like Teen Challenge WA.

Wendy Herbert

Fellow Drug Free Australia

**Session Title:
Mothers - What They Really Feel About
Drug Policy**



Wendy Herbert

Biography

As a full time-time mother of four adult children she has been actively involved with community groups. She believes that her family is directly affected by the wider community and feels that educated and committed mothers are still the most powerful force for shaping the well-being of a nation.

Starting with play-groups and an on-going involvement with an international women's organisation Wendy is now involved with her local coast care group and practises stewardship for the natural areas in her local community. That stewardship she believes cannot be separated from people and has accepted the offer of Fellow from Drug Free Australia. She feels that protecting the young from drugs and alcohol abuse has fallen behind in importance to the environment.

Abstract

Mothers - What They Really Feel About Drug Policy.

Parents on their own cannot protect their children from drugs they need a legal frame work that is focused on immediate and early intervention. Parents want to know the police will protect their children from drug dealers. If their teenager abuses drug they can have a structured intervention with a mandatory rehabilitation order from a Drug Court if necessary. Wilderness Therapy should be part of a parent's life saving first aid kit that connects children and their families spiritually though nature and to a drug-free peer group.

Parents forewarned are forearmed. In the US emails are sent to parents educating them on the latest drug trends and how to communicate them and the dangers effectively to their children.

On March 21st 2006 an email ParentingTips@TheAntiDrug.com was sent warning parents that inhalants were the third most abused substance among 14 to 15 year olds. They can use a wide range of household as inhalants and play a deadly game with them called 'huffing' that can kill them on the second round.

On May 13th 2006 the beautiful Perth girl, 16 year old Dale Koch died from using the inhalant butane.

'A Parent's Perspective' examines how a parents natural abhorrence and instinct to condemn illicit drug use and alcohol abuse has been switched to the morally neutral position and rendering them ineffective in their primary role in drug prevention by changing two words in relation to drugs from 'abuse' and 'misuse' to 'harmful' and 'hazardous'. This event in 1980 at a World Health Organisation meeting in Washington with two

Australians in attendance has led to the systematic dismantling of Australia's drug laws by a dedicated team of drug activists whose primary aims are to maintain the pleasure of drug use and bloat the addiction industry while avoiding legal consequences.

Australia's record high drug use is evidence of the success of drug activism. While the civilized world celebrates the abolition of slavery 200 years ago, Australian parents are raising children to end up in the slavery of addiction. Young people are experiencing violent and gruesome lives and some ending in death. They are suffering the crippling terror of mental illness and incarceration. The reverse is happening in the US and Sweden with declining drug use because of a robust moral climate regarding the role of parents and the law to protect children from drug abuse.

Trevor Grice

Educationalist, Counsellor and Author

**Session Title:
Impact of Drug and Alcohol on the
Developing Brain**



Trevor Grice

Impact of Drug and Alcohol on the Developing Brain.

Biography

My session at the conference will be based on my book THE GREAT BRAIN ROBBERY which is available in Australia - published by Allen & Unwin.

Trevor Grice has been in the education business in NZ for the past 17 years.

Trevor now wears several hats:

* Founder/director Life Education NZ (37 community funded mobiles on the road covering most of the country with health-based programs for primary school children).

* Co-author THE GREAT BRAIN ROBBERY - best seller describing the negative impact of drugs on the maturing brain (now also a CD-ROM). Second edition now released.

* Lecturer at the NZ Police College, secondary schools and tertiary institutions throughout the country, government and private agencies, hospitals and businesses.

* Private counsellor for youth at risk and their families.

Concurrent with his work in New Zealand, Trevor has been invited to lecture at many international forums.

Abstract

People, particularly the young, take drugs because they enjoy the effects they have on their moods. But for every high there is a low. For every trip, a return journey.

All children entering adolescence need to know that there is no short cut to happiness through chemistry. There is only a short circuiting of the brain wiring that makes them, them.

Today we know so much more about how the brain works and, importantly, how it matures. Through MRI scanning scientists have discovered that the brain is not fully matured until a person reaches about 25 years of age. The effect of drugs, including alcohol and nicotine, on the maturing brain can be devastating and is always harmful.

The most effective way to deal with drug problems is within the family. With so many drugs on the market it is vital for everyone to keep informed and up-to-date.

This presentation is based on the book – ‘The Great Brain Robbery’, by Tony Scott and Trevor Grice. The authors openly explain the seemingly difficult scientific concepts behind drugs; not just their history and sources but also how they affect the brain and the acute and chronic side effects they have on the body. They write without over-simplifying the subject or exaggerating it. The result is a book that is accessible, clear and straightforward, as well as sobering - the facts and figures speak for themselves.

Every human brain is a miraculous tapestry, utterly unique to the weaver. When we tear this fragile tapestry we are damaging a one-off that can't easily be repaired.

Jay R Bacik

CEO, Life Education Australia, NSW

**Session Title:
Drugs - An Educational Perspective**



Jay R Bacik

Drugs - An Educational Perspective.

Biography

Jay Bacik has been the Chief Executive of Life Education Australia since 2001. He is also the CEO of Life Education NSW. He has tertiary qualifications in theology and communications. An ordained minister, Jay has spent a significant amount of time working in disadvantaged areas and with marginalised people.

He has had significant community involvement as CEO of the Sydney City Mission Foundation, Assistant National Director of Austcare and Vice President of Hope International University, USA.

Jay has been involved in media for over 30 years: as a talk-back host with Radio 2CH for 13 years, weekend presenter for Radio 2GB and his popular motivational spots have been broadcast for over 20 years.

He has been on the Board of the Sydney City Mission Foundation and Radio 2CH.

Jay is frequently involved in speaking to business groups and young people.

Frans Koopmans

Netherlands

**Session Title:
Going Dutch? - A Critical Appraisal of
the Dutch Drug Policy**





Going Dutch? A critical appraisal of the Dutch drugs policy...

**'Exposing the reality – a national and international
perspective on illicit drug use'**

Adelaide, Australia, 28 April 2007

Frans Koopmans, MA
De Hoop Foundation, The Netherlands



Going Dutch...



De Hoop Foundation

- Set up in 1975
- Since 1991: psychiatric hospital for addicts
- Since 1999: psychosocial care added
- 280 workers, 400 clients



Going Dutch...



1. Introduction
2. Dutch drugs policy
3. Figures
4. Critical appraisal



Going Dutch...



1. Introduction



Going Dutch...



- Names: (Kingdom of) the Netherlands, Netherland, Holland, The Low Countries
- Three countries: 1. the Netherlands (mainland Europe); 2. the Netherlands Antilles; 3. Aruba (since 1986 'status aparte')
- Each country has its own governments and parliaments
- Queen Beatrix



Going Dutch...



- Former parts of the Kingdom
 - Suriname (until 1975)
 - New-Guinea (until 1963)
 - Indonesia (Dutch East Indies, until 1949)



Going Dutch...



- 10th century: Frisia (Friesland)
- Holland < 'Houtland' ('Wood-land')
- Middle Ages: assemblage of counties, duchies and dioceses (part of the Holy Roman Empire/German Empire)
- Till 1581 property of Habsburgs
- 1581: independence – 'Republic of the Seven United Netherlands' ('the Seven Provinces')



Going Dutch...



- French time (1795-1813): Batavian Republic
- Modern time (from 1813): the United Netherlands
- 1830 revolt of southern Netherlands against king William 1
- 1839: Belgium. Since then: Kingdom of the Netherlands (not 'united')



Going Dutch...



- Dutch Constitution (1848)
 - beginning of the democracy in the Netherlands;
 - *'from a country with a ruling elite and a monarch wielding great personal power to one in which the monarch would henceforth play only a minor role in the government of the state'*
 - Freedom of education, association and assembly, expression, religion
- 1840-1890 from agricultural to industrialized society



Going Dutch...



- 1880 – 1920 (1960): pillarization ('verzuiling')
→ segregation in society along socialist, liberal and religious lines.
- Pacification of 1917
- Post WW-II: reconstruction and economic recovery by way of system of organization consultation (employers, trade unions)
- 1960's: industrialized country, trade
- The sixties: protest generation (provo's)



Going Dutch...



- 1960's: revolutionary advances in terms of freedom (Oral contraception ('the pill'), rock music, 'pirate' radio, new ideas (also in the church))
- Discussion led by the young, not by the traditional religious and political leaders
- The Netherlands increasingly seen as a shining example of tolerance and freedom
- Polder model: accord between the two sides of industry (employers and trade unions)



Going Dutch...



- 1990's: changing views on personal freedom and increasing individualism
- Hardening of attitudes in Dutch society
- 21st century: the Netherlands in turmoil
 - 2002: murder right wing politician
 - Parliamentary elections
 - 2004: murder deputy head school The Hague + murder filmmaker Theo v. Gogh
 - Questions integration ethnic minorities



Going Dutch...



- Religion: Netherlands is one of the most secular countries in Europe: 40% non religious, 31% Roman Catholic, 21% Protestant [13% Dutch Reformed, 7% Calvinist], 4,4% Muslim
- Diverse culture (regional differences, foreign influences); multicultural
- Dutch society: egalitarian, modern



Going Dutch...



- Dutch people: tolerant, independent, entrepreneurial, aversion to non-essential
- Proud of: cultural heritage, rich history in art and music, involvement in international affairs
- Tolerant, progressive, libertarian (abortion, euthanasia, prostitution, drugs same sex marriages)



Going Dutch...



- Population: concentration on a limited territory: 16.491.461 people (1900: 5 mlj.), 41.526 km²
- Netherlands nr. 23 most densely populated countries in the world.
- Developments: 1. increased longevity, 2. decreasing birth rates; 3. increasing percentage of foreign extraction



Going Dutch...



- Life expectancy at birth
 - Total: 78,96 years
 - Male: 76,39 years
 - Female: 81,67 years
- Dutch are the tallest in the world (1,83 m for males, 1,70 m for females)



Going Dutch...



2. Dutch drugs policy



Going Dutch...



'Gedogen'

- 'The conscious not taking action of the government against breaching of the rules, as well as the (possible on conditions) announcing that against such a breach no action will be taken'
- 'Tolerate formally what is formally forbidden'



Going Dutch...



'Gedogen' ctd

- The *regulation* of transgressions of the norms'
- Expediency principle: 'The Public Prosecutor has the authority to renounce persecution of criminal offences when this is in the interest of society'



Going Dutch...



Responsible actors

- Departments of Health (coordination), Justice and Interior
- Tripartite consultation
 - Police commissioner
 - Public prosecutor
 - Mayor



Going Dutch...



Characteristics Dutch Drugs policy:

- Realistic, pragmatic and integrated ('soft on soft drugs, hard on hard drugs'), aimed at control
- Prevention and care (drug demand reduction)
- Fight against organized crime (supply reduction)
- Maintenance of public order (nuisance reduction)
- Personal freedom
- Health protection/Harm reduction



Going Dutch...



History Dutch drug policy

- >1976: discussion about decriminalization of victimless 'crimes' (incl. drug use) [working group 'Hulsman' (1971), 'Baan Committee' (1972)]
- 1976: Separation markets 'soft' and 'hard' drugs, decriminalization cannabis possession, condoning small scale selling ('house dealer'), Health priority
- 1980: first coffee shop



Going Dutch...



History Dutch coffee shop policy (ctd)

- 1991: AHOJ-G criteria (renewed in 2000)
- 1995: governments bill 'Continuity and Change'
- 1996: guideline Public Prosecutor (<5 plants is not 'professional', 'business' cultivation + 500 grams max. storage coffeeshop)
- 2004: interdepartmental 'Cannabis Letter'
 - 'Action plan Discouragement Cannabis'



Going Dutch...



AHOJ-G criteria (guidelines):

- no advertising (A)
- no selling, use or possession of hard drugs (H)
- no public nuisance in or around the coffee shop (O)
- no selling to young people (J [<18])
- no wholesale trade (G [< 5 grams per person per day])



Going Dutch...



Local policy

- zero policy
- maximum policy/reduction policy
- Foundation policy
- Regional policy



Going Dutch...



Local policy (ctd)

- tolerance policy (AHOJ-G)
- tolerance policy (AHOJ-G+)
 - Prohibition of alcohol sale
 - Distance between coffee shop and school
(77% of the municipalities)
 - Criteria for establishment
 - Criteria for opening and closing hours



Going Dutch...



Local municipalities (467) and coffee shops:

- 105 municipalities have a coffee shop (2004: 103)
- 72% have a zero policy
- 22% have a maximum policy
- 5% have no defined policy
- 1% have another form of policy

© *Coffeeshops in Nederland 2005 (Coffee shops in the Netherlands 2005)*, Intraval 2006



Going Dutch...



Local municipalities (467) and coffee shops (ctd):

- < 20,000 inhabitants: 97% no coffee shops
- 20-50,000 inhabitants: 76% no coffee shops
- 50-100,000 inhabitants: 19% no coffee shops
- 100-200,000 inhabitants: 0% no coffee shops (60% 5 coffee shops or more)
- >200,000 inhabitants (5 municipalities – all more than 5 coffee shops)

© *Coffeeshops in Nederland 2005 (Coffee shops in the Netherlands 2005)*, Intraval 2006



Going Dutch...



Sanctioning of violating AHOJ-G criteria:

- a trajectory of sanctioning with amounting punishments (fine, temporary closure, final closing down)
- Opium Act
- Municipalities Act (article 174a)
- 'BIBOB' Law



Going Dutch...



Number of coffee shops in the Netherlands

1999	2000	2001	2002	2003	2004	2005
846	813	805	782	754	737	729

© Coffeeshops in Nederland 2005 ('Coffee shops in the Netherlands 2005'), IntraVal 2006



Going Dutch...



Statistics

- Turnover: between 211 and 283 million euros
- Domestic consumption 'Netherweed': between 24,9 en 26,1 metric tons (on an annual basis)
- Foreign consumption by drug tourists: between 6,6 and 13,3 metric tons (on an annual basis)
- Market price 1 gram of cannabis: €6,59
- 3400 persons working in coffee shops (2003)



Going Dutch...

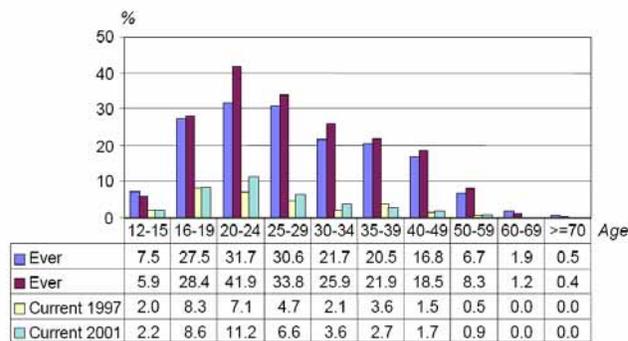


3. Figures



Going Dutch...

Figure 2.1 Cannabis users in the Netherlands by age group. Survey years 1997 and 2001



Percentage of ever use and current use (last month) by age group. Source: NPO, CEDRO.

© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...

Table 2.3 Where do recent users^I get their cannabis? Survey year 2001

	Users aged 12 to 17	Users aged 18 and over
They get their cannabis		
Through friends and acquaintances	46%	37%
In 'coffee shops'	37%	47%
From a home dealer	3%	2%
In a bar	2%	2%
In a smart shop	2%	2%
In another socialisation venue	4%	2%
Home-grown	3%	4%
Other ^{II}	4%	4%

I. Percentage of recent users. Per respondent more than one location was possible. II. Via youth club, order service, strangers on the street and others Source: NPO, CEDRO.

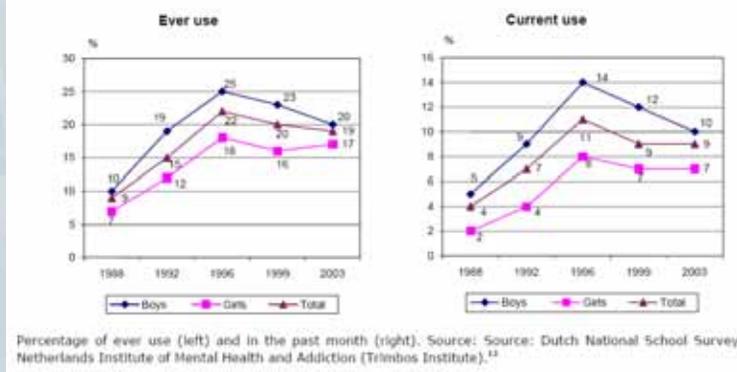
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Going Dutch...



Figure 2.3 Cannabis use among school-goers aged 12 and over, from 1988



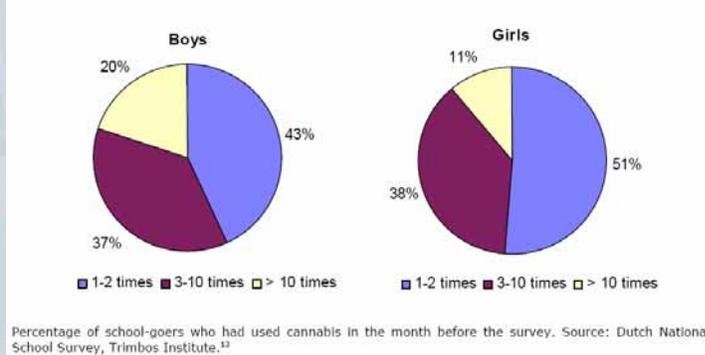
© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...



Figure 2.4 Frequency of cannabis use among current users. Survey year 2003



© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...



Table 2.7a Cannabis use in the general population of a number of EU-15 member states and Norway: age group 15 to 64 years

Country	Year	Ever use	Recent use	Current use
Spain	2001	25%	10%	7%
France	2000	23%	8%	4%
Netherlands	2001	21%	6%	4%
Ireland	2002/2003	18%	5%	3%
Northern Ireland	2002/2003	17%	5%	-
Luxembourg	1998	13%	-	-
Finland	2002	13%	3%	1%
Norway	1999	15%	5%	-
Belgium	2001	11%	-	3%
Greece	2004	9%	2%	1%
Portugal	2001	8%	3%	-

A precise comparison between countries is hampered by differences in survey year, measuring methods and sampling. Percentage of ever users, recent (past year) and current (past month). - = not measured. References:²⁶⁻²⁷

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Going Dutch...



Table 2.7b Cannabis use in the general population of a number of EU-15 member states and Canada, the US and Australia: other age groups¹

Country	Year	Age (years)	Ever use	Recent use	Current use
Canada	2004	15 and older	45%	14%	-
US	2004	12 and older	40%	11%	6%
Australia	2004	14 and older	34%	11%	7%
Denmark	2000	16 – 64	31%	6%	3%
England and Wales	2003/2004	16 – 59	31%	11%	7%
Germany	2003	18 – 59	25%	7%	3%
Italy	2003	15 – 54	22%	7%	5%
Sweden	2004	18 – 64	14%	2%	1%

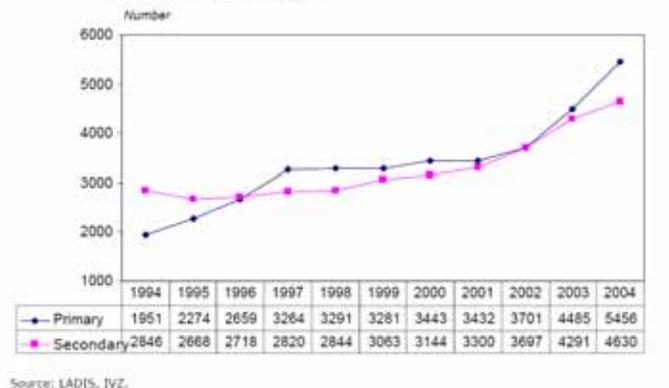
A precise comparison between countries is hampered by differences in survey year, measuring methods and sampling. Percentage of ever users, recent (past year) and current (past month). 1. Drug use is relatively low in the youngest (12-15) and oldest age groups (>64). Consumption figures in studies with respondents younger and/or older than the EMCDDA standard may be lower than figures in studies that do use the EMCDDA-standard. The opposite is true for studies with a more limited age span. - = not measured.^{26-29,42}

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Going Dutch...

Figure 2.5 Number of (outpatient) addiction care clients with primary or secondary cannabis problems, from 1994

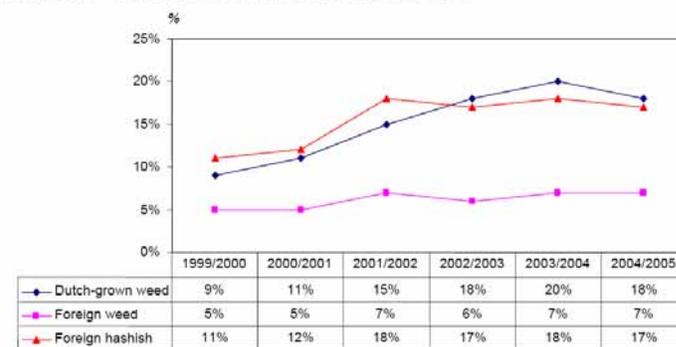


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Going Dutch...

Figure 2.8 Average THC percentage in cannabis products



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Going Dutch...



Table 3.4a Cocaine use in the general population of a number of EU-15 member states and Norway: age group 15 to 64 years

Country	Year	Ever use	Recent Use
Spain	2001	4.9%	2.6%
Netherlands	2001	3.6%	1.1%
Ireland	2002/2003	3.1%	1.1%
Norway	1999	2.2%	0.6%
Northern Ireland	2002/2003	1.7%	0.4%
France	2000	1.6%	0.2%
Portugal	2001	0.9%	0.3%
Greece	2004	0.7%	0.1%
Finland	2002	0.7%	0.3%
Luxembourg	1998	0.2%	-

Differences in survey year, measuring methods and sampling hamper a precise comparison between countries. Percentage of ever users and recent users (past year). - = not measured. References: ^{26,37}

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Going Dutch...



Table 3.4b Cocaine use in the general population of a number of EU-15 member states, the US, Canada and Australia: other age groups¹

Country	Year	Age (years)	Ever use	Recent use
US	2004	12 and older	14.2%	2.4%
Canada	2004	15 and older	10.6%	1.9%
England and Wales	2003/2004	16 – 59	6.8%	2.5%
Australia	2004	14 and older	4.7%	1.0%
Italy	2003	15 – 54	4.6%	1.2%
Germany	2003	18 – 59	3.2%	1.0%
Denmark	2000	16 – 64	2.5%	0.8%
Sweden	2000	16 – 64	0.7%	0.0%

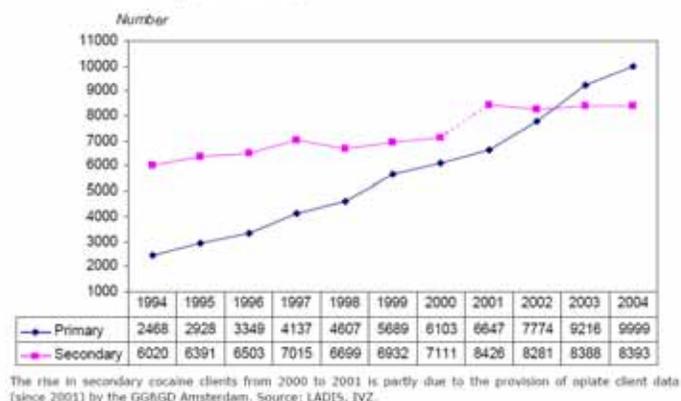
Differences in survey year, measuring methods and sampling hamper a precise comparison between countries. Percentage of ever use and recent use (past year).¹ Drug use is relatively lowest in the youngest (12-15) and older age groups (>64). Usage figures in studies with respondents who are younger and/or older than the EMCDDA standard may be lower than in studies using the EMCDDA standard. The opposite is the case for studies with a more limited age range. References: ^{28-30,42}

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Going Dutch...

Figure 3.4 Number of (outpatient) addiction care clients with primary or secondary cocaine problems from 1994



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Going Dutch...

Table 4.5 Problem users of hard drugs in a number of EU member states and Norway

Country	Year	Number per thousand inhabitants from 15 to 64 years	
		Lower limit – upper limit ^I	Central estimate ^{II}
UK	2001	9.0 – 9.8	9.4
Luxembourg	2000	6.2 – 13.6	9.3
Italy	2003	7.0 – 8.1	7.5
Denmark	2001	6.7 – 7.7	7.2
Portugal	2000	6.8 – 8.5	7.1
Spain	2000	5.3 – 7.9	6.3
Austria	2002	5.4 – 6.1	5.8
Ireland	2001	5.2 – 6.1	5.6
Finland	2002	4.6 – 6.1	5.3
Sweden	2001	4.8	4.8
France	1999	3.8 – 4.8	4.4
The Netherlands	2001	2.2 – 4.3	3.1
Germany	2003	1.7 – 3.4	2.6
Greece	2003	2.1 – 2.8	2.4

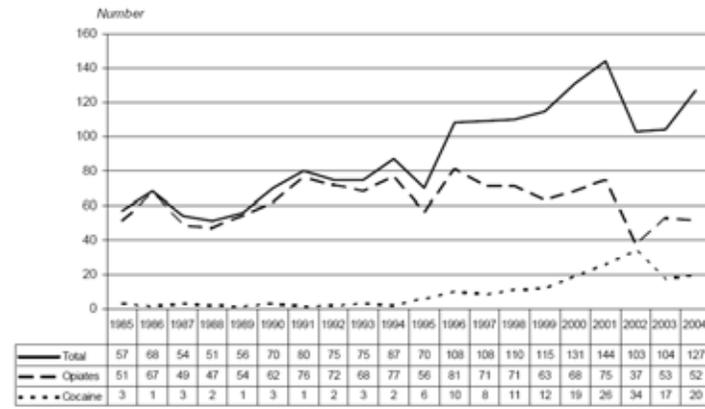
According to the EMCDDA definition of problem use: long-term/regular use of opiates, cocaine and/or amphetamines. Owing to differences in methods, the data should be interpreted with caution. For most countries the estimates refer to opiate users, with the exception of Sweden and Finland, where amphetamine users are in the majority. I. Maximum values based on 95% confidence intervals or sensitivity analysis. II. In countries with a number of estimates, the average of these is used. Source: EMCDDA, ^{36,37}

© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...

Figure 4.9 Deaths from drug overdose in the Netherlands, from 1985

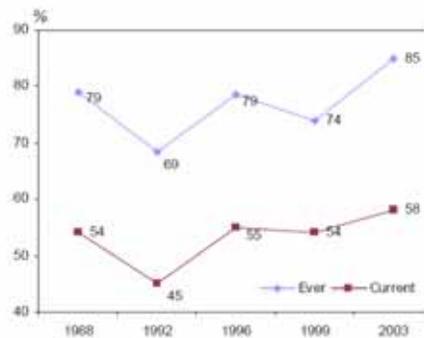


© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...

Figure 6.1 Alcohol consumption among school-goers aged 12 and older, from 1988



Percentage of ever drinkers and in the month before the survey (current). Source: Dutch National School Survey, Trimbos Institute.¹³

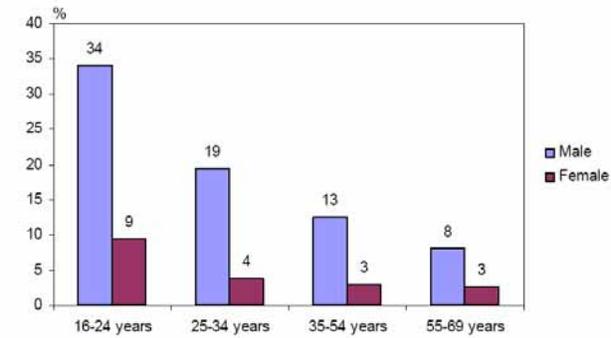
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Going Dutch...



Figure 6.3 Percentage of problem drinkers by age and gender. Survey year 2003

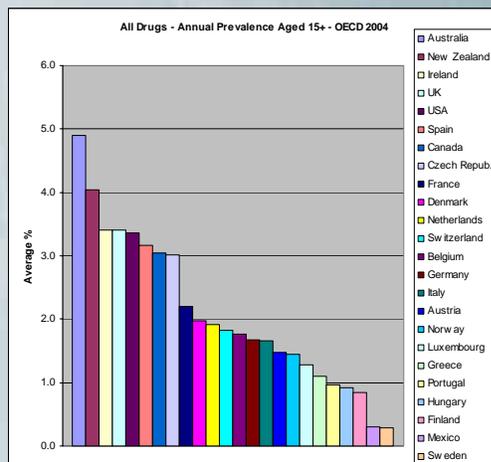


Source: University Maastricht ¹²⁵

© National Drugs Monitor Annual Report 2005 (2006)



Going Dutch...



© World Drug Report 2004 (UNODC)



Going Dutch...



4. Critical appraisal



Going Dutch...



General

- Tendency to rationalization
- Little consideration for moral aspects
- Politicians regarded as opportunistic, incompetent and inclined to choose easy solutions
- No change for the better in near future

© Erasmus University Research (1995)



Going Dutch...



Cannabis policy (1976-2006), evaluation

- Dutch paradox: to *permit formally what is formally forbidden*
- Miscalculation: *commercialization* of cannabis
 - Lack of recognition concerning profitability of cannabis sale
- Basic assumptions and arguments for tolerance policy are outdated or erroneous



Going Dutch...



Cannabis policy (1976-2006), evaluation

- Dutch population (15-64): 21% lifetime use, 6% recent use
- Extensive use by vulnerable groups
- Increase in requests for help by cannabis users
- Condoning policy has given international organized crime a foothold in Dutch society
- Home cultivation cannabis in the embrace of criminals



Going Dutch...



Cannabis policy (1976-2006), evaluation

- Majority of the coffee shop entrepreneurs have criminal antecedents
- Vulnerability for penetration organized crime
- Punishment for trade in soft drugs relatively low + low tracing priority
- Stricter governmental approach
- No regulation 'back door' of coffee shops



Going Dutch...



Cannabis policy (1976-2006), evaluation

- No regulation of the 'back door' of coffee shops
- More knowledge on medical risks of cannabis use
- 'Condoning ['gedogen'] has been a stopgap to be able to live with inconsistencies between national and international views'



Going Dutch...



Drug policy

- Production/trade of/in drugs not under control
- Persisting criminal nuisance by addicted drug users
- Nuisance (coffee shops and drug tourists)
- Involvement of criminal organizations
- Drugs smuggling



Going Dutch...



**‘Closing the coffee shops would
make an end to artificial
rationality and incredibility’**

© Van de Bunt, ‘Hoe stevig zijn de fundamenten van
het cannabisbeleid’, in: *Coffeeshops en cannabis*,
Justitiële Verkenningen, 1, 2006



David G Evans

New Jersey, USA

**Session Title:
School Drug Policy**



David Evans

Biography

David Evans is the Executive Director of the Drug Free Schools Coalition and is a practicing attorney. He is an expert in the area of drug testing law and developing legally defensible anti-drug programs and policies. Mr. Evans was chairperson of the Drug Testing Task Force of the Hunterdon Central Regional High School in Flemington, New Jersey that developed the student drug testing program that has become the national model for the USA.

David Evans is the Executive Director of the Drug Free Schools Coalition and is a practicing attorney. He is an expert in the area of drug testing law and developing legally defensible anti-drug programs and policies. Mr. Evans was chairperson of the Drug Testing Task Force of the Hunterdon Central Regional High School in Flemington, New Jersey that developed the student drug testing program that has become the national model for the USA.

Mr. Evans chaired the American Bar Association committee responsible for the A.B.A. Advisory Commission on Youth Alcohol and Drug Problems that was a joint project with the White House. In recognition of his work he was invited to the White House by President and Mrs. Reagan in 1985.

Mr. Evans has written several books dealing with substance abuse and the law, including books on designing effective drug testing programs and on kids, drugs and the law. His recent books are: Drug Testing Law Technology and Practice and Designing an Effective Drug-free Workplace Compliance Program published by the Thomson-West. Go to www.thomson-westgroup.com and put the name David Evans in the product search box.

Mr. Evans practices law in Pittstown, New Jersey, USA. His practice concentrates on employment law, criminal defense, and personal injury cases. He is admitted to practice before the United States Supreme Court and wrote an a legal brief for the Supreme Court in the Earls case that upheld student drug testing.

Abstract

School Drug Policy.

This session will discuss school drug polices as they pertain to student drug testing. There is a balancing test that must be performed between student rights and the rights of the school. The model created at Hunterdon Central Regional High School in Flemington, New Jersey will be highlighted as the national model for the USA. The drug and alcohol testing process will be explained and how testing is done in a dignified and accurate manner. This will include specimen collection, type of test, confirmation and review by a physician. The consequences of a positive test will be discussed. The aspects of a written policy will be covered including a statement of need and confidentiality. Testing based on reasonable suspicion will be discussed. Political issues with parents, school administrators and teachers will be covered. Finally, the studies showing that student drug testing works will be outlined.

Peter Walker, UK

**Session Title:
A UK School's Drug Testing Experience
and Beyond**



DRUG FREE AUSTRALIA ???



Voluntary Random Drug Testing

United Kingdom





ORIGINS

- Idea formed February 2004 by Peter Walker
- Planned during 2004
- Started in Abbey School January 2005
- Two other schools started in 2006
- Called Random Drug Testing



Why Test ?

- Need to improve levels of prevention
- Need to improve quality of life for those who choose not to take drugs



Present Aims

- Primary aim is to discourage drug use amongst young people
- Secondary aim is to identify young people with a drug problem and then help them to deal with that problem



The slide features a dark blue background with a brown mountain range silhouette at the bottom. On the left, a Union Jack flag is shown on a white flagpole. On the right, there is a stylized map of Australia filled with the colors of the Australian flag (blue, white, and gold) and the stars of the flag. The word 'AUSTRALIA' is written in small letters on the map.

Planning

- Children's Acts
- Human Rights Act
- Child Protection Issues
- Other legal issues
- Methods of testing
- Testing organisation
- Who should be tested
- Consultation



Consultation

- Students
- Parents
- Staff
- Community
- Local Education Authority
- Government



For Testing (at Abbey School)

- 86 % of parents responded when permission requested
- General public
- Students
- Staff
- Local Education Authority
- Police



Testing Organisation

- Particular age group ?
- All students ?
- What about staff ?
- Targeted individuals/groups ?
- Full sample or Random sample ?
- Who tests ?
- Who analyses the samples ?

Methods of Testing

- Urine
- Saliva
- Blood
- Hair
- DNA ?



Finance

- Cost per test
- Who pays ?
- Sponsorship



Statistics re Abbey School

- About 600 tested by September 20
- 4 refusals
- 1 positive test
- 2 positive on first sample only

Positive Test ? Refusal ?

- NO punitive measures if there is a positive result
- NO punitive measures if a student refuses
- ALWAYS a support programme to be put in place and that by agreement
- ONLY exception is where a dealer is identified

Greatest Way to Say NO

- I am not taking anything because it might be my turn to be tested



- Peer Group pressure is the main reason why young people start taking drugs

Benefits

- School performance improved
- Morale rose
- Public perception of school changed
- Increasing intake of pupils
- Students feel safer
- Parents extremely supportive
- Immense public interest
- Crime reduction
- Behaviour improved
- Students feel proud
- Parental requests



Interest

- Media
- UK
- Europe
- Asia
- Australasia
- United States

What now?

- Peter has been appointed as an adviser to the UK Government to lead a national pilot project on random drug testing
- Guidelines are almost complete for this pilot project
- Finance being discussed by the Department for Education and Skills in the UK
- Methods of testing being improved
- Volunteer schools for pilot project being recruited
- Research project being set up to run alongside pilot project

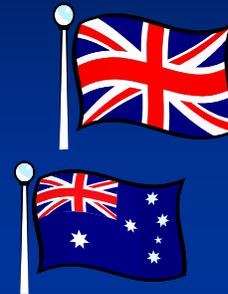
VRDT Guidelines Extracts (provisional) 1

VRDT is **not**:

A stand alone programme

An alternative to drug education

A replacement drug policy



VRDT Guidelines Extract (provisional) 2

It must be done:

Sensitively

Voluntarily

Confidentially

With parent/carer permission

With student agreement

VRDT Guidelines Extracts (provisional) 3

Positive results from drugs tests must be followed up with:

Non punitive measures/carers
Support for student concerned
Support and/or advice for
parents/carers of student concerned

General Comments

- VRDT should complement and reinforce what schools are already doing re drug prevention
- VRDT is not targeted testing
- VRDT is not controversial to those schools that do it
- VRDT is controversial in schools not using it

Remember

- Most parents/carers do not support use of drugs by young people
- VRDT does not discourage students from attending school, participating in sports etc
- Levels of trust between adults and young people can be improved by participation particularly because parents gain in confidence



Contact Information

- Home telephone is 00441304830787
-
- Mobile is 0044 (0) 7768106009
-
- Email is wyorks@msn.com



Finally

Voluntary Random Drug Testing is not the answer

BUT

It is a new part to that answer



Dr Gregory Pike

Southern Cross Bioethics Institute

Adelaide, SA

Session Title:

**Subverting the Paradigm of Medicine:
Medical Marijuana, Beachheads and
Licence**



Dr Gregory Pike

Biography

Dr Greg Pike is the Director of the Southern Cross Bioethics Institute in Adelaide. He obtained his doctorate in Physiology from the University of Adelaide in 1984, followed by postdoctoral studies in the USA.

Gregory then worked in the Department of Surgery at the Royal Adelaide Hospital on clinical trials of laparoscopic surgery.

Greg has a special interest in ethical issues related to illicit drugs, new technologies in the health sciences, and end-of-life decision making.

He is Chairman of the Board of the Australian Drug Treatment and Rehabilitation Programme, a member of the Institute on Global Drug Policy, a Deputy Member on the SA Council on Reproductive Technology, and a member of the Australian Health Ethics Committee.

Abstract

Subverting the Paradigm of Medicine: Medical Marijuana, Beachheads and License.

The purpose of medicine is to alleviate human suffering and where possible to restore health. It achieves this by using treatments that are tested for their effectiveness and with a balance between benefits and side effects. Many side effects are direct adverse reactions; others are indirect and include the potential for abuse and the need to protect vulnerable members of the community from harm that might result from ill-considered policy decisions. The use of cannabis in therapy has a particular history complicated primarily by its abuse as a mind-altering substance. In recent years, initiatives in various countries have resulted in legislation permitting the smoking of raw cannabis for medicinal purposes. The possible medicinal value of cannabis and/or its active ingredients will be discussed as a scientific question, and then considered in light of the paradigm of medicine. Broader questions about motives in medical marijuana initiatives and their relationship to other goals will also be addressed.

Darren Marton

**Campaign Manager,
No-Way Campaign, NSW**

**Session Title:
The 'No-Way Campaign' - A Drug and
Alcohol Awareness Campaign**



Darren Marton

Biography and Abstract

The 'No-Way Campaign' - a Drug and Alcohol Awareness Campaign.

I think we all can agree that the drug road is long, hard, paralyzing and can end with a gigantic precipice over which most disappear. Well fortunately, in 2004 Mr. Darren Marton, the Founder and Manager of The No-Way Campaign had a remarkable and extraordinary encounter with God. This transformed his life completely. He then made a vow to use his experiences and greatest failures as weapons to educate and inform our youth about the real dangers and consequences associated with mind altering substances.

And he asks this question to you? Are you concerned about our young adolescents experimenting with illicit drugs and consuming alcohol?

Needless to say - You should be! Just take a look at these alarming statistics;

* Cannabis is the most commonly used illicit drug in Australia. 26% of 14 to 19 year olds have used cannabis at least once. ***2004/2005 National Drug & Alcohol Research.*** *

* 6% of 14 to 19 year olds have used ecstasy and 6.9% have used amphetamines at least once. ***2004/2005 National Drug & Alcohol Research.*** *

* 50% of 14 to 19 year olds had consumed alcohol with 25% of these drinking alcohol on a weekly or daily basis. ***2005/2006 Australian Bureau of Statistics.*** *

Why such alarming figures? Good question!

For most of the young, the only source of knowledge comes from experiment or school-yard talk. Experiment reveals the drug's immediate, sometimes pleasant, effect on the mind and body, but reveals little or nothing about the side effects and real dangers, particularly the accumulative effects. Young people can not be expected to know the long range consequences, psychological or physical, incurred by drug and alcohol use. The influence of a trusted teacher or some other person is profound. Most young people can turn to such a person, but the truth can only be told by someone who knows the truth. Many do not. And that must be changed. So let us arm our youth with the information they need to say, ***no-way***, to drugs, by educating them as to why they are prohibited and empower them with a clear, simple, but yet very powerful message that will allow young people to make good informed choices on this very important issue. This in turn will lead to a happy, but more importantly, safe and bright future without having the need to indulge in mind altering substances. As a leading force in our community primarily focused on prevention, we also plan to dispel and smash the myth of so called "recreational drugs" and "party drugs" such as amphetamines, marijuana, and ecstasy which are poisonous and often deadly.

The No-Way Campaign has visited a stack of schools delivering its message, with many overwhelming and positive responses of feedback from participants. Darren now has people listening. He has a story to tell. He has a lesson to be taught. Be sure not to miss this deeply moving and personal account from a young man who has been to hell and back. But by the grace of God, found a way out of which most seldom do not.

Eva Brannmark

Detective Superintendent

National Swedish Police Board, Sweden

Session Title:

**Law Enforcement - The Swedish Model
(Supporting UN Drug Conventions)**



Law Enforcement – the Swedish Model
Detectobe Superintendent, Eva Brannmark, Sweden

Dear colleagues, ladies and gentlemen,

First of all, I want to thank the organisers for inviting me to Drug Free Australia's First International Conference on Illicit Drug Use.

Introduction

In the early 1960s there were relatively few drug abusers in Sweden. At that time, a small number of people argued that society should give abusers the drugs they craved, as this would solve the drug abuse related problems and put an end to the crimes committed by abusers to feed their habit.

Trials involving legal prescriptions for drug abusers were carried out in Stockholm between April 1965 and April 1967. I was then working at the Solna Police Authority, which is now a part of the Stockholm County Police Authority. We had three (!) known abusers in our area who lived in one-room apartments. They knew us, we knew them and we used to visit them in their homes. The situation changed dramatically soon after the trials started. There were sometimes 10-20 people, all under the influence of drugs, and plenty of legally prescribed drugs in these apartments, and there was nothing we could do about it. A few months later there were hundreds of abusers in the area and the police had totally lost control of them and the extent of drug abuse in the district. After a couple of deaths involving legally prescribed drugs the trials were suspended.

During the trial period the number of drug offences dropped to almost zero, simply because personal use and possession for personal use were not reported. However, there was a rise in nearly all other types of crime. The police were basically unable to take action against street-level drug offences.

At the beginning of the 1970s, the proportion of students in grade 9 (15/16- year-olds) and army recruits (17-18-year-olds) who had ever tried drugs was about 15-16 %. Massive information campaigns and other drug prevention efforts by voluntary organisations and government authorities resulted in a drop to 3-4 % among students and 5 % among army recruits in the second half of the 1980s. The Chief National Prosecutor also made it clear that drug abuse was to be combated, which made it possible for the police to take action against street-level drug pushers.

In 2001 the proportion of 9th graders who had ever tried drugs had increased to nearly 10 %. In 2002 this figure had dropped to 8 %, 2003 - 2005 saw a further decrease to 7 % and 2006 it was 7 % for boys and 5 % for girls. The facts that drug abuse and drug-related crime have received a great deal of attention in our country in the past years has in all probability contributed to this positive development.

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However, there are still a large number of army recruits who have ever tried drugs, 13,5 % in 2005. **Appendix 1.**

Focus areas for the police

The police must focus on combating drugs and drug related crimes in many different ways and at all levels. Use of intelligence, surveillance, wire-tapping etc. to find proofs of criminal activities are essential to solve drug trafficking, street level dealing and other crimes. I will focus on how we are working with drug abusers in Sweden and briefly also mention juvenile delinquency, professional criminals and crime prevention.

It is a well known fact that drugs, juvenile delinquency and professional crime are behind a considerable number of the total number of crimes committed in countries all around the world. Police and customs cannot handle these crimes and the problems behind them on their own. To be successful, they need to work in partnership with other authorities and organisations.

Organisations and people cultivating, manufacturing, smuggling and dealing drugs can all be replaced. The only irreplaceable person in the chain is the drug abuser – if there were no drug abusers we would not have a drug problem.

The conclusion is that the most effective way to combat drugs and drug-related crimes is to focus on the use of drugs and drug prevention. If we can make those who have started using drugs to stop using them at an early stage, it is of course the best thing to do, not only for the drug abusers themselves, but also for people close to them and for society as a whole. All drug abusers are entitled to treatment as well as support from the social welfare authorities. The voluntary organisations can also provide a lot of support to both drug abusers and their families.

For obvious reasons, it is essential that all kind of drug offences are dealt with in the most effective way. **Appendix 2.**

Juvenile delinquency needs to be stopped at the beginning of the crime ladder, especially before young people adopt a drug habit. The earlier they are reported to the social welfare authorities and the parents are notified, the better are the chances to bring them back to a normal life. **Appendix 3.**

Professional criminals need to be under surveillance to keep their crime rate down to the lowest possible level. **Appendix 4.**

High priority should be given to detect, investigate and prosecute these crimes. To be successful, national as well as international co-operation is necessary.

Another important method to keep the crime rate down is prevention, which should be carried out in partnership with other authorities and organisations. **Appendix 5.**

How to identify drug abusers

On 1 July 1993, a new law was passed in Sweden, which made it possible for the police to arrest someone who is reasonably suspected to be under the influence of a narcotic drug. Such an arrest may be made in public as well as in private places.

In the spring of 1993, the Swedish National Police Board sent two police officers from the Street Level Drugs Team of the Stockholm County Police Authority to the USA for training in the Drug Recognition Expert (DRE) Programme at a special Police Training Centre in Los Angeles. The DRE Programme comprises twelve different tests which have proved to be scientifically reliable indicators of drug intoxication (including alcohol and inhalants).

A large number of Swedish police officers have since received training in how to recognise the signs and symptoms of drugs. It is a person's behaviour - the way he talks and looks - that a trained police officer pays attention to. Of special interest are the eyes: nystagmus, the size of the pupils (very small pupils indicate use of an opiate and very big pupils indicate use of a central stimulant) and how they react to light. The tensing of the cheek muscles, jerking of hands and difficulty to stand still may also be signs of drug intoxication.

Testing for drugs

When the police have arrested someone suspected to be under the influence of a narcotic drug, he is taken to a police station where he is requested to provide a specimen of urine under supervision. If he cannot or refuses to do so, the police may call in a nurse or a doctor to take a blood sample, by force if necessary.

The sample is then sent to a laboratory for a verification test. About 27,500 drug use verification tests and 10,000 drugs-driving and drug use (two separate offences) tests were carried out in 2006. These drug tests have shown that a large number of drug abusers are multi-drug users.

The police have been able to solve other crimes, e.g. burglaries, thefts and robberies, by questioning people arrested for using drugs. Some even provide information about people who are selling drugs, and the police have seized large amounts of drugs as a result of information from people brought in for a urine test. Many interrogations of drug abusers have also resulted in search warrants and the recovery of stolen property.

The role of the police and the social services in the provision of compulsory treatment

The police have an obligation to inform the social services of all cases of drug abuse that come to their attention. They are not, however, allowed to take a urine or blood sample from a person under 15 years of age. If a young person is using drugs, the police should immediately notify the local social welfare committee. Such committees are empowered by the Social Services Act and the Care of Young People (Special Provisions) Act (LVU) to order that someone under 20 years of age be subjected to compulsory treatment where required. I can give you an example:

An 18 year old mother was under the influence of cannabis when she was breast-feeding her baby. She was arrested by the police and the social services were notified. They took care of the baby and the mother was ordered to undergo compulsory treatment. As soon as she was back to normal, she got her baby back on condition that she underwent further treatment and provided regular urine samples to show that she could be trusted with the baby.

According to the Care of Alcoholics, Drug Abusers and Abusers of Volatile Solvents (Special Provisions) Act (LVM), the municipal social welfare committee may issue an immediate care order for abusers over 18 years of age if they

1. are seriously endangering their physical or mental health,
2. run an obvious risk of ruining their life, or
3. are liable to inflict serious harm on themselves or someone closely related to them.

The police must immediately inform the municipal social welfare committee if they find someone that might need treatment according to this law. If there is an immediate and serious risk for that person to come to harm, a police officer is allowed to apprehend him and turn him over to a hospital.

Decisions regarding compulsory treatment for adults are made by the County Administrative Court. The maximum length of compulsory treatment is six months.

According to Section 6 of the same act, the police must submit a report to the municipal social welfare committee if there is reason to believe that an abuser is in need of care under this Act, and the social services are obliged to perform an investigation.

Co-operation with social and medical services

In some places social workers are stationed at the police headquarters and in others they work side by side with street level drugs teams. After interrogation by the police, suspects are turned over to a social worker who will offer them help and support. Social workers spend a lot of time trying to persuade drug abusers to accept voluntary treatment.

The police have to notify the social services (immediately in urgent cases) of all cases of drug abuse that come to their attention.

In Stockholm, children and young people who are under the influence of drugs are taken to a special medical facility, the Maria Youth Clinic, on completion of the police investigation.

When a person under the age of 18 has been arrested for drug abuse, the police will contact the parents and those who are involved in the care of the young person. The police will ask them to come to the police station for a talk about what has happened and to take the child back home, unless he or she needs medical care.

Treatment centres and the social services always try to involve the drug abuser's whole family in the recovery process.

The social services may divulge information about a client under 18 years of age to other social welfare authorities or treatment centres if this is deemed to be in the best interest of the client.

Decisions and sanctions in cases of use of drugs

Children under 15 years of age are always turned over to the social services.

Young people aged between 15 and 18 are fined. Alternatively, the prosecutor may decide to refer them to the social services for appropriate action.

People over 18 years of age are primarily fined.

People over 15 years or older who have been arrested several times within a short period of time may be sentenced to probation with treatment.

So far, no one has been sentenced to imprisonment solely for being under the influence of drugs. Where imprisonment has been imposed on a drug abuser, the court has taken other offences into consideration in the sentencing.

Joint training and co-operation

Since the beginning of 1993, we have had joint training programmes at the national level for regional contact persons from the police and the customs service, and a few years ago the prosecution service joined these programmes. Due to a very big reorganisation within the Swedish police these training programmes have been temporarily discontinued.

These programmes are chiefly focused on new developments on the illicit drug market, improving the co-operation between law enforcement agencies, achieving a better understanding of the work of the services involved, dissemination of best practices, planning of joint training efforts and joint actions and achieving the best possible use of resources.

Joint training programmes and co-operation with professionals from other authorities and with organisations working with drug issues are essential to improve the fight against drugs and to develop effective regional and local strategies. These strategies should be based on surveys and analyses of the drug situation (number of drug addicts, types of substances abused, drug abuse locations and resources - manpower and funds available for anti-drug actions) and drug-related crimes.

Such co-operation must be carried out with due respect for the respective professional roles and duties of those involved. Joint basic and advanced training courses will create a common platform for dealing with drug issues (substances, signs and symptoms, treatment, drug policy, prevention, law enforcement, working methods, techniques, tactics, use of resources, national and international co-operation, project evaluations etc.). It will also give the agencies involved a better understanding of each other's work.

The exchange of intelligence, joint training and cross-border activities should be carried out by personnel from different authorities and organisations working with drug issues.

A Preventive Strategy

The overall aim of Swedish drug policy is a drug-free society. This is to be seen as a vision reflecting society's attitude to narcotic drugs. The aim conveys the message that drugs will never be permitted to become an integral part of our society and that drug abuse must remain an unacceptable behaviour. This is a vision that gives clear signals to children, parents and society as a whole that we all need to work together to minimise drug abuse and drug-related crime. This strategy is in line with the UN conventions on drugs and the political declaration approved of by UN Member States at the UN General Assembly Special Session on Drugs held in New York in June 1998.

It is important that politicians agree on a long-term national drugs strategy that can guide authorities and organisations in their work. The strategy should comprise, for example, prevention, treatment, law enforcement efforts and national and international co-operation.

It is essential that we avoid sending mixed signals about drugs, especially to children and young people. An example of such mixed signals is when, on the one hand, we declare that drugs are illegal and will not be accepted in society and, on the other, give drugs abusers advice on how to use drugs. In Sweden we have chosen not to disseminate such mixed messages, and I believe that the number of drug addicts in our country proves that we have been successful in our restrictive drug policy. Sweden has about nine million inhabitants. In a nation-wide study of the prevalence of severe drug abuse in 1998, it was estimated that 26 000 people were severe drug abusers (used drugs every day, almost every day or injected – cannabis is included).

All the political parties, as well as public opinion, stand behind our restrictive drug policy and in 2002 the Swedish government appointed a National Drug Co-ordinator to intensify the work against drugs and drug-related problems. The co-ordinator, working closely with various authorities and organisations, has so far initiated several projects and also arranged a number of conferences for professionals and the public.

I want to conclude this speech by showing you this symbol which illustrates the importance of fighting drugs and drug-related crime at all levels in co-operation with other authorities, non-government organisations and other stakeholders. **Appendix 2.**

Preventing young people from starting to use drugs, providing support and treatment for drug abusers to help them get out of their habit, and the preventive and repressive work carried out by law enforcement agencies are the basic components of "harm reduction" in a country with a restrictive drug policy.

Thank you for your attention.

Eva Brännmark

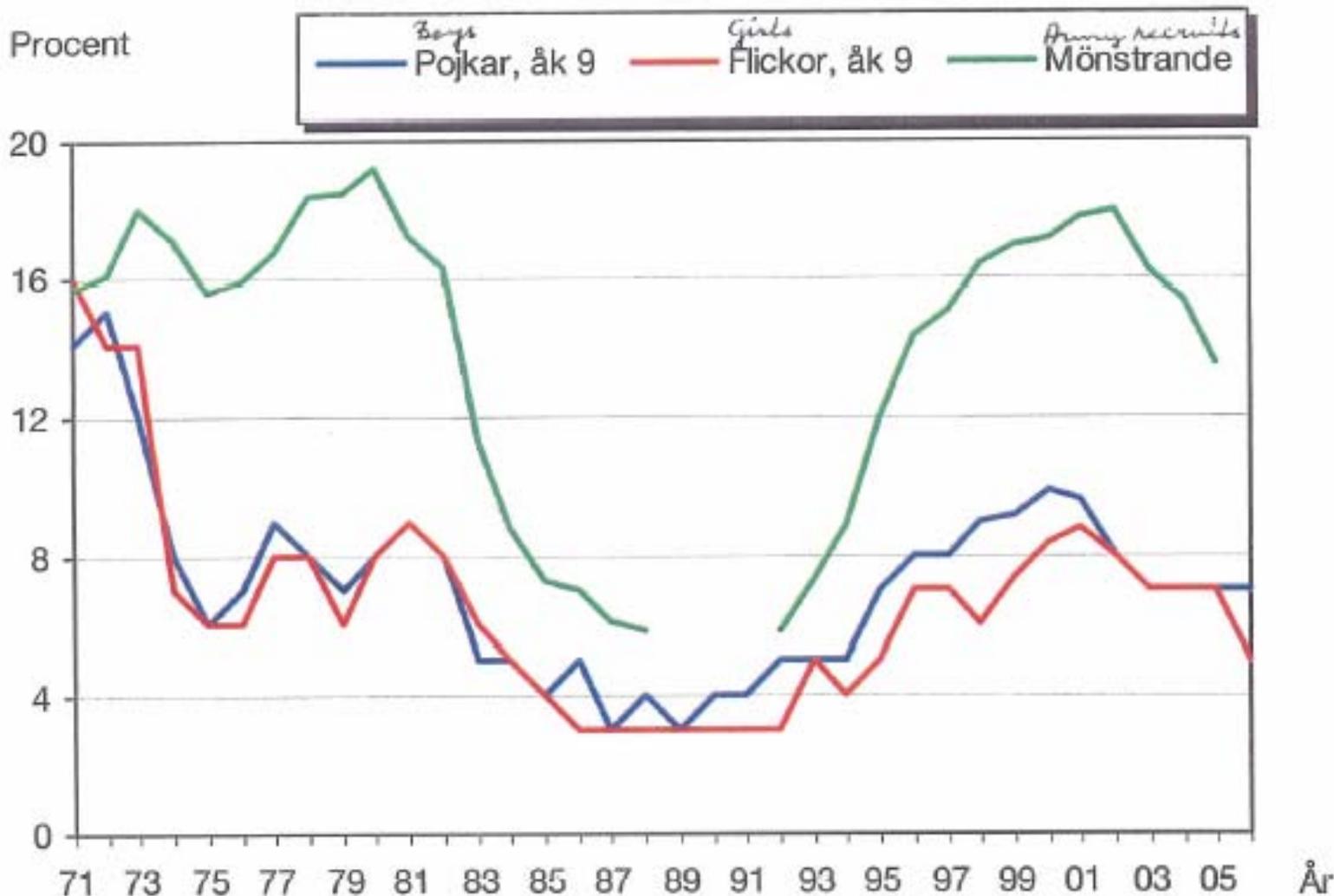
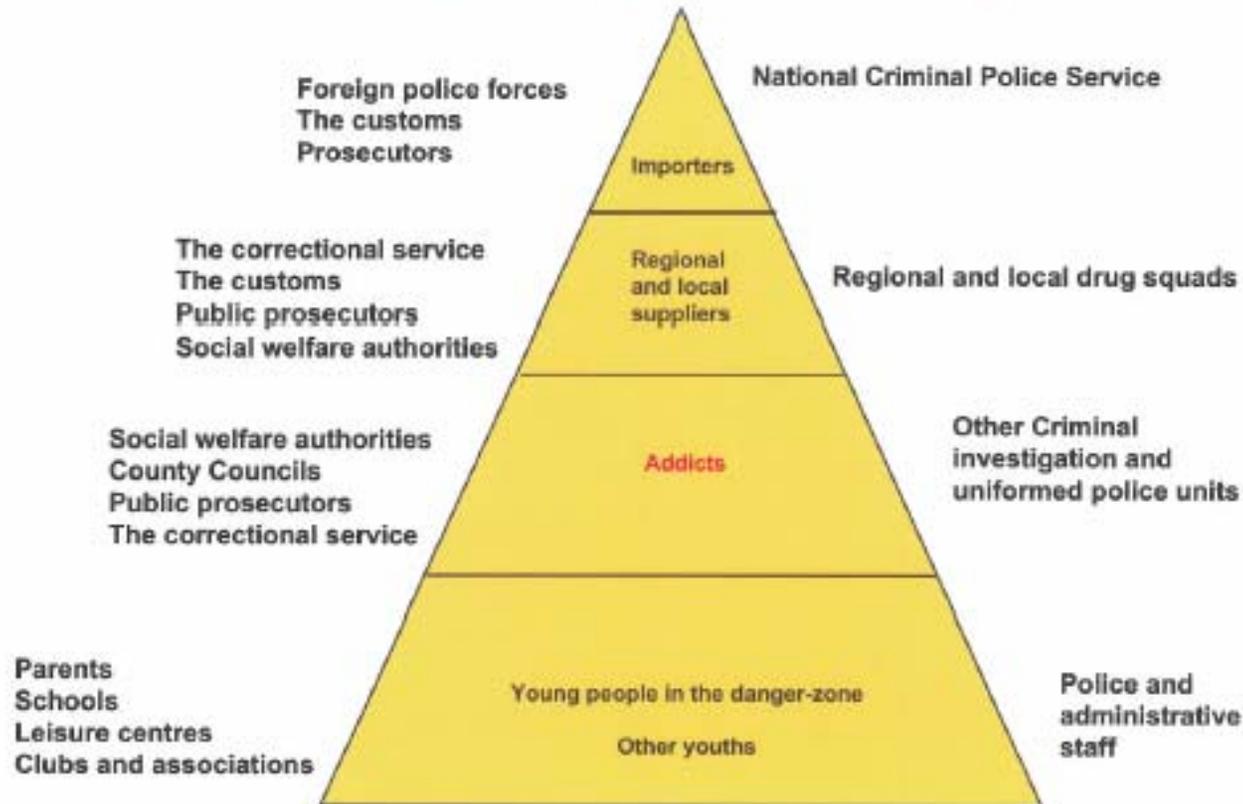


Diagram 25. Andelen elever i årskurs 9 samt andelen mönstrande som uppgett att de någon gång prövat narkotika. 1971–2006. (Tabellerna 58 och 59)

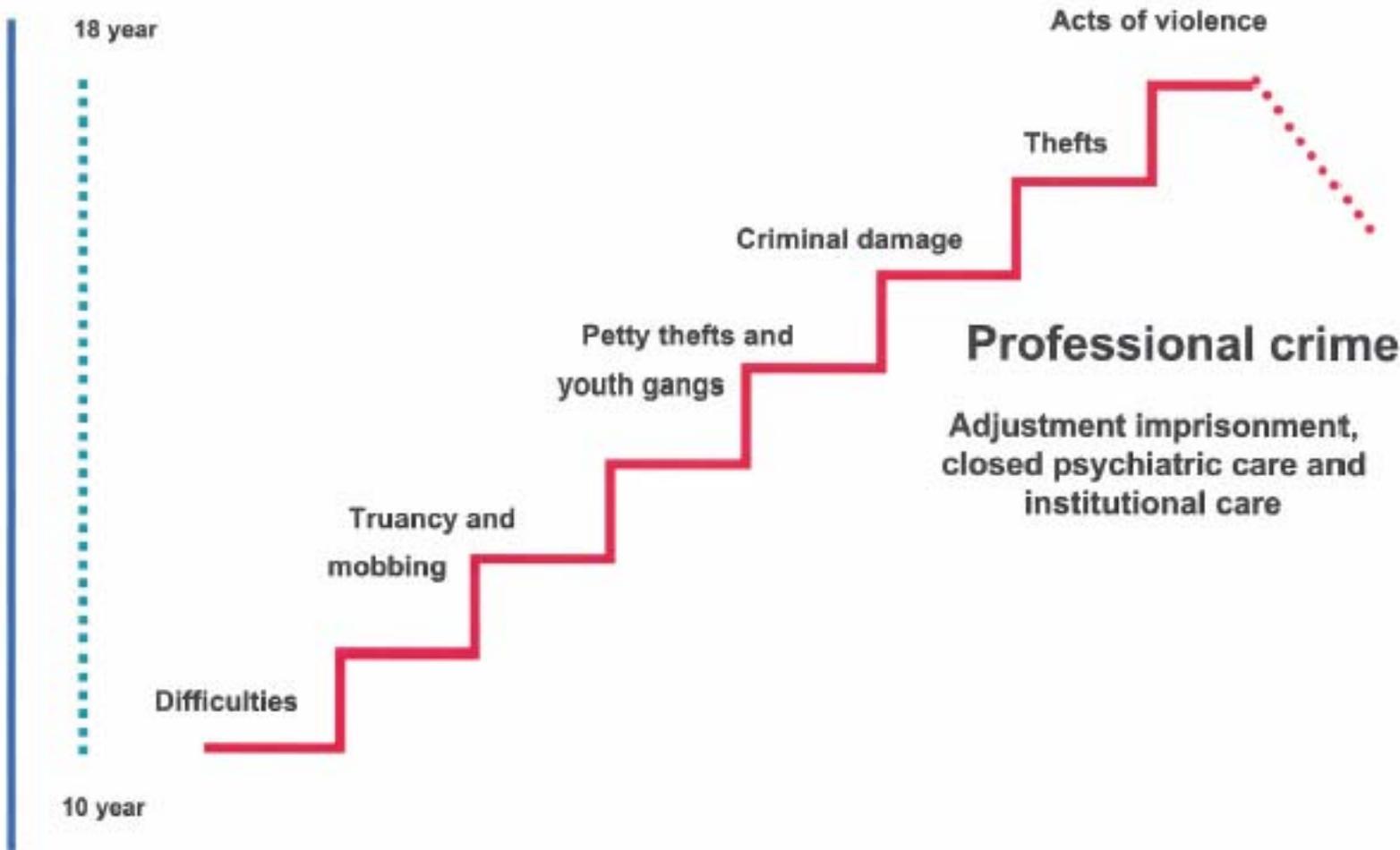
The fight against drugs

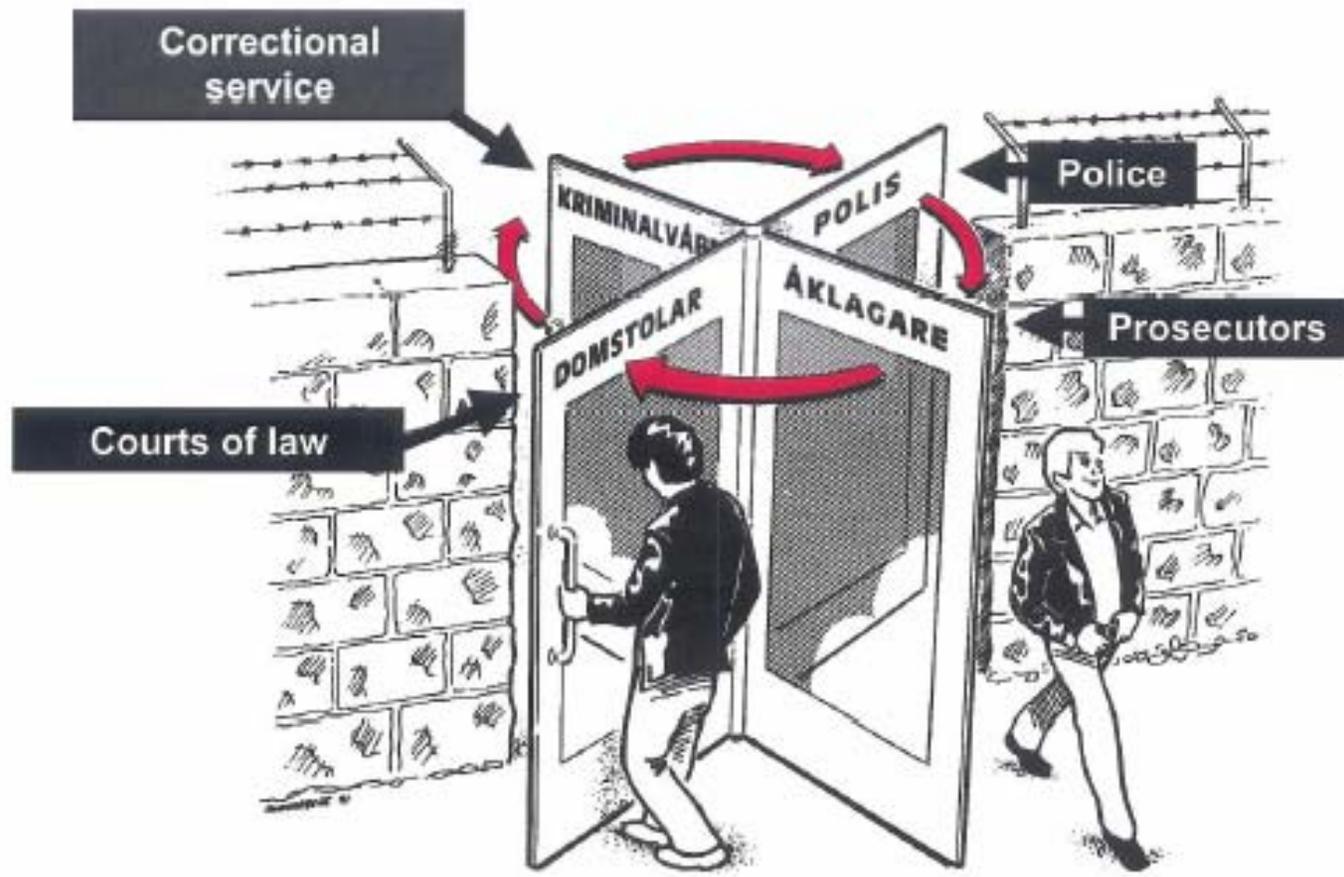


One person cannot do everything but everyone can do something



Rikspolisstyrelsen





Peter Drennan

**Assistant Federal Police Commissioner,
ACT**

**Session Title:
Law Enforcement's Role in Supply
Reduction in Australia and
Internationally**



IN CONFIDENCE

Peter Drennan

SUPPLY REDUCTION AND LAW ENFORCEMENT

SLIDE 1 - TITLE

I will speak to you today about law enforcement's role in supply reduction. In doing so I will draw on the experiences of the AFP since the introduction of the Government's National Illicit Drug Strategy.

I will briefly discuss how drug trafficking is comparable to a business, and therefore why law enforcement needs to embrace strategies which make the cost of doing business unattractive for traffickers. And I will explain why supply reduction is an increasingly important part of the fight against the harm that drugs do in our society, and the ongoing challenges for law enforcement.

The role of the Australian Federal Police

SLIDE 2 - AFP

The Australian Federal Police has a unique policing structure in world terms, with responsibility for policing at local, national and international levels.

Our role is focused on investigating serious and organised crime, particularly terrorism, transnational crime, people smuggling, fraud, technology-enabled crime and of course, illicit drug trafficking, and also includes the important components of peacekeeping and regional capacity building.

The AFP also has responsibility for policing the Australian Capital Territory.

The AFP is the primary source of advice to the Australian Government on policing issues and represents Australia internationally as a member of Interpol and as a representative to the United Nations Commission on Narcotic Drugs.

Tackling illicit drugs is a high-priority for the Australian Government and law enforcement agencies. Our approach is multi-faceted, involving collaboration between the Commonwealth, State and Territory Governments, policing organisations, community and health services and the non-government sector. The AFP also has a key role in implementing specific initiatives under the Government's National Illicit Drug Strategy.

Australia's drug strategy

SLIDE 3 – DRUG MONTAGE

Australia's National Drug Strategy involves a balance between demand reduction, supply reduction and harm minimisation, and includes a renewed emphasis on prevention.

Our national response to the drug problem is an integrated one, involving law enforcement, health, prevention, education and treatment services.

From a law enforcement perspective, our mandate is the reduction of the supply of illicit drugs to the Australian community. In doing so, our focus is very much on preventing drugs reaching the community and partnerships with colleagues nationally and internationally to achieve this. This is a successful model adopted by the AFP across a range of crime types.

It must be understood that drug trafficking is a business, and the primary purpose of engaging in that business is to make money through the supply of a commodity. Law enforcement needs to target its efforts against these aspects of the Business Model. Reduce profits, increased risk of doing business and reduce opportunity for success.

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Law enforcement can usefully expend effort on removing the commodity – or more specifically frustrating supply capacity and increasing the risk of dealing in any particular commodity.

And equally importantly, law enforcement can target the money, which is the motivator for all of this. Removing the unlawfully acquired cash and assets from criminals can be very inconvenient for traffickers and add to the losses side of the business ledger.

Supply reduction

Taking the fight offshore

Historically, the approach taken by law enforcement authorities to drug trafficking was fairly reactive in nature. Investigations were largely based around street seizures and focused on lower level drug dealers.

The advent of intelligence-led policing, together with other key strategies which I'll describe shortly, has enabled us to change our targeting methodologies.

One of the primary strategies that has driven our change in focus and delivered results is the National Illicit Drug Strategy which commenced in late 1997.

NIDS programs and outcomes

The Australian Government's 'Tough on Drugs' National Illicit Drug Strategy (NIDS) provided significant additional funding for the AFP. This funding has supported the AFP's supply reduction activity and enabled Australia to take the fight offshore.

This offshore effort encompasses both joint operational activities with partner agencies as well as capacity building in the region. The NIDS funding provided the AFP with the resources to create mobile strike teams across Australia to target major international drug syndicates, including the capacity for rapid deployment overseas. NIDS also provided for the expansion of the AFP's overseas liaison network and overseas capacity building initiatives. We have been able to locate officers in key drug transit countries in the region and provide resources to capacity building and assistance projects.

International network

SLIDE 4 - LIAISON NETWORK

Our International Network today comprises 88 officers at 33 posts in 28 countries, and is instrumental in gathering intelligence and working with international counterparts across a range of crime types. You will note the strategic placement of our offices forming a ring around Australia and in key manufacture and transit countries.

SLIDE 5 – TRAFFICK ROUTES

There are three key elements to the AFP's international liaison role, namely:

Collaboration—that is brokering collaboration with international law enforcement agencies to drive investigations and support bilateral or multi-lateral cooperation;

Intelligence gathering—or the collection and exchange of criminal intelligence in support of international law enforcement efforts; and

Capacity building—we work closely with our international law enforcement partners to provide training and assistance where necessary to increase the capacity of the host agencies to combat transnational crime.

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SLIDE 6 - TNCs

An example of the capacity building mandate of the international liaison network is the Transnational Crime Units that have been set up in the Pacific and Asia. These teams provide Australian law enforcement with a trusted and competent avenue to facilitate enquiries across a range of crime types. The teams are assisted by an AFP Advisor and are provided with specific training and skills which they are then able to feed back into their own organisations. These teams are integral in investigating transnational narcotic traffickers exploiting their countries and ultimately Australia.

The capability provided by the AFP's International Network over recent decades, has played a key role in redirecting the national focus towards reducing supply by detecting the illicit drugs before they reach Australia.

I'll provide some examples in a moment, but firstly I'll discuss another flagship overseas capacity building initiative, the Law Enforcement Cooperation program (LECP).

Law Enforcement Cooperation Program

The Law Enforcement Cooperation Program, more commonly known as LECP, aims to increase the operational capacity of partner and law-enforcement agencies in the offshore fight against transnational crime. LECP enables the AFP to undertake specific bilateral and multi lateral police to police capacity building and assistance projects.

LECP funding has enabled programs to be delivered in the region on many issues relevant to transnational crime, including identification of precursor chemicals and clandestine laboratories, and internal concealments.

In addition, the LECP undertakes major project activities with other international stakeholders (for example United Nations Office of Drugs and Crime) and government partners. As an example, last year 36 training activities were delivered offshore to approximately 640 participants from 26 international law enforcement agencies. This was a joint project between LECP and the United National Office on Drugs and Crime.

The LECP has facilitated joint operational activities and investigations into major narcotics syndicates through the provision of personnel and equipment to key countries. These programs assist in the promotion of joint investigations into major narcotics syndicates operating across multiple jurisdictions, including Australia, and as I will demonstrate, have led to a significant amount of illicit drugs being seized offshore.

Results

SLIDE 7 – PONG SU

Operations

The implementation of the National Illicit Drugs Strategy in November 1997 allowed the AFP to create mobile strike teams. These dedicated resources saw results very early on in the strategy implementation, with 17 linked investigations directed at major importers of illicit drugs by 1998-99. One of these investigations (Avian Logrunner) resulted in the seizure of 357kilos of heroin in Fiji. Close cooperation with the Fijian Police Force resulted in arrests of the principals, and the seizure and destruction of this heroin in Fiji, before it could get to Australia.

SLIDE 8 – CONTAINER

Similarly in Operation Linnet the AFP combined with the Hong Kong Police to intercept and seize almost 400kg of heroin as it was being landed in Australian in 1998.

International Cooperation

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The ongoing implementation of NIDS, and in particular the expansion of the AFP's International Network, has continued to pay dividends with multi-agency joint investigations into drug trafficking involving international partners being successful.

SLIDE 9 – THAIS AND COMMISSIONER

As the focus of supply moved to the increasing demand for ATS collaboration with our international partner agencies again resulted in operational successes and achievements including:

- The seizure of 1.5 tonnes of pseudoephedrine - enough to produce over 60 million street doses of methamphetamine - in the Philippines en route to Australia in March 2004. This was a joint operation involving the AFP, a number of other Australian agencies, as well as the Philippines DEA and led to the arrest of 5 people in Australia.

SLIDE 10 – LAB AND PRECURSORS

- In June 2004, a multinational investigation involving the AFP, and police from Fiji, New Zealand, Malaysia, the Philippines, Hong Kong, China and Thailand, uncovered a large clandestine laboratory in Suva. Enough precursor chemicals were seized to produce up to one tonne of crystal methamphetamine (or ice). Seven people were arrested in Fiji. (Deva)
- In October 2004, the AFP seized 125kg of crystal methamphetamine (ice) which was detected by Australian Customs inside hollowed out candles in a shipping container from China. The seizure was a result of a joint AFP and Customs operation and had an estimated street value of \$100 million.

In 2005-06, successes included:

- closure of the world's third-largest clandestine laboratory producing ATS in Jakarta and the seizure of 148kg of crystal methamphetamine, along with the seizure of more than 500kg of precursor chemicals; (Onager)
- the culmination of a joint operation with the US, Peruvian and Colombian authorities that resulted in the seizure of 700kg of cocaine and the arrest of seven high ranking members of a transnational narcotic-trafficking syndicate;
- arrest of two offenders in Indonesia involved in sale and trafficking of more than 120kg of ATS precursor chemicals to Australia; and
- seizure of 40kg of heroin in Thailand.

SLIDE 11 – BODY PACK

Successes like these all add up to a reduced supply of drugs available in Australia. Even seemingly small contributions can make a significant difference. In January and February this year, we provided specialised training to Cambodian and Vietnamese authorities on the methods and indicators of internal concealment, that is, people using their own bodies to conceal and transport illicit drugs. This training was in part prompted by increasing numbers of people arriving in Australia from those countries with internally concealed drugs. Whilst it is early days, the delivery of that training has effectively slowed that trend significantly. At this stage those internal couriers are being detained overseas by the authorities, before they depart for Australia.

Seizure Trends

SLIDE 12 – HEROIN SEIZURES

The implementation of the National Illicit Drugs Strategy also resulted in an immediate increase in drug seizures within Australia. Heroin seizures jumped from just under 200kilos in 1997-98, to approximately 550kilos in 1998-99. Cocaine

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seizures doubled between in 1998-99, and then more than doubled again in 1999-2000. The illicit drugs being seized was now being measured in the 100s of kilos with totals being measured in tonnes.

These seizures have continued in the later years, with the AFP making a number of significant drug seizures in the first half of 2006-07, including cocaine seizures of approximately 407kilograms and precursors of approximately 275 kilos. The amount of cocaine seized already exceeds the full year result of 87 kilograms for 2005-06.

On 7 January 2007, 1900 litres of 3-4-MDP2P, a primary precursor for the manufacture of ecstasy, was seized in Sydney. This could have led to the creation of millions of ecstasy tablets with a street value of \$540 million.

The impact on the Australian community had these drugs and chemicals not been seized would be horrific.

Target the money

While I have been discussing our efforts in supply reduction onshore and offshore, I would like to continue with the concept that trafficking is a business. Supply reduction is important because it attacks the ability of the business to supply that particular commodity. However, we also need to target the motivation for undertaking the business, which is predominantly to make money.

SLIDE 13 - MONEY

Australia has robust provisions for law enforcement targeting illicit funds. The objective of Proceeds of Crime (POC) legislation is to target those people who profit from crime. The legislation provides for a conviction-based confiscation regime, and a complementary system of non-conviction based (or civil) forfeiture. Where the suspected offence is serious, all assets of the suspect may be restrained and forfeited. Additionally, the POC Act allows for targeting of proceeds of crime derived from a foreign indictable offence. In treating drug trafficking as a business, wherever possible we target the profits of the criminals, in particular through proceeds of crime action.

SLIDE 14 – CARS

(Unfortunately and contrary to popular belief we don't get to keep and use these.)

In the period 1 July 2004 - 31 December 2006 a total of \$50.4m of POC has been restrained in relation to drug cases. Funding to CATF for use in community drug programs. And in the same period a total of \$38.5m of POC has been recouped in relation to drug cases. Secondary effect. Reducing the availability of funds to be reinvested. UK study £20K → 1kg Heroin = £500K.

Increase risk of dealing in the commodity

Any business operation will consider the costs of doing business, and at some point risk will outweigh benefit and the business will no longer be considered attractive.

More traditional law enforcement tools are relevant in this regard, such as arrest and incarceration for the perpetrators of the crime. But equally important for law enforcement is to engage in prevention activities, and seek to spread the risk to those who help facilitate the crime. For example, we now target those who facilitate transactions between the financiers of drug trafficking operations and their suppliers. Taking out this key piece of the puzzle leads to the disruption and in many cases dismantling of these organised drug trafficking syndicates.

Supply reduction is Harm reduction

SLIDE 15 – HEROIN PURITY LEVELS

Drug trends in Australia - Heroin shortage

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What do all these seizures mean – can we measure whether it has any beneficial affect?

It has been confirmed that in late 2000, the heroin availability within Australia fell. This was a trend that seems to have been unique to Australia.

Authoritative analysis has found the shortage could be attributed - at least in part - to the success of law enforcement efforts in disrupting major trafficking syndicates supplying the Australian market with heroin from South East Asia.

This assessment was supported by the United Nations Drug Control Program, as well as by independent research conducted by the National Drug and Alcohol Research Centre in Australia.

Supply reduction can have measurable health outcomes for Australia. As mentioned previously in relation to availability of heroin, there is strong evidence that the high seizure rate reduced not only the supply to the street, but the purity of that supply as well, resulting in a significant drop in the number of fatal overdoses from heroin. This can have measurable implications for health outcomes and crime in Australia.

For instance, it led to a significant drop in the number of fatal overdoses from heroin, with some 600 fewer deaths per year than were occurring in the late 1990s.

SLIDE 16 – HEROIN OVERDOSE

In 2003 Australia recorded a total of 357 deaths from opioids among those aged in the 15 to 54 age group. **This was the lowest figure in over 10 years.**

Other performance indicators

SLIDE 17 – DRUG MONTAGE

Another way we measure our performance in drug investigations is through a system we have developed called the Drug Harm Index.

This estimates the potential value to the Australian community of AFP seizures by weighing up likely health, social and economic costs if the drugs had reached the streets.

So far it has found that in the five years to June 2006, AFP seizures saved the Australian public \$5.1 billion in drug-related harm.

Further evaluations suggested that for every one dollar invested by the taxpayer in AFP drug operations, we return about \$6 to the community in benefits, ie. reduced impact on the health and criminal justice systems.

SLIDE 18 – US EXPOSURE

Supply reduction overseas

An investigative journalist in the US carried out a very comprehensive investigation into methamphetamine abuse in the US. He established some convincing linkages between control of supply, and social health outcomes. Some of the graphs may be a bit hard to decipher, but in effect he has demonstrated that where methamphetamine and pseudoephedrine were controlled more effectively, purity of the drugs on the street dropped, traumas and overdoses decreased {SLIDE 19}, rehab enrollments increased {SLIDE 20}, and crime levels stabilised or decreased {SLIDES 21, 22}. These are very powerful reasons for continually striving to reduce the supply of these drugs in Australia. Not authoritative but certainly highlights some interesting and thought provoking observations.

Current Environment

IN CONFIDENCE

Ongoing challenges

UNITED NATIONS 2006 World Drug Report

SLIDE 23 – UN REPORT

“The total number of drug users in the world is now estimated at some 200 million people, equivalent to about 5 percent of the global population age 15-64. Cannabis remains by far the most widely used drug (some 162 million people), followed by amphetamine-type stimulants (some 35 million people), which include amphetamines (used by 25 million people) and ecstasy (almost 10 million people). The number of opiate abusers is estimated at some 16 million people, of which 11 million are heroin abusers. Some 13 million people are cocaine users.”

The demand is there to be met by traffickers and suppliers. Afghanistan's opium harvest in 2006 reached the highest level ever recorded at that time. Meanwhile, we are experiencing a global shift towards ATS, with an increasing trend towards the use and production of crystal methylamphetamine.

Amphetamine-type stimulants - Global and Domestic Trends

SLIDE 24 - ATS

ATS are now the most widely used and frequently seized drugs in the world after cannabis. There is substantial evidence to suggest that ATS supply is outstripping the global production of cannabis and heroin — the number of dismantled ATS laboratories around the world increased from 547 in 1990 to 11,253 in 2003, with methamphetamine constituting the bulk of seizures.

Approximately 50 percent of all global ATS production takes place in East and South East Asia.

This global trend in ATS use is being reflected in Australia, where clandestine laboratory seizures have risen from 58 in 1996-97 to 381 in 2004-05. It is important to note that the growing popularity of ATS predates the 2001-2004 heroin shortage. The majority of amphetamine type stimulants consumed in Australia (other than ecstasy) are produced domestically.

SLIDE 25 – ATS SEIZURES

It is estimated that one in 10 Australians have tried methamphetamine, and that there are approximately 100,000 regular MDMA users in Australia—two thirds of whom are dependent users.

SLIDE 26 – ATS FORMS

The apparent trend toward the use of the pure form of methamphetamine, ice, and the destructive effects it has on users, has raised particular community concern. Although it should be noted that there is some misidentification of this drug amongst users who believe that any form of crystalline synthetic drug is 'ice'.

Future challenges

SLIDE 27 - WORLD

In the past decade, the AFP has made significant progress in combating drug crime not only in Australia, but also in the Region, and laying important foundations for tackling the problem at its source rather than when it confronts the Australian community.

One of the key challenges for us now is to keep this momentum building and accurately assess and adjust to shifts in the illicit drug market and subsequent changes to trafficking methodologies.

IN CONFIDENCE

In recognition of this, the Prime Minister has announced that the AFP will receive \$10.4 million over four years to establish an AFP Specialist ATS Response Team and expand the AFP's International Network.

Funding of \$5.9m will enhance the AFP's capacity to pursue investigations into Amphetamine Type Stimulants (ATS). It will establish a specialist Orion team with the skills, training, capacity and equipment to be rapidly deployed anywhere in Australia or the Asia Pacific region at short notice to investigate significant ATS-related offences.

The AFP's International Network will be expanded. The international network has proven to be a highly effective resource in gathering intelligence from overseas countries on the movement of drugs and generating and supporting successful operations.

The AFP will establish one additional post in the Asia-Pacific region and expand existing posts to focus on ATS production and precursor chemical supply. This will enhance partnerships with overseas law enforcement agencies and increase the flow of criminal intelligence concerning the production and trafficking of ATS.

The proposed new positions are in critical strategic locations related to the international trade in synthetic drugs and their precursors. These initiatives work in conjunction with the National Illicit Drug Strategy, Tough on Drugs, originally launched in November 1997.

Policing innovations, particularly in the high tech environment, as well as multilateral approaches are vital to continued success in achieving supply reduction. As the capabilities of law enforcement in regional countries improve, so those countries will become increasingly hazardous environments for drug traffickers to operate within.

Partnerships based on mutual trust, cooperation and understanding involving law enforcement, as well government and non-government organisations, industry and community groups - are essential to this process.

This is what we see as the platform from which Australia's illicit drug strategy operates and one we will continue to support in our supply reduction role.

SLIDE 28 – END – Q&As

John Herron

Chair ANCD, ACT

Session Title:
**The State of the Nation - Amphetamines
and Other Drugs**



Slide 1

I would like to thank the organisers of the Conference and Drug Free Australia for the opportunity to speak to you today.

I would also like to acknowledge Major Brian Waters as the immediate past Chairman of the Australian National Council on Drugs and the Minister for Ageing, the Hon Christopher Pyne.

After a little over 12 months as Chairman of the ANCD Today I would like to share with you some observations about the debate in Australia in relation to drugs and to take you on a journey that explores current national and international drug and alcohol data, trends and challenges.

If we consider mortality there is no question that tobacco is still the biggest killer. The second biggest killer and the cause of the greatest social morbidity is alcohol. As you know both are legal. The media however has concentrated their reports on illicit drugs, and more recently on methamphetamines and its derivatives.

To start I wish to explain the unique organisation that is the Australian National Council on Drugs.

The ANCD is both an insider to government providing advice and expertise on a range of issues yet it is made up predominately of people that are outside government who work in treatment, research and education as well as law enforcement.

In my time as Chairman I have developed nothing but admiration for the people that serve on the Council. They are all appointed by the Prime Minister and all undertake the work of the Council on top of their full time and already demanding positions. The work of the Council is important and must be maintained as a source of independent evidence based advice for government, whatever its persuasion.

Slide 2

To start I wish to explain the unique organisation that is the Australian National Council on Drugs.

The ANCD is both an insider to government providing advice and expertise on a range of issues yet it is made up predominately of people that are outside government who work in treatment, research and education as well as law enforcement. As I acknowledge earlier the inaugural Chairman when it was established in 1998 was Major Brian Watters who has now been appointed to the International Narcotics Control Board and I pay tribute to his exceptional leadership.

In my time as Chairman I have developed nothing but admiration for the people that serve on the Council and I look forward to working with some recently appointed new members over the next 3 years. They are all appointed by the Prime Minister and all undertake the work of the Council on top of their full time and already demanding positions. The work of the Council is important and must be maintained as a source of independent evidence based advice for government, whatever its persuasion.

Slide 3

As you can see from this chart the ANCD occupies a privileged position whereby it is able to provide advice directly to the Prime Minister. The impact of this access to the office of the Prime Minister is very significant.

Although the bulk of our work is rightfully done with the Australian Government Ministers directly responsible for drug and alcohol issues, this relationship with the Prime Minister allows the ANCD to work across all government portfolios to ensure a whole of government approach to addressing drug and alcohol issues.

It also provides us with the necessary platform to work as equals with State and Territory counterparts and governments.

Slide 4

As you can see from this slide the ANCD produces a number of high quality reports each year and all of these are available for free on request and can be downloaded from our website

Slide 5

Some of the projects the ANCD currently has underway can be seen here and I would draw your attention to the Media initiative which was released with the Australian Press council just a few weeks ago and the Families reports, the first of which will be released next month and focuses on the impact of drug and alcohol use by parents on children.

Slide 6

The ANCD also auspices the national quarterly drug and alcohol magazine – *Of Substance*. This magazine is also available for free and currently is received by over 12,000 people working with drug and alcohol matters. We also now estimate that there are actually more than 30,000 regular readers of the magazine.

Slide 7

Of course everything the ANCD does is guided by our National Drug Strategy. This strategy is agreed to and supported by the Australian Government and all the State and Territory Governments each 5 years.

Slide 8

Since 1985 Australia's drug strategy has been described as being a 'Harm Minimisation' approach.

In this context Harm Minimisation consists of 3 pillars known as supply, demand and harm reduction.

In short harm minimisation is defined as the primary principle underpinning the National Drug Strategy. It refers to policies and programs aimed at reducing drug-related harm. It aims to improve health, social and economic outcomes for both the community and the individual, and encompasses a wide range of approaches, including abstinence-oriented strategies. Harm minimisation includes preventing anticipated harm and reducing actual harm. Harm minimisation is consistent with a comprehensive approach to drug related harm, involving a balance between demand reduction, supply reduction and harm reduction.

I am aware there is often a lot of debate in Australia on the terminology used to describe our National Strategy and there is some confusion with the terms harm minimisation and harm reduction. Nonetheless I was surprised to learn on my appointment that some are still so caught up in this debate over terminology. I am personally not interested in a debate about semantics – I am far more interested in how we as a nation stem the flow of drugs into our country, how we educate our people, particularly our young people and how we help those whose lives are being damaged by drug dependency and crime. It is the outcomes that the Australian people are concerned about not the labels that people assign to the approaches we take.

Whether you choose to call this policy 'Tough on Drugs', 'Harm Minimisation' or 'Harm Reduction' is of little concern to me. There is no question that the government policy is one of zero tolerance towards drugs, particularly for those trafficking and dealing in drugs, but with a compassionate approach to those dependent or adversely affected by drug use. The success of this broad government policy is also clear to see, as I will be highlighting throughout my presentation.

Slide 9

It is also worth noting the Australian Medical Association recent policy resolution of harm reduction:

“The AMA confirms its support for a harm reduction approach to licit and illicit drugs, including alcohol and tobacco.... The AMA also supports evidence based initiatives to reduce the use of these substances by individuals and the community. The definition of harm reduction to be used by the AMA ... is to reduce the adverse health, social and economic consequences of mood altering substances to individual drug users, their families and their communities.”

The definitions of these terms support an inclusive approach and broadly target individuals, families and communities – and this is the crux of the matter for the ANCD, the debate on the semantics is unimportant, what needs to be measured is our motivation and our approach to drug and alcohol issues.

We all support policies and programs to remove and reduce the supply of illicit drugs and to restrict the availability and promotion of harmful licit substances.

We all support policies and programs that aim to remove and reduce the demand for any illicit drug use or any harmful licit drug and alcohol use.

We all support policies and programs that aim to reduce the harm for people using any drug and alcohol.

We all support the wider implementation of evidence based policies and programs and the trialling of ethically sound and the rigorous scientific evaluation of any new and innovative approaches.

The ANCD does not see these statements as mutually exclusive but rather as complementary and based on a reality that despite our best efforts to keep people free from illicit drug use and harmful licit drug use there will be people that engage in both activities, and thus a necessity to provide assistance and services to assist and protect people from harm.

Whilst there will always be areas of disagreement on the specific approaches that can be taken, the opportunities for all of us in this sector to work co-operatively are clear, as is the lack of evidence to suggest that a focus on terminology and labels will somehow serve the community well. The opportunities for co-operation I speak of are demonstrated unmistakably when we look at the damage caused by alcohol in our communities and how as a sector we need to be united to take on the might of the alcohol industry in Australia.

Slide 10

Within these agreed National Drug Strategy pillars the following priority areas have been agreed and this has led to an unprecedented level of investment by the Australian Government into drug and alcohol initiatives, as can be seen on this next slide

Slide 11

As you can see there are a great deal and vast range of new initiatives funded under the Australian Government's Tough on Drugs Program.

Since 1998 there has been an additional \$1.5 billion of Federal funding allocated to address drug and alcohol problems in Australia, with a substantial amount of this funding being provided for the Illicit Drug Diversion Initiative which seeks to divert drug users from the criminal justice system and into the drug treatment system.

Slide 12

There is often debate about the need to invest more money in particular areas of drug and alcohol and to reduce in other areas. Of course to have this debate properly we need to arm ourselves with information on the current breakdown of allocations. This slide shows us a breakdown for 2002/03 across all governments in Australia – although I do need to add a note of caution here. First, drawing lines between what qualifies as a drug and alcohol initiative or program or not can be quite difficult and at times quite arbitrary. For example, where one draws the line with police activity costs on what is general policing costs and what is specific drug and alcohol related policing activity. Second, the figures shown here, although being the latest we have do not include the significant investments that have occurred in the past 4 years.

All that being said, what we can see is that the 56% of funding is allocated to supply reduction activities, 40% to demand reduction activities and around 3% to harm reduction activities.

The debate we have on these allocations should centre on whether this mix is right, and I believe it is a fairly balanced mix in line with community expectations, and whether there are areas for improvement. In this regard, it is the view of the ANCD that further investment is required for treatment and pleasingly I am able to report we have seen a significant increase in investment for treatment by our Australian Government in the past few years, with a significant boost being announced as late as last week by the Prime Minister.

However, there will always be differing views on the appropriateness of this mix of funding and that is a debate that should be welcomed and enjoy public involvement.

Slide 13

I now want to turn our attention to a series of slides that provide us with some current data of interest and concern – as you can see there has been a steadily growing number of clandestine laboratories being discovered in Australia. These laboratories are predominately used to produce amphetamine type substances and as you may be aware the ANCD released a major position paper on methamphetamines earlier this year and I would like to recount some of the information that this paper includes:

Almost one in ten Australian's have tried methamphetamines and there are now an estimated 73,000 dependent methamphetamine users in Australia.

Methamphetamine use has become a real concern in Australia over the past few years. There has been rising methamphetamine-related problems impacting on both health and law enforcement services. No doubt many of you have seen and heard of the problems faced by hospital emergency staff and police on the beat. Nevertheless, like all drug problems, responding to the methamphetamine problem requires a balanced and coordinated approach that encompasses reducing the supply, reducing demand for drugs, and reducing the harms associated with drugs. Thankfully the balanced and co-operative framework of our National Drug Strategy allows many of the responses necessary to address methamphetamine use to already be in place in the form of prevention and treatment programs, HIV prevention initiatives such as needle exchange programs, and many law enforcement efforts across jurisdictions in Australia and internationally.

What this ANCD paper reveals is that:

Whilst an estimated 1.5 million Australians have tried methamphetamines, the majority have either snorted or swallowed the drugs on only a small number of occasions and thankfully they are unlikely to experience significant problems from their methamphetamine use.

It's estimated there are approximately 73,000 dependent methamphetamine users in Australia –nearly double the estimated 45,000 regular heroin users in Australia.

In 2004/2005, there were 14,780 drug treatment episodes for methamphetamine or amphetamine use in Australia.

Providing effective treatment for methamphetamine dependence is critical to addressing the problem because most of the harm from the drug comes from dependent users.

Worryingly recent estimates suggest that less than a third of dependent methamphetamine users received treatment.

Harms associated with heavy methamphetamine use include psychotic symptoms (paranoia and hallucinations), crime (drug dealing, property crime), aggression or violent behaviour (particularly during drug induced psychosis), deterioration in social functioning, and a range of physical health problems (stroke, cardiovascular pathology, dental problems).

Slide 13 continued....

Fatalities from methamphetamine use are not common, and less likely than for heroin use. However, methamphetamine does increase the risk of stroke and cardiac failure, and a notable number of methamphetamine-related deaths have now been documented in parts of the USA where the drug's use is more common. In Australia there are currently around 50 deaths a year that are attributed directly to the use of psychostimulant drugs, including methamphetamines

Because methamphetamine use does have many effects and consequences that differ from other drugs some of our existing responses need to be adapted whilst some further specific responses to methamphetamines are also warranted.

Some of the specific recommendations made by the Council in its paper include:

Utilising existing police and court diversion programs, as well as drug testing programs for drivers to target methamphetamine users for referral into treatment.

Maintaining the efforts to restrict the availability of precursor chemicals used in the manufacture of methamphetamines.

Encouraging partnerships between health and law enforcement personnel

Encouraging media campaigns that are well researched and do not lead to an unintended increase in methamphetamine use or other harms.

Improving our understanding and overcoming the barriers faced by drug users in accessing drug treatment.

Increasing the awareness of evidence-based treatment options for methamphetamine use and improving the capacity of treatment providers to use these types of treatments.

Further building on the capacity and evidence base for the treatment provided by therapeutic communities and residential care services for methamphetamine use

Ensuring that drug treatment services have the capacity to identify and treat or refer patients who have co-morbid mental health problems. This could involve having on-site psychiatric staff and/or clinical psychologists, and where appropriate, integrating psychiatric and drug treatment services.

Implementing HIV prevention strategies for injecting drug users that address both injecting-risk behaviour and sexual-risk behaviour.

Slide 14

One of the great successes of the past few years in Australia has been reducing the level of our heroin related fatalities from an appalling peak of over 1100 people, which is equivalent to 3 people dying everyday somewhere in Australia from a heroin overdose, to around 350 a year. Still way too any but a lot better than it was.

Indeed this represents a fall of 70% in the past 8 years

I should also take this opportunity to comment on a recent UK report which listed Australia as having one of the highest illicit drug fatality rates in the world – unfortunately there international comparisons are based on 1998 figures for Australia and 2003 for the rest of the world – so by my estimation using 2003 figures would actually place Australia at the much lower end of the scale on international comparisons of fatalities.

This raises an interesting issue about international comparisons and the need to exercise caution when trying to compare data and its implications for Australia. Undoubtedly, there is much to learn from looking internationally, we can see what impacts and outcomes various policies and programs can have and this helps build our understanding of what approaches need to be considered when deciding our own approach. However, we also need to acknowledge that not all data is comparable and differences in the way data is collected and collated can significantly affect the result. We also need to take into account that culture and history are also a very important factor in the success or failure of policies and programs and that importing any single country's approach will inevitably be flawed if differences in the Australian way of life, culture and experience are not taken into account. Just as we advocate the need for specifically culturally appropriate and secure approaches to address Indigenous peoples issues so must we accept a uniquely Australian culture.

Slide 15

As you can see there is both good news and bad news about drug and alcohol use in Australia today.

Overall drug use in Australia has been declining since 1998

The overwhelmingly majority of young people do not use drugs. They are better educated about these issues than ever before.

The level of cannabis use has seen the most dramatic decline

However this is not a time for complacency as we must also acknowledge that:

The problems associated with alcohol use in Australia have increased and this is an area I will focus on in some more detail shortly.

Despite the use of illicit drugs generally declining since 1998 the level of methamphetamine and ecstasy use in Australia has been increasing.

Whilst Australia has a mature and sophisticated drug treatment service network, with the level of accessibility and availability of this treatment having increased significantly since over the years, the level of dependent drug users in treatment in Australia is estimated to be below 50%—this is still lower than some Western countries where rates above 70% are achieved

Slide 16

The average age at when people try illicit drugs for the first time has been increasing and this is a very important measure that is often missed by many commentators. This does not mean that we do not have cases of people at much younger ages using drugs and alcohol but on average our work is succeeding to delay the onset of use which research clearly shows will lead to less problems in the future for these people. However, our efforts to assist those young people sliding into drug and alcohol use must be maintained.

Slide 17

As you can see here Australia has seen one of the most dramatic declines in tobacco use in the western world with the latest figures showing that only about 17% of the adult population engage in daily smoking.

As some of you may know I have been a strong advocate to reduce tobacco smoking for many years. As Chairman of a Senate Committee into Tobacco it is a source of great pride to see that Australia probably now leads the world in having the lowest rates of tobacco smoking today. Our efforts in getting these lower levels are based on a number of strategies being implemented, maintained and expanded. There are lessons to be learnt here for our approach to particularly so for another licit drug – namely alcohol.

Slide 18

To turn our attention to international matters. There is a need to be aware that what happens in the rest of the world can have real impacts here in Australia. Recently we have seen a dramatic increase in the production of opium in Afghanistan

Slide 19

Despite significant reductions in all other areas known as the Golden Triangle and the Golden Crescent. Bu these reductions are not as good news as we would first think as we have seen a tremendous up-scaling in methamphetamine production in the same region and beyond

Slide 20

Production and use of these drugs has been increasing around the world particularly in the United States, Myanmar, Malaysia, Philippines and Thailand. As can be seen in this slide for production of crystal methamphetamine or 'ice' in this slide.

Slide 21

Closer to home we know from our colleagues in the region that the Asia-Pacific area has been home to some enormous production facilities for methamphetamines, with literally tonnes of the drug being produced and that this production has turned increasingly to its crystalline form or ice.

There are many destinations for this drug including the US, Europe and Australia, but increasingly methamphetamine use is becoming the drug of choice in many countries in the region, and particularly amongst young people in the burgeoning middle classes, as well as those in occupations which demand prolonged activity such as truck drivers.

Such developments only serve to emphasize the need for Australian authorities in the Australian Federal Police and Customs Services to continue to collaborate and work closely with our regional neighbours to address methamphetamine production and trafficking and the need for our health and development services to engage and assist with treating drug use to a much greater level in the region.

I am pleased to report that Australia has worked tirelessly in the past few years to strengthen our understanding and ties with our counterparts in the region. Drugs are truly a global phenomenon and just as traffickers work across national borders so must we if we are to undermine their efforts to increase the availability of drugs. Rightfully there is increasing respect and reliance on Australian expertise and knowledge on drug issues across the Region.

Slide 22

Australia has one of the lowest rates of HIV infection amongst injecting drug users in the world and this is something that we should rightfully be proud of. Many people who slide into injecting drug use will later find themselves in a position to contribute to society in far more positive and meaningful ways – indeed our website Positive Stories recounts many of these tales of redemption. The fact that the majority of these people successfully completing treatment for their drug use problems can do so without the burden of a disease like HIV or AIDS is significant. One only needs to look at the dreadful figures of HIV infection around the rest of the world to see what a difference we have in Australia.

Slide 23

As our colleagues in the World Health Organization have been able to demonstrate when HIV occurs in injecting drug user populations the potential for it to spread rapidly with devastating effect is clear. It is a scenario we have thankfully avoided here in Australia because of our quick and sophisticated response to HIV that started many years ago.

Slide 24

I know there is still some debate in some quarters about the role of needle and syringe programs in abating the transmission of HIV, but the evidence when one looks at what has occurred around the world and what has occurred here in Australia is difficult to ignore. As this study commissioned by the Department of Health & Ageing shows, there have been thousands of infections avoided and lives saved by needle and syringe programs. The ANCD has, and continues to support the establishment and continuation of needle and syringe programs. To even contemplate potentially infecting thousands of Australians by not supporting needle and syringe programs is a risk we cannot afford.

Slide 25

I now want to turn our attention to alcohol and this is an area where I see the opportunity for great co-operation across the whole sector despite some of the differences that may exist with approaches to illicit drugs. Whilst I have detailed the many successes in recent times with illicit drugs, it is not a story that I can continue in reference to alcohol. As we can see here, the level of risky alcohol consumption has been increasing steadily since 1995.

Slide 26

As you can see every age category has increased its level of high risk drinking in the past 10 years.

Personally I have witnessed some truly appalling and distressing events as a result of alcohol. However alcohol has always been intertwined with Australian history and broaching this subject can be quite difficult as accusations of wowserism can often ensue. So let me make it clear, I drink alcohol and so do some other members of the ANCD. We do not wish to stop alcohol being available and consumed. What we do want however is a recognition and approach to the consumption of alcohol that addresses the damaging effects of excessive alcohol consumption and in particular the violence, fear and intimidation caused by public intoxication and mob behaviour. The production, sale and marketing of alcohol in Australia, and worldwide, are multi billion industries. Alcohol also causes billions of dollars worth of damage.

There are many factors we need to address in Australia when addressing alcohol but I believe there are 3 priorities which are crucial in we are stop the damage it can cause and does cause for many people.

First we must address the culture of drinking in this country which celebrates drunkenness, and promotes binge drinking as some sort of rite of passage and mark of respect. I am not seeking to lecture young people, as they are often lectured to about binge drinking, indeed responsible drinking is something for many adults to do rather than expect from others. Parental education is paramount and the example speaks louder than words.

Secondly, we must revisit our promotion of alcohol. Laws which allow alcohol advertising to be shown during the day when children are watching television because there is a sporting contest on are out of touch with community wishes. The alcohol industry spends millions on promoting its products – and there is a reason for this. Greater restrictions on advertising and promotion are warranted for this potentially dangerous product.

Finally, the taxation schedules for alcohol need to be revisited to ensure they are structured to reduce harm. This can take many forms but the base of taxation should be one determined by the volume of alcohol in a product, with the necessary adjustments to promote responsible consumption.

Slide 27

So to return to a theme I raised earlier and which I believe is important to think about today – it is the need to see abstinence and harm reduction approaches being part of an overall strategy to reduce drug and alcohol use per se but also to allow us to reduce the harm from drug and alcohol use for those that do use drugs.

As I have tried to demonstrate in this slide – everyone contributes to the overall solution.

We, as a nation, have much to be proud of – but obviously there is still much to be done and the insidious influence of organised crime and their pedlars will continue to spread their poison. What we have achieved has been a result of leadership from the top, and by that I mean the Prime Minister, and a co-operative effort from State, Territory and Federal Ministers through their Ministerial Council on Drug Strategy, and from State, Territory and Federal bureaucracies through the Inter-Governmental Committee on Drugs and just as importantly, through from the efforts of the NGO sector. The goodwill of all the people who work in this area is another critical component of our achievements to date.

Brian Watters

**Member of the UN International
Narcotics Control Board, NSW**

**Session Title:
Drugs - An International Perspective**





INTERNATIONAL NARCOTICS CONTROL BOARD



Mandate and functions of the International Narcotics Control Board



INTERNATIONAL NARCOTICS CONTROL BOARD



INTERNATIONAL
NARCOTICS CONTROL
BOARD

Established by the
1961 Single Convention
Narcotic Drugs to replace
predecessor bodies
under League of Nations

Additional
mandates
1971 and 1988
Conventions



Role of INCB

Work focuses on six main aspects :

- ensure that cultivation, production, manufacture and utilization of drugs are limited to medical and scientific purposes
- ensure availability of drugs for medical and scientific purposes
- identify weaknesses in the implementation of the international drug control conventions
- prevent illicit cultivation, production, manufacture, trafficking and use of drugs
- evaluate and recommend chemicals for possible international control
- monitor chemicals and prevent their diversion into illicit channels



Composition of the Board



- 13 members
 - 3 nominated by WHO
 - 10 nominated by Governments
- elected by ECOSOC for a period of 5 years
- serve in their personal capacity not as government representatives

Board members are persons who, "by their competence, impartiality and disinterestedness, will command general confidence" (Article 9 (2), 1961 Convention)



Dialogue with Governments



- Correspondence
- Meetings
- Country missions
- Technical visits



INCB missions 2006



- *Argentina*
- *Belarus*
- *Brazil*
- *China*
- *Democratic People's Republic of Korea*
- *Djibouti*
- *El Salvador*
- *Estonia*
- *Gambia*
- *Honduras*
- *Latvia*
- *Lithuania*
- *Luxembourg*
- *Malawi*
- *Myanmar*
- *Peru*
- *Yemen*



INCB reports

- Annual Report of the Board
- Three technical reports on
 - narcotic drugs
 - psychotropic substances
 - precursors



INTERNATIONAL
NARCOTICS CONTROL
BOARD



Annual Report
2006

The highlights





INCB Annual Report

The annual report

- Analyses global drug control situation
- Draws attention of Governments to any weaknesses in national drug control and treaty compliance
- Suggests possible improvements at both national and international levels.



Chapter I

Internationally controlled drugs and the unregulated market



Internationally controlled drugs and the unregulated market (*continued*)

Sources of drugs available on unregulated markets

- Thefts or unauthorized sales from licensed manufacturers, wholesalers, distributors, health-care institutions and/or health-service providers
- Expired drugs/ substandard drugs that have been recalled by the manufacturer
- Individuals who have legally obtained drugs and sell them for profit
- Counterfeit drugs



Internationally controlled drugs and the unregulated market (*continued*)

Factors driving the unregulated market

- Limited access to health-care facilities
- Cost of drugs
- Lack of public awareness
- Inadequate drug control regulations and weaknesses in enforcement
- Consumer demand for illicit drugs



Internationally controlled drugs and the unregulated market (*continued*)

Emerging issues

- Counterfeit drugs
 - An estimated 25-50 per cent of the medicines used in developing countries are believed to be counterfeit
- Internet orders
 - Large majority of Internet pharmacies are unlicensed and unregulated and sell internationally controlled drugs (benzodiazepines –84 %; opioids – 68 %)
 - Most accept prescriptions by fax (high risk of falsification)
 - Risks:
 - Lack of proper medical supervision;
 - Higher price than in legal pharmacies;
 - Buyer's medical and financial data may be compromised.



Recommendations

Governments should:

- Establish a comprehensive legal framework and rigorously enforce existing legislation
- Conduct inspections (in accordance with article 15 of the 1971 Convention)
- Correctly assess requirements for narcotic drugs and psychotropic substances
- Build capacity of staff of drug regulatory authorities
- Implement effective policies to combat counterfeit drugs



Chapter II

Implementation of the international drug control treaties



Trafficking and abuse of fentanyl

- Increased trafficking and abuse of fentanyl reported particularly in North America and some parts of Europe;
- Global consumption of fentanyl for medical purposes has more than tripled since 2000;
- Increasing seizure of clandestine laboratories (e.g. in Austria, Mexico and Ukraine).



Afghanistan

- Further deterioration in the drug control situation during 2006
- Record level of opium poppy cultivation
- One third of Afghan economy is opium-based
- Widespread corruption
- Absence of adequate control mechanisms has contributed to proliferation of unregulated retail outlets selling controlled substances
- Result: colossal drug abuse problem; one million drug abusers according to first nationwide survey, 60,000 children (under age 15) abuse drugs



Chapter III

Analysis of the World situation



Analysis of the world situation (1)

AFRICA

- Cannabis cultivation and production on the rise, despite marked reduction in cannabis production in Morocco;
- Availability of internationally controlled substances on unregulated markets in most parts of Africa;
- Africa continues to be exploited by cocaine trafficking organizations for smuggling cocaine from South America to Europe.



Analysis of the world situation (2)

AMERICAS

- North America continues to be one of the prime targets of drug traffickers;
- Illicit drug use in United States reported as declining for the fourth consecutive year (annual prevalence rate for drugs currently 10 to 30 percent lower than 10 years ago);
- In Central America and the Caribbean, institutional weaknesses and corruption seriously undermine Government efforts to counteract the drug problem;
- South America: Potential cocaine manufacture in the Andean subregion has decreased by 3 per cent



Analysis of the world situation (3)

ASIA

- Large-scale opium poppy production in Afghanistan continues to affect countries in the subregion; Islamic Republic of Iran has the highest rate of opiate abuse in the world;
- Increasing abuse of and trafficking in cocaine has been noted in South Asia;
- Abuse of internationally controlled drugs, particularly codeine preparations (cough syrup) or buprenorphine remains a pervasive problem in India;
- Abuse of amphetamine-type stimulants has emerged as a serious problem in Lao PDR.



Analysis of the world situation (4)

EUROPE

- Europe is second largest illicit market for cocaine in the world;
- Heroin abuse has remained largely stable and even declined in Western and Central Europe;
- Methamphetamine abuse in Europe remains limited to a number of countries in Central Europe.



Analysis of the world situation (5)

OCEANIA

- Cannabis abuse in Australia has been reduced by almost 50 percent over a period of nearly ten years (2005- 18 per cent, 1996-35 per cent);
- Large-scale illicit manufacture of MDMA continues in Australia;
- South-East Asian methamphetamine is trafficked through Oceania to Canada, and, to a lesser extent, the United States;
- Drugs are reportedly exchanged for arms in parts of Papua New Guinea.



INTERNATIONAL
NARCOTICS CONTROL
BOARD



Annual Report
2006

Supplementary slides





Afghanistan “Licit poppy proposal”

- Proposal to “legalize” opium poppy cultivation is simplistic, not feasible and based on the wrong premise
- Claim: Purported shortage of licit opiate raw materials
- Reality: since 1999, total production of licit opiate raw materials has exceeded global demand
 - In 2005, total stocks of licit opiate raw materials were sufficient to cover global annual demand for almost two years
- Cultivation of licit opium only works if certain conditions for success are met, e.g. functional control mechanisms to prevent diversion into the illicit market, rule of law etc.
- Reality: In Afghanistan, current situation characterized by rampant illicit production, significant levels of drug abuse, and weak and dysfunctional control system



Drug injection rooms

- INCB gravely concerned about drug injection rooms where drugs are abused with impunity
- Such rooms exist in Australia, Canada, Germany, Luxembourg, Netherlands, Norway, Spain and Switzerland
- Drug injection rooms run counter to fundamental principle of the international drug control system, namely that drug use be limited to medical and scientific purposes
- Drug injection rooms do not address the root cause of the drug problem



Control of coca leaf

- Coca leaf controlled under provisions of 1961 Single Convention on Narcotic Drugs
- Last review of World Health Organization was in 1993, concluded that coca leaf is “appropriately scheduled” under the 1961 Convention “since cocaine is readily extractable from the leaf”
- Since that time, no new facts have come to light to justify a reversal of that decision
- INCB believes that changes in scheduling decisions should be guided by scientific evidence
- Bolivia is bound by its obligations under the 1961 Convention
- INCB supports appropriate use of plant products as medicines on the basis of scientific evidence and ensuring their safety and effectiveness



**Thank you
for your attention**

Hon Christopher Pyne
Minister for Ageing, ACT

Session Title:
Federal Government's
“Tough on Drugs” Approach



Speech by the Minister for Ageing, Christopher Pyne
Drug Free Australia Conference, Adelaide
29 April 2007

Intro

Mr Craig Thompson, Chair of Drug Free Australia, and Patron Dr Margaret Court, Dr Herron, Major Watters, distinguished guests, ladies and gentlemen.

I'm pleased to acknowledge Jo Baxter, the CEO of Drug Free Australia, who the Prime Minister last week appointed to the Australian National Council on Drugs. Jo you've done a tremendous job organising this conference, and my congratulations go to you.

I am very pleased to be here in my home town of Adelaide, to speak to you about an issue of great importance to us here in Australia, and in fact to every country around the world.

Illegal drugs are a cause of pain, suffering and breakdown both to individuals and to communities. They affect the health, security and economies of societies across the globe.

We've heard Major Watters speak on the international situation. I will focus on the domestic situation, but I wanted to start my presentation to you by including what I think is an outline of a very big picture.

The 2006 World Drug Report estimates that approximately 200 million people – or 5 per cent of the world’s population aged between 15 and 64 years – have used drugs at least once in the previous 12 months.

The estimated number of what are commonly understood to be ‘problem drug users’ is approximately 25 million people worldwide.

An estimated US\$322 billion is thought to be derived from the illicit drug trade¹.

The use of injected drugs continues to fuel the HIV/AIDS epidemic in many countries, with an estimated 40 million people now living with HIV/AIDS worldwide — 8 million of those in the Asia-Pacific region. In fact, UNAIDS estimates that the number of people living with HIV in the Asia-Pacific region — our region — will reach 20 million by 2010.

An estimated 162 million people use cannabis annually. Cannabis is grown all over the world, being produced in about 176 countries. Indeed, there is no region in the world where cannabis is not the dominant illicit drug.

In this room, there is no one who needs convincing that drugs are among the major problems confronting our society; however it is fair to say that our focus has largely been working on drug problems at the local level.

This is the right level for interventions, but sometimes it is important to look around – to see the scale of the problem and to really appreciate

¹ 1. Due to the obscurity and clandestine nature of the illicit drug market, this figure represents an estimate. United Nations Office on Drugs and Crime, World Drug Report, 2005, Vol 1, Chptr 2, page 127.

the situation in Australia in context. We also need to appreciate the successes we are having.

This conference allows for that reflection. I'm very pleased to be able to focus on a few examples that will illustrate my central message to you today.

That is, that we are very much heading in the right direction, and while there is always more to be done, we are well positioned to build on our successes.

As you may know, the National Drug Strategy Household Survey gives us many of the basic measures against which we chart our progress. It is the largest, most comprehensive survey in a series which commenced over 20 years ago.

Almost 30,000 Australians aged 12 years and older participated in the last survey, in which they were asked about their knowledge of and attitudes towards drugs, their drug consumption histories, and related behaviours. This survey gives us a very strong basis on which to talk about trends in the general population.

The most recent survey was conducted in 2004. It showed that since 1997 – right at the beginning of this Government's *Tough on Drugs* initiative – we have made the following gains:

- The proportion of young people aged 12-17 years using illicit drugs has decreased from 11 per cent in 2002 to 7 per cent in the latest figures.

- The rate of cannabis use has fallen from an all time high of 17.9 per cent in 1998 to 11 per cent in 2004.
- Heroin use has fallen from 0.8 per cent in 1998 to 0.2 per cent in 2004, and
- Tobacco use has fallen from 23.9 per cent to 17.4 percent, between 1995 and 2004.

In addition — and of critical importance to all of us — there has been a huge reduction in accidental deaths from opiates, from a staggering 1,116 in 1999 to 374 in 2005.

These encouraging trends are supported by a study that was released last November – the Australian Secondary Students' Alcohol and Drug Survey.

Two figures relating to cannabis use amongst our young people particularly jumped out at me in this survey, as they demonstrated the changed attitudes in our community – including amongst our young people – in their attitudes towards cannabis over the last decade.

In 1996, 35% of 12-17 year olds had tried cannabis in their lifetime. By 2005, that figure had almost halved to 18%.

In 1996, 11% of our secondary students were smoking cannabis on at least a weekly basis. By 2005, only 4% of secondary students are smoking cannabis on a weekly basis.

I think you will agree that these are very encouraging results. When statistics change in the right direction, we need to ask why. What factors or programs have caused or contributed to these outcomes?

The first factor I would cite as to our success is changing attitudes towards drug use in the community. The Government has understood this for some time and has been steadfast in its development of community-oriented messages about drugs through successive waves of its illicit drug campaigns.

The campaign 'Talking with your kids about drugs' targeted parents of 8 to 17 year olds, and was aimed at increasing awareness of the damage done by illicit drugs. We took this approach because we believed parents should and could be better informed and armed to discuss these issues with their children.

At the time, some in the media, and in the Labor Party and the Greens, said that the Government was on the wrong track – that kids would never talk to their parents about drugs in a serious way. But the Howard Government pressed ahead.

The evaluation of this campaign indicated that it was extremely effective in reaching parents and encouraging them to engage in discussions with their children about illicit drugs, and what was more important, their kids did want to talk to their parents about these issues.

Our research showed that subsequent to receiving the information from the campaign, about 80 per cent of parents engaged in discussions about drugs with their children. Now some of these parents may have had those discussions irrespective of receiving information from the Government. But for many more it gave parents the confidence to feel that they could broach the subject of drugs with their children. Importantly, it gave them information to support those discussions and to help them answer their children's questions.

And the research certainly indicated that the campaign increased the number of conversations between young people and parents about illicit drugs, with both parents and young people reporting back that the campaign had made these conversations easier.

The second phase of the 'Talking with your kids about drugs' campaign primarily focused on young people aged 13 to 17 years, and parents as secondary targets for the messages.

The campaign aimed to prevent young people from using drugs, by highlighting the very dramatic and damaging effects of illicit drug use, with particular attention to the three most commonly used illicit drugs: marijuana, ecstasy and speed. It offered positive alternatives to drug use, provided information on counselling services for drug users and their families, and reinforced the message that parents should talk to their children about drugs.

You might recall the TV ads in this campaign – they were hard hitting and very deliberately so. The images included the ‘lost dreams’ of a young person in a body bag as a result of a drug overdose, and an emergency room scene from a hospital depicting an overdose. These images were designed to confront young people with the realities of the consequences of drug use. The Government is working on, and will shortly release the third phase of this campaign. We will be unrelenting in our efforts to ensure these messages reach our young people. This third phase will include an update of the “*Talking to your kids about drugs*” booklet, which will be letterboxed to every household in Australia.

Public attitudes towards drugs are changing as more information is freely available. And young people’s attitudes in particular are changing, as they understand more and more that all drugs, from cannabis to ice and everything in between, lead to misery and destruction.

The second factor I would cite in explaining the progress we have made is our sustained investment in the drug and alcohol sector – on all its fronts. This investment has served us very well.

Since Tough on Drugs started, we have invested more than any other Federal Government in history – over \$1.3 billion and with the announcement last Sunday by the Prime Minister, another \$150 million has been added to this initiative.

This investment has enhanced our capacity to stop drugs before and at the border – through Customs X-Ray facilities, intelligence networks,

and programs to trace drugs back to their source. We've built our ability to identify money laundering and other illegal activities linked to drug trafficking, such as the diversion of precursor chemicals and the imposition of controls on equipment used in clandestine laboratories.

Our law enforcement colleagues have estimated that more than 14 tonnes of the most serious illicit drugs have been prevented from reaching Australian streets since Tough on Drugs began.

We have supported the community through funding provided to over 220 community-based projects under the Community Partnerships Initiative to develop and implement local solutions to drug problems. On top of that, almost 170 non-government treatment services have been funded under the Non-Government Organisation Treatment Grants Program to deliver vital treatment services in areas of need across the country.

We've also funded an ambitious national diversion program, to reinforce to those who are just starting out on the wrong path that they have a clear option – get help to stop using these dangerous substances, or face a very troubled future ahead. The National Illicit Drug Diversion Initiative is an example of the very strong partnership in Australia between health, the judiciary and law enforcement.

The third factor I would cite is the research and evidence base that underpins the programs we devise to tackle all types of drug issues. Examples are numerous but among them are the work that has been done to handle the treatment of drug dependent mothers more

effectively; the development of different treatment options; and, importantly, a well developed ability to evaluate programs and detail the outcomes – fostering a sector that seeks to learn and move forward.

Next, I would suggest to you that we have adopted a view that drug use problems are complicated, and no one solution is universal. This comprehensive approach has fostered a multi-pronged attack where the health portfolio sits comfortably alongside partners from law enforcement, family and community services and education.

Drugs affect all socio-economic groups and levels of educational achievement and for every drug user there are parents, a family and some friends – all of whom will go through their version of hell trying to assist a loved one through a dangerous and chaotic time. Support for families has also been a central focus of this Government, which is why we've invested \$28 million in the Strengthening and Supporting Families initiative.

This means programs to strengthen families, especially those that are socially isolated, and to engage with schools. The aim is to transmit values, to nurture emotional development and to encourage positive life styles. It also means more targeted prevention to reach young people who, for social, mental or behavioural reasons are vulnerable to drugs.

We know that in this complicated area there is always room for improvement and, for this reason, we will be looking closely at the two family-oriented reports from the ANCD, one of which, Supporting

Families, is due to be released toward the end of the year. I expect that report will offer suggestions on opportunities for strengthening our prevention and treatment efforts and I look forward to reading it.

While I confidently believe that we are right to say that the programs we have funded through *Tough on Drugs* have had a positive impact, I also recognise that quite a number of challenges remain.

I certainly want to reinforce this message – there is always room for improvement.

In an ideal world I would not wish for a speech in a forum such as this to be overtly political. But it cannot go unremarked that much of the room for improvement exists in the need for State Governments to wake up, catch up, and smarten up in their treatment of illicit drugs.

Given the overwhelming research linking marijuana use to mental health problems, it is outrageous that in parts of Australia, soft laws exist that allow marijuana to be grown for so called personal use at no greater risk or deterrent than getting a speeding fine.

Given the success of zero tolerance policies in tackling the terrible horrors of heroin abuse, it is preposterous that a State Government would sanction the existence of a supervised injecting room that is unable to divert more than 2% of users to rehabilitation.

And given the well documented consequences of this new devastating drug Ice, it is shocking that some jurisdictions still refuse to ban the Ice

pipes that so many young people use as they get hooked on this evil drug. What is more troubling, of the four states that have banned Ice pipes, it seems that only Victoria has shown any interest in enforcing their laws – for which I congratulate them. But retailers around the country will continue to make soiled profits from these items, selling them as coloured glass as if they were something you'd hang from a Christmas tree, so long as the States refuse to back up their police forces in taking them off the streets.

But there are areas that the Commonwealth recognises that we can improve the work we do too. The Prime Minister said as much last Sunday, as he announced \$150 million worth of new measures the Australian Government is taking to combat drug abuse, and in particular the scourge of Ice. This \$150 million is made up of:

- \$79.5 million over four years to the non government organisation drug and alcohol treatment sector to increase rehabilitation services. This funding will deliver more rehabilitation services, especially for youth and families.
- \$22.9 million for an Amphetamine-Type Stimulant Treatment Grants program to better equip non-government organisations with strengthened infrastructure and specialised staff to deal with new challenges posed by amphetamines and Ice.
- \$9.2 million to communicate the dangers of Ice to Australians through the Government's primary prevention focussed National Drugs Campaign. This will include:
 - the production of a new Ice television commercial to complement

- existing commercials on cannabis, speed and ecstasy; and
- and as I mentioned before, the development of an updated version of the highly successful parents' booklet, 'Talking with your Kids about Drugs', to be distributed to all households in Australia.

These measures will be complemented by additional funding for a range of law enforcement measures, totalling \$37.9 million, designed to reduce the supply of illicit drugs to the Australian community. Activities include increasing illicit drug intelligence gathering capabilities, increasing resources to investigate organised crime drug distribution networks, enhancing telecommunications and data interception capacities, and strengthening international networks to disrupt illicit drug distribution.

Concluding remarks

One life ruined or destroyed by drugs is one too many. There is always more work to be done. However, in Australia, by and large the trends are heading in the right direction. We have lower population rates of drug use now than in the past. Heroin overdose rates are dramatically lower now than in the 1990s.

More people are aware of drug problems, and more parents are talking to their kids about drugs.

The treatment sector is getting more support and our researchers continue to pave the way in terms of tracking drug use trends and new, evidence-based ways to tackle those problems.

Law enforcement agencies continue to tighten our domestic and international net, and the proceeds of drug-related crimes are coming back to the communities that they were taken from in the first instance.

The war on drugs has not been won, but I can promise you that this Government is committed to continuing the fight.

I'd like to thank Drug Free Australia once again for the opportunity to speak this afternoon, and wish you all the best for this last afternoon of your conference.

Dr Stuart Reece

GP, Queensland, Australia

**Session Title:
Addictions - A Practitioner's Perspective**



Stuart Reece

Biography

Dr. Stuart Reece is a GP working in Brisbane with an extensive practice in the field of addiction medicine. He has lectured in the USA on the side effects of illicit drugs and addiction, and is one of the leading physicians in this country working with the new naltrexone implants as the medical basis for a radical cure of heroin addiction alongside counselling therapies, social support, physical exercise, early work involvement and spiritual growth and development.

He has studied the classical addiction literature on the toxicity and safety hazards of addiction and is interested in integrating this literature with the recent developments in the biological and neurosciences, to properly study and define the likely toxicities of the addictive use of drugs particularly in the areas of gene expression and regulation, accelerated aging and stem cell and reproductive toxicities, stimulation of programmed cell death, derangement of brain growth development and renewal as relating to memory, emotional expression and psychiatric illness; immunosuppression and the dysregulation of DNA repair and carcinogenesis.

He is a strong advocate of the early general availability of naltrexone implants to qualified clinics, and the establishment of a national research centre of excellence to define the risks of addiction coordinated between the Governments of the Australian States and Commonwealth, and the USA to properly define the relevant hazards in order to protect our children, globally.

Abstract

The Fraud of Harm Minimization.

Talk Structure

Introduction

- Opening Remarks
- Credentials
- Opening Questions
- St. Petersburg / Moscow Effect – HIV Explosion

Review of HM

- Correlations
- Underlying Philosophy
- Pleasure seeking motivation
- Harm minimization as “Soft” Legalization
- The dark side of harm minimization

Addiction - Social and Medical Costs and Deaths

- Medical Effects
- Psychiatric
- Dental
- Immunosuppressive
- Infections
- Lungs
- Bones
- Inhibits Cell Growth
- Stimulates Cell Death
- Ageing

Pathology of Addiction as Age Related Changes

- Infections
- Immunostimulation and immunosuppression
- “Running to keep up”
- Infections Drive Ageing
- Dental disease
- Psychiatric Co-morbidity
- Dental – Mental Associations
- Hair Greying
- Hardening of the Arteries
- Vascular Ageing
- Withdrawal hardens arteries
- Sudden cardiac death in addiction
- Stem Cell deficits – quantitative
- Inhibition of cell growth
- Diseases of Ageing
- CANCER
- Sperm Gene Damage
- Telomere dysfunction
- Ageing
- Cancer
- Babies and Children – ageing in utero
- Cervical Cancer Survey
- Leukaemia in Children
- Diurnal dysregulation and Life span reduction

Grief in Addiction and Counselling

Need for a Dedicated Basic Sciences Research

Institute into Addiction Pathology

- Research Outline
- Budgetary Estimates
- Brisbane Collaborating Professors

Action Plan - Recommendations

- Supercede outdated harm minimization philosophy
- Naltrexone Implant Demonstration Research Projects in Each Capital City
- Selected Naltrexone Outcomes Supported – Housing, Counselling, Accommodation
- Basic Sciences Addiction Research Centre
 - Global Centre of Scientific Excellence
 - Appropriately Resourced - \$50million
- Education Programs
 - Web Based
 - Information
 - Interactive
 - Classroom Based
- Review Seriously Deficient National Information systems in this area
 - ABS
 - NCIS
 - NCHECR
 - NCSHR (See B2 SMASH Report 1995 Documenting HIV + Paedophilia, paralleling Australian front page report of 31/03/07 and Herald Sun report of same date).

Back the Truth – ultimately this is the only real form of compassion.

Abdul Khan

Director, CAAPU, NT, Australia

**Session Title:
An Indigenous Perspective**



Abdul Khan

Biography

Abdul has spent sixteen years in Alice Springs, Central Australia, and is currently a Director of Central Aust. Aboriginal Alcohol Programmes Unit in Alice Springs. He has worked with several Aboriginal organisations so he has a good knowledge of the indigenous perspective of alcohol and other drugs.

For 25 years Abdul worked as an educator in the area of science and developed keen interest in a range of health problems associated with the abuse of alcohol and other drugs. Abdul, a Pashtoon, was born and raised in Afghanistan where he first became aware of these abuses. Since settling in Australia in 1970 he has made numerous return visits to Afghanistan and surrounding countries, observing and comparing the effects of alcohol and drug abuse there with those in Australia.

Abdul earned an Honours and a Masters degree in science with a graduate diploma in education and is a member of the Australian College of Education.

Abdul's presentation will include the smoking ceremonies, the education program and family well-being at CAAAPU.

Abstract

An Indigenous Perspective.

Introduction

The use of alcohol, tobacco and illicit drugs are both the cause and effect of much suffering in Aboriginal and Torres Strait Islander communities. Alienation, unemployment and despair arising from dispossession and dislocation all contribute to the use of these substances to attempt to relieve symptoms or temporarily escape. The use of alcohol, tobacco and illicit drugs does serious harm to physical health, but possibly even more harm to the social health of individuals and the fabric of communities. Acts of alcohol-related violence, overrepresentation of Aboriginal and Torres Strait Islander peoples in the criminal justice system and other forms of social breakdown are manifestations of the pain, anger and grief experienced by Aboriginal people arising from the process of colonisation. This disturbing burden contributes to the unacceptable levels of harm currently caused by alcohol and other drug use by Aboriginal and Torres Strait Islander peoples.

Illicit drug use

The use of illicit substances generally appears to be somewhat higher for indigenous Australians than non-indigenous Australians. The types of illicit substances include cannabis, heroin, amphetamines. The use of inhalants and solvents are currently used for sniffing.

Cannabis users tend to be male and young, that is, late teens to 30's. To some extent, cannabis is less stigmatised than other illicit drugs, at least among users.

While heroin and amphetamines are the most common drugs injected by Aboriginal and Torres Strait Islander peoples, heroin tends to be the drug choice if available. Amphetamine use, initially confined to urban centres, is becoming more common in regional areas.

Curbing illicit drug use

The most conventional form of primary intervention is education and information, where younger people are educated on the sorts of drugs that may be offered to them and the risks associated with using these drugs.

Another form of prevention is the introduction and maintenance of recreational programs. This sort of approach is particularly important in remote communities where there are fewer opportunities for recreational activities.

There is some suggestion that by introducing more culturally appropriate methods in mainstream services, that this would lead to improving the effectiveness of such services, both in terms of encouraging more indigenous clients to attend and promoting better success rates.

Craig Thompson

Chair, Drug Free Australia, NSW

**Session Title:
Links Between Mental Health and
Cannabis - A NSW Practitioner's
Perspective**



MENTAL HEALTH AND DRUGS A MAGISTRATES OBSERVATIONS

Presented by Craig Thompson, BAB Dip Crim, Magistrate, NSW

My involvement in this area arises as a result of my duties, as a Magistrate, to conduct inquiries into the need for further treatment of patients admitted into mental hospitals in New South Wales since 1980. I am unable to refer to specific statistics regarding patients whose illness arises as a result of drug consumption, be it induced solely from drug use or an exacerbation of an underlying psychosis as a result of that illness. Statistics of such a nature are not kept by any official body in my state. The only statistics of which I am aware are those kept to determine how many inquiries are adjourned or dealt with by way of final orders. Any statistics I refer to are approximations either from my own observations and more particularly that of doctors and/or social workers involved in these inquiries.

I commenced as a magistrate in 1979 and was appointed to undertake these inquiries at the North Ryde, Gladesville and Rozelle hospitals. I conducted those inquiries over one and a half days for a period of 20 months and later a half a day either every week or second week depending on which court I attended. Upon my retirement in 2001 I was appointed to conduct inquiries at the Bankstown, St. George and Sutherland hospitals each Wednesday and at Shell Harbour and Wollongong hospitals and have done so since February, 2002. Occasionally I have filled in for magistrates who conduct inquiries at Campbelltown, Liverpool, Hornsby and North Ryde mental hospitals.

While there is an absence of statistics regarding patients who, in the doctors opinions, are suffering from drug induced psychosis (or in their opinion exacerbating an underlying psychosis). Statistics regarding the number of inquiries held, as indicated above are kept. They indicated that since 1999 to 2004 there was a 61% increase in the number of hearings conducted by magistrates and, from my own observations, that has grown considerably since then. I can say that categorically because the number is now significantly higher now than in 2004.

My own information is usually gleaned from assessments of patients by doctors who must complete the first assessment within 12 hours of entry into the hospital and the second "as soon as practicable" thereafter. Some doctors will state quite categorically that the patient's illness has been drug induced while others say nothing and the information comes to light by what is said by doctors during the inquiry, or the patient or a relative appearing. At times, from my experience and observations of the patient and what has been said, I ask the question whether the patient has been using drugs.

I first encountered stated "cannabis schizophrenia" at North Ryde hospital about 1980. It surprised me and I questioned the doctors but they appeared sure of their assessments that the illness was induced by cannabis. The number appearing were small but as I continued hearing inquiries I noticed the number increasing. In 1987 I visited the Liverpool hospitals and dealt with 5 patients, said to have schizophrenia that was caused by cannabis. The psychiatrist told me that she estimated about 80% of young people being admitted to the hospital at that time (representing about a third of the total intake of patients) had been admitted as a result of using cannabis and most were uncontrollable and violent on admission. This was disturbing and I asked if she had brought this to the attention of the authorities. She said but said that she could not get her information through.

I later presided over Sutherland Court for 5 years. When attending that hospitals I noted the increase in patients (always young people) appearing who doctors said had a drug induced psychosis, always cannabis. At time defendant's appeared before me for possessing cannabis or assaultive behaviour and their behaviour

indicted to me they were not mentally well. As can be done, I referred them to the Sutherland hospital for assessment and invariably they remained there for treatment with assessments later tendered indicating they had been suffering from a cannabis induced psychosis. When I left Sutherland the social worker at that hospital stated about 50% of patients being admitted were suffering from that illness. A number of patients I saw had attempted suicide or been involved in violent behaviour, usually towards parents or friends.

Not long after leaving Sutherland I noted an article in the St. George-Sutherland Leader stating that 30 young people had been admitted to Sutherland hospital mentally ill as a result of using the form of cannabis known as skunk, a plant which authorities Federally said was known reach potencies of 30% THC, the active ingredient in cannabis. By comparison street potency at about that time, following a lecture delivered to magistrates by a member of Plantation Unit, said the average potency of cannabis on the street was then 4-7% THC. Skunk was said, by the authorities, to be known as "madweed" overseas and was being grown extensively in Afghanistan, Thailand and Morocco.

I presided over Kogarah Local Court for 3 years and Bankstown for some 6 years and noted the continued growth of alleged drug induced mental illness. Since attending the hospitals mentioned previously since 2002 I have noted a further increase in alleged cannabis induced psychosis while at the same time noting an increase in patients being found to be mentally ill from use of amphetamines. Great concern has been expressed by doctors over the past 18 months about the damage to patients and violence induced by using crystal methamphetamine known as "ice", either by itself or with cannabis. At this point in NSW cannabis still clearly leads the way in terms of numbers who appear before me with suggested cannabis induced psychosis.

Psychosis caused by ice and the amphetamine referred to as speed is not new to me. I have dealt with patients suffering drug induced psychosis from the former for some years now and the latter many years ago. In the early 1980s when presiding over the Children's Court at St. Mary's (known as Cobham Children's Court) the use of the amphetamine known as "speed" by young people was rife. The effects of this drug were at some times quite dramatic, inducing violence not only to others but to users.

It is clear that the number of users of illicit drugs in Australia society has increased and seemingly quite dramatically. We have the unfortunate reputation of being one of the highest consumers of both cannabis and amphetamines of all developed countries. There has clearly been an enormous increase in mental health problems associated with the use of those substances.

It is of course not only persons appearing for the first time that are the problem. Many patients have repeat admissions from relapses caused by continued use of drugs on discharge. I often speak to patients about their need for treatment of their drug problem but in many cases it clearly falls on deaf ears. Mental hospitals are not geared to treat addicts for their addiction. Once the anti-psychotic medication takes brings the illness under control they are discharged only to return to their use and become ill once again because their addiction was not addressed. The need for intervention by way of rehabilitation for their addiction to the drug or drugs

Treatment for addicts in mental hospitals?

In 2005 I spoke at a conference here organized by Mr. Nick Xenophon and spoke about the matters I have mentioned, suggesting that we need treatment for addicts to assist overcoming their addiction. I see many going on to mental health disability allowances. Comments made by Dr. Burnett of the EPPIC centre in Victoria (Early Psychosis Prevention and Intervention Centre) are pertinent and the Director of EPPIC, Professor Pat McGorry, are pertinent. They spoke on the 4Corners program about drug induced mental illness particularly from cannabis. Their evidence was based upon their treatment and observations of young people entering their adolescent unit over years and in particular the 2,000 patients seen in the last 12 months. 70% had used

cannabis at some point of time and about 50% had a problem from their use. Of those who did not receive proper care Professor McGorry said, when speaking about outcomes:

Well the outcome can be death. I mean 10-15% of young people with a serious mental illness will die in the early years after diagnosis from suicide and other causes, so it is a potentially lethal situation. The scenario in terms of wasted lives is much more pervasive, I suppose. We can get 90% of our young people symptom free with treatment, even with severe psychosis, but only 50% of them are going to go back to meaningful vocational activity.

Dr. Burnett's comments are pertinent to relapses. He said

After each episode there are a percentage of people who don't recover and best data at the moment suggested about close to 20% of people won't recover from their second episode and another 20% from their third and so on.

Can we afford to ignore their findings?. Doctors at hospitals tell me that each relapse can bring with it further neurological damage. Ultimately, as Professor McGorry said, they may not o back to meaningful vocational activity. I take that to mean leading what we might described as a normal and productive life. One can only draw the conclusion that they are damaged permanently, a finding from a survey in the United States years ago. Dr. Forest Tennant, in his book "Post Drug Impairment Syndrome" made reference to damaged individuals who could never lead a productive life as a result of impairment from use of cannabis and one other drug. We are seeing that here certainly through mental illness caused by drug use.

Over the years, particularly when I was the president of PRYDE in Australia (Parents Reaching Youth through Drug Education) I spoke with many parents face to face. Others rang me. The conversations usually focused on their child's use of cannabis and the uncontrollable and destructive behaviour they were exhibiting. Some took their children to treatment centres but as there was no legal hold, did not remain. Some advanced through to crimes of dishonesty and moved onto other drugs. The same exasperation is sometimes evident to me when I talk to them in inquiries. Their children have constant relapses because they will not give up cannabis. Their behaviour is intolerable and at times is evident at Mental Health inquiries, even to the extent of requiring the presence of security guards in the hearing room.

It is clear to me that in the interests of patients suffering from drug induced psychosis, and the community, that something must be done to treat them for their obvious addiction. At the moment with severe mental illness I am sometimes asked to make compulsory treatment orders for up to three months and the patients are transferred to the Bloomfield Mental Hospital at Orange.. While they receive rehabilitation for their mental illness there is also a drug treatment component in it and at least they remain abstinent for that period of time.

At the moment cannabis treatment centres have been established at some hospitals but rely upon the patient remaining in treatment without any compulsion. In my view compulsion is necessary. I have always adopted that approach in court when dealing with addicts either charged with possession and use or some drug related crime. I can direct them into treatment on bail and ultimately as a condition of a bond. Both have ramifications if the conditions are broken and I have had few back before me in breach of the bonds directing ongoing treatment..

Complaints

When parents are faced with a drug using child, they are reluctant to report them to police for fear of them being institutionalized and or suffering a criminal conviction. However in NSW years ago either a parent or a district officer of the Youth and Community Services could lay a complaint that a child was "uncontrollable",

“exposed to moral danger” or “under incompetent guardianship”. The child could, if necessary, be placed in a “place of safety” in the remand centre or at another home.

It occurred to me that a similar sort of process could be enacted to permit parents to bring their child before a court which could then direct the child into treatment. I spoke of that the NSW Drug Summit and later at a Harm Prevention conference. A report present put my idea on the website and received 80% hits in favour of what I had proposed.

Amendment to the Mental Health Act.

Since that recommendation and more extensive involvement in mental health hearings, it has occurred to me that perhaps many children who become uncontrollable through use of drugs that may cause a drug induced psychosis are in fact suffering from such a psychosis and could be reported to the health authorities for action to be taken compulsorily to the hospital. Of course they may receive treatment but are unlikely to have their drug addiction attended to because our Mental Health Act only permits detention if they are suffering from a mental illness and is geared to treating that and no addiction to drugs.

The Mental Health Act could however be amended to permit compulsory treatment for addictions. Doctors I have spoken to believe this would be best achieved within the hospitals after a Magistrate makes an order for treatment. Orders would, I believe, have to be longer than the currently permitted three months. At one hospital I attend a new 20 bed ward is to be built for long term treatment of mental illness. I could also attend to rehabilitation for addiction to drugs at the same time.

Cost.

It would indeed be costly to build wards within all hospitals to treat patients for both mental illness and drug use however it may be less costly than the cost of treating the increasing number of patients appearing and seemingly damaging themselves by continued drug use and the cost of continued hospitalization for mental illness (relapses) and of medications to treat them (which I believe is now quite enormous). Add to this the cost of mental health disability allowances which may be forever in respect of a person who cannot contribute to society and the cost to the community through crime and other damaging and assaultive behaviour.

The Inebriate's Act.

This Act applies to persons inebriated but has had little, if any use, towards those addicted to illicit drugs being placed into treatment. Perhaps this Act could, in lieu of amendments to the Mental Health Act, be renamed and use to take and place addicts into compulsory treatment. That may be more to the liking of parents who are afraid to have their child brought before a court.

It was recently pointed out that far more is spent on treating people with physical illnesses than that of mentally ill people. It appears to me that governments need to carefully look at the escalating increase in use of mind-altering substances with subsequent mental hospitals admissions that are on the increase, and consider their options as to whether more funding should be spent on treating addicts who are also suffering from mental illnesses.

Statistics

While it would be difficult it would be helpful if a statistics could be kept by hospitals as to patients who appear mentally ill and who consume illicit drugs. Secondly, if possible, it would also be helpful if those who are said to

be suffering from a drug induced psychosis as a result of use could be kept. At the moment I believe such statistics do not exist. They would certainly highlight the problem to the authorities.

Decriminalisation.

Finally I would briefly like to mention what is commonly referred to as "decriminalisation" of illicit drugs. Some say it means "legalization" but commonly world wide it means a softening of the law particularly when cautions and infringement notices or expiation fees are part of supposed law enforcement against users. The latter were enacted in this state back in the 1980s. I noted some years later that a large black market of small time sellers had imposed itself on the street of Adelaide. The point is that under this system sellers need only ever possess the decriminalized amount to only ever pay an expiation fee if apprehended by police, the amount sold on the streets must far exceed that which they may have to pay if found in possession and they are never dealt with for repeated offences because no record is kept provided the fee is paid.

Sweden, following their disastrous program of making amphetamines and heroin available to addicts on prescription from 1965 to 1967, moved to increasing restrict measures including strong policing of street dealers, perhaps the most prolific way to distribute drugs. Increased availability means increased use. Our legal drugs clearly illustrate that. The law has no deterrent effect if all sellers receive are expiation fees or infringement notices or indeed cautions. I would strongly recommend that these types of initiatives be disbanded because they are not serving any purpose other than to encourage street dealing. I believe that part of Sweden's success is their strong police of the streets. We should do the same.

Laws can be enacted to protect users from their folly if apprehended and appear before a court for example by providing for no penalty if the person undergoes treatment without this being a matter of discretion by the magistrate, but only on a first occasion. In NSW a child under 16 cannot be convicted of most crimes and certainly not possession for use and/or use. If between 16 and 18 years of age and convicted it may be removed after 2 years if there is no further offending.

Our extensive use of our legal drugs alcohol and tobacco are sound reminders what we could expect if drugs were legalized. Tobacco is being increasingly criminalized and with it a drop in its consumption. To say the law has no deterrent effect is simply not true.

Appendix One

Delegate's Recommendations

Conference presentations and plenary sessions resulted in 22 recommendations from the floor which will guide the Board and Drug Free Australia in its future strategic direction.

This information will also provide input to enhance Drug Free Australia's 10-point Plan, and will enable the voice of both community and professional stakeholders to be heard by key decision-makers throughout the country.



Appendix to Compendium of Conference Papers

Recommendations from delegates

The Conference covered the following broad themes

1. Addiction
2. Flawed Drug research – a growing trend
3. Education
4. Drug Policy and Law Enforcement

The following is:

- a synopsis of each of the themes
- recommendations from delegates received during the conference (and up to one week post conference).

1. Addiction – Synopsis of the theme

Aspects of addiction covered were:

- The negative effects of illicit drugs on the brain – i.e. the effects on the brain with chemical changes causing the drug to dull or eliminate the normal preservation system – and, if not treated, continuing the downward spiral to self destruction
- 3 personal experiences with addiction recovery – each of whom indicated that they underestimated the power of the drug itself, and over-estimated their ability to handle it.
- In each case presenters demonstrated that:
 - their initial uptake of drugs was due to experimenting with friends and then getting into drug-taking peer groups at high school NOT necessarily due to traumatised family life or disadvantaged socio-economic circumstances.
 - abstinence-based recovery was the **only** solution – that methadone treatment, while having a part to play, was not the ultimate treatment for heroin addiction, because it is, in actual fact a substitute addiction, often a dual addiction. Methadone itself is far from free of side effects.
 - Drug availability was rife and was obtainable from their peers (NOT necessarily obscure drug dealers)

Presenters expressed the need for teachers and parents to be aware of the strength of peer groups and in particular the forming of healthy relationships.

Addiction - Delegates' recommendations

1. That Australia follows successful policies of other countries that have effectively reduced drug abuse. The only measure of a successful policy is the level of use. Conversely a high level of use in a particular country should not be followed as a policy.
2. That the spread of drug abuse in Australia be treated like any other infectious disease and necessary preventative action be taken to eliminate it as much as possible.
3. That there be more research into addiction and the functions of the brain and this research be made public via:
 - Community Education/awareness programs that give top priority to an understanding of the processes of addiction, and the changes to the brain at each stage.
 - Coordinated information to parents, adolescents, educators, counsellors, law enforcement personnel and politicians, so that they have a clear understanding of information about addiction and the importance of early interdiction to prevent damage to the brain.
4. Continuing graphic advertising campaigns be linked with associated government policy and a coordinated community communication campaign. Encouraging media support for such campaigns to ensure penetration, consistency and effectiveness in the delivering the message.
5. That the present loophole under the Commonwealth Therapeutic Goods Act, which allows the importation of toxic addictive substances (such as Kava used by ethnic and cultural groups for ceremonial purposes) should be closed. This is to prevent the widespread devastation to Indigenous communities in the NT, where licenses are being issued for general use. The ultimate result is that these substances enter the black market and could affect the wider community across Australia.

2. Flawed drug research – Synopsis of the theme

Papers were presented to demonstrate that there is a growing trend of flawed research being promulgated via the internet and other mediums, particularly in relation to needle and syringe programs and the Kings Cross Injecting Centre.

The impact is to encourage community acceptability and 'normalisation' of use. Concern was expressed that little was being done to break the addiction but rather to continue drug maintenance (not reduction or elimination).

Flawed Drug Research - Delegates' Recommendations

1. That there is a need to closely monitor and review current research.
2. That in so doing to establish an independent, appropriately qualified peer review panel that will check the rigor, accuracy and authenticity of both statistical research and associated conclusions and interpretations.
3. That DFA requests both Federal and State governments to investigate closely as to why medical marijuana has been legalised in some states in the United States, to determine whether it was based on the rigor of research to support it, or a well orchestrated marketing campaign and **further that**, DFA provides research directly to such governments, requesting a response.
4. That DFA calls on all governments, through INCB, to sponsor basic sciences research into addiction toxicology by leading researchers in the basic sciences and to appropriately and handsomely resource such centres as a matter of high and urgent priority. We further recommend and strongly urge that in Australia, this centre be established in Brisbane, with a budget of \$50 m over three years.
5. That formal evaluation of the Sydney Medically Supervised Injecting Centre (MISC) be given to an independent, overseas epidemiologist as negotiated with Drug Free Australia, to ensure rigorous analysis.

3. Education – Synopsis of the theme

Education was demonstrated by several speakers as being crucial in the mix of prevention strategies and if ignored or diluted, would weaken the plank of any existing or emerging Drug Policy. The theme was divided into school/community education and parent education/support. Emphasis was placed on the importance of the need for specialist educators and the level of sensitivity in delivering the message. It was also clearly demonstrated that the message needs to be on a continuing basis and, where necessary, graphically, yet accurately portrayed to enhance a prevention focus.

Education - Delegates' Recommendations

1. That priority be given to Primary School Drug Education based on Harm Prevention principles and be related to healthy life choices and motivational goal setting. Focus should be on coping with peer pressure and resisting negative social requests.
2. That Drug Education in Secondary Schools needs to be factual, with real life anecdotes that spell out the dangers of illicit drugs, together with both short term and long term impact on the individual and their families. The education at Middle School and Senior levels should include booster sessions on adverse peer group influences.
3. That resources not be duplicated and that Governments recognise the specialist skills needed to effectively deliver programs to schools and youth groups, rather than requiring classroom teachers to undertake the entire responsibility. That they fund and better resource, programs that specialise in drug education, such as those provided by Life Education, and those of people who have had experience with addiction such as the 'No Way Campaign', 'How to say No' and the Hope Foundation.
4. That DFA pursues further research into Drug Testing in Schools and compiles findings to be provided to the Federal and State Governments through its Board Member contacts and the ANCD.
5. That an age appropriate, interactive website be developed for children (pre-adolescent) that encourages them toward healthy life goals and teaching caution on internet useage in order to delineate fact from propaganda and genuine research – such as Lilibiggs in Switzerland

Special Note: Parent Education and Support

The importance of parents and family in the role of prevention and rehabilitation came out as a clear and important priority. As Peter Walker said - 'there's no better support than parental support'.

Recommendations for parent education/support:

6. That DFA harnesses their (parents') anger as a ground swell that government cannot ignore. The message – 'enough' must come from the community.
7. That funding for parent support in the education process be given to the development and provision of parent resources, recognising that parents and family are the greatest influence on child development and that many parents have not experienced drug addiction personally and need a knowledge base.

4. New Drug Policy and Law Enforcement

After hearing from decision makers and policy makers from Sweden, UK, United States, the Netherlands and Belgium, as well as those in Australia, it is clear that there are options for change in current Australian Drug policy.

New Drug Policy and Law Enforcement - Delegates' Recommendations

1. That there be greater public awareness campaigns giving alternative treatment options available, particularly where abstinence-based treatment is concerned.
2. That the Federal Government appoints an independent researcher to look closely at prevention policy in Sweden, where drug use rates are much lower than Australia
3. That priority be given in the allocation of recent \$150 m of government funding to increased funding for abstinence-based treatment facilities.
4. That, given the world's countries have, through a United Nations Declaration, expressed their determination to bring Human Rights to All, and, despite daily breaches of those rights, the Conference urges all Australian Governments to adopt, urgently, a similar determination to promise the delivery of Drug Free lives the drug affected.
5. That we abolish the term, Harm Minimisation, as in its current form, accepts the status quo, and replace it with a term that reflects the Zero Tolerance approach

Drug Free Australia will consider these recommendations as a guide for future action and to set priorities for project work over the next 12 months.