

## Inquiry into Homelessness in Victoria

Mr Graeme DRYSDALE

**Organisation Name:**

**Your position or role:**

### SURVEY QUESTIONS

**Drag the statements below to reorder them. In order of priority, please rank the themes you believe are most important for this Inquiry into the use of Cannabis in Victoria to consider::**

Accessing and using cannabis, Mental health, Public health, Public safety, Education, Social impacts, Young people and children, Criminal activity

**What best describes your interest in our Inquiry? (select all that apply) :**

Individual

**Are there any additional themes we should consider?**

minimising the control of pharmaceuticals so that it doesn't impinge on an individual's ability to grow their own, and to make it affordable if you have to purchase commercially

### YOUR SUBMISSION

**Submission:**

**Do you have any additional comments or suggestions?:**

Be transparent and honest, please.

### FILE ATTACHMENTS

**File1:** [5ecb6a57e06e6-CANNABIS SUBMISSION.docx](#)

**File2:**

**File3:**

**Signature:**

Graeme DRYSDALE

The current legal position regarding cannabis is untenable; the production and supply of cannabis (both medicinal and recreational) is in the hands of profiteering criminals or vulnerable people attempting to sate their own real needs who often wind up being criminalised by a legal and judicial system that is far from interested in their desperate plight.

For those reduced to purchasing from a 'illegal' grower they have no confidence concerning what they are actually buying; i.e. strain, potency (THC component), other chemicals and/or toxins present as a result of growing process, etc. For those providing for themselves there can be difficulties in ascertaining strain and potency, which are crucial for medicinal users.

**As it stands the existing legislation reinforces the aforementioned difficulties; successive governments have only served to exacerbate the problem and to drive growers and users into criminal activities.**

A different approach by government, accompanied by appropriate legislation, could remove the criminal element, safeguard against substandard produce, and aid the efficacy of medicinal users.

Currently, there are members of the judiciary who are ill-informed and handing down sentences based upon unsubstantiated generalisations, mythology and misinformation. One example: in Ballarat Magistrates Court in February 2020, Magistrate Jonathan Klestadt said cannabis use was so commonly used in the community it seemed to be normalised – which may or may not be a fair assessment; he then noted that "Cannabis is medically dangerous."<sup>i</sup> A bold assertion to make when handing down a conviction.

There are also the many uses of industrial hemp - with a minimal concentration of tetrahydrocannabinol (THC) – in the manufacture of a vast array of products that would prove beneficial to carbon sequestration, GHG emissions reductions, habitat protection and bioremediation. Considering the state of ecosystems and natural habitat this also warrants discussion as both a health issue and an economic opportunity.

## MEDICINAL USE

### Personal Testimony

At the age of 17 years my/our daughter was diagnosed as Asperger's (i.e. high-functioning ASD); the comorbid conditions that accompany her Asperger's include chronic insomnia<sup>ii</sup>, persistent joint-pain<sup>iii</sup>, suspected fibromyalgia<sup>iv</sup>, anxiety, social anxiety, heightened sensitivity to noise, light and textures, depression and eating disorders.<sup>v</sup>

With respect to the insomnia and pain, experience has proven that the efficacy of pharmaceuticals is only maintained in her condition for the first two or three doses, after that the medications have no measurable effect, and certainly fail to provide relief.

Recent prescriptions and recommendations for pain include:

- Prodeinextra (paracetamol 500mg;
- codeine phosphate hemihydrate 15mg);
- along with psychotherapy and physiotherapy.

For her insomnia recent prescriptions and medications recommended by her GP include:

- psychotherapy;
- melatonin;
- Belsomra (suvorexant 15mg);
- mirtazapine 15mg.
- recommendations regarding more exercise have only resulted in increasing joint pain in the hips and knees.

All have proven pretty damned useless.

Her GP, therapists and specialists have admitted to not knowing what to do.

There is a growing body of medical and scientific evidence now accompanying a very long historical record of cannabis – both CBD and THC components - being an effective treatment for those whose lives are impinged by chronic insomnia<sup>vi</sup>, persistent joint-pain<sup>vii</sup>, anxiety<sup>viii</sup>, depression<sup>ix</sup> and eating disorders<sup>x</sup>, including those on the Autism Spectrum<sup>xi</sup>.

Investigation into the endocannabinoid system is indicating that both CBD and THC are vital factors in maintaining good neurological health and the ability to manage pain and other serious complaints.<sup>xii</sup>

Considering the current inability of Victorian medical and allied professionals to provide relief to my daughter's serious medical health issues, the failures of pharmaceuticals, and the deliberate legislated difficulties in seeking access and advice to medicinal cannabis, we are confronted with two options:

1. She has to put up with the persistent and barely manageable pain and exhaustion due to sleep deprivation, along with the resultant mental health issues and poor quality of life. This being an unacceptable option for obvious reasons. Or,
2. We are resigned to seeking medical advice from doctors who specialise in CBD therapies overseas; e.g. the U.S.A.

My daughter's insomnia mirrors my own, from which I have suffered from for at least 50 years.

Numerous times I have tried: psychotherapy, yoga, supervised relaxation sessions, antidepressants and other pharmaceuticals, Belsomra, melatonin, etc.

Chronic insomnia has had a huge impact on my life: inhibited my productiveness, resulted in perpetual tiredness, inability to achieve goals, increased stress, among other maladies.

I do not want this to be the story of my daughter's life!

## Recommendations re Medicinal Use

- For the individual:

Permit people to grow as many plants as they deem necessary for their own need; particularly for individuals using cannabis for medical purposes.

Individuals need to be able to grow their own medication in order to avoid the excessive and mercenary costs that medications not funded by the PBS will attract.

The example of Stephen Taylor is pertinent here.<sup>xiii</sup> It is alleged Mr Taylor had 107 plants which he was juicing for his two daughters - Morgan and Ariel - who suffer Crohn's Disease when he was raided by police. He explained the 107 plants in simple terms: *"The ideal juicing is 30ml, 3 times a day: 2 girls, 180mls a day - that's a lot of plant material."*

- Government action:

Establish a facility whereby home-growers can ascertain a number of things:

1. What strain/s they have in their possession;
2. The proportions of both THC & CBD in the strains they have;
3. Supply of the most appropriate strain/s for the medical condition/s that would benefit from cannabis medication.
4. Rewrite the law concerning driving under the influence of drugs, so that it permits medicinal users some acceptable and safe leeway.<sup>xiv</sup>

Ensure a proper and more thorough training of GPs with respect to the use of cannabis as a legitimate and useful medication.

Establish a register of GPs and other doctors who specialise in prescribing cannabis. For example: Marijuana Doctors in the USA.<sup>xv</sup>

Establish a Multidisciplinary Center for Cannabinoid Research, as per The Hebrew University of Jerusalem<sup>xvi</sup>; perhaps the world's most advanced cannabis research unit.

**The current legal regime is institutionalised cruelty, whereby many in the community are deprived of easy access to affordable medication which affords them relief from a variety of health complaints and subsequently provides them with a better quality of life. That this is happening is a direct result of a failure of government at three levels:**

- 1. Those who currently resort to obtaining cannabis on the street or grow their own are deemed criminals for merely trying to provide relief to themselves or a loved one;**
- 2. Those who would benefit from medicinal cannabis – due to an inefficacy of pharmaceuticals - are being denied the opportunity to gain relief;**
- 3. It discourages medical professionals from specialising in a prescribing in an area of what should be a legitimate treatment.**

## **RECREATIONAL USE**

Personally, I see no point in criminalising cannabis, a drug that is far less harmful than either alcohol or tobacco.

Professor David Nutt developed a drug-harm index which was published in 2007; the mean harm index was rated with a score of 3 being the maximum; alcohol scored 1.40, tobacco at 1.24, and cannabis at 0.99.<sup>xvii</sup>

The main issues with recreational use of cannabis are the same as those for medicinal cannabis, and that is the absence of regulation that ensures that those purchasing for recreational use know exactly what they are purchasing.

Undoubtedly during the course of the hearings some submissions will advocate that the use of marijuana brought on mental health issues; again, thorough regulation can lessen the chances of this occurring.

As Dr Peter Gates has written *“The bigger or more potent the dose, the more tetrahydrocannabinol (THC) you are ingesting”* which has the potential in some very few cases of exacerbating underlying schizophrenia.<sup>xviii</sup>

Claims that one's use of recreational cannabis brought on a mental illness, and that is certainly tragic, need to be examined in the context of a number of questions, prior to concluding that cannabis use of the sole cause:

- |  |                    |
|--|--------------------|
| 1. Was the cannabis bought from a reputable supplier?            | Probably not.      |
| 2. Was the 'customer' fully cognizant of what they were buying?  | Probably not.      |
| 3. Was the product contaminated with toxins?                     | No way of telling. |
| 4. What were the THC levels?                                     | No way of telling. |
| 5. Was there polysubstance use in conjunction with the cannabis? |                    |

With government regulation doubts pertaining to the first four questions could be eliminated.

## **INDUSTRIAL / COMMERCIAL USE**

The unfolding environmental crises is another health crisis.<sup>xix</sup>

The list is long:

1. climate change;
2. depletion of stratospheric ozone;
3. degraded air quality;
4. degraded water quality;
5. scarcity of fresh water;
6. land contamination;
7. deforestation;
8. soil erosion and degradation;
9. land use change and habitat loss; and
10. biodiversity loss.

The replacement of some more traditional agricultural and commercial methods and crops, which have a significantly detrimental effect on ecosystems (e.g. cotton, and logging), by industrial hemp would realise some remediated of most of the aforementioned environmental catastrophes.<sup>xx</sup> As well as realise more sustainable and environmentally friendly employment.

Under instructions from Sir Joseph Banks the First Fleet sailed with 10 pounds (4.5kg) of Hemp (*cannabis sativa*) seeds.<sup>xxi</sup> Hemp was an integral component of Britain's Navy, it was used for caulking, ropes, clothing, sails etc. One of the reasons New South Wales was occupied by British military was to establish a naval base, and *cannabis sativa* was crucial to the operations of the fleet.<sup>xxii</sup>

According to *AgriFutures Australia*, historically established uses of hemp include “textiles, paper, rope, fuel, oil and stockfeed. Other more recent applications for industrial hemp fibre include composite building materials (e.g. reinforced concrete, insulation), oil and chemical absorption materials, animal bedding, kitty litter, motor vehicle parts, biofuels”.<sup>xxiii</sup>

*“Industrial Hemp, is considered as the new billion-dollar crop ... it has the ability to spawn various new products in different sectors .... which can be created and commoditized.”.*<sup>xxiv</sup>

With respect to the construction industry alone, hemp can reduce CO2 emissions significantly, as noted by science journalist Mike Lawrence:

*“Making one tonne of steel emits 1.46 tonnes of CO2 and 198kg of CO2 is emitted make one tonne of reinforced concrete. One square metre of timber framed, hemp-lime wall (weighing 120kg), after allowing for the energy cost of transporting and assembling the materials actually stores 35.5kg of CO2”,*<sup>xxv</sup>

Consider that

*“A variety of wood-like products, such as fiberboard, roofing tiles, wallboard, paneling, insulation and bricks, can be made from the compressed hurds. The fibers can also be used like straw in bale wall construction or with mud in a sort of modified cob style of building. Foundations can be made out of hemp hurds. A hemp plywood frame is filled with a hemp hurds combined with lime, sand, plaster, some cement and enough water to dampen, and then let to set for a day and to harden for a week. A sixth century hemp-reinforced bridge in France is testimony to the stone-like strength and durability of this material, which has come to be known as “hempcrete.*

*“ ... hempcrete foundation walls are up to seven times stronger than those made of concrete, half as light and three times as elastic. This superior strength and flexibility means that hemp foundations are resistant to stress-induced cracking and breaking, even in earthquake-prone areas. The building material also is self-insulating; resistant to rotting, rodents and insects; and fire proof, waterproof and weather resistant.*

*A report was issued in 2002 by the Building Research Establishment (BRE) in regards to the sustainability, economic and environmental differences between the two construction methods. The report's principal conclusions are that ... hemp homes have far less impact on the environment- they use less energy to build, create less waste and take less fuel to heat.*<sup>xxvi</sup>

Furthermore, there is absolutely **no waste**, as elaborated by the University of Bath (U.K.):

*“Every part of the plant can be used, so there’s no waste – the shiv is used for building, the fibres can make car panels, clothing or paper, and the seeds can be used for food or oil. So, it’s a very efficient, renewable material.”<sup>xxvii</sup>*

With respect to environmental concerns, Industrial hemp has:

- a smaller and lighter ecological footprint;
- encourages biodiversity in the soil, by regenerating farmland that has long been depleted from the use of toxic chemicals (referred to as *bioremediation*);
- has been proved to absorb more CO<sub>2</sub> per hectare than any forest or commercial crop, making it the ideal carbon sink;
- can be grown on a wide scale on nutrient-poor soils with very small amounts of water and no fertilizers;
- can be used to manufacture biodegradable plastics, unlike current chemical based plastics;
- hemp products can promote biodiversity and reverse environmental pollution by replacing petrochemical-based plastics;<sup>xxviii</sup>
- Remember, Henry Ford built and powered a car manufactured from industrial hemp.<sup>xxix</sup>

With ongoing deforestation<sup>xxx</sup>, soil erosion and degradation, land use change and habitat loss; and biodiversity loss (points 7 – 10 from above list) being of considerable concern there is every reason to introduce industrial hemp into the economy as a means of not only meeting greenhouse gas emissions reductions but also addressing some of the critical factors of ecological degradation and demise.

Whilst, for the sake of brevity, I have only discussed, the various applications of hemp for the building industry, it is imperative to note that:

- *“A hemp crop can be grown without the use of herbicides or insecticides and produces up to four tonnes of material per acre per year”.*<sup>xxxi</sup>
- Hemp is *“a very efficient, renewable material”.*<sup>xxxii</sup>



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- <sup>i</sup> ‘Magistrate Warns Of Cannabis Use And Organised Criminal Gangs’, by Erin Williams, Ballarat Courier, February 11, 2020; <https://www.thecourier.com.au/story/6625226/magistrate-warns-of-cannabis-use-and-organised-criminal-gangs/?cs=62> accessed February 14, 2020.
- <sup>ii</sup> In my daughter’s case: she has been insomniac since she was an infant. Now at age 21 years it takes her an average of 2 to 4 hours per night to fall asleep, she then has a broken sleep waking two to three times over the duration of the night and wakes usually at 6 a.m. – surviving on 5 to 6 hours sleep.
- <sup>iii</sup> Baeza-Velasco, Carolina; ‘Autism, Joint Hypermobility-Related Disorders and Pain’, in *Frontiers In Psychiatry*, December 2018, volume 9, article 656.  
“Concerning painful conditions specifically, these are highly prevalent in the general population but remain under-diagnosed and under-researched in ASD.”
- <sup>iv</sup> Ibid.
- <sup>v</sup> References for definitions and explanations:  
<http://www.tonyattwood.com.au/about-aspergers-m/what-is-aspergers>  
<https://www.autism-society.org/what-is/aspergers-syndrome/>  
<https://www.autismawareness.com.au/could-it-be-autism/autism-and-girls/>
- <sup>vi</sup> Saddichha, Sahoo; ‘Diagnosis and treatment of chronic insomnia’, in *Annals of Indian Academy of Neurology*; 2010 Apr-Jun; 13(2): 94–102.  
“inadequate quantity or quality of sleep characterized by a subjective report of difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity for sleep, and that results in some form of daytime impairment and has persisted for at least one month”.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924526/>
- Vigil, Jacob M., et al; ‘Effectiveness of Raw, Natural Medical Cannabis Flower for Treating Insomnia under Naturalistic Conditions’, in *Medicines (Basel)*. 2018 Sep; 5(3): 75.  
“Consumption of medical Cannabis flower is associated with significant improvements in perceived insomnia with differential effectiveness and side effect profiles, depending on the product characteristics.”  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6164964/>
- Tani, Pekka, et al; ‘Insomnia is a frequent finding in adults with Asperger syndrome’, in *BMC Psychiatry*. 2003; 3: 12.  
“In the Asperger syndrome the initiation and continuity of sleep is disturbed because of the neuropsychiatric deficits inherent of AS. ... the neuropsychiatric deficits inherent of AS predispose both to insomnia and to anxiety and mood disorders. Therefore, a careful assessment of sleep quality should be an integral part of the treatment plan in these individuals. Conversely, when assessing adults with chronic insomnia the possibility of autism spectrum disorders as one of the potential causes of this condition should be kept in mind.”  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC270035/>
- ‘World-first cannabis trial looks to treat insomnia’, University of Western Australia News, 30 April 2018  
<http://www.news.uwa.edu.au/2018043010572/world-first-cannabis-trial-looks-treat-insomnia?page=show>
- Pacher, Pál ‘The Endocannabinoid System as an Emerging Target of Pharmacotherapy’  
in *Pharmacological Reviews*, 2006 Sep; 58(3): 389–462.  
“15 mg of THC was sedative, whereas 15 mg of CBD had alerting properties as it increased wake activity during sleep and counteracted the residual sedative activity of THC”.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2241751/>
- <sup>vii</sup> O'Brien M.; ‘Cannabis and joints: scientific evidence for the alleviation of osteoarthritis pain by cannabinoids’, in *Current Opinion in Pharmacology*. 2018 Jun; 40:104-109.  
“there is a growing body of scientific evidence which supports the analgesic potential of cannabinoids to treat OA pain. OA pain manifests as a combination of inflammatory, nociceptive, and neuropathic pain, each requiring modality-specific analgesics. The body's innate endocannabinoid system (ECS) has been shown to ameliorate all of these pain subtypes.”  
<https://www.ncbi.nlm.nih.gov/pubmed/29635215>
- Pacher, ‘The Endocannabinoid System as an Emerging Target of Pharmacotherapy’:  
“One of the earliest uses of cannabis was to treat pain. Historical documents reveal the use of cannabis for surgical anesthesia in ancient China and to relieve pain of diverse origin in ancient Israel, Greece, Rome, and India”.

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*“there is recent evidence implicating CB2 receptors in the antihyperalgesic activity of cannabinoids in models of acute and chronic, neuropathic pain, especially of inflammatory origin”*

- viii ‘Can CBD oil help anxiety?’ Zawn Villines in Medical News Today, 27 July 2018;  
<https://www.medicalnewstoday.com/articles/319622.php>
- Pacher, ‘The Endocannabinoid System as an Emerging Target of Pharmacotherapy’;  
*“pharmacological modulation of the endocannabinoid system holds considerable promise in the treatment of both anxiety-related and mood disorders”.*
- ix Cuttler, Carrie, et al; ‘A naturalistic examination of the perceived effects of cannabis on negative affect’,  
in Journal of Affective Disorders, Volume 235, 1 August 2018, Pages 198-205
- Cannabis significantly reduced ratings of depression, anxiety, and stress.
  - Women reported larger reductions in anxiety as a function of cannabis than did men.
  - Low THC/high CBD cannabis was best for reducing perceived symptoms of depression.
  - High THC/high CBD cannabis was best for reducing perceived symptoms of stress.
  - Use of cannabis to treat depression appears to exacerbate depression over time.
- <https://www.sciencedirect.com/science/article/pii/S0165032718303100>
- x ‘IGC submits provisional patent application for cannabis-based combination therapy for treatment of eating disorders’  
in M2 Pharma ; London [London]22 Mar 2017.
- xi Schleider, Lihi Bar-Lev; ‘Real life Experience of Medical Cannabis Treatment in Autism: Analysis of Safety and Efficacy’,  
in Nature, 17 Jan 2019;  
<https://www.nature.com/articles/s41598-018-37570-y>
- Miles, Helena; ‘Marijuana and Autism: Benefits, Studies and Best Strains’, January 8, 2019;  
<https://greencamp.com/marijuana-and-autism/>
- ‘Cannabis is the only thing easing their chronic pain. Now their father is facing jail’, Michael Vincent, ABC-7.30, 3 July 2018;  
<https://www.abc.net.au/news/2018-03-07/father-faces-jail-for-medicating-daughters-with-cannabis-juice/9523898>  
This story cannot be recommended highly enough.
- xii Hui-Chen Lu, ‘An introduction to the endogenous cannabinoid system’  
in Biologicial Psychiatry, 2016 Apr 1; 79(7): 516–525  
*“The endocannabinoid system (ECS) is a widespread neuromodulatory system that plays important roles in central nervous system (CNS) development, synaptic plasticity, and the response to endogenous and environmental insults. The ECS is comprised of cannabinoid receptors, endogenous cannabinoids (endocannabinoids), and the enzymes responsible for the synthesis and degradation of the endocannabinoids”.*  
Article based on recreational use of cannabis as opposed to medical use.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4789136/>
- Pacher, ‘The Endocannabinoid System as an Emerging Target of Pharmacotherapy’:  
*“In the past decade, the endocannabinoid system has been implicated in a growing number of physiological functions, both in the central and peripheral nervous systems and in peripheral organs. More importantly, modulating the activity of the endocannabinoid system turned out to hold therapeutic promise in a wide range of disparate diseases and pathological conditions, ranging from mood and anxiety disorders, movement disorders such as Parkinson’s and Huntington’s disease, neuropathic pain, multiple sclerosis and spinal cord injury, to cancer, atherosclerosis, myocardial infarction, stroke, hypertension, glaucoma, obesity/metabolic syndrome, and osteoporosis, to name just a few”.*
- Zamberletti, Erica, ‘The Endocannabinoid System and Autism Spectrum Disorders: Insights from Animal Models’,  
in International Journal of Molecular Sciences, 2017 Sep; 18(9): 1916.  
*“the EC system is also affected in conditions often present in subsets of patients diagnosed with ASD, such as seizures, anxiety, intellectual disabilities, and sleep pattern disturbances”.*  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5618565/>
- Arin, Adi, ‘Lower circulating endocannabinoid levels in children with autism spectrum disorder’  
in Molecular Autism201910:2.  
*“Evidence for dysregulations of the ECS in human ASD are emerging, but comprehensive assessments and correlations with disease characteristics have not been reported yet”.*  
<https://molecularautism.biomedcentral.com/articles/10.1186/s13229-019-0256-6>
- Habib, Syed Shahid, ‘Role of Endocannabinoids on Neuroinflammation in Autism Spectrum Disorder Prevention’  
in Journal of Clinical and Diagnostic Research, 2017 Jun; 11(6): CE01–CE03.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5535348/>

<sup>xiv</sup> Migoya, David. 'Are you high? The science of testing for marijuana impairment is hazy, and evolving'. Denver Post, August 25, 2017. <https://www.denverpost.com/2017/08/25/marijuana-impairment-testing/>

<sup>xv</sup> Marijuana Doctors USA; <https://www.marijuanadoctors.com/>

<sup>xvi</sup> Multidisciplinary Center for Cannabinoid Research, The Hebrew University of Jerusalem; <https://cannabinoids.huji.ac.il/>

<sup>xvii</sup> Nutt, David; 'Development of a rational scale to assess the harm of drugs of potential misuse' in The Lancet; Mar 24-Mar 30, 2007, pp 1047 -1051.

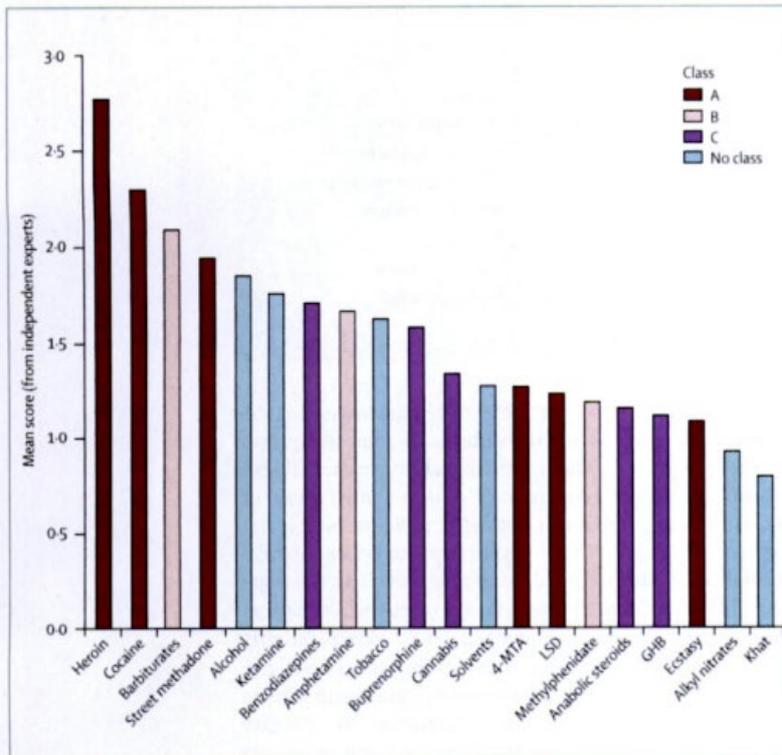


Figure 1: Mean harm scores for 20 substances  
Classification under the Misuse of Drugs Act, where appropriate, is shown by the colour of each bar.

<sup>xviii</sup> Gates, Peter; 'Does cannabis cause mental illness?', National Drug & Alcohol Research Centre, University of NSW; <https://ndarc.med.unsw.edu.au/blog/does-cannabis-cause-mental-illness>

<sup>xix</sup> School Of Oriental And African Studies (London), 'The environmental crisis: An unprecedented crisis'; [https://www.soas.ac.uk/cedep-demos/000\\_P500\\_ESM\\_K3736-Demo/unit1/page\\_11.htm](https://www.soas.ac.uk/cedep-demos/000_P500_ESM_K3736-Demo/unit1/page_11.htm)

On a personal level, the state of ecosystems concerns us greatly as we own and manage a registered Carbon Capture And Conservation Project in the Corangamite CMA; the habitat is rated as an Endangered EVC of High Conservation value.

<sup>xx</sup> Lawrence, Mike, 'Growing our way out of climate change by building with hemp and wood fibre', In The Guardian, 25 Sept 2014;

<https://www.theguardian.com/sustainable-business/2014/sep/25/hemp-wood-fibre-construction-climate-change>

<sup>xxi</sup> Banks, Sir Joseph; 'List of Seed intended to be sent to Botany Bay', undated, State Library New South Wales; <https://www.sl.nsw.gov.au/banks/section-05/series-19/19-49-list-of-seed-intended-to-be-sent-to>

<sup>xxii</sup> Frost, Alan; Convicts And Empire: A Naval Question, 1776–1811, Oxford University Press, 1980; pp. 46-48, 54, 136-39, 168, & 172.

<sup>xxiii</sup> AgriFutures Australia; <https://www.agrifutures.com.au/farm-diversity/industrial-hemp/>;  
see also

Fotedar, Sunney, 'Analyst insights--industrial hemp for manufacturing industry. (Technical Insights)', in *Advanced Manufacturing Technology*, Jan 15, 2013, Vol.34(1), p.1(2).

*"Industrial Hemp, also considered as the new billion dollar crop, is very unusual in the multiplicity of products for which it is, or can be, cultivated. The classes of products, which can be made using industrial hemp, are specialty pulp (cigarette paper, bank notes, technical filters, and cleanliness products), biocomposite for automotive interiors and door modules, construction and thermal insulations, and geotextiles. Since, the availability is quite high in Western Europe and North America, it has the ability to spawn various new products in different sectors. There are various research bodies and industrial organizations working on different ways to realize different industrial hemp-based products. which can be created and commoditized. Recently, in one of the Auto trade shows in Canada, a company called Motive Industries showcased a concept electric car using industrial hemp as a biocomposite material for making door modules."*

<http://go.galegroup.com.ezproxy.slv.vic.gov.au/ps/i.do?id=GALE%7CA338525545&v=2.1&u=slv&it=r&p=ITOF&sw=w>

'Low carbon hemp house put to the test', University of Bath, press release 2 January 2019

*"Every part of the plant can be used, so there's no waste – the shiv is used for building, the fibres can make car panels, clothing or paper, and the seeds can be used for food or oil. So it's a very efficient, renewable material."*

<https://www.bath.ac.uk/announcements/low-carbon-hemp-house-put-to-the-test/>

Rijavec, Tatjana et al, 'Revitalization of Industrial Hemp Cannabis sativa L. Var. sativa in Slovenia: a Study of Green Hemp Fibres', in *Tekstilec*, 1 March 2017, Vol.60(1), pp.36-48;

<https://doaj.org/article/59cecca7d97c427e95b8fa936739e6f7>

State Library Victoria, search for 'Industrial hemp' results in 11,382 online items available;

4, 974 are peer reviewed journals as of 16 June 2019).

<http://search.slv.vic.gov.au/primo->

[explore/search?query=any,contains,Industrial%20hemp&tab=default\\_tab&search\\_scope=Primo%20Central&vid=MAIN&offset=0](http://search.slv.vic.gov.au/primo-explore/search?query=any,contains,Industrial%20hemp&tab=default_tab&search_scope=Primo%20Central&vid=MAIN&offset=0)

<sup>xxiv</sup> Fotedar, 'Analyst insights--industrial hemp for manufacturing industry. (Technical Insights)'.

<sup>xxv</sup> Lawrence, 'Growing our way out of climate change by building with hemp and wood fibre'.

<sup>xxvi</sup> Priesnitz, Rolf, 'Hemp for houses: houses built from hemp have been found to use less energy, create less waste and take less fuel to heat than conventionally constructed homes'

*in* *Natural Life*. (March-April 2006): p14+.

<http://go.galegroup.com.ezproxy.slv.vic.gov.au/ps/i.do?id=GALE%7CA143163087&v=2.1&u=slv&it=r&p=ITOF&sw=w>

<sup>xxvii</sup> University of Bath, 'Low carbon hemp house put to the test'.

<sup>xxviii</sup> Brown, Ellen, 'The Cheapest Way To Save The Planet Grows Like A Weed', *Truthdig*, 24 July 2019.

<https://www.truthdig.com/articles/the-cheapest-way-to-save-the-planet-grows-like-a-weed/>

<sup>xxix</sup> Martino, Joe, '10 x Stronger Than Steel In The 1940's: Henry Ford's HEMP Car', 25 Feb 2013,

<https://www.collective-evolution.com/2013/02/25/henry-ford-hemp-plastic-car-stronger/>

*There is a myriad of articles and videos on this topic, only one is cited; for a modern application refer to:*

CNBC News, 'This Car Made From Hemp Cannabis Is Stronger Than Steel', Jul 19, 2017;

<https://www.youtube.com/watch?v=TugMbfA3G>

<sup>xxx</sup> Slezak, Michael, 'Australia's endangered forests are being 'stolen' and sold in hardware and office stores', *ABC-7.30*, 21 Nov 2018;

*"Trees making up some of Victoria's most endangered ecosystems are being felled and turned into building products, paper or wood chips by VicForests, .... The apparently illegal logging is also threatening the habitats of some of the country's most vulnerable species, including the Leadbeater's possum, Victoria's animal emblem. In its simplest terms, the trees appear to have been taken illegally by VicForests — since they are not inside the areas it has been granted permission to log."*

<https://www.abc.net.au/news/2018-11-21/victorian-forests-appear-to-have-been-logged-illegally/10496424>

<sup>xxxi</sup> Priesnitz, 'Hemp for houses: houses built from hemp have been found to use less energy, create less waste and take less fuel to heat than conventionally constructed homes'.

<sup>xxxii</sup> University of Bath, 'Low carbon hemp house put to the test'.