

NEW ZEALAND

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'New Cannabis':

The Cornerstone of Illicit Drug Harm in New Zealand

2007 Strategic Assessment Executive Summary

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THE GLOBAL CANNABIS ENVIRONMENT

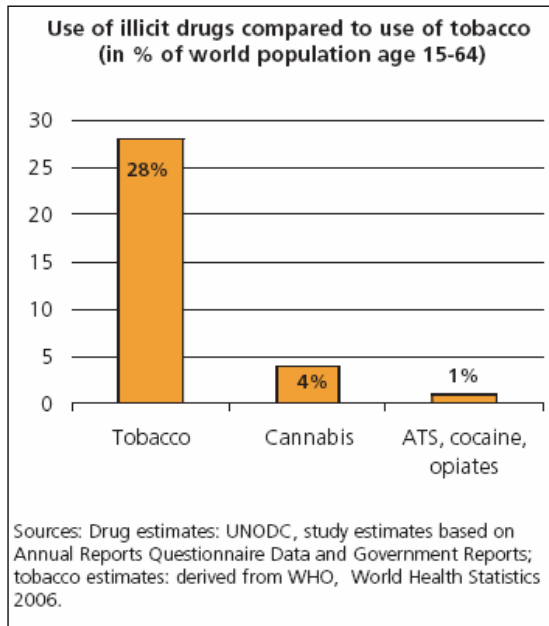


Figure 1: Use of Illicit Drugs Compared to Tobacco - UNODC

- Cannabis is the most widely used illicit drug in the world with an estimated 162,000,000 users¹ (see Figure 1). The Oceania region, which includes New Zealand, is identified as having the worlds highest annual use levels.
- Cannabis is scheduled within Schedule One and Schedule Four of the United Nations Single Convention on Narcotic Drugs, 1961 which almost every country in the world has ratified.
- Many countries have elected to apply a liberal interpretation of specific articles of the United Nations Single Convention on Narcotic Drugs 1961 which falls outside of the original intent of the '1961 convention'. Such actions are undermining the resolve of countries who undertake stricter cannabis drug control.
- Confusing mixed messages have been sent internationally to communities by non coherent cannabis policy which is undermining the credibility of the international system.
- The re-engineering of cannabis in terms of improved breeding, the reinvigoration of the sinsemilla growing technique² together with the application of greenhouse technology and cloning has resulted in the identification of significantly elevated levels of delta-9 tetrahydrocannabinol (THC) and higher yields (Figures 2 and 3 below).
- The term 'New Cannabis' accurately describes the technological developments applied to cannabis cultivation.

¹ 2006 World Drug Report, Cannabis; Why We Should Care, United Nations Office of Drugs and Crime (UNODC).

² The term 'sinsemilla' (without seeds in Spanish) refers to the product of a growing technique. Sinsemilla is not a genetic strain or special preparation of the plant. The production of 'sinsemilla' requires identifying the females and ensuring they are not exposed to male pollen.

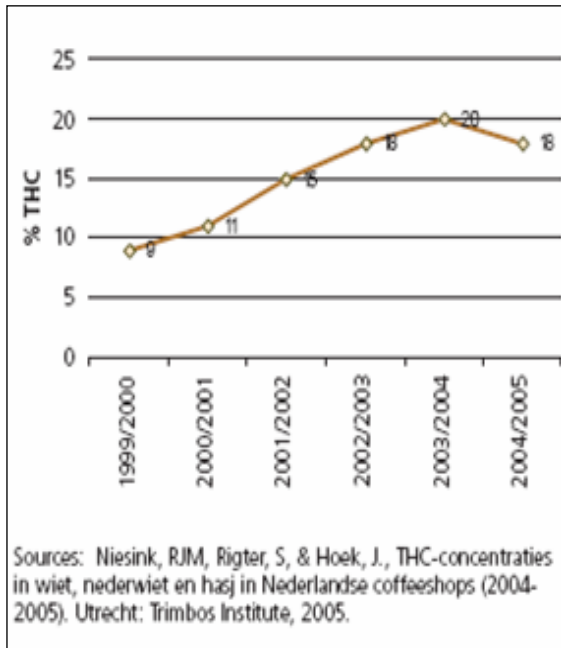


Figure 2: Sinsemilla THC Levels in the Netherlands

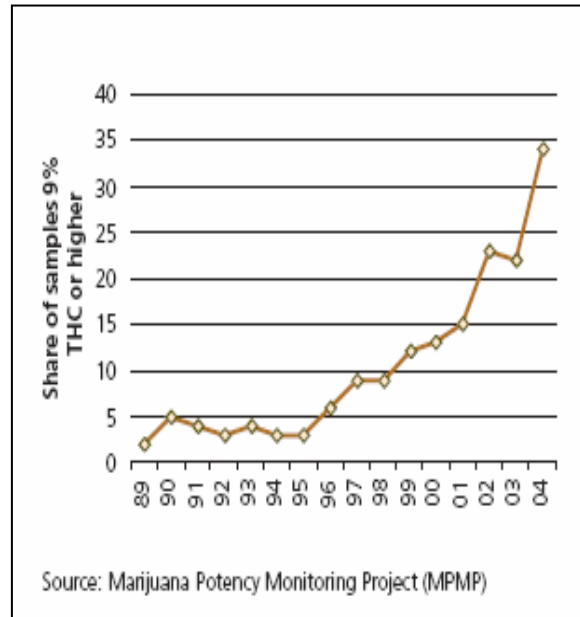


Figure 3: Share of Marijuana Potency Monitoring Project (MPMP) – Samples Testing Above 9% THC

- United Nations endorsed international best practice emphasises the need for a balanced approach between demand reduction and supply reduction, each reinforcing the other in an integrated approach to solving the drug problem.
- Internationally there are examples of countries which have either low or decreasing prevalence of cannabis and/or other illicit drugs. Some of the policies and initiatives implemented in these countries (which have been evaluated by the United Nations Office of Drugs and Crime) have contributed to the reductions achieved and have therefore been highlighted and summarised in this assessment.

NEW ZEALAND POLICY CONTEXT

- The Health Select Committee Inquiry Report on Cannabis (1999 - 2003) made twenty three recommendations to government comprising initiatives focusing on youth, research, health programmes and education, legal status and the Police. Many of the findings centred on protecting New Zealand's youth from the adverse effects of cannabis use.
- Drug education in New Zealand is a significant issue. Enhanced comprehensive school based drug education and intervention programmes, commencing at primary school, is considered to be an immediate priority to enable a greater contribution in reducing the demand for cannabis.

CANNABIS HARM: CANNABIS RELATED HOSPITAL ADMISSIONS

- In 1996 the Ministry of Health³ documented the major public health risks of regular cannabis use as (in order of importance) dependence, respiratory disease and precipitation or exacerbation of psychosis, especially schizophrenia.

- Cannabis related hospital admissions exceeded admissions for opiates, amphetamines and cocaine combined (Figure 4 below).

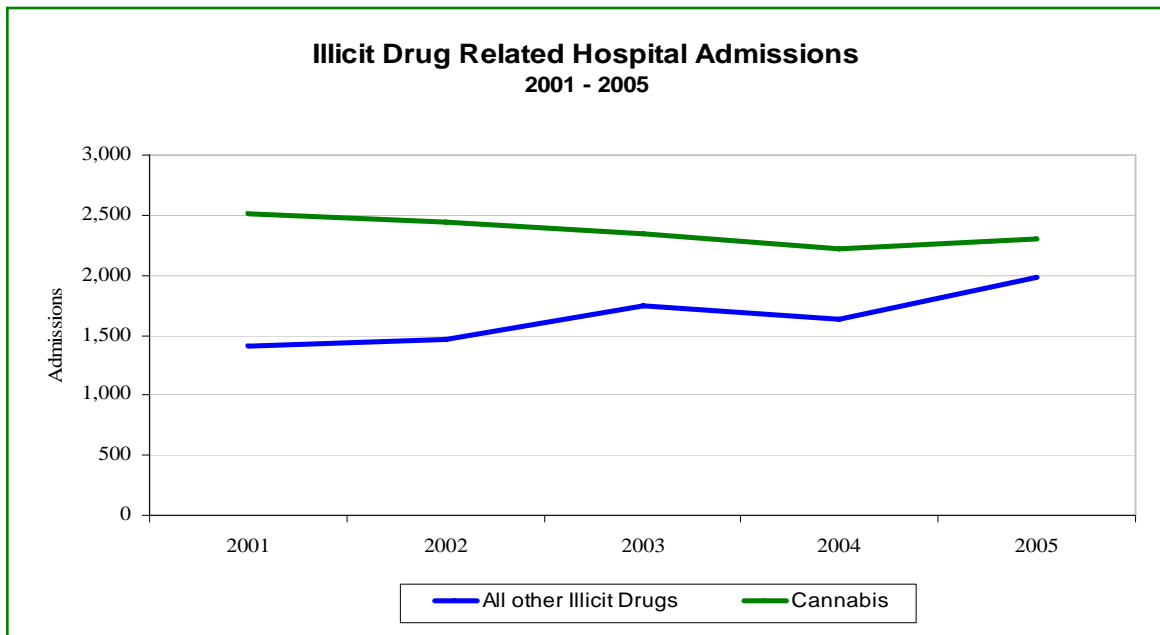


Figure 4: Illicit Drug Related Hospital Admissions – Cannabis vs All Other Illicit Drugs

³ Cannabis, The Public Health Issues 1995 – 1996.

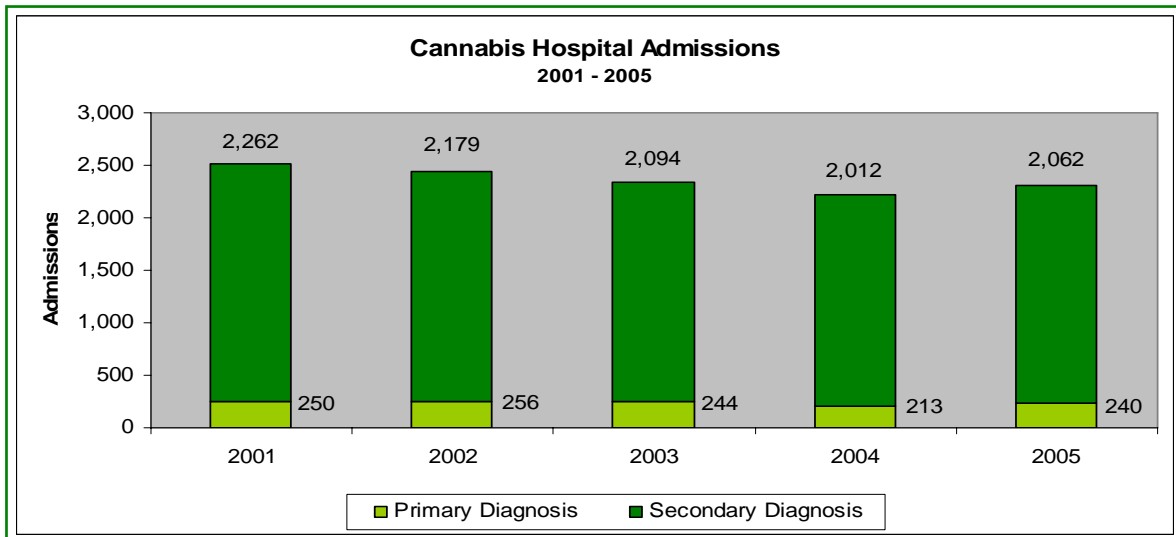


Figure 5: Publicly Funded Cannabis Hospital Admissions 2001 – 2005

- Cannabis related admissions to publicly funded hospitals are categorised as either a 'primary diagnosis' or 'secondary diagnosis'. Figure 5 above illustrates 'primary diagnosis' have remained relatively stable whilst 'secondary admissions' declined by approximately 10% between 2001 and 2004.
- Psychotic disorders comprised approximately 50% of primary diagnosis admissions.
- Secondary diagnosis admissions for '*dependence*' increased by more than 30% between 2001 and 2005 and significantly '*psychotic disorder*' by more than 100% between 2004 and 2005.
- Of admissions for which cannabis was identified as a secondary diagnosis, 70% were admitted for a primary diagnosis of mental and behavioural disorders or schizophrenia, schizotypal and delusional disorders (see Figure 6 below).

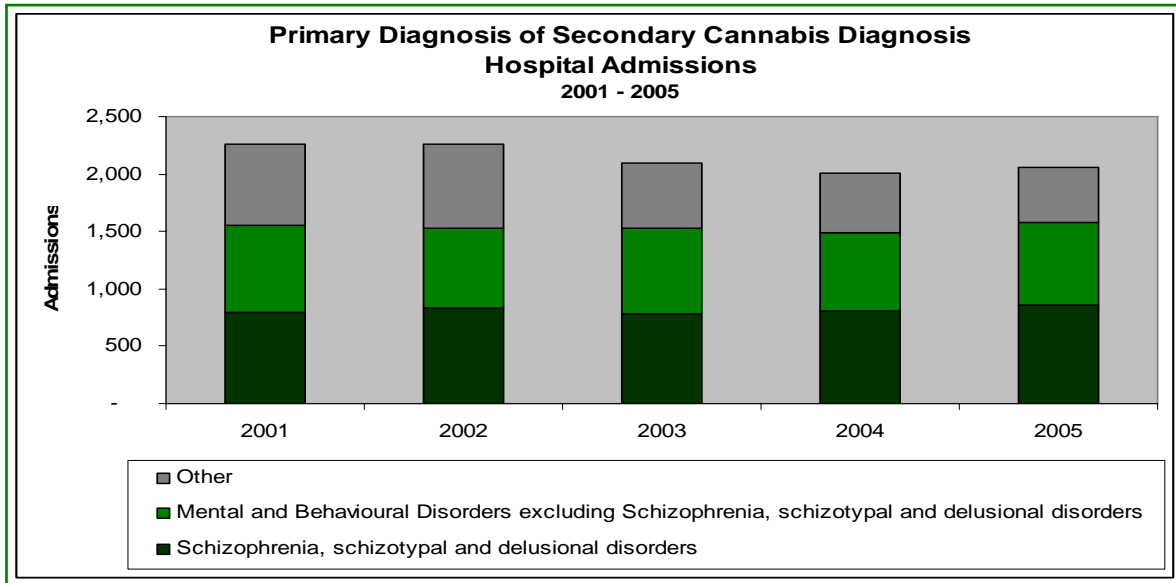


Figure 6: Primary Diagnosis of Secondary Cannabis Diagnosis Hospital Admissions – 2001- 2005

- The findings from two New Zealand longitudinal studies have found that *'the increasing use of cannabis is associated with the increasing rates of psychotic symptoms which clearly suggest a casual link between the use of cannabis and the development of psychosis'*.
- A growing number of international studies have identified *'elevated rates of psychosis/psychotic symptoms amongst regular users of cannabis'*.
- In both males and females the 15 to 19 year age range is where it is first clearly apparent the substantive adverse effects of cannabis abuse are impacting and resulting in hospitalisation.
- New Zealand Maori are significantly over represented and in 2005 exceeded those of New Zealand European (see Figure 7 below).

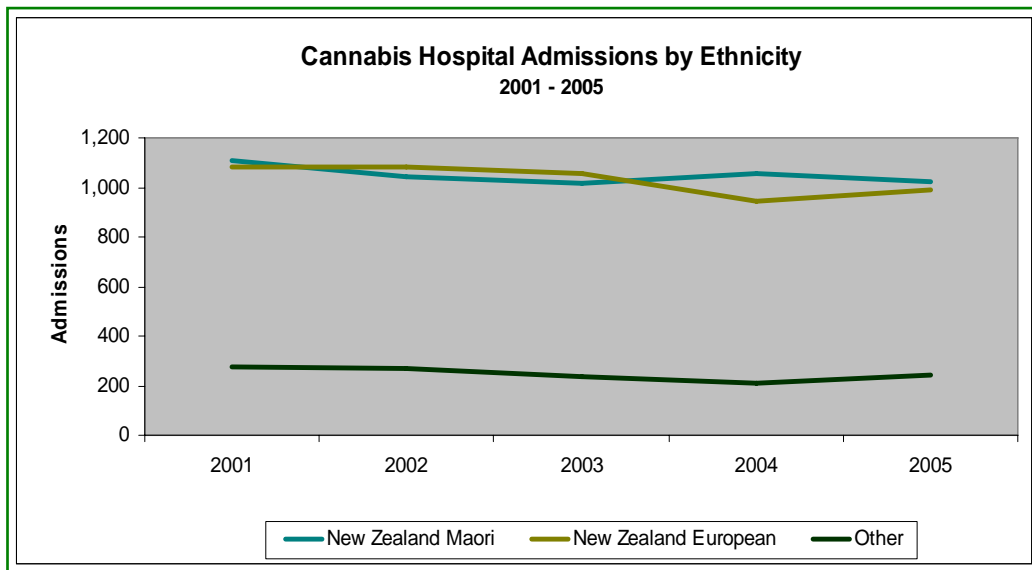


Figure 7: Cannabis Hospital Admissions by Ethnicity – 2001–2005

- Males are significantly over represented.
- The financial costs of hospital admissions recorded a significant increase from \$19.5 million in 2004 to \$30.4 million in 2005.

CANNABIS SUPPLY

- Global trend developments have influenced the New Zealand cannabis industry which went through radical changes in the 1990's which culminated in:
 - The onset of indoor cannabis cultivation.
 - The use of imported, strong yielding, high THC strains (cannabis seeds).
 - The use of clones from a proven strain.
- Outdoor cannabis cultivation is now also a far more discerning practice in terms of applying the global trend developments particularly the use of optimum soil conditions, elaborate irrigation and maximising sunlight in order to achieve higher levels of THC and improved yields.
- Environmental Science and Research (ESR) in conjunction with the New Zealand Police are currently undertaking three research initiatives to validate international findings of an increase in THC content and yield in relation to hydroponically cultivated cannabis and a current proposal focusing on the analysis of seized cannabis plant material.

- Withheld under Section 9 (2) (g) (i) of the Official Information Act 1982.

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- The National Cannabis and Crime Operation is the most effective supply reduction technique to reduce the supply of cannabis nationally and reduce the influence of organised crime.

- Withheld under Section 9 (2) (g) (i) of the Official Information Act 1982.

- Indications suggest the majority of Police seizure incidents of cannabis occur as a result of other policing activities e.g. the investigation of burglaries, traffic and violence related offences.

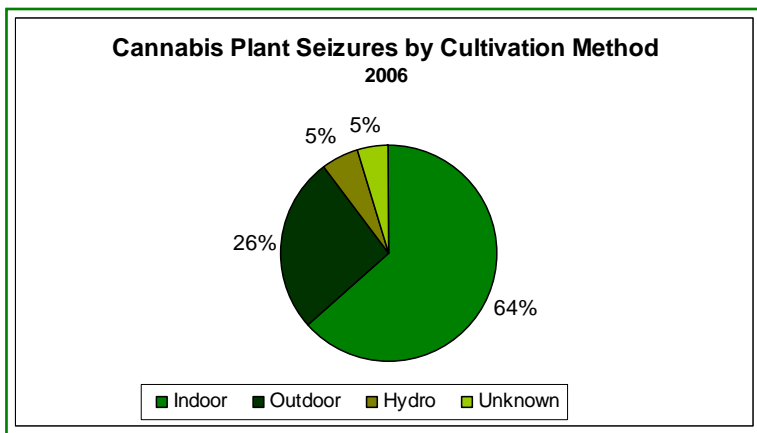


Figure 8: Cannabis Plant Seizures 2006 (excluding the National Cannabis and Crime Operation) by Cultivation Method

- Indoor cannabis cultivation is prominent in all New Zealand Police Districts. In 2006 64% of cannabis plant seizures (excluding the National Cannabis and Crime Operation) were from indoor soil operations and 5% from hydroponics operations (Figure 8).

- The cultivation and distribution of cannabis retains significant organised crime involvement. It is likely organised crime groups play a far more significant role throughout the cannabis supply chain than is identified in this assessment.
- The Mongrel Mob and Black Power ethnic gangs were the most prominent nationally particularly within the Police Districts identified below.
- Using the indicators of Ministry of Health cannabis related hospital admission data, National Cannabis and Crime Operation data and Police District cannabis seizure data it is estimated that cannabis is most prolific in the following Police Districts⁴ (see Table 2 below):

Table 2: Status of Cannabis by Police District

	Hospital Admissions 2001 – 2005	National Cannabis and Crime Operation 2006	Cannabis Plants 2006	Cannabis Leaf 2006
1	Eastern District	Northland District	Eastern District	Bay of Plenty District
2	Northland District	Eastern District	Central District	Tasman District
3	Waikato District	Waikato District	Bay of Plenty District	Central District
4	Bay of Plenty District	Tasman District	Waitematā District	Northland District
5	Central District	Central District	Tasman District	Canterbury District

- Cannabis is therefore a more significant issue in the following Police Districts:
 - Bay of Plenty District
 - Eastern District
 - Northland District
 - Central District
 - Tasman District
 - Waikato District

CANNABIS DEMAND

- In 1996 the Ministry of Health set two outcome targets (based on the statistics of 'used in the last 12 months' and 'used 10 or more times in the last 30 days') to reduce the prevalence of cannabis use by 2005⁵ which have not been met.
- The reality is New Zealand Drug Use Surveys (see Figure 9 below) have since continued to identify:

⁴ It is recognised New Zealand Police District seizure data may, in part, recognise those Districts that are placing more emphasis on cannabis offending, however, it may simply reflect prevalence.

⁵ Cannabis, The Public Health Issues 1995 – 1996.

- High prevalence of cannabis within the 'ever used', 'last year use' and particularly the 'last month use' categories. The 2006 survey did, however, record small decreases in the 'ever used' and 'last year use' categories.

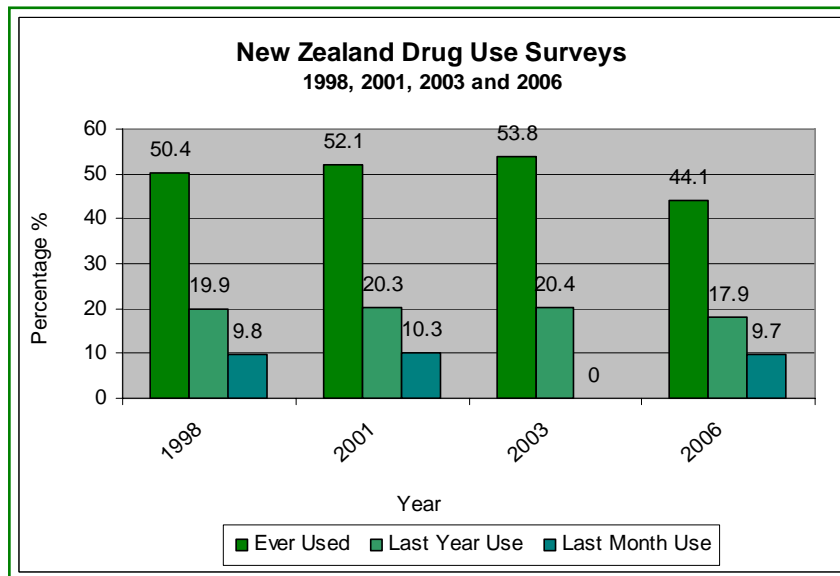


Figure 9: New Zealand Drug Use Surveys 1998, 2001, 2003 and 2006

It is of concern that the 'ever used' and 'last year use' invariably receives the most publicity. The primary demand focus should centre on reducing 'last month use' which has remained consistently high and problematic use which will be a smaller segment.

- Increasing use of higher potency cannabis since 1998 in the form of 'Skunk' cannabis and seedless cannabis heads (see Figure 10 and Table 3 below).

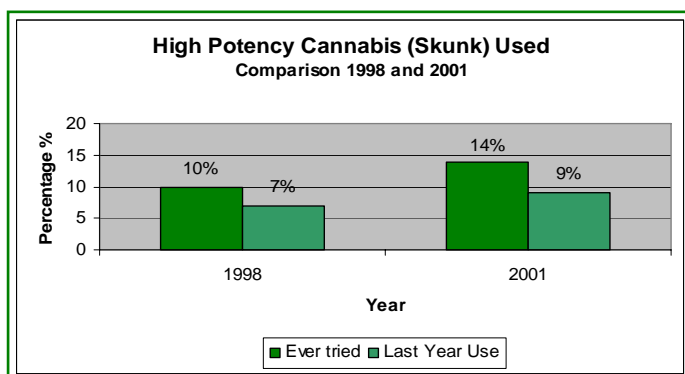


Figure 10: High Potency Cannabis (Skunk) Used – Comparison 1998 and 2001 Drug Use Surveys

Table 3: 2003 Health Behaviours Survey

Type of Cannabis Usually Used	Total
Cannabis Heads	43.1%
'Skunk' or 'New Cannabis'	27.6%
Cannabis Leaf	25.2%
Cannabis Oil	3.2%
Cannabis Resin	1%

- A concerning feature of drug use survey data is the gradually increasing trend noted for 'age at first use' (see Figure 11 below).

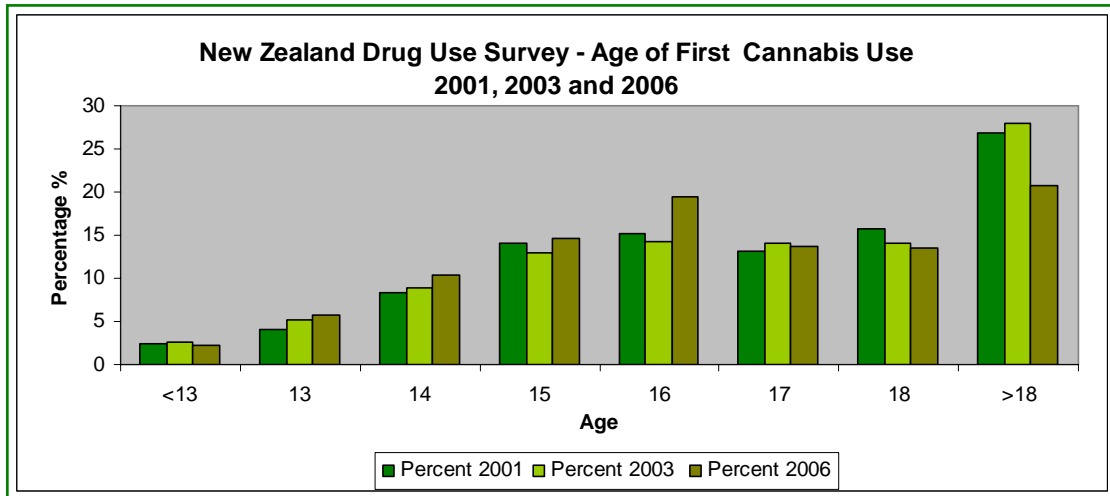


Figure 11: Respondents that had ever used cannabis and the age at which cannabis respondents first used cannabis. Sourced from the 2001, 2003 and 2006 Drug Use Surveys

- The New Zealand Arrestee Drug Abuse Monitoring System (NZ ADAM) identifies extremely high rates of drug use prevalence amongst arrestees, with cannabis being the most prevalent illicit drug.
- The Illicit Drug Monitoring System identified the strength of cannabis as 'high / medium', and a higher proportion indicating increasing strength of cannabis versus decreasing strength which compliments the international research and the findings from the New Zealand Drug Use Surveys (see Table 4 below).

Table 4: Change in Purity of Cannabis

Change in purity of cannabis (%)	Methamphetamine users (n=95)	Ecstasy users (MDMA) (n=82)	Intravenous drug users (n=85)	Combined modules (n=262)
Decreasing [1]	4%	6%	5%	5%
Stable [2]	53%	45%	39%	46%
Fluctuating [2]	26%	37%	32%	31%
Increasing [3]	17%	12%	25%	18%
Average change in purity score (1=decreasing – 3=increasing)	2.1	2.1	2.2	2.1
Overall recent change	Stable/ Fluctuates	Stable/ Fluctuates	Stable/ fluctuates	Stable/ fluctuates

CONCLUSIONS

Cannabis has historically been and remains the cornerstone of illicit drugs in New Zealand. New Zealand is maintaining high prevalence levels of cannabis compared to global prevalence. The high prevalence momentum has created a generation of users that may now be influencing the next generation.

Cannabis is a harmful drug. Cannabis related admissions to publicly funded hospitals exceed the combined total of admissions for opiates, amphetamines and cocaine. Primary and secondary admissions for Psychotic Disorders, Mental and Behavioural Disorders, Schizophrenia, Schizotypal and Delusional Disorders and Dependence collectively form a significant and increasing proportion of the diagnoses.

The advent of hybrid strains, the reinvigoration of the sinsemilla growing technique and the introduction of other enhanced growing techniques has resulted in a global trend of significant increases in THC content in cannabis. It is therefore likely cannabis will become increasingly more harmful in New Zealand in the future.

The age at which cannabis is first used is continuing to show an alarmingly decreasing trend. In order to reduce the demand for cannabis and other illicit drugs it is important that enhanced comprehensive school based drug education and intervention programmes, commencing at primary school, are developed as an immediate priority.

There is a clearly identified need to implement a 'Cannabis Strategy' or 'Cannabis Action Plan' in recognition of the findings of this assessment which are almost identical to the 'identified need' for an Australian 'National Cannabis Strategy'.

The New Zealand Police 'Cannabis and Crime Operation' is the most effective supply reduction technique to reduce the supply of cannabis nationally and reduce the influence of organised crime. Using the indicators of the Ministry of Health cannabis related hospital admission data and Police District cannabis seizure data it is estimated that cannabis is most prolific in the following Police Districts:

- Bay of Plenty District
- Eastern District
- Northland District
- Central District
- Tasman District
- Waikato District

The extremely high rates of drug use prevalence among arrestees in New Zealand, with cannabis being the most prevalent, demonstrates linkages between drugs and crime.

The twenty-three recommendations made to government following the release in 2003 of the Health Select Committee Inquiry Report on Cannabis comprising initiatives focusing on youth, health programmes and education would appear not to have resulted in significant reductions in the demand for and supply of cannabis in New Zealand.

A range of supply and demand reduction related recommendations made in this assessment are broadly consistent with, but further enhance, the recommendations made to Government following the 2003 Health Select Committee Inquiry Report on Cannabis.

FUTURE TRENDS

- Cannabis is likely to remain the cornerstone of illicit drugs in New Zealand.
- It is almost certain that a recently completed ESR and New Zealand Police analytical initiative will reveal elevated levels of THC in indoor hydroponically cultivated cannabis. It is possible current ESR analytical initiatives of cannabis cultivated outdoors will also reveal elevated levels of THC.
- Outdoor cannabis cultivation currently is, and is likely to remain, the most favoured means to cultivate cannabis in New Zealand.
- Indoor cannabis cultivation is likely to remain a favoured means to cultivate cannabis in or close to metropolitan areas. There is likely to be more widespread indoor cannabis cultivation in New Zealand given there is generally limited specific intelligence and investigative targeting by Police Districts outside of the National Cannabis and Crime Operation.
- Indoor hydroponics operations, whilst not currently a prominent feature statistically in New Zealand Police seizure data⁶, is likely to become more widespread.

⁶ The collection of this data was problematic as the New Zealand Police Drug Search and Seizure Form does not provide fields to capture whether cannabis was seized from an outdoor site, indoor soil facility or an indoor hydroponics facility. This issue has now been rectified – see recommendations.

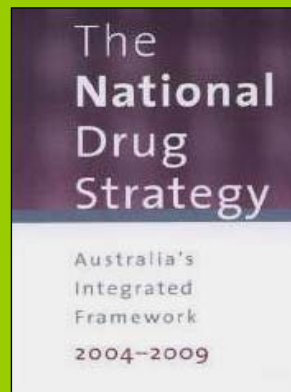
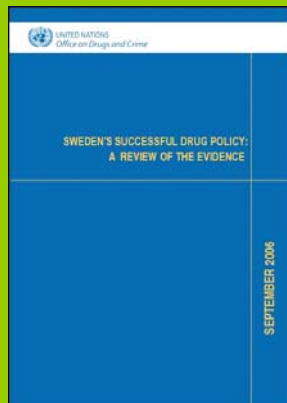
- Existing domestic organised crime groups (particularly Ethnic Gangs) are highly likely to maintain their national dominance in cannabis cultivation and distribution.

- The possible future entry of transnational criminal groups into cannabis cultivation and distribution, particularly Asian criminal groups, should not be overlooked. It should be noted that Asian criminal groups have:
 - Made significant inroads into the New Zealand synthetic drug market
 - Established business relationships with both outlaw motorcycle gangs and ethnic gangs; and,
 - Are prominent within the Australian and the Canadian cannabis markets.

RECOMMENDATIONS

POLICY

- That the National Drug Policy Team of the Ministry of Health undertakes a comprehensive evaluation of the Swedish Drug Control Policy (particularly) and the Australian National Illicit Drug Strategy (Australian National Drug Strategy) to identify the specific policy mechanisms that are contributing to a reduction in cannabis and overall illicit drug abuse.



- That the Inter Agency Committee on Drugs (IACD) develops a 'National Cannabis Strategy' or a 'Cannabis Action Plan' under the umbrella of the National Drug Policy for endorsement by the Ministerial Committee on Drug Policy (MCDP).
- That enhanced comprehensive school based drug education and intervention programmes commencing at primary school are developed as an immediate priority. Enhanced programmes should initially be focussed within the Police Districts and District Health Boards where cannabis is identified as most prevalent.
- That the EACD undertake an evaluation of cannabis once the findings are published from the ESR / New Zealand Police studies in relation to:
 - The THC content and yields achieved from hydroponically cultivated cannabis; and,
 - The THC content in New Zealand Police seizures of cannabis plant and cannabis plant material cultivated in New Zealand.

