

Legalisation of Cannabis for Medicinal and Recreational Purposes in New Zealand.

A guide for discussion.

**InterChurch Bioethics Council
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Purpose

The use of cannabis (marijuana) for either medicinal or recreational purposes is currently illegal in Aotearoa New Zealand. The exception to this has been for the few patients successful in gaining Ministerial permission to use a small number of available cannabis derivatives medicinally for their serious symptoms. The passing of the Misuse of Drugs (Medicinal Cannabis) Amendment Bill in December 2018, instantiated a statutory defence for terminally ill and palliation patients to possess and use cannabis. In addition, non-psychoactive¹ cannabis-derived products are now available as they are no longer classified as controlled drugs².

Over the past few decades there has been increasing debate between pro-cannabis activists and those wanting to retain the current laws prohibiting cannabis use. The coalition government elected in 2017 agreed to hold a Green Party-prompted referendum on the legalisation of cannabis for personal use for both medicinal and recreational purposes. A national referendum on the legalisation of cannabis is a world first. While other jurisdictions have seen proponents of cannabis legalisation run successful campaigns and ballots, no other country has held a national referendum³.

Justice Minister Andrew Little has announced that at the 2020 general election, the public will be asked a 'Yes' or 'No' question on a piece of draft legislation that will set out the parameters for the legalisation of cannabis in New Zealand. While the detailed draft legislation will not be complete until the end of this year or the beginning of 2020, the principles of a 'Yes' vote would see cannabis legalised for personal use and purchase by people 20 years of age and over. Purchase and sale of cannabis, which would be at regulated levels of potency, would be through licenced premises only. No forms of cannabis advertising would be allowed. Consumption of cannabis would be permitted at licenced premises or private property. Limited home-growing of cannabis would be allowed under strict rules. The government parties have committed to enacting the referendum result. However, a government made up of different parties may either refuse to pass the draft legislation, or they may modify it. Minister Little himself, has not committed to passing the draft legislation with its exact wording, saying that while the principles would be carried through, small changes to the draft voted on may be made.

The ICBC agrees with others working and researching on cannabis harms and benefits, including Dr Joseph Boden of the Christchurch Health and Development study, who urge New Zealanders to 'fully inform themselves of the potential risks and benefits of changing these laws before ticking the box'⁴. An exploration of possible effects on all parts of our

¹ A substance is said to be psychoactive if it affects a person in a way that changes perception, mood, consciousness, cognition or actions.

² Misuse of Drugs (Medicinal Cannabis) Amendment Act, Dec 2018, NZ Ministry of Health.
<https://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicines-control/medicinal-cannabis/misuse-drugs-medicinal-cannabis-amendment-act>

³ Wilkins, C (2019). *How would legalising cannabis work in New Zealand*. The Detail, Radio NZ National
<https://www.rnz.co.nz/programmes/the-detail/story/2018695006/how-would-legalising-cannabis-work-in-new-zealand>

⁴ Boden J. Cannabis: what you need to know 2018
<https://www.otago.ac.nz/otagomagazine/issue47/opinion/otago696401.html>

New Zealand society is required. It is important that we, the public, are informed about what is being proposed in the draft legislation (when the wording of this becomes available), and know as much as possible about the impact and implications that law changes for cannabis use might, or might not, have on our communities.

The aim of this ICBC review is to provide church and community groups with relevant background information on:

- the current social and legal contexts for cannabis in New Zealand,
- the known effects of the chemicals in cannabis,
- and the experience of other countries in their use of cannabis/marijuana for either medicinal or recreational purposes.

At the same time, we aim to raise some of the ethical and theological questions that surround cannabis use and provide some questions to prompt discussion. It is hoped that this article will be useful as an informative starter for ethical discussion and assist readers in making informed choices at the referendum on legalisation of cannabis for personal use.

Some of the issues around cannabis for medicinal use – to treat/alleviate pain and distress of chronic and acute diseases – are very different from issues around recreational use. Therefore, these two purposes need to be treated separately. The term ‘personal use’, however, can include both medical and recreational purposes, thus requiring an overarching investigation.

The current legal context for cannabis use in New Zealand

Cannabis is the **most widely used illegal drug in New Zealand**. After caffeine, alcohol and tobacco, cannabis is the fourth most widely used recreational drug in New Zealand. New Zealanders are among the highest users of illegal drugs in the world, and top the list for cannabis use, according to the United Nations 2012 Drug Report^{5, 6}. Statistics for Oceania (mostly from Australia and New Zealand) show cannabis use between 9.1 and 14.6 per cent of people, compared with 2.8 to 4.5 per cent globally. According to the New Zealand Drug Foundation, 44% of adult New Zealanders will try an illegal/illicit drug at some point, and 93% will try alcohol⁷. The longitudinal Christchurch Study reports that in their cohort of over 1000 people born in 1977 in Christchurch, 80% have tried cannabis at least once⁸.

Cannabis use in New Zealand is governed by the **Misuse of Drugs Act 1975**. The Misuse of Drugs Act 1975, and subsequent amendments, classifies a wide range of controlled and illegal drugs according to the level of risk of harm posed to people who misuse them. Class A drugs, which include methamphetamine, magic mushrooms, cocaine, and heroin, are

⁵ Kiwis World’s Top Cannabis Smokers. NZ Herald June 2012

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10815874

⁶ United Nations Office on Drugs and Crime - World Drug Report 2012 <http://www.unodc.org/unodc/en/data-and-analysis/WDR-2012.html>

⁷ New Zealand Drug Foundation <https://www.drugfoundation.org.nz/policy-and-advocacy/drugs-in-nz/>

⁸ Boden J. Cannabis- what’s the harm? Christchurch Health and Development Study <https://vimeo.com/272146311>

deemed to carry “very high risk of harm”⁹. Class B drugs, including cannabis oil, hashish, morphine, opium, ecstasy and many amphetamine-type substances, are deemed “high risk of harm”, and Class C, which includes codeine, cannabis seed, and cannabis plant are deemed “moderate risk of harm”. **Unauthorised possession of any amount of cannabis for any purpose is currently illegal.**

As outlined in Table One¹⁰ the maximum penalty for unauthorised possession of cannabis is imprisonment for a maximum term of 3 months or a \$500 fine. Growing and selling cannabis (more than 28g or 100 cannabis joints) carries a maximum penalty of 7 and 8 years imprisonment respectively.

Table One: Classes of drugs in New Zealand and related penalties			
	Possession	Supply or manufacture	Allowing your premises or vehicle to be used for a drugs offence
Class A methamphetamine, magic mushrooms, cocaine, heroin, LSD	6 months jail	Life imprisonment	On indictment: 10 years jail Summarily: 2 years jail and/or \$1,000 fine
Class B cannabis oil, hashish, morphine, opium, ecstasy and many amphetamines	3 months jail and/or \$500 fine	14 years jail	On indictment: 7 years jail Summarily: 1 year jail and/or \$1,000 fine
Class C cannabis seed, cannabis plant, codeine	3 months jail and/or \$500 fine	On indictment: 8 years jail Summarily: 1 year jail and/or \$1,000 fine	On indictment: 3 years jail Summarily: 6 months jail and/or \$500 fine

Source <https://teara.govt.nz/en/interactive/39579/classes-of-drugs>

It is generally accepted that the use of cannabis in New Zealand is high. Accordingly, possession of cannabis in small quantities is often not prosecuted. Rather, in some cases, first offences result in a formal warning and confiscation of drugs by police, ie, **depenalisation**.

Such depenalisation approximates **decriminalisation**, which involves removing the criminal penalties for cannabis possession, and having a sliding scale in terms of personal limits, potential civil penalties, and health referrals. Keeping this sliding scale fair to all demographics of New Zealanders would be ethically important¹¹.

⁹ <http://www.police.govt.nz/advice/drugs-and-alcohol/illicit-drugs-offences-and-penalties>

¹⁰ <https://teara.govt.nz/en/interactive/39579/classes-of-drugs>

¹¹ What's the difference between decriminalising and legalising cannabis? July 2017
<https://i.stuff.co.nz/national/93142481/whats-the-difference-between-decriminalising-and-legalising-cannabis?cid=facebook.post.93142481>

In contrast, **legalisation** of cannabis removes all criminal penalties for possession, use, growing/production and supply, with cannabis treated as a commodity with appropriate restrictions in place, as is the case for alcohol and tobacco.

Table Two: Table describing different legal responses to the possession and use of Cannabis ¹²

Depenalisation	Drug use remains illegal. Instead of being prosecuted and processed through the legal system, people found in possession/using drugs are referred to social or health services; the drug is confiscated and destroyed. New Zealand's system of 'Diversion' is a form of depenalisation.
Decriminalisation	This is a formal relaxation of the law. Instead of criminal penalties such as prison, fines or health referrals or a "cannabis warning" are used. The course of action is determined on a sliding scale in accordance with the type and amount of drug found in a person's possession. ¹³
Legalisation	There are no convictions or penalties for the use of cannabis. However, production, growth, supply and transportation become regulated (like alcohol and tobacco). There are restrictions on how and to whom cannabis may be sold.

Justice and Health department costs

The current illegal status of cannabis in New Zealand leads to considerable **Justice system costs** – the cost of Police, courts and prison beds are included in an estimated \$1.8 billion annual social cost of illicit drug-related harm¹⁴. It is important to note, however, that this is the estimated annual social cost for "**all** illicit drug-related harm", not just cannabis. As the 'legalisation of cannabis' debate is negotiated, careful scrutiny of the figures that are used by proponents on both sides will be essential.

Ministry of Justice figures show that around 1,800 people are convicted for cannabis offenses every year¹⁵. However, conviction does not equate to imprisonment. While low-level drug convictions may increase the total time spent in prison, few people are sentenced to prison for low-level drug offences alone. That is, most people imprisoned are also facing other drug or non-drug related charges. In 2017, 31 people were imprisoned on cannabis-related charges alone. The average length of sentence for these 31 cases was 628 days, with the longest being 1,730 days.

Drug convictions and prison experience remain for life. Cannabis convictions do not appear to reduce subsequent drug use. Further, data shows that enforcement of cannabis prohibition is biased against Māori¹⁶.

¹² Edens, J. (July 2017). *What's the difference between decriminalising and legalising cannabis?*

<https://www.stuff.co.nz/national/93142481/whats-the-difference-between-decriminalising-and-legalising-cannabis>

¹³ The Misuse of Drugs Amendment Bill currently before Parliament and to be reported on in July 2019, effectively decriminalises the possession of all drugs – see page 11 of this booklet

¹⁴ <https://www.drugfoundation.org.nz/matters-of-substance/february-2013/cost-of-our-convictions/>

¹⁵ <https://www.drugfoundation.org.nz/policy-and-advocacy/state-of-the-nation-2018/>

¹⁶ Boden J. Cannabis: what you need to know 2018

<https://www.otago.ac.nz/otagomagazine/issue47/opinion/otago696401.html>

Green MP and spokesperson on drug reform, Chlöe Swarbrick, asserts the displacement of the black market is a principal goal of legalisation of cannabis. The black market cultivation and supply of cannabis in New Zealand can often be associated with gangs and violence.

"We have to recognise that most New Zealanders are coming into contact with, and consuming, illicit cannabis by the age of 16 or 17. They usually become exposed in high school, [. . .] We're not going to be making it easy to buy. What we're seeking to do here is to displace the black market and actually reduce that accessibility."¹⁷

The illegality of cannabis may deter requests for help making **Health system costs** difficult to accurately assess, however, it is likely that these too are large. Unlike alcohol, there is relatively little evidence of cannabis being lethal. However, this has changed with the increased use of the many synthetic drugs marketed as mimicking cannabis, which can be highly toxic and lead to aggressive, violent behaviour.

Smoking (whether tobacco or cannabis) has known negative oral, dental and respiratory side effects. The physical effects of vaping are less known, although they are thought to be medically significant. Methods of appropriate cannabis delivery for medicinal use include oral preparations and nasal spray.



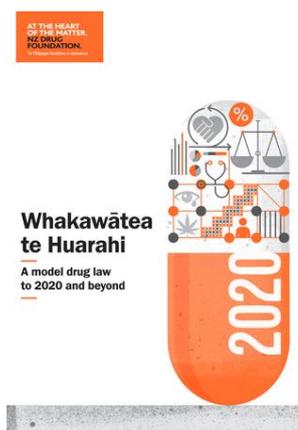
The NZ Drug Foundation continues to lobby the government to make all drug use an issue of health rather than an issue of crime. The NZ Drug Foundation wish to 'make sure [drug use is] intertwined with housing, work, economic development and education'.

The Drug Foundation's policy briefing to MPs in 2017 included i) keep young people in school and keep them safe; ii) reform our laws to treat drug use as a health issue; iii) invest more effectively in prevention, harm reduction and treatment; and iv) reduce drug harm in communities and respond to emerging challenges¹⁸.

In November 2018, the NZ Drug Foundation released a commissioned report on the economic analysis of their model drug law, Whakawātea te Huarahi. The NZ Drug Foundation's model proposes:

- decriminalising the use and possession of *all* drugs,
- legalising the use and supply of cannabis, &
- investing more effectively in prevention, education, harm reduction and treatment of drug use¹⁹.

It was estimated that removing penalties for drug use and investing in health would have a net social benefit of between



¹⁷<https://www.radionz.co.nz/national/programmes/morningreport/audio/2018694050/cannabis-vote-we-want-to-displace-black-market-swarbrick>

¹⁸ Briefing to the Incoming Parliament 2017. New Zealand Drug Foundation. <https://www.drugfoundation.org.nz/policy-and-advocacy/briefing-to-the-incoming-parliament/>

¹⁹ The economics of drug reform stack up. Nov 2018 <https://www.drugfoundation.org.nz/policy-and-advocacy/drug-law-reform/economics-of-drug-law-reform/>

\$112m and \$1.001b per year²⁰. Again, it is important to distinguish the figures quoted – in this case, figures quoted are for the decriminalisation of all drugs, not figures associated with cannabis alone.

For discussion

Do you think cannabis use issues are best treated as health issues or criminal (corrections) issues? And why?

What differences in the harms and benefits do you see between depenalisation, decriminalisation and legalisation of cannabis?

Does a grey area around allowing small amounts of cannabis for personal use help or confuse the discussion?

Does New Zealand trying to eliminate smoking and be “Smoke Free by 2025” impact the debate about cannabis?



²⁰ Estimating the impact of drug policy options. 2018

<https://www.drugfoundation.org.nz/assets/uploads/Cost-benefit-analysis-drug-law-reform.pdf>

Recent legal history

In 2006, Green Party MP Metiria Turei's Misuse of Drugs (Medicinal Cannabis) Amendment Bill was drawn from the private member's ballot. This Bill sought to allow use of cannabis for medicinal purposes, and to permit the cultivation and possession of a small amount of cannabis by registered medical users or a designated agent. The Bill was defeated at its first reading in July 2009.

Another private member's bill sponsored by Chlöe Swarbrick – the Misuse of Drugs (Medicinal Cannabis and Other Matters) Amendment Bill – also failed at its first reading on 31 January 2018. This Bill proposed to make cannabis legal for those suffering from terminal illness or any debilitating condition; and to allow cultivation, possession or use of the cannabis plant and/or cannabis products for therapeutic purposes (with the help of a nominated other person), provided the person had the support of a registered medical practitioner²¹.

The Misuse of Drugs (Medicinal Cannabis) Amendment Bill

In October 2017, the new Labour/Green/New Zealand First coalition agreed to the Green party's condition of a referendum on the legality of cannabis for personal use, to be held at or before the 2020 general election. In the meantime, as part of the new government's 100 Day Plan, The Misuse of Drugs (Medicinal Cannabis) Amendment Bill²² was introduced to Parliament in December 2017. Proposing that terminally ill people could possess and use illicit cannabis and/or a cannabis utensil, and that cannabidiol (CBD; a non-psychoactive ingredient of cannabis - see page 23), products no longer be classed as controlled drugs, the Bill passed its first reading on 30 January 2018 and proceeded to the Health Select Committee.

MINISTRY OF HEALTH
 HONOTI MAHURU

Ministry of Health Health Report number: 20171776

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 Action required by: 14 December 2017

Misuse of Drugs (Medicinal Cannabis) Amendment Bill CAB Paper

To: Hon Dr David Clark, Minister of Health

Purpose
 This report provides you with the *Misuse of Drugs Amendment Bill: Approval for Introduction* Cabinet paper for Cabinet on Monday 18 December 2017.

Key points

- The paper seeks Cabinet's approval to introduce the Misuse of Drugs (Medicinal Cannabis) Amendment Bill that will:

²¹ Swarbrick C. Misuse of Drugs (Medicinal Cannabis and Other Matters) Amendment Bill <http://www.legislation.govt.nz/bill/member/2017/0270/latest/d56e2.html>

²² Misuse of Drugs (Medicinal Cannabis) Amendment Bill <http://www.legislation.govt.nz/bill/government/2017/0012/latest/DLM7518707.html>

The **Health Select Committee** received 1786 written and 158 oral **submissions** on The Misuse of Drugs (Medicinal Cannabis) Amendment Bill and prepared their report for the House in July 2018²³. While the majority of submitters indicated that they support allowing individuals to use cannabis for medicinal purposes (with only 1% of submitters not supporting the intent of the Bill), the Committee could not reach agreement about concerns raised on the Bill, or recommend that the proposed Bill proceed.

However, **The Misuse of Drugs (Medicinal Cannabis) Amendment Bill** did proceed through readings 2 and 3 of the House and the legislation passed on Dec 11th 2018. A change in terminology extended access to medicinal cannabis to both patients classified as terminally ill and those in palliation; that is, patients who are seriously ill, where the focus of treatment is on improving their quality of life. However, this legislation does not offer medicinal cannabis to people with chronic disease or pain. Further, medicinal cannabis products are not subsidised and come at a significant cost to a patient when prescribed²⁴.

While it will take up to a year for the new regulations established by the Misuse of Drugs (Medicinal Cannabis) Amendment Bill 2018 to be rolled out, the law also established a statutory defence for these patients to possess and use cannabis that took effect immediately. This allows about 25,000 patients who are either terminally or seriously ill to access otherwise illegal cannabis products.

Additionally, the law fully decriminalised cannabidiol (CBD) products, allowing medical CBD products to be manufactured in New Zealand and empowering the Governor-General to establish regulatory standards for CBD products that are manufactured, imported and supplied under licence.

Misuse of Drugs Amendment Bill

First read in Parliament on 12 March 2019, the intention of the Misuse of Drugs Amendment Bill is to address the “harm being caused by synthetic drugs, and others, by ensuring that legislation focusses on those who import, manufacture, and supply the drugs and not those who use them.”²⁵ **The Misuse of Drugs Amendment Bill** aims to:

- classify two synthetic cannabinoids (see page 26) AMB-FUBINACA and 5F-ADB, as Class A drugs
- **affirm in legislation the discretion for Police to prosecute for possession and use of all drugs**
- specify that, when considering prosecuting for possession and use, consideration should be given to whether a health-centred or therapeutic approach would be more beneficial
- enable temporary drug class orders to be issued for emerging and potentially harmful substances.

²³ Misuse of Drugs (Medicinal Cannabis) Amendment Bill - Report of the Health Committee, July 2018
https://www.parliament.nz/resource/en-NZ/SCR_78856/c8e00c5ea12f9ae59420e76d94c4dd32a5b8c840

²⁴ Personal correspondence from a South Island based General Practitioner.

²⁵ https://www.parliament.nz/en/pb/sc/make-a-submission/document/52SCHE_SCF_BILL_85104/misuse-of-drugs-amendment-bill

Public submissions on The Misuse of Drugs Amendment Bill closed on 11 April 2019 and the report from the Health Select Committee is due on the 22nd of July 2019.

The Misuse of Drugs Amendment Bill is termed an ‘omnibus’ Bill because it is “a draft law before a legislature which contains more than one substantive matter, or several minor matters which have been combined into one bill ...”²⁶. The change in this Bill that affirms in legislation the discretion for the Police to prosecute for possession and use of all drugs (as bolded above), is in the words of Dr Joseph Boden “decriminalisation of most drugs, in fact”²⁷.



Going to the polls

In addition to calls from the New Zealand Drug Foundation to reform the laws around cannabis, lobby groups including NORML (the National Organisation for the Reform of Marijuana Laws), established in 1980, and the Aotearoa Legalise Cannabis Party, established 1996, continue to support legalisation of cannabis.

Over the past few years, several national polls have measured support for reform of cannabis laws, with a trend of increasing support more recently for legalisation both for medicinal and recreational use:

- New Zealand Drug Foundation 2018 telephone poll survey showed the majority of those answering the survey want cannabis law change: with 35% supporting legalisation of cannabis; 32% supporting decriminalisation; and 33% of respondents wanting to keep the status quo. This indicated a 7% increase in support for legalisation since the same question was asked in July 2017. People were strongly (90%) in favour of medicinal cannabis being readily available for both pain management and terminal illnesses, with only 10% wanting this to stay illegal.²⁸
- A ONE NEWS Colmar Brunton poll of 1006 voters in October 2018, indicated that Kiwis were divided on the legalisation of cannabis, with 46% in favour and 41% against, with 12% undecided²⁹.

²⁶ <http://www.duhaime.org/LegalDictionary/O/OmnibusBill.aspx>

²⁷ Boden, J. (8 May 2019). *What are the health impacts of using cannabis?* National Radio, Morning Report <https://www.radionz.co.nz/national/programmes/morningreport/audio/2018694036/what-are-the-health-impacts-of-using-cannabis>

²⁸ New survey results show legal cannabis a real possibility <https://www.drugfoundation.org.nz/news-media-and-events/new-survey-results-show-legal-cannabis-a-real-possibility/>

- 2019 March Horizon Research poll for Three's The Hui programme showed 75% of Māori support cannabis legalisation, with 14% against legalising for personal use and 11% unsure. Māori under 55 years of age were more in favour of legalisation than those 55 years or older. Drugs Foundation chair Tuari Potiki said these results “puncture the belief this is solely a white, middle class issue. Cannabis is a totally unregulated market, harming whānau. We want to see the toughest regulation possible to add an element of control to a market that's out of control”³⁰.
- Curia Market Research polled 1,026 eligible New Zealand voters nationwide in April 2019, (with a margin of error or +/- 3.1 %). When asked “Which of the following statements is closest to your opinion on cannabis?”, the majority (65%) were in favour of lifting restrictions on cannabis for medical use but not recreational use. Eighteen percent thought restriction on recreational use should be lifted, 7% wanted the current restrictions to remain, while 10% were unsure.

Eighty-five percent of respondents thought “that cannabis use can damage the brains of young people under the age of 25”, while 6% disagreed and 9% were unsure.

Eighty-one percent of respondents thought that “drivers using cannabis were more likely to cause accidents”, with 4% thinking them less likely, 4% saying using cannabis would make no difference to causing driving accidents, and 10% unsure³¹.

- Released on May 9th 2019, a further Horizon Research poll of 1161 New Zealanders (commissioned by licensed medicinal cannabis company Helius Therapeutics), asked, “*At this time, do you think you will vote for or against legalising cannabis for personal use in New Zealand?*”. With a margin of error was 2.9 per cent, 52% of those surveyed said yes; 37% no; and 11% had no opinion.

²⁹ <https://www.tvnz.co.nz/one-news/new-zealand/kiwis-divided-legalising-cannabis-but-more-in-favour-1-news-poll-reveals>

³⁰ <https://www.radionz.co.nz/news/national/383836/poll-shows-75-percent-of-maori-support-cannabis-legalisation>

³¹ Curia Market Research Marijuana Poll 2019, PO Box 12270 Thorndon Wellington. E: curia@curia.so.nz

For discussion

Do the public polls reflect the public's knowledge around harms/benefits to different groups of people in NZ?

How much do you think this is an individual's choice, or a community choice where the needs of society are also addressed?

How do we make sure all voices are heard before the referendum so that we can make a societal/collective choice?

Cannabis-testing in New Zealand: Driving, Work, Schools and Sport

Cannabis has known psychoactive³² and other neurological effects, which may impact on the safety of the user and others around them in different situations.

Figures released by New Zealand Automobile Association (AA) indicate that approximately one third of drivers who die in crashes have some sort of impairing drug in their system. Drugs involved included cannabis, methamphetamine, and prescription and non-prescription medicines that are known to impair driving ability. Four hundred and forty-two drug driving offences were recorded by police in June 2016-17. More road deaths in 2017 involved drivers with drugs in their system than drivers who were over the *legal limit* for alcohol.³³ (However, when the figures are adjusted for drivers with the presence of any alcohol in their system, alcohol is associated with a higher number of fatal crashes³⁴.)

These findings prompted the New Zealand AA to call for increased government funding for roadside drug testing as used in the UK, France, the Netherlands, Norway, Denmark, Ireland and Australia³⁵. In Australia, police checkpoints catch more drug drivers than drunk drivers. Here in NZ, we do not have roadside drug testing, instead police require strong suspicion of drug use before taking the driver to a police station for a walk-and-turn test. Potential roadside saliva testing is quick, although only detects some drugs taken within the last few

³² A substance is said to be psychoactive if it affects the mind or brain and changes perception, mood, consciousness, cognition or behaviour, therefore resulting in the 'high' feelings of cannabis.

³³ [https://www.aa.co.nz/about/newsroom/media-releases/safety/alarmed-increase-in-drugged-driving-deaths/A 2018](https://www.aa.co.nz/about/newsroom/media-releases/safety/alarmed-increase-in-drugged-driving-deaths/A%2018)

³⁴ In 2017, 79 fatal crashes involved a driver with drugs in their system, compared with 70 involving drivers who were over the legal limit for alcohol. When the figures are adjusted for drivers with the presence of any alcohol in their system the numbers become 79 fatal drug related crashes: 154 alcohol related crashes. <https://www.radionz.co.nz/news/national/382839/aa-drug-driving-stats-they-missed-half-the-information>

³⁵ <https://www.tvnz.co.nz/one-news/new-zealand/new-zealands-hidden-killer-roads-aa-calls-urgent-roadside-drug-testing>

hours; does not show the level of driving impairment; and needs to be further confirmed by other tests.

A recent new member's Bill (Alastair Scott) to introduce roadside driver saliva drug testing for ecstasy³⁶, cannabis and methamphetamine was rejected on 1 Oct 2018³⁷. Lobby groups Victim Support and Brake are calling on the Government to urgently develop an alternative plan for addressing the issue of drug driving to help save lives. Blood samples from impaired drivers submitted by Police to ESR³⁸ for analysis over three and a half years, show 60% had used cannabis and over 40% had used methamphetamine³⁹.



Drug and alcohol testing in the **NZ workplace** is becoming more common for health and safety reasons, and is backed by clear employment contracts stating this. Drug testing can be random, regular or reactive to a safety situation, using urine, blood, hair, or saliva. However, as many drugs, including cannabis, are retained in the body (not saliva), it is possible that a positive test will reflect past use, not current impairment. Accordingly, the NZ Drug Foundation recommends that the impairment due to drugs should be measured, rather than whether drugs have been used.

Problems with substances start early. Half of all New Zealanders with a substance dependence issue are already dependent by the time they are 19 years old⁴⁰. A recent survey shows that the most common age of first drug use in New Zealand is between 15 and 17 years of age but more startling is the fact that almost one in five drug users were 14 years or younger when they first tried drugs⁴¹. Hundreds more students are being caught with **drugs in high schools** each year, probably due to increased detection efforts by drug dogs. A principal at one Auckland College, where 116 students have been stood down for drugs in two-and-a-half years, said his students could buy cannabis joints for just \$5. Schools that have regular drug dog inspections are generally found to become clean of drugs⁴².



Drug Free **Sport** New Zealand's strict drug testing programme, which includes testing for cannabis, is designed to identify cheats and protect the rights of athletes to compete in sport that is free of doping⁴³. Testing is across more than 50 sports which have agreed to NZ's Sports Anti-Doping Rules. These rules include an athlete register; blood/urine analysis at a World Anti-Doping Agency's (WADA) accredited laboratory; monitoring of selected biomarkers as part of the Athlete Biological Passport programme; intelligence gathering; and referrals of violations to the Sports Tribunal of New Zealand for adjudication.

³⁶ 3,4-Methylenedioxymethamphetamine, or MDMA, commonly known as ecstasy

³⁷ <http://www.scoop.co.nz/stories/PO1810/S00281/rejection-of-drug-driving-testing-a-blow-for-victims.htm>

³⁸ Institute of Environmental Science and Research

³⁹ <https://www.rnz.co.nz/national/programmes/morningreport/audio/2018695481/driver-drug-testing-scientists-support-roadside-saliva-tests>

⁴⁰ <https://www.drugfoundation.org.nz/info/schools/students-drugs-and-alcohol/>

⁴¹ http://riskgroup.co.nz/Drug_Dogs/Schools.html

⁴² http://riskgroup.co.nz/Drug_Dogs/Schools.html

⁴³ <https://drugfreesport.org.nz/>

Drug Free Sport NZ tests hundreds of athletes based in New Zealand and overseas every year, and carries out testing on behalf of other anti-doping organisations, creating a list of athletes currently banned from sport due to doping. NZ high school sports teams about to compete overseas are also drug-tested. However, Drug Free Sport NZ and a number of MP's are calling for an end to cannabis testing for kiwi athletes since cannabis is not performance enhancing, and they see cannabis testing as an ineffective use of their limited funds. Currently, it seems unlikely that cannabinoids would be removed from the World Anti-Doping Agency's (Wada) list of prohibited substances⁴⁴.

For discussion

How can personal rights and choices in the workplace, schools, public places and roads etc (noting that cannabis is currently illegal) be balanced with safety/fairness for others?

Why is there so much emphasis on drug testing in sports, schools and workplaces but not for safety on roads?

The effects of cannabis use: Findings from longitudinal and other studies on cannabis use

International clinical trials carried out in countries with legal medicinal cannabis use are beginning to yield the best evidence for effectiveness and safety of medicinal cannabis. These studies use known preparations of cannabis products for large groups of patients with appropriate controls.

Additionally, longitudinal studies carried out in NZ where study participants have been examined from birth onwards, together with meta-analyses by scientists collating data from a large number of international studies, are also revealing valuable information on recreational use, especially on the harmful effects of the adolescent use of cannabis.

1. Cannabis is especially harmful when started during adolescence: The Dunedin Multidisciplinary Health and Development Study⁴⁵ is a longitudinal study of 1,037 Dunedin individuals followed from birth in 1972/1973 onwards. One project within this study found that regular users of cannabis showed a greater decline in IQ and memory loss compared with other participants, and their habit appeared to affect every day cognitive functioning. Impairment was concentrated among adolescent-onset cannabis users, with more persistent use associated with greater decline. Quitting or reducing cannabis use did not

⁴⁴ Drop the sporting cannabis test for athletes July 2013 <http://i.stuff.co.nz/sport/other-sports/8972384/Drop-the-sporting-cannabis-test-for-athletes>

⁴⁵ The Dunedin Multidisciplinary Health and Development Study. <https://dunedinstudy.otago.ac.nz/>

fully restore brain functioning among teenage cannabis users, and the researchers suggest that cannabis use in adolescence, when the brain is developing, could have "neurotoxic effects"⁴⁶, that is, causes damage to the central and/or peripheral nervous system. Another project in this study has shown a significant increased risk of schizophrenia in later life for teenagers who use cannabis, especially for a vulnerable minority of teenagers with a predisposition to developing schizophrenia⁴⁷.

2. Cannabis users most at risk are adolescents and heavy users: The Christchurch Health and Development study⁴⁸ is a 41 year study following the health, education and life progress of a group of 1,265 children born in the Christchurch (New Zealand) urban region during mid-1977. This cohort has now been studied from infancy into childhood, adolescence and adulthood, and showed that 80% of these people had tried cannabis at least once, but only a small number use cannabis regularly or heavily⁴⁹. One research paper from this study looked specifically at the young people between the ages of 15 – 25yr⁵⁰, and concluded that regular or heavy cannabis use was associated with harms to the young person including:

- i. increase in amotivational syndrome (educational failure, employment problems, welfare dependence)
- ii. acting as a gateway to other illicit drug use, and
- iii. increased risk of psychotic symptoms outside intoxication. Importantly, most at risk were adolescents, and heavier users.

Study leaders do not know what will happen if NZ legalises the recreational use of cannabis but suggest a free market supply would increase the harms, as it has done with alcohol. They recommend choosing what has the least harm, balancing the risks of underground activity if cannabis remains illegal, and increased access and use if cannabis becomes legal, and then continue to evaluate the results of any law changes⁵¹.

3. Cannabis observed to increase anxiety without relieving pain: An Australian study⁵² published in the Lancet in 2018 selected a group of 1514 people who were already participating in another long-term research project investigating prescription opioids to treat chronic pain. Over four years, researchers repeatedly surveyed the participants about

⁴⁶ Meier et al 2012, PNAS 109 (40) Persistent cannabis users show neuropsychological decline from childhood to midlife. <https://www.scribd.com/document/280247224/Meier-2012-PNAS-Persistent-Cannabis-Use>

⁴⁷ Cannabis use 'trigger for schizophrenia'. New Zealand Herald 20 Feb 2019. https://www.nzherald.co.nz/technology/news/article.cfm?c_id=5&objectid=10116853

⁴⁸ The Christchurch Health and Development study <https://www.otago.ac.nz/christchurch/research/healthdevelopment/>

⁴⁹ Boden J. Cannabis: what you need to know 2018 <https://www.otago.ac.nz/otagomagazine/issue47/opinion/otago696401.html>

⁵⁰ Fergusson, David; Joseph M. Boden; L. John Horwood (April 2006). "Cannabis use and other illicit drug use: Testing the cannabis gateway hypothesis". *Addiction*. 101 (4): 556–569. doi:10.1111/j.1360-0443.2005.01322.x. PMID 16548935

⁵¹ Boden J. Cannabis- what's the harm? Christchurch Health and Development Study <https://vimeo.com/272146311>

⁵² Campbell G. 2018 Lancet 3 (7): E341-350. Effect of cannabis use in people with chronic non-cancer pain prescribed opioids: findings from a 4-year prospective cohort study. [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(18\)30110-5/fulltext?dgcid=raven_jbs_etoc_email](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(18)30110-5/fulltext?dgcid=raven_jbs_etoc_email)

their pain and how they were treating it by self-administered cannabis mostly from illicit sources. In contrast to other recent studies which have found cannabis relieves some non-cancer chronic pain, the Lancet study found cannabis does almost nothing to help people with chronic pain, nor does it help sufferers replace opioid treatment. Further, cannabis users in the study appeared more vulnerable to/less able to manage anxiety and depression. The authors noted the need for large, well-designed clinical trials with known doses of cannabis given to randomised patients, to confirm their findings on patients self-administering their own cannabis.

4. Brain changes and anxiety observed in 14 year olds using cannabis: A meta-analysis by Melbourne's Swinburne University of Technology⁵³ published in January 2019, begins to address the paucity of studies on the effects of adolescent recreational cannabis use and vulnerability to the effects of cannabis on adolescent brain structure. Most research to date has been conducted on adults with a heavy pattern of lifetime use. This study analysed data from a large international research programme into brain development and mental health of 46 fourteen-year old teens from Ireland, England, France and Germany who had only used cannabis once or twice. They found that this group had a significantly large growth of brain grey matter volume after their cannabis use, and had ongoing higher levels of generalised anxiety.

For discussion

What education on cannabis harms is being provided to our adolescents and parents?

If recreational use of cannabis is legalised or decriminalised, what do you think would need to be in place to protect and minimise harm to adolescents?

⁵³ Grey Matter Volume Differences Associated with Extremely Low Levels of Cannabis Use in Adolescence, Orr C., et al., Journal of Neuroscience Jan 2019
http://www.jneurosci.org/content/early/2019/01/14/JNEUROSCI.3375-17.2018?utm_campaign=Scientific%20Publications&utm_source=hs_email&utm_medium=email&utm_content=68827557&_hsenc=p2ANqtz-9uPLD5Trz-j5iD_sjXclWhweC1g9vNWmB7YFHFGG0jPbDZ84WwVIFFeJn1hQvQPt6C2iFvkEM42DEq6tAfcBEZTOvJfw&_hsmi=68827557

Lessons from international experience of cannabis

The legality of cannabis with respect to possession, distribution, and cultivation varies by country and is quickly changing. **Medicinal use of cannabis** is regulated by how it can be taken and what medical conditions it can be used to treat. The medicinal use of cannabis is legal in a number of countries including Canada, Chile, Colombia, Czech Republic, Australia, Denmark, Finland, Germany, Greece, Israel, Italy, Mexico, Netherlands, Peru, Poland, Norway, Sri Lanka, and the United Kingdom (effective November 1, 2018). In the United States, 31 states and the District of Columbia have legalised the medicinal use of cannabis, but at the federal level cannabis use remains prohibited for any purpose. Others countries have more restrictive laws that only allow the use of certain cannabis-derived drugs, such as Sativex or Marinol.

Since widespread prohibition in the late 1930s, **recreational use of cannabis** has been illegal in most countries. Exceptions where recreational cannabis is legal include Uruguay (2013), Canada (October 2018), some states in India, Spain (in private), and the USA states of Alaska, California, Colorado, Maine, Massachusetts, Michigan, Nevada, Oregon, Washington, Vermont and in Washington DC. All Indian/First People reservations in the US are allowed to regulate their own cannabis laws.

Cannabis use has been decriminalised in several other US states. Similarly, in many other jurisdictions including the Australian states of Northern Territory and South Australia, together with the Australian Capital Territory, possession of cannabis in small quantities has been decriminalised (making simple possession a non-criminal offense, similar to a minor traffic violation). Georgia and South Africa have legalisation for the personal cultivation and consumption of cannabis, but not for legal sales. A policy of limited enforcement has also been adopted in many countries, eg. the Netherlands where the sale of cannabis is tolerated at licensed "coffee shop" establishments. In contrast, some Asian and Middle Eastern countries have severe penalties for cannabis use.

Information from other countries where cannabis use is legal for medicinal and/or recreational use is highly informative, especially when clinical trials with known doses of standardised cannabis (or specific components thereof) used in controlled conditions have been carried out. Results from longitudinal studies, such as the Dunedin and Christchurch studies mentioned above, where people self-administer unknown doses of cannabis may add to our knowledge. However, more importantly are clinical trials, both past and in the future, for informing politicians, patients, doctors and the general public alike about the effectiveness and side effects of medicinal cannabis, and any long term harms and vulnerabilities for recreational cannabis.



Israel: has a successful medicinal cannabis program with over 30,000 patients being supervised by nurse practitioners once permission is given for the initial medicinal use⁵⁴. Israel is a leader in medicinal cannabis research and export. While recreational cannabis use remains illegal, it will be

⁵⁴ <https://www.dinafem.org/en/blog/israel-medical-cannabis-program-successful/>

decriminalised in 2019 involving administrative fines, and discouraged through educational programmes⁵⁵.

The Netherlands: drug use is prohibited by the Opium Law (1911), but since the early 1970's the Netherlands has had a tolerance policy towards recreational use of soft drugs, including cannabis, via a system of quasi-legal cannabis/coffee-house shops. These may have modestly increased the number of cannabis users, but seem not to have intensified cannabis use or movement to harder drugs.

Regulatory factors such as a ban on advertising, prohibition of cultivation to keep prices high, and separation of cannabis users and hard drug user/sellers via the cannabis/coffee shop system are thought to moderate the use of cannabis. Possession of a small amount of cannabis for personal use is also allowed. Personal cannabis production was been banned until, in 2017, coffee houses were allowed to purchase cannabis from state-appointed producers. A study found that Dutch have more modest cannabis use than many European neighbours; their transition from casual experimentation in youth to regular usage in adulthood (ages 15-34) is fairly modest by international standards; cannabis use among Dutch 15-to-24-year-olds dropped from 14.3 to 11.4 percent between 1997 and 2005; Dutch cannabis users are more likely to be admitted for substance abuse treatment than in other European countries, which may reflect a greater investment in treatment by Dutch officials⁵⁶. In the US, 50% of cannabis addiction admissions happen through criminal justice referrals compared to 10% in the Netherlands.



Canada: Canada legalised recreational cannabis on October 17th 2018. The first quarter survey, released in early May 2019, has shown cannabis use increased following legalisation; the prevalence of use in the population going from 12-14% prior to legalisation, to some 18% - that is, 5.3 million, or nearly one in five – Canadians aged 15 years and

older, reporting the use of cannabis in the three months after legalisation. A billion dollar industry in Canada, some 47% of users reported purchasing their cannabis through legal sources, while 38% continued to purchase cannabis through the black market. Some users reported using multiple sources to procure their recreational cannabis. In the survey 646,000 cannabis users reported trying cannabis for the very first time in the past three months. This number of first-time users was nearly double the corresponding estimate of 327,000 people one year earlier, when recreational use of cannabis was still illegal⁵⁷.

⁵⁵ Israel To Decriminalise Personal Use of Cannabis. <http://volteface.me/features/israel-cannabis-decriminalisation/>

⁵⁶ MacCoun RJ. 2011 New research points to lessons from Dutch cannabis system <http://news.berkeley.edu/2011/09/13/lessons-from-dutch-cannabis-system/>

⁵⁷ National Cannabis Survey First Quarter 2019, <https://www150.statcan.gc.ca/n1/daily-quotidien/190502/dq190502a-eng.htm>

Benedict Fischer of the University of Auckland's Faculty of Medical and Health Sciences, who worked with the Canadian government on the cannabis framework, suggests that the high level of purchases through the black market following legalisation could be due to the price being charged at the legal outlets, together with the type of product, not matching consumer demand. The factors of loyalty and the habit of where cannabis has been purchased previously, may also be operating. Fischer contends that an evening out period of three to four years is required before an accurate picture of cannabis use following legalisation in Canada can be determined⁵⁸.

National Cannabis Survey, first quarter 2019

Released at 8:30 a.m. Eastern time in *The Daily*, Thursday, May 2, 2019

About 5.3 million or 18% of Canadians aged 15 years and older reported using cannabis in the last three months. This was higher than the 14% who reported using just one year earlier, before legalization.

The increase in cannabis use between the first quarters of 2018 and 2019 can be partly explained by greater use among males and people aged 45 to 64. For example, rates of cannabis consumption for males increased from 16% to 22% over this period, while rates rose from 9% to 14% for persons aged 45 to 64. Levels of consumption remained stable for females, at 13%, and were unchanged for persons in the other age groups (such as young people under 25 and seniors).

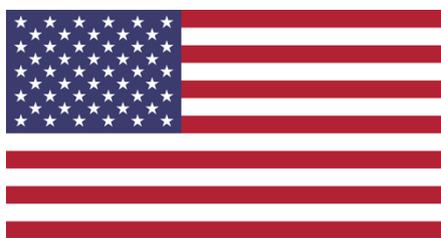
At the provincial level, there was minimal change in rates of cannabis consumption between the first quarters of 2018 and 2019, with the exception of Ontario where prevalence increased from 14% to 20%.

The National Cannabis Survey (NCS), which was designed to monitor cannabis consumption and related behaviours before and after legalization, has collected data every three months since February 2018. Today's release features the first Canada-wide results entirely in the post-legalization period, including changes in consumption and sources of cannabis, as well as beliefs about when it is safe to drive after using.

Number of new cannabis users increasing

More Canadians began to use cannabis in the first quarter of 2019. Some of these new cannabis consumers were first-time users, while others were former cannabis users who tried cannabis again post-legalization.

During the first quarter, 646,000 cannabis users reported trying cannabis for the very first time in the past three months. This number of first-time users was nearly double the corresponding estimate of 327,000 people one year



USA: While the use, sale, and possession of all forms of cannabis in the United States is illegal under federal law, states are able to pass their own use of cannabis exemption laws. Oregon decriminalised cannabis use in 1973, with Colorado and Washington State in 2012, the first to legalise cannabis. By January 2018, a total of nine states (Alaska, California, Colorado, Maine, Massachusetts, Nevada, Oregon, Vermont, and Washington), and the District of Columbia, had legalised the recreational use of cannabis, with all but Vermont and D.C. permitting its commercial sale. Another 13 states have decriminalised cannabis. Government studies show a few surprising trends after legalisation^{59,60} including:

- i) recreational legalisation hasn't seemed to make youth more likely to use cannabis;
- ii) more people have sought treatment for cannabis 'poisonings' since legalisation;
- iii) tax revenues have gone up and arrest rates gone down

However, the US government acknowledges that there are future unknowns, such as 'are health outcomes/addiction/effects on developing youth less or more harmful than for alcohol'?

In Colorado US, cannabis was legalised for medicinal use in 2000, and for recreational use in 2012. Consumption is permitted in a manner similar to alcohol, with equivalent offenses prescribed for driving. A driver can be convicted for cannabis intoxication of more than five nanograms THC per millilitre of blood. It was expected that legalisation of cannabis would contribute to an increase in adolescent use, however, a government study 1 year later showed continuation of a downward trend that started before legalisation of use by young

⁵⁸ <https://www.rnz.co.nz/programmes/the-detail/story/2018695006/how-would-legalising-cannabis-work-in-new-zealand>

⁵⁹ So Far, So Good -What We Know About Marijuana Legalization in Colorado, Washington, Alaska, Oregon and Washington, D.C.

http://www.drugpolicy.org/sites/default/files/Marijuana_Legalization_Status_Report_101316.pdf

⁶⁰ What Colorado and other states tell us about how marijuana's big election day will affect health. 2012
<https://www.businessinsider.com.au/marijuana-legalization-public-health-colorado-traffic-fatalities-2016-11?r=US&IR=T/#/future-unknowns-7>

people, impaired driving, property crime and violent crime⁶¹. In Colorado, teen use is lower than the national average⁶². The total number of arrests of young people aged 10 - 17 decreased by 16% from 2012 to 2017⁶³. While the arrest rate dropped across different ethnicities (Caucasian -21%; Hispanic -4%; African American -15%), significant differences in the arrest rates of minorities still exist: “The arrest rate for Black juveniles (642 per 100,000) was 24% above that of Whites (517 per 100,000) and 74% higher than the Hispanic rate (369 per 100,000).”⁶⁴

From the beginning of the 2016 academic year, marijuana has been reported separately from other drugs as a disciplinary reason for suspension or expulsion from elementary and secondary school in Colorado. “School discipline data for 2017-18 indicated that marijuana accounted for 22% of all expulsions and 24% of all law enforcement referrals in Colorado public schools.”⁶⁵

Since 2012, tourism into Colorado has increased, as has tax revenue from the marijuana business. In 2017, the government of Colorado collected over \$US247 million in taxes, fees, and licensing costs, and invested up to 5% of this for education about the harms of cannabis especially to minors, and on the roads.

Australia: Since 2016 all Australian states have gradually decriminalised or legalised medicinal cannabis with different qualifying conditions. The medical use of cannabis was legalised at the federal level in November 2018, under strict regulation by medical prescription only.



Cannabis is decriminalised for personal recreational use in the Northern Territory, South Australia, and the Australian Capital Territory, while remaining illegal in other states.

⁶¹ Colorado's Teen Marijuana Usage Dips after Legalization

<https://www.scientificamerican.com/article/colorado-s-teen-marijuana-usage-dips-after-legalization/>

⁶² In 2017, 19.4% of Colorado high school students reported using marijuana in the past 30-days compared to 19.8% of high school students nationally - Department of Public Safety Division of Criminal Justice, Office of Research and Statistics. Available at https://cdpsdocs.state.co.us/ors/docs/reports/2018-SB13-283_Rpt.pdf

⁶³ Reed, Jack, K. (October 2018) *Impacts of Marijuana Legalization in Colorado*. Denver, Colorado: Colorado Department of Public Safety Division of Criminal Justice, Office of Research and Statistics, p. 123

Available at https://cdpsdocs.state.co.us/ors/docs/reports/2018-SB13-283_Rpt.pdf

Last accessed 30 April 2019

⁶⁴ Ibid, p. 124

⁶⁵ Ibid, p. 6

For discussion

What might New Zealanders learn from international experience and studies?

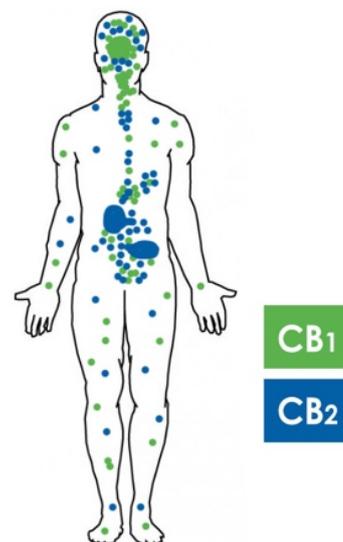
In what ways is New Zealand's society unique, with our own strengths and vulnerabilities needing to be considered, including our cultural diversity, mental health, youth and adult suicide rates and family violence?



The science of cannabis

The cannabis receptors and natural cannabinoids in our bodies

An important new area of research over the past 30 years has shown that humans, and indeed all animals, have their own intricate systems of naturally occurring **endo-cannabinoid**⁶⁶ molecules that bind to **endocannabinoid receptors**. Distributed throughout our brain, central nervous and immune systems, our gastro-intestinal tract, bone and skin, the **endocannabinoid system (ECS)** is involved in regulating a variety of central physiological and cognitive processes in our bodies, including fertility and pregnancy; pre- and postnatal development; appetite and digestion; pain-sensation; mood; sleep; memory and inflammation. The ECS is vital in the formation of the synapses between the neurons (nerve cells) of the brain and central nervous system. The ECS also plays a significant part in synaptic pruning, which occurs at two foundational times in our life: early childhood and adolescence⁶⁷. Ongoing research continues to reveal the human endocannabinoid biochemistry to be highly developed. The ability of our endocannabinoid receptors to bind to both cannabinoids from the cannabis plant and to synthetic⁶⁸ cannabinoids is coincidental in comparison to their important role in binding human endocannabinoids.



Six human endocannabinoids have been identified so far, with the high possibility of more to come. These include **anandamide**, which is known to act on hormone levels, implantation of the early embryo in the uterus, inflammation, pain regulation and appetite. Interestingly, anandamide is also found in chocolate. Another identified human endocannabinoid is **2AG (2-arachidonylglycerol)**, which has so far been found in breast milk, brain and cerebrospinal fluid^{69 70}.

⁶⁶ Endo meaning 'within,' and cannabinoid because these naturally and spontaneously occurring molecules within the human body are received by the same system of receptors as the cannabinoid THC from the cannabis plant. The receptors and the chemical formulae of THC were identified before scientists identified endocannabinoids and the endocannabinoid system.

⁶⁷ Stevens, D., & Bowyer, L. (2019) *A cannabis referendum starter kit*. Nathaniel Centre Report, May.

⁶⁸ Molecules produced in a laboratory

⁶⁹ Endocannabinoids <https://en.wikipedia.org/wiki/Cannabinoid#Endocannabinoids>

⁷⁰ Fride, E., Y. Ginzburg, A. Breuer, T. Bisogno, V. Di Marzo and R. Mechoulam, 2001, *Critical role of the endogenous cannabinoid system in mouse pup suckling and growth*, Eur J Pharmacol 419, 207

How cannabis/marijuana affects people

*Cannabis sativa*⁷¹ is the species name given to a large group of plants with several different varieties/subspecies, each containing differing combinations of well over 100 cannabinoid constituents⁷².

A substance is said to be psychoactive if it affects the mind or brain and changes perception, mood, consciousness, cognition or behaviour, therefore resulting in the 'high' feelings of cannabis.

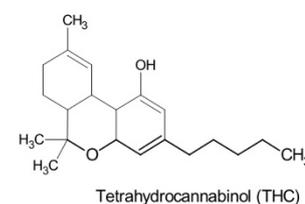


Some of these cannabinoid constituents are able to bind to the human endocannabinoid receptors, giving psychoactive effects. Other cannabis constituents are not psychoactive, but potentially have medicinal properties. One cannabis subspecies, hemp, has effectively no psychoactive effect. Rather, dating back to the building of the pyramids, hemp has long been used for fibre for industrial purposes. Hemp is currently grown in NZ under permit for fibre, hemp/hemp seed oil, and hemp seed food products⁷³.



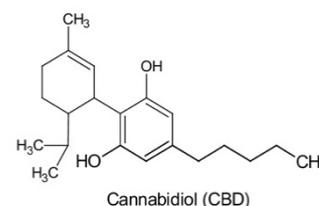
In other cannabis varieties with both psychoactive and non-psychoactive properties, the plant parts used as drugs for medicine or recreation are usually the dried flower buds and bracts on the female plant, resin from the plant (hashish), or various extracts collectively known as hashish oil.⁷⁴

THC (delta-9-tetrahydrocannabinol) is the most psychoactive cannabinoid constituent in cannabis. THC binds to cannabinoid CB1 and CB2 receptors in the brain and some peripheral tissues⁷⁵, therefore affecting mood and cognition.



THC becomes active upon heating and is retained in the body, explaining why THC may be detectable for weeks after a single use. Some known psychoactive effects of cannabis include short term mental effects such as changes in perception, euphoria, decreased short term memory, paranoia and anxiety. Longer term mental effects are known to be addiction, permanent decreased mental ability if taken as a teenager, and behavioural problems in children exposed during pregnancy. Some studies show a link between psychosis and cannabis use. Physical effects of cannabinoids include increased appetite ("the munchies"), increased heart rate, impaired motor skills, and a dry mouth.

CBD (Cannabidiol) is the next most abundant cannabinoid compound, but is not psychoactive; instead CBD influences the body to use its own endocannabinoids more effectively, with anti-



⁷¹ Including cultivars such as *Cannabis indicus*.

⁷² Cannabis <https://en.wikipedia.org/wiki/Cannabis>

⁷³ Hemp seed can now be sold as food. NZ Govt Press Release Nov 6 2018.

<http://www.scoop.co.nz/stories/BU1811/S00149/hemp-seed-can-now-be-sold-as-food.htm>

⁷⁴ Image from Google sites <https://sites.google.com/site/nicegreenbuds/medical-marijuana/hash-oil>

⁷⁵ Image from <http://sensipharma.com/ecs/>

inflammatory, anti-oxidant, anti-anxiety, anti-epileptic, sedative, and neuro-protective properties. CBD also appears to reduce the psychoactive effects of THC while increasing THC's medicinal effects. CBD gives its own analgesic effects by affecting the CB1 receptors in some way and by regulating levels of anandamide in the body.

The ratio of THC to CBD in a cannabis plant depends upon the specific cultivar and growing conditions, giving rise to plants from different suppliers and even plants from one supplier having different THC and CBD or other constituent combinations, and therefore differing psychoactive and medicinal effects. Since THC and CBD are derived in the plant from the same precursor, historically plants grown for recreational drugs have been selected for their higher THC content. Medicinal use could prompt the demand for higher CBD-producing plants.

Medical use of cannabinoids

Medicinal preparations of cannabis utilise the ability of our endocannabinoid receptors to bind to phyto (plant)-cannabinoids from cannabis to trigger therapeutic effects in an illness or condition. Historically, legal access to cannabis-based medicinal products has been difficult in New Zealand. From April 2016 to December 2017, only Sativex was approved. Unapproved cannabis-based pharmaceuticals (e.g. Cesamet, Marinol) and non-pharmaceutical cannabis products could be approved on a case-by-case basis by the Minister of Health. However only a handful of cases were approved in this way: one in 2015; one in 2016; one to two in 2017.

With the passing of the Misuse of Drugs (Medicinal Cannabis) Amendment Act, cannabis-based products are currently classed as prescription drugs and approval from the Ministry of Health is no longer required. Instead, approved cannabis-based pharmaceuticals can be prescribed to patients who meet strict criteria, by a medical doctor. However, these cannabis-based pharmaceuticals remain unsubsidised, requiring the patient to pay the full cost. As well as being expensive, there is currently a limited range of CBD products available in New Zealand⁷⁶.

The term 'cannabis-based products' is preferred by the government to 'medicinal cannabis' because the majority of the products available do not meet the criteria normally associated with a medicine. That is, they are not manufactured to international Good Manufacturing Practice (GMP) standards for pharmaceutical-grade products and, therefore, composition, batch to batch reproducibility and stability of the products are not known. While evidence of the safety and efficacy of most cannabis-based products from clinical trials is lacking, an evidence base for the use of cannabis for medicinal purposes is developing.

Medsafe reports⁷⁷:

there are now a large number of clinical trials of cannabis-based medicines reported and several systematic reviews. . . . Evidence of the efficacy of cannabis-based medicines in certain conditions is now emerging and there is good agreement

⁷⁶ Ministry of Health - CBD products. <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicines-control/medicinal-cannabis/cbd-products>

⁷⁷ NZ Medsafe. Prescribing Cannabis-based Products <http://medsafe.govt.nz/profs/PUArticles/June2017/Cannabis.htm>

across the systematic reviews as to the benefits of cannabis-based products and also the potential harms.

Synthetic analogues of THC (dronabinol and nabilone) are known to reduce nausea and vomiting (eg during chemotherapies); improve appetite in HIV/AIDS patients; and reduce chronic pain and muscle spasms in multiple sclerosis patients⁷⁸. Observational reports suggest some therapeutic effects for severe refractory epilepsy in children^{79,80}, anxiety-reducing effects in palliative care and post-traumatic stress, autism, tumour shrinkage, glaucoma, Alzheimers and Parkinsons, and for inflammatory diseases such as Crohns, rheumatoid arthritis, ulcerative colitis and fibromyalgia. Emerging evidence exists that these drugs might act to reduce protein misfolding in cells, autoimmune inflammation, and oxidative stress/free radicals. Notably, the majority of trials have used synthetically produced cannabinoids in the medicines.

The chemical structure of cannabinoids means that, unlike opioids, cannabinoids cannot be given as an intravenous injection, and because cannabinoids are metabolised and cleared via the liver and kidneys, there is the potential for interactions with other prescribed drugs.

Current New Zealand legislation enables active medicinal agents (opioids) to be extracted from opium crops by regulated growers for recognised medical uses. The emerging evidence for specific medical applications of identified cannabis derivatives supports the case for similar legislation to that of opioids in relation to cannabis derivatives.

Clinical evidence of the effectiveness and safety of cannabis products; quality assurance and affordability; education for government, medical professionals and society; legal changes as well as cultural changes in attitudes are all needed for appropriate use of medicinal cannabis⁸¹.

Question for discussion

What surprises you about the science of cannabis?

Does this change your mind about law changes to medicinal cannabis or how cannabis use is managed by society?

What do you think needs to be changed or in place so that cannabis-based medicinal products can become appropriately available for prescription in NZ?

⁷⁸F. Grotenhermen and K. Muller-Vahl. The Therapeutic Potential of Cannabis and Cannabinoids. Dtsch Arztebl Int. 2012 Jul; 109(29-30): 495–501. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3442177/>

⁷⁹ B. Porter and C. Jacobson. Report of a parent survey of cannabidiol-enriched cannabis use in pediatric treatment-resistant epilepsy. Epilepsy Behav. 2013 Dec; 29(3): 574–577. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4157067/>

⁸⁰ K. Chen et al. Cannabidiol for treating drug-resistant epilepsy in children: the New South Wales experience. Med J Aust 2018; 209 (5): 217-221. <https://www.mja.com.au/journal/2018/209/5/cannabidiol-treating-drug-resistant-epilepsy-children-new-south-wales-experience>

⁸¹ Victoria University of Wellington seminar Medicinal cannabis a welcome relief? Sept 2018. <https://www.victoria.ac.nz/about/news-events/victoria-public-lecture-series/medicinal-cannabis-a-welcome-relief>

Recreational use of Cannabis

Cannabis plants with a known psychoactive effect are used to produce the herbal form of cannabis generally known as marijuana. Prepared as the dried leaves and buds, marijuana is recreationally smoked, vaporised, or used as an extract and eaten. Cannabis oil and the more concentrated resin known as Hashish, or hash, from the same psychoactive plants, can be smoked or ingested. Casual, infrequent use of cannabis is common and climbing in NZ; 12% of adults in NZ used cannabis in the 2016/17 year, up from eight percent in 2011/12.

However, the harms from recreational use of cannabis may be underestimated since it is illegal. In addition to the ingested cannabinoids themselves, there are health risks associated with the fungicides, herbicides and pesticides that are applied to the cannabis plants. Joe Boden of the Christchurch longitudinal study urges a thorough look at the harms as well as the benefits prior to any law change to decriminalise or legalise cannabis in New Zealand⁸².

Synthetic ‘cannabis’ is not cannabis – instead it is the umbrella term for hundreds of artificially made (i.e. synthetic) chemical compounds, all invented over the past 20 years. Some of these synthesised compounds mimic THC in targeting the same cannabinoid receptors in the brain that bind to cannabis, however, they are not necessarily similar to THC in chemical structure. Synthetics usually come either as a dried, inactive herb or plant material that is sprayed (often irregularly) with a synthetic cannabinoid-acting powder before being smoked. Alternatively, synthetic cannabinoids may be in liquid form to be vaped. The synthetic forms are often extremely and unpredictably potent, making them a greater threat to users and those around them, as has been reported in the media over the past couple of years.

Some of the synthetic cannabinoids identified in New Zealand include 5F-ADB, AB-FUBINACA, AMB-FUBINACA and JWH-122. Because they are cheap to produce and have large market value, the number of manufacturers is increasing. Severe side effects such as vomiting, chest pain, increased heart rate, vision blackouts, headaches, kidney damage, agitation, high blood pressure, psychosis, significant withdrawal symptoms and death have been reported. Legal highs from synthetic cannabis were permitted in New Zealand until May 2014, when they were banned under the Psychoactive Substances Act, unless they could pass a strict testing regime to show they were safe.

Synthetics supply and use is increasing exponentially. The 2017-2018 annual report of the Office of the Chief Coroner attributes 50 to 55 deaths to synthetic cannabinoids from June 1 2017 to December 2018⁸³. This compares with two confirmed deaths in the previous five

⁸² Researchers warn cannabis risks being downplayed, Jan 2019.

<https://i.stuff.co.nz/national/health/109979248/nzmj-editorial-urges-caution-in-changing-cannabis-laws-warns-risks-being-downplayed>

⁸³ <https://coronialservices.justice.govt.nz/assets/Documents/Publications/Chief-Coroner-2017-18-Annual-Report.pdf>

years. Saint John's Ambulance service reports receiving about 30 call-outs a week relating to synthetic cannabis overdoses^{84, 85}.

Whether future legalisation of recreational cannabis would decrease the market for synthetics or continue as a gateway leading to heavier synthetic and other drug use is an unknown. However, the NZ Drug Foundation says there is a need for a coordinated government approach to help those who are entangled and dying from synthetic use, most often vulnerable people on the margins⁸⁶.

For discussion

Describe the difference between medicinal, recreational and personal use of cannabis.

For each of medicinal and recreational cannabis use:

What are the ethical issues associated with the use of cannabis for this purpose, such as the potential benefits to myself/others/society?

What are the potential harms to myself/others/society?

Is it my right to do this?

Do all people have equal access to any benefits?

Is harm equally distributed amongst all groups and communities of New Zealanders?

Now having read in more detail about cannabis, how do you think the polls from page 10 reflect the public's knowledge around harms/benefits to different groups of people in NZ?

If the recreational use of cannabis was decriminalised, how could risks and benefits, justice and personal rights be adequately addressed? How could vulnerable groups be protected and helped - particularly adolescents?

⁸⁴ <https://www.theguardian.com/world/2018/jul/27/synthetic-cannabis-deaths-new-zealand-legalisation-debate>

⁸⁵ <https://www.radionz.co.nz/news/national/362758/huge-jump-in-synthetic-cannabis-deaths-coroner>

⁸⁶ Huge jump in synthetic cannabis deaths – coroner 27 July 2018

<https://www.radionz.co.nz/news/national/362758/huge-jump-in-synthetic-cannabis-deaths-coroner>

Ethical and biblical pointers for consideration

How can we care best for ourselves and our society as part of God's creation as intended? Consider the following scriptures as a guide to the choices we make.

- 1 Cor 6: 19-20 'Do you not know that your body is a temple of the Holy Spirit, who is in you, who you have received from God? You are not your own, you were bought with a price. Therefore honour God with your body.'
- Ephesians 5:18 'Do not get drunk on wine, which leads to debauchery. Instead be filled with the Spirit'.

For discussion

The Bible often points to personal restraint for the benefit of others (1 Cor 8: 7-13; Ephes 5:18). How might the decisions around the personal use of cannabis affect those more vulnerable in society? How might this affect our view on cannabis?

In Romans 12, Paul talks of offering our bodies as a living sacrifice to God (Romans 12: 1-3). How might this alter our view of taking a recreational drug such as cannabis?

The concept of virtue could be useful in this discussion.

- *The virtue of "caution" talks of being cautious in the face of unknown outcomes. How might this be useful in discussions around cannabis use?*
- *The virtue of prudence calls for foresight, circumspection, caution, so that a specific course of action relates to the particular circumstances and places the good of the community over the good of the individual. What aspects of prudence can we apply to the use of cannabis?*

What other social issues does the use of cannabis point to?

Why do New Zealanders have a culture of alcohol and drug abuse, and self-harm?

Why is the right to take drugs so important for some?



Summary of potential benefits and harms associated with decriminalising or legalising cannabis for medicinal use:



Benefits:

- some cannabinoids have been shown to have beneficial effects on specific medical conditions, both in terminal illness and ongoing chronic conditions, with ongoing research promising potential for other medical uses. However, full clinical trials for cannabis products are required to accurately measure medical benefit and safety.
- research and clinical trials will show whether CBD is better than other current drugs (more effective, with fewer side effects) for certain conditions, and also if THC improves these medical effects of CBD.
- adequate provision of tested medicinal products means patients don't need to use untested, currently illicit, forms of cannabis.
- economic/commercial benefits – growing and processing medicinal cannabis would generate employment, revenue and taxes.

Harms:

- potential for increased availability and tolerance of use of cannabis products, with perceived normalisation of cannabis use and its greater availability and uptake by young people.
- possibility of widespread medicinal cannabis use without adequate evidence of what works and for whom. This could prevent access for those for whom cannabis is most effective.
- Doctors and GPs would need to be fully informed of the best treatment, whether medicinal cannabis or not, for a patient's particular condition, so that patients were not under treated and pushed into using cheaper illicit cannabis.

Left-hand image adapted from katv.com; right-hand image adapted from News Hub



Summary of potential benefits and harms associated with decriminalising/legalising cannabis for recreational use:



Benefits:

- a significant % of the New Zealand population is already using cannabis, so a law change could bring cannabis issues out into the open.
- a law change and commercial regulation could eliminate or reduce the illegal black market and criminal networks associated with cannabis trade.
- at present criminal convictions for cannabis use are overrepresented by Māori, and may outweigh the severity of the original offence, with the conviction remaining throughout whole life. Since arrests and prosecution for cannabis use are not always consistent for different NZ demographics, law changes should reduce this inequality.
- decriminalisation or legalisation of cannabis would free up prisons, courts and police.
- economic benefits of income from growing/transport/processing/sale of cannabis products bringing jobs, taxes
- economic gain could be used for health care of those with drug problems.

Harms:

- more people may start using cannabis, increased drug-taking behaviour may lead to other drug use, including synthetic cannabis, and more addiction
- more people might grow their own cannabis, with THC strength and effects unknown
- an increasing number of research studies show that cannabis use can severely worsen some mental health conditions such as psychosis (including schizophrenia), and in adolescence can adversely and irreversibly affect cognitive functioning and cause anxiety. NZ already has a significant youth mental health problem which needs to be addressed, not added to.

The ICBC would support:



- Wording in the referendum that separates medicinal and recreational use of cannabis
- Promotion of evidence-based information (including clinical trials) on cannabis-derived products and their use in medical treatment and palliative care
- regulated growth and use of medicinally appropriate plants where the balance of THC/CBD is optimal for medicinal use, and extraction of medically beneficial products from these plants
- the education of doctors, nurse-practitioners and pharmacists in the use of such products in treatment
- affordability for those with clinical indications via central funding of the cost of medicinal products
- development of delivery methods other than smoking for medicinal products derived from cannabis, since smoking for any reason is detrimental to health.

If, after the 2020 referendum, legalisation of cannabis for personal use was adopted, the ICBC would recommend:

- Cannabis availability and supply (form and strength) carefully managed by legislation.
- Strict enforcement of penalties for those supplying cannabis to adolescents or children.
- Controlled trials on medicinal applications of specific cannabis derived drugs to ensure those who could benefit will have effective products prescribed, and to identify medical risks.
- Funded educational health awareness programmes, especially for adolescents and parents, in order to prevent adolescent use of cannabis.

