FOREWORD

Cannabis and its use is a topical issue.

Recently, there has been debate about whether the Government should consider legalising, or decriminalising, cannabis. There is also the problem of the costs of cannabis use to society. Most importantly, there is the issue of what harm cannabis use may be doing to many individuals. With these questions to consider, it is important that information be accurate and made widely available. It is, thus, particularly timely for the publication of this booklet - *Cannabis and Health in New Zealand.*

Significant research has and is being carried out on the effects cannabis use has, both short and long term, on users, on users' health (both physical and mental), and on the whanau and family of cannabis users. This report spells out the implications cannabis use has for the health of New Zealanders by briefly summarising much of that research.

I hope many groups and sectors - health professionals, schools, polytechnics and universities, workplaces and employers, community groups and sports bodies, families and individuals - will use this report. The debate on cannabis use is not one to be confined just to politicians and some interest groups. It is an important issue for all New Zealanders. This simple and clear information on the effects of cannabis on health will assist that debate.

Hon Jenny Shipley
Minister of Health

Hon Maurice Williamson
Associate Minister of Health

MIHIMIHI

E ngä mana, e ngä reo, e ngä iwi o ngä mata waka me ngä marae o te motu, tënä koutou, tënä koutou, tënä koutou katoa.

Tënä koutou i ö tätou tini aituä kua wheturangitia. Nä koutou i tangi nä tätou. Nö reira, ngä mihi aroha kia koutou haere, haere, haere oti atu!

He mihi whakanui tënei kia koutou i tautoko te kaupapa nei arä te hau oranga mö ngä iwi whänui o Aotearoa, otirä te iwi Mäori ka tae tae atu ki te tangata ahakoa ko wai, ahakoa i whea. E ki ana te körero-

"Kia mau koe ki te kupu a töu matua, kia mau ki te kura whero, kei mau koe ki te kura täwhiwhi, kei waiho koe hei whakamana mö te whenua tangata. Kia mau ki tö Mäoritanga.

Hokia kia ngä maunga purea koe e ngä hau a Täwhirimätea.
Kia mau ki ngä taonga Mäori i tuku iho a ö tätou tipuna mätua."

Do not neglect the ancestral teachings of the elders. Hold on to the precious treasures, to the ancestral treasures; leave alone what is harmful to the people enriching the land today. Hold fast to the genuine and true, do not be beguiled by that which is spurious and deceptive. Hold fast to your Mäoritanga.

Return to the mountains to be cleansed by the winds of Täwhirimätea. Know yourself, know your tribal traditions. Hold on to the precious treasures bequeathed to you by your forebears.

Heoi anö e rau rangtira mä, tënä koutou, tënä koutou, tënä tätou katoa.

INTRODUCTION

Cannabis and Health in New Zealand seeks to clarify what is known about the health effects and health implications of cannabis use in New Zealand. The statement is supported by peer reviewed international research. Much of the research referred to in this document was presented at the Cannabis and Health conference in Wellington, New Zealand in October 1993. The statement has been prepared by the Cannabis Working Party convened by the Drugs Advisory Committee, in association with the New Zealand Drug Foundation and the Public Health Commission. Members of the Working Party are listed on page 10.

The aim of this statement is to contribute to the promotion of the health of New Zealanders and to minimise the harm caused by cannabis use in New Zealand. The document will be reviewed every two years or as further significant information becomes available on the effects of cannabis use on health.

In preparing the statement, the Working Party worked in accord with the Treaty of Waitangi and the Ottawa Charter. The key review used was the review of the literature on cannabis prepared for the Australian National Task Force on Cannabis[1] by the Australian National Drug and Alcohol Research Centre. Two reports published by the World Health Organization (WHO) on cannabis use in 1971[2] and 1981[3] provided useful background information. The WHO reports review the known and suspected health effects of cannabis use and recommend areas for future research. WHO is intending to produce an updated report in the near future.

CANNABIS

Cannabis is the generic name for a variety of preparations derived from the plant cannabis sativa. There are a number of psychoactive constituents in cannabis, the primary one being 'delta-9-tetrahydrocannabinol' (THC) (see *Glossary*).

In New Zealand, the two commonly used forms of cannabis are:

- Marijuana
  Dried cannabis leaves, small stalks and flowering tops of the plant are known generally as marijuana. The THC content of the dried plant material varies between 0.1 percent and 10 percent, generally being between 0.5 percent and five percent. Marijuana is most often smoked.[4]

- Hash Oil
  Cannabis oil is generally called hash oil, and is a viscous or gummy substance made by extracting soluble substances from the cannabis leaves and flowering tops of the plant. The hash oil is often held in gelatine capsules of the type that would normally contain vitamins. The THC content of New Zealand-made hash oil varies between five percent and fifty percent, generally being between ten percent and twenty percent. Cannabis oil is either added to a cigarette or heated and the fumes inhaled [GJ Sutherland, personal communication, January 1995].

As with other drugs (including alcohol and tobacco) the effects of cannabis, including the psychoactive effects (see *Glossary)*, are determined by factors such as:

- the THC content or strength of the drug
- the method of administration
- the circumstances in which the drug is taken
- the mental state of the person using the drug
- the individual's history of drug taking
- whether other psychoactive drugs are also used
- individual physiology.

CANNABIS USE IN NEW ZEALAND

Cannabis is the most widely used illegal drug in New Zealand. A 1990 survey showed that 12 percent of New Zealanders between 15 and 45 years of age had used cannabis in the previous 12 months. Forty-three percent of New Zealanders in the same age group report having used cannabis at some time in their life.[5,6]

Geographical, socioeconomic and cultural differences may affect patterns of cannabis use.

Recent evidence suggests that by age 15 years, at least 10 to 15 percent of young New Zealanders will have used cannabis once or more. There is no gender difference in use at this age. By age 18 years, use increases substantially, with as many as 45 percent reporting cannabis use in the last year. Use appears to be highest among those aged 18-24 years and declines in older age groups. It is unclear whether rates of cannabis use among adolescents have been increasing or decreasing over recent years. While there is some evidence to suggest that rates of cannabis use among 15 year-olds may have fallen, research to monitor change in patterns of cannabis use among the young is needed to confirm this.[7-11]

Evidence suggests that among young adults who use cannabis more frequently, over a third have used it in situations where there was a perceived risk of injury (eg, while driving).[8]

While cannabis use in New Zealand has many similarities with that of other countries such as Australia, there are differences. One of these is the relative ease with which cannabis is grown in New Zealand and the consequent difficulties of controlling supply. Another difference is the increase in use of cannabis in the highly concentrated, hash-oil form.[12]

KAUPAPA MAORI

Cannabis was introduced into Aotearoa. There is concern in Maoridom about the impact of long term cannabis exposure and use on Maori.

Current research and anecdotal evidence suggests that it is a widely used illegal drug amongst some groups in the Maori community. It is grown by some for economic survival, personal use and supply to others.

HEALTH RISKS ASSOCIATED WITH CANNABIS USE

A key factor in the consideration of the adverse health effects of cannabis is the distinction between the acute (short term) effects of the drug, and those effects associated with frequent and heavy use (long term). Adverse health outcomes may be associated with the acute effects of cannabis, even where use is only occasional, but appear more likely to occur with long term use.

Health risks associated with the use of cannabis have, for the purposes of this statement, been divided into two categories: *risk to others* and *risk to the user.*

In considering risks to others, it is prudent to adopt less stringent criteria in evaluating possible adverse health outcomes.

RISK TO OTHERS

Use of cannabis during pregnancy

Evidence indicates that cannabis use during pregnancy causes health effects relating to fetal hypoxia (see *Glossary*) similar to those associated with tobacco smoking. The effects include impaired fetal development and associated low birth weight. There is also evidence of the presence of THC in the fetus. There is a possible increased risk of abnormalities in birth or childhood abnormalities.[1,13,14]

Risk of injury

Short term effects relating to the use of cannabis include:

- slowed reaction time and information processing
- impaired perceptual motor co-ordination and motor performance
- impaired short term memory and attention
- slowed perception of time.

Together, these effects can contribute to an increased risk of accidents leading to injury. This is of particular relevance with respect to:

- driving
- safety at work
- operating machinery and other related activities.

Levels of intoxication are related to the dose. Evidence indicates that the use of cannabis together with alcohol is of particular concern.[1,15-17]

Social/interpersonal effects

Clinical observation suggests that regular cannabis use can have a negative impact on interpersonal relationships. Intoxication from cannabis use can cause difficulty in communication, and in focusing on important family functions, such as child supervision and care.[18]

There are also financial costs associated with cannabis use, which are likely to affect family members.

Passive smoking and cannabis

There is insufficient research to show whether there are health effects associated with the passive inhalation of cannabis smoke. However, evidence relating to the effects of passive tobacco smoke suggests that caution is appropriate.[19]

Issues to be resolved include the possibility of adverse respiratory effects associated with long periods of exposure (particularly among children), and the possibility of a sedating effect on babies and young children.

RISK TO THE USER

Respiratory effects

The use of cannabis by smoking (especially heavy use) is associated with symptoms of respiratory diseases, such as acute and chronic bronchitis. There is also an increased risk of the development of lung cancer and other cancers such as of the mouth, throat and upper respiratory tract. Risk is increased with the combined effect of cannabis and tobacco.[14,19-23]

Acute cognitive impairment

As mentioned earlier, short term effects relating to use of cannabis include:

- slowed reaction time and information processing
- impaired perceptual motor co-ordination and motor performance
- impaired short term memory and attention
- slowed perception of time.

These cognitive impairments (see *Glossary*) may increase the risk of injury and decrease the ability to learn.[1,14]

Cognitive impairment associated with long term use

The weight of available evidence suggests that long term heavy use of cannabis does not produce severe or grossly debilitating impairment of cognitive function. Research does indicate that there can be subtle cognitive impairment and suggests that the longer and heavier the use of cannabis the more pronounced the impairment.[1,14-17]

Acute effects on mental health

In the short term, adverse psychological effects of cannabis use for a small percentage of people may include feelings of anxiety, panic, a 'fear of going mad' or depression. Psychotic symptoms such as delusions and hallucinations, while rare, may be experienced at very high doses. The risk of experiencing psychotic symptoms may be higher among those who are vulnerable because of personal or family history of psychosis.[1,14]

Effects on mental health associated with long term use

Long term use may lead to the *cannabis dependence syndrome* (see *Glossary*), characterised by an increased tolerance of the drug's effects, and an inability to abstain from use or to control use, even where there are adverse personal consequences relating to use. Cannabis dependence is more likely to occur among those users who are also dependent on alcohol.[18,24,25]

There is some evidence that heavy use of cannabis can produce an acute psychosis in which confusion, amnesia, delusions, hallucinations, anxiety, agitation and hypomanic symptoms predominate.

There is also suggestive evidence that heavy cannabis use may exacerbate schizophrenia in vulnerable individuals.[14]

Among 15 year-old adolescents, frequent (as opposed to occasional) use of cannabis is strongly associated with other mental health problems, particularly alcohol use, and conduct disorder typified by truancy, persistent lying, non confrontational stealing, and, to a lesser extent, aggressive behaviours. It appears unlikely that frequent cannabis use alone causes these behaviours. Heavy cannabis use among young people should be regarded as a marker for other significant mental health problems. It can also make the problems worse and more difficult to deal with.[7-11]

HEALTH EFFECTS: A MAORI PERSPECTIVE

The use of cannabis by Maori youth is of concern to the Maori community. The high rates of Maori youth admissions to psychiatric hospitals with cannabis induced psychosis and exacerbation of schizophrenia from long term use suggests a correspondingly high level of use of marijuana or related chemical substances. There is a need for research on the prevalence and incidence of cannabis use in the Maori community and its effect on mental health and wellness.

Maori women who use cannabis not only expose themselves to cannabis related harm but also the unborn child if they are pregnant. This is compounded if they also smoke tobacco. The safety and protection of the unborn child - he mokopuna, he taonga - mana wähine and the responsibility associated with maintaining a healthy whakapapa are some of the special concerns of Maori women that need to be addressed.

There are also concerns on how whänau, hapü and iwi may be affected by cannabis use with intergenerational use of cannabis permeating second and third generation Maori. Together with the effects on the physical and mental wellbeing of Maori, there are the economic, social, cultural and personal effects to be taken into account. The cost is potentially high.

It should be noted that cannabis is not used as part of any traditional healing practice or rongoa by Tohunga Mäori or healers and has no current place in the management of mate Mäori and mate wairua.

Education is important to ensure that the health effects of cannabis use or abuse are understood by Maori. Health promotion programmes, developed for Maori by Maori, are important to improve the awareness of the issues pertaining to cannabis use.

As with alcohol and tobacco, it is important that further problems are not created simply because Maori do not know enough about cannabis, and its use or abuse among Maori, or that it may be grown for economic survival by some. Some messages should be emphasised very clearly:

- käti - that is enough
- kia mataara - be alert
- kia tüpato - be careful
- me äta whakaaro - let's think clearly.

The impact and effect of cannabis use on the health, wellbeing and mauri of Maori is alarming and requires immediate action.

This should be based on:

- The principle and concept of käti - that's enough.
- The principle of safety and protection - of mokopuna, rangatahi, whänau, hapü and iwi - from further harm, damage and distress caused by cannabis use.
- The principles of prevention, health education and harm minimisation.
- The principles of tino rangatiratanga where policies and programmes are developed and delivered by Maori for Maori.

Therapeutic Effects Of Cannabis Use

Some of the synthetic derivatives or purified active ingredients of cannabis, have been used to treat medical conditions, such as nausea and vomiting in patients undergoing cancer therapy, weight loss and AIDS. These agents are also being researched for their usefulness as alternatives when more conventional treatments are not effective in treating muscle spasms, glaucoma and pain.

In general, the same standards for trialling new medicines to treat medical conditions should apply to the synthetic or purified cannabis ingredients when they are being tested for therapeutic efficacy.

Key Concerns

1. The use of cannabis during pregnancy.
2. Those who drive under the influence of cannabis and alcohol.
3. The use of cannabis while operating machinery and at work.
4. The use of cannabis in conjunction with other drugs, especially alcohol.
5. The use of cannabis by youth.
6. The long term heavy use of cannabis.
7. The use of cannabis by those who have a mental illness or susceptibility to mental illness.
8. Maori development and delivery of programmes on cannabis issues for Maori.

Cannabis and Health in New Zealand is an authoritative statement on the health concerns related to the use of cannabis and cannabis products in New Zealand. We recommend, and anticipate, that these key concerns now be taken up and addressed by health and social service agencies, iwi, and community groups to promote the health of all New Zealanders.

John Hannifin
Chairperson, Drugs Advisory Committee
March 1995.

MEMBERS OF THE CANNABIS AND HEALTH WORKING PARTY

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GLOSSARY

Acute effects: The effects that follow use of one dose of the drug or one occasion of use of the drug. The effects will differ from time to time in individuals and will also differ between individuals.

Bronchitis: Inflammation of the linings of the bronchial tubes. These are the main forks of the large airways in the respiratory system.

Cannabis: Cannabis Sativa is the botanical name of the hemp plant.

Cannabis dependence syndrome: This refers to the continued use of cannabis despite adverse personal and social consequences. The cannabis user behaves as though the effects of the drug are needed for their continued wellbeing. Dependency exists in varying degrees. It is similar to other drug dependence syndromes.

Cannabis and Health Conference: This conference was held in Wellington 4 - 6 October 1993. More than 300 people attended the conference, including cannabis researchers from around the world.

Chronic effects: The effects that follow the ongoing long term use of the drug.

Cognitive impairment: This is indicated by the following type of symptoms:- forgetting, able to be easily distracted, problems in paying attention, and in concentrating as well as with memory, problems in putting together complex information, problems in focusing attention and ignoring irrelevant information.

Conduct disorder: A pattern of problem behaviour that is characterised by aggressive and/or non-aggressive conduct such as fighting, truancy, stealing, vandalism.

Drugs Advisory Committee: A committee set up under section 5 of the Misuse of Drugs Act 1975 to advise the Minister of Health on issues relating to the misuse of drugs other than alcohol and tobacco.

Frequency of use and quantity used: It is difficult to accurately describe the degrees of use of cannabis as there are no standardised terms. The quantities taken are not standardised and each cigarette or cap of hash oil will contain different quantities of THC.

Hapü: Sub tribe.

He mokopuna, he taonga: Children are our treasures.

Hypoxia: Oxygen deficiency. When the cells do not have, or are unable to utilise, sufficient oxygen to carry on their normal functions.

Hypomanic: Characterised by overactive behaviour and racing thoughts.

Individual physiology: Drugs are metabolised differently and have a different effect on different people on account of the difference in size, age, health (eg, state of liver and kidneys), gender, genetics, and different experience of previous drug use.

Iwi: Tribe.

Mana wähine: Dignity of women.

Mate Mäori: Sickness of Maori.

Mate wairua: Sickness of the spirit.

Mauri: Life force, spirit.

New Zealand Drug Foundation: A non-governmental organisation with the objective of reducing drug related harm in New Zealand.

Non-confrontational stealing: Stealing that does not involve threat or force against a victim.

Ottawa Charter: A charter for health promotion agreed to at the first International Conference on Health Promotion in Ottawa, Canada in 1986.

Passive inhalation: Inhalation of smoke and its contents by individuals not smoking at the time but who take into their airways smoke drifting from other people's cigarettes.

Perceptual motor co-ordination: (sometimes called motor performance) This refers to the ability to perform skilled movement (eg, tasks involving eye/hand co-ordination).

Potency: Refers to the strength of a drug or preparation. In the case of cannabis, potency is measured by the THC content (see below).

Psychoactive: Refers to the type of drugs that affect mood, perception, thought processes and consciousness. People generally take psychoactive drugs with the intention of achieving euphoria, to improve their mood, and to relax.

Psychoses: A recognised psychiatric condition. It is characterised by marked impairment of behaviour and a serious inability to think coherently and to understand reality.

Public Health Commission: A Crown entity with the objective of improving and protecting the public health by promoting ways to improve people's health and by minimising the risk of disease.

Rangatahi: Youth.

Respiratory disease: Disease of the airways and lungs (eg, pneumonia, emphysema, also coughs).

Rongoa: Traditional healing practice.

Short term memory: Memory for events that have just occurred, loss of short term memory will affect recall of recent events.

THC: Abbreviation for delta-9-tetrahydrocannabinol, which is the specific cannabinoid responsible for most of the psychoactive effects of cannabis. The cannabinoids are substances unique to cannabis.

Tino rangatiratanga: Self determination.

Tohunga: Healer.

Whänau: Family.

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