

# Response to Comments by Wodak and Mather

*(please reference the Wodak/Mather paper appended to this document)*

1. One notes that Dr Alex Wodak is one of the key authors of this paper. As the undisputed champion of drug decriminalisation in Australia for the last 30 years one must necessarily wonder what impact his personal views have on the advice he has provided to the parliament on this occasion.
2. The title of the paper uses the phrase “Medical cannabis”. It is a matter of record that “medical cannabis” has been deliberately used as the “Trojan horse” or thin edge of the wedge which is strategically used to introduce cannabis decriminalization. This has been true in many instances overseas, and the US states where it is now decriminalized. Moreover this tactic was made explicit in NSW last year during the unsuccessful attempt to introduce what was popularly thought to be a medical cannabis bill, but it turned out was only for homosexual patients who liked to smoke cannabis. In the GPSC2 report which was tabled before the parliament at that time, it was acknowledged that only patients who liked to smoke cannabis – and their friends and carers – would be likely to avail themselves of the alleged benefits of the then proposed legislation. In other words the very use of the term “medical cannabis” is the standard misnomer for cannabis decriminalization <sup>1</sup> which it has been found to be the most successful way to introduce it in virtually every jurisdiction around the world, and has been repeatedly used in NSW.
3. As was noted recently by Dr Nora Volkow the Director of the NIH Institute concerned with drug addiction <sup>2</sup>, cannabis has a well-recognized withdrawal syndrome associated with it, which can be experienced by up to 50% of people who are exposed to it on a daily basis, particularly when that exposure occurs in adolescence <sup>1</sup>. In the fourth answer on page 1, the authors list a series of symptoms including pain, muscle spasm, agitation, fits, convulsions and rheumatics all of which are recognized presentations of cannabis withdrawal <sup>3</sup>. Since the pro-pot group acknowledged that only pot-smokers will want to smoke pot if it is legalized, what they are really saying is that they will be able to treat their cannabis dependence syndrome more easily if it is made more readily available. Even the cannabis advocates acknowledge that more efficacious and safer treatments exist for every purported indication for which they suggest its use.
4. The first answer on page 2 is completely incorrect. In this response Wodak et. al. appear to claim that smoked cannabis is a medicine. As noted by Dr Volkow raw cannabis contains hundreds of chemicals and is an impure substance. After burning as in smoking the products of full and partial oxidation form thousands of chemicals

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<sup>1</sup> Lonsberry B “Medical marijuana is a fraud.” News Radio WHAM 1180.  
<http://www.wham1180.com/onair/bob-lonsberry-3440/medical-marijuana-is-a-fraud-12428431> Viewed 13th July 2014.

<sup>2</sup> The Institute she directs is called the National Institute of Drug Abuse.

<sup>3</sup> See Epilepsy Action Australia - <http://www.epilepsy.org.au/living-with-epilepsy/lifestyle-issues/alcohol-and-drugs>

many of them highly toxic and frankly carcinogenic including similar tars, polycyclic hydrocarbons and aromatic amines as those found in tobacco smoke. No regulatory authority in the world (e.g. FDA <sup>4</sup> in USA or TGA <sup>5</sup> in Australia) acknowledges any smoked preparation as a valid form of dosing of any medicine. The term “medical cannabis” is therefore in strictly medical terms a misnomer which has been strategically designed to confuse and mislead people as part of the clever public relations marketing campaign of the big cannabis industrial developers (by analogy with big tobacco interests), as have now developed in California, Colorado, Oregon, Washington state and elsewhere.

5. The answer to the second question on page 2 is also incorrect. Wodak et. al. claim that cannabis is a second line drug for various – unspecified – medical conditions. This is erroneous. As clearly stated on the Epilepsy Action Australia webpage cited <sup>6</sup> it is not indicated at all by reputable authorities in this country as it is not even legal! The other point is that to achieve the so-called therapeutic effects one frequently has to achieve concentrations into the toxic range. There are numerous other treatments for glaucoma, asthma, epilepsy, pain and nausea. Were it legal and therefore ethical to list cannabis for these disorders, cannabis would be about 10th line, 20th line, 60th line, 80th line and 10th line respectively. This is another way of – politely – saying that there are no valid clinical indications for cannabis at this time. As Wodak and colleague correctly observe the indication for AIDS wasting has now become obsolete because of the great improvements in the treatments for AIDS.
6. Moreover in addressing this all important issue – the motivation for medical cannabis - Wodak and Mather appear to overlook the role of the pro-cannabis lobby in this campaign. Indeed one wonders if there would be any campaign to legalize cannabis if those who do not like to use it themselves were excluded from advocacy roles. One can only surmise at the relationship of the present advocates of the pro-pot position to the pro-pot practice.
7. Wodak and colleague’s answer to Question 3 on page 2 is also erroneous. Anecdotal evidence is not considered evidence which is even evaluable by reputable medical authorities. Wodak’s remarks do not state this clearly. One notes – paradoxically – that Wodak is keen to discount such evidence in the case of implant naltrexone – even in anecdotal cases where implant naltrexone has been obviously enormously successful (such as five years heroin free). At this point Wodak appears to be applying a double standard. The third type of evidence cited by Wodak and colleague is vague and unclear. The authors refer to “careful reviews of papers”. This is not a medical term. Modern Science considers “systematic reviews” and “meta-analyses”. Wodak and Mather do not even use these terms. So their meaning is unclear. In the context one must be concerned that this obfuscation of meaning may be deliberate.

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<sup>4</sup> Food and Drug Administration

<sup>5</sup> Therapeutic Goods Administration

<sup>6</sup> <http://www.epilepsy.org.au/living-with-epilepsy/lifestyle-issues/alcohol-and-drugs>

8. Similar concerns apply to the fourth answer on page 2. Wodak and Mather refer to “one recent review”. The source is not even referenced! There are many reviews in medicine and one needs to consider the whole of the literature. Apparently this was not a systematic review or a formal meta-analysis as otherwise one would expect the authors of the present work to have cited this. Moreover the results of meta-analyses are typically reported in very complex form – not the very simplistic format which seems to be indicated by Wodak and Mather. The question is *not* “What were the findings of one particular review?”. The question in principle is “What does the totality of the literature say?”, or more formally “What were the findings of the largest, most comprehensive and most recent meta-analyses of the topic”. Moreover one again notes that Wodak and Mather have reported only a fraction of the information required to form an evaluation. How many of the patients involved in these un-sourced trials had to discontinue their trial medication because of toxicity? How many were lost to follow up? And particularly in how many patients who had not been previously exposed to smoked cannabis and who had been provided with access to all the usually recommended treatment options – was cannabis found to be the best therapy? Wodak and Mather’s un-referenced material does not even consider these pivotal questions, much less provide the parliament with the sorely needed information to address them.
9. The fifth answer on page 2 relating to the alleged medical indications for cannabis is also highly suspect. Let us review these conditions individually.
  - 1) Nausea and vomiting with cancer chemotherapy can generally be controlled adequately with current methods. The drugs most commonly used and often effective are prochlorperazine and metaclopramide. Chief amongst the newer agents is the 5HT<sub>3</sub><sup>7</sup> antagonists such as ondansetron, tropisetron and dolasetron, some of which can also be given as a sub-lingual wafer or by subcutaneous, intramuscular, or intravenous injection if needed so that vomiting itself does not preclude their administration. Similarly prochlorperazine can be given by suppository. These medications can all be given by many routes of administration. Other medications can also be used including steroids where required.
  - 2) Pain clinics have numerous ingenious ways to control pain. Pain can also be induced by cannabis withdrawal, and cannabis use itself has been shown to be linked with chronic back pain, so beware the pain presenting in the cannabis addicted patient / advocate. Nevertheless Wodak and Mather are correct that many patients are left in difficult situations by their chronic non-cancer pain. This is an active area of research internationally, and one to which Australian researchers, particularly at the University of Adelaide, are making major contributions. The recent demonstration that inflammatory activity in the brain and nerves is associated with pain generation and pain perceptual mechanisms has opened major investigative pathways for the development of several exciting new agents. This is a project upon which

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<sup>7</sup> 5HT is the standard medical abbreviation for serotonin. This refers to the 5HT-3 ligand – receptor pair.

some of the top medicinal chemists in the world are actively engaged, some of whom work intramurally at the NIH and NIDA<sup>8</sup> itself. One notes in passing that Wodak and Mather have neglected to observe that D-naltrexone and D-naloxone show special promise for this application.

- 3) AIDS wasting – As noted by Wodak and Mather this indication is disappearing due to the efficacy of the newer treatments for AIDS.
  - 4) There are other treatments for MS stiffness. In particular recent advances in immunology have meant that the treatment of MS itself has dramatically improved in recent times with several newer options including teriflunomide, dimethyl fumarate, fingolomod and dalfampridine. Benzodiazepines, Lioresal, several anticonvulsants and local Botox can all find application when spasm is a problem.
10. The sixth answer on page 2 is also erroneous. Wodak and Mather claim that cannabis is not a cure for any described medical condition. Cannabis dependence and withdrawal is a well described medical condition acknowledged both in DSM-IV and DSM-V<sup>9</sup> of the APA<sup>10</sup>. Administration of cannabis to patients in such states will produce a short term relief of symptoms, albeit with an exacerbation of its many long term toxic effects, oncogenicity, and gateway effects in other drug use, and likely damage to adolescent brain development<sup>1-2</sup>. There is no intention in making this point to be humorous. This is very important because it is clear that many of the patients who are brought along to parliamentary enquiries, and who offer public testimony of the wonderful effects of cannabis are actually speaking from a background of pre-existing cannabis dependency and addiction. Lawmakers need to keep this key issue always in the forefront of their minds. As correctly identified by Dr Volkow, cannabis can cause many illnesses so the claim that cannabis relieves a pain in whose aetiology cannabis was implicated, must be viewed with substantial circumspection by those charged with responsible decision making in our community. Lawmakers should note that these disorders include chronic back pain<sup>2</sup>.
11. The purported answer of Wodak and Mather to the issue of cannabis related toxicity given as answer 1 on page 3 is not only erroneous but dangerous. It is misleading and confusing. Of course one can form an impression of the possible early toxicity of high level cannabis exposure by studying low level recreational exposure.
12. In addressing the subject of cannabis toxicity their answer actually acknowledges **none** of the key salient points made by Dr Nora Volkow in her leading article in the New England Journal of Medicine on June 4th 2014. The interested reader is referred there for more information, and to Hon. Rev. Fred Nile's speech introducing the subject to the Legislative Council of NSW. In particular, compared with the eminent work of Volkow and colleagues, Wodak and Mather overlook:

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<sup>8</sup> National Institute of Drug Abuse

<sup>9</sup> Diagnostic and Statistical Manual IV and V respectively.

<sup>10</sup> American Psychiatric Association

- 1) Known psychiatric toxicity – schizophrenia, anxiety, depression, bipolar disorder;
- 2) Effects as a gateway agent to other and hard drug use;
- 3) Damage to brain development particularly when exposure occurs in key developmental stages such as pregnancy, childhood and adolescence
- 4) Damage to attention, intellect, cognition, memory
- 5) Damage to long term lifetime trajectories including ability to form stable relationships and to gain useful employment;
- 6) Respiratory toxicity including chronic bronchitis and emphysema-like changes;
- 7) Driving related toxicity including fatal car crash, both alone and in combination with alcohol;
- 8) Cardiovascular diseases including stroke, and heart attack and transient ischaemic attacks;
- 9) Immunosuppressive actions particularly when given to AIDS patients, and especially when taken by the smoked route;
- 10) Real concern in many studies about the connections of cannabis to cancer.

13. Moreover as Dr Volkow astutely observes many of these old cannabis studies were done when the THC concentration of cannabis was 3%. So the studies which found no ill effects in the 1970's - 1990's are likely out of date at this time. Dr Volkow has noted that THC concentrations of cannabis are now reported in the USA commonly at 12%. Indeed one cannabis shop is said to be opening in Colorado reporting a choice for patrons from 17% - 20% THC in its product!

14. Wodak's answer in relation to side effects also reverses the true state of affairs. Clinical reports of cannabis use cite a very high rate of unacceptable side effects, which frequently precludes its clinical application. Such very elevated rates of discontinuation (often around 30-50%) of cannabis based treatments are rare with other treatments in the conditions under discussion.

15. The risks of mental side effects from cannabis are not distant and remote as Wodak and Mather claim. Cannabis intoxication, dependence and tolerance in patients exposed to high levels of it – albeit for therapeutic purposes - are common, and entail anxiety, paranoia, forgetfulness and depression, and at times psychotic disturbances and hallucinations as being not unusual.

16. The second answer on page 3 is misleading. There is extreme concern in the US now, and numerous on the ground reports that cannabis use in states permitting cannabis use has increased dramatically. California tabled its first cannabis BILLIONAIRE in 2013. Does anybody seriously believe that that is because nobody is buying his products??

17. It was estimated recently by official sources that Colorado will consume 130 tonnes of cannabis annually<sup>11</sup>. Selling at \$220 per ounce<sup>12</sup> and with 35,274 ounces per tonne, this translates to \$7,760,280 / tonne or \$1,008,836,400 for the whole crop in that state alone. Unfortunately, whilst tax revenues were cited as a major reason for legalization in Colorado, the simple expedient of not buying it from one of the state's three registered recreational cannabis dispensaries which were more expensive than the medical pot shops, allowed taxation to be circumvented<sup>13</sup>. It is important to note that 67% of all the cannabis sold was used by the 22% of heaviest users, further confirming the addictive nature of the legally available weed<sup>14</sup>.
18. The trade was also encouraging cannabis tourists to flow into the state, just as had happened in the Netherlands<sup>15</sup>. Indeed one court has ruled that the Dutch coffee shops be compensated for the reduction in their trade consequent upon a tightening of the laws which have now been put in place to restrict such cannabis tourism<sup>16</sup>.
19. The US reviews cannabis consumption in numerous states. The CDC have just published national figures however the data from two key states was not available. The sample from Colorado was unusable, and Washington state did not participate in the survey at all<sup>17</sup>. In other words if official figures fail to show increased use in the states legalizing cannabis that is likely a direct product of the "Don't ask, Don't tell" policy applied to addiction epidemiology by CDC.
20. The third answer on page 3 is also incorrect as judged by Dr Volkow's article. Even the baseline risk of cannabis addiction is high at 9%, particularly given that up to 40% of the community have been exposed to cannabis. As Dr Volkow points out the addiction rate can rise up to as high as 50% in many groups. If as is widely suggested

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<sup>11</sup> Silva R "Colorado marijuana market consumes estimated 130 tonnes of the drug annually." HNGN 12th July 2014. <http://www.hngn.com/articles/35958/20140711/colorado-marijuana-market-consumes-estimated-130-tonnes-of-the-drug-annually.htm> Viewed 13th July 2014.

<sup>12</sup> Wyatt C., "Colorado Completed First Legal Pot Study." Associated Press. [http://hosted.ap.org/dynamic/stories/U/US\\_RETHINKING\\_POT\\_DEMAND?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT](http://hosted.ap.org/dynamic/stories/U/US_RETHINKING_POT_DEMAND?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT) Viewed 13th July 2014.

<sup>13</sup> Wyatt C., "Colorado Completed First Legal Pot Study." Associated Press. [http://hosted.ap.org/dynamic/stories/U/US\\_RETHINKING\\_POT\\_DEMAND?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT](http://hosted.ap.org/dynamic/stories/U/US_RETHINKING_POT_DEMAND?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT) Viewed 13th July 2014.

<sup>14</sup> Light M.L., Orens A., Lewandowski B., Pickton T. "Market size and demand for marijuana in Colorado." Prepared for Colorado Dept of Revenue. [http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline;+filename%3D"Market+Size+and+Demand+Study,+July+9,+2014.pdf"&blobheadervalue2=application/pdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1252008574534&ssbinary=true](http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline;+filename%3D) Viewed 13th July 2014.

<sup>15</sup> Rodriguez C., "Marijuana for tourists, discord for the Netherlands." Forbes magazine 24th September 2013. <http://www.forbes.com/sites/ceciliarodriguez/2013/09/24/weed-ghettos-for-tourists-anger-netherlands-neighbors/> Viewed 13th July 2014.

<sup>16</sup> Kooren M, "Dutch Cannabis coffee shops to be compensated over tourist laws." Reuters. <http://rt.com/business/shops-dutch-coffee-cannabis-303/> Viewed 13th July 2014.

<sup>17</sup> CDC MMWR – Youth Risk Behaviour Surveillance – United States , 2013. <http://www.cdc.gov/mmwr/pdf/ss/ss6304.pdf> Viewed 13th July 2014.

cannabis is legalized, then heavily cannabis addicted patients will become much more commonplace.

21. The fourth answer on page 3 is also misleading. If one speaks with unbiased and independent respiratory physicians who treat asthma, ophthalmologists who treat glaucoma, neurologists who treat epilepsy, and pain physicians who treat pain, one hears the same refrain repeated over and over again that cannabis is not required as a treatment. The treatments of today are in general more than sufficient for the clinical requirements.
22. The fifth answer on page 3 is strangely at variance with every drug regulatory agency in the world. Oddly, Wodak and Mather seem to recommend the smoked route in direct contrast to every other medicinal chemist and regulatory agency the world over. One can only wonder if this does not reveal their personal bias.
23. Australia is a signatory to the international narcotic conventions particularly the Single convention 1961. Legalization would entail a major change in Australian society and Australian Law to allow legal cannabis. We would be in breach of our international treaty obligations. Amongst other things, these treaties allow us to participate in international policing operations to help to break up global drug running gangs, and to cooperate with law enforcement across national boundaries on many issues.
24. There is no question that Australia's use of its presently legal drugs, tobacco and alcohol is responsible for an enormous public health burden. Adding cannabis to this situation, when - paradoxically – Wodak has been one of the loudest voices opposing alcohol- and tobacco- related harms – would clearly compound this situation. Moreover because of the well-established gateway effect of cannabis, allowing cannabis would increase the use of the other illegal drugs. Hence this change would signal Australia's degeneration into an increasingly drug taking-culture. We would become less employed and less employable; that is our welfare bill will inevitably rise. The rate of congenital abnormalities would rise so children would be borne with lifelong disabilities including mental retardation. The rate of chronic disease in the community, including chronic back pain, would rise. In other words legalizing cannabis will increase our physical and mental health bill and our long term welfare dependency bill, at the same time as reducing our taxation base and national income generating capacity. This is an impossible cost squeeze and social dysfunction squeeze for any Government.
25. The fifth answer on page 3 relating to restricted use of cannabis is invalid. Wodak and Mather claim that one could nevertheless restrict cannabis use if it was allowed medicinally by analogy with morphine, cocaine, amphetamine and ketamine. 40% of our population has not been exposed to these agents. Moreover this is not the pattern which has been seen recently as medicinal cannabis is the all too obvious leading edge of cannabis decriminalization around the world. One notes the very reverse of this in the Dutch experience alluded to above.

26. The sixth answer on Page 3 is also suspect. Wodak and Mather have neglected to mention that cannabis is the drug most frequently implicated in car crashes after alcohol, and the most frequently implicated of all the illicit drugs in motor vehicle crashes. Legalizing it and increasing its use would obviously exacerbate this by an amount at least proportional to the amount of its increased use.
27. Moreover as the authors correctly observe alcohol is already legal, so that legalizing cannabis effectively legalizes the highly dangerous cannabis–alcohol cocktail. This has been shown to be very dangerous in many studies, as is acknowledged by the present authors.
28. Wodak claims that many Australians take cannabis medicinally at present. He has not stated how many of these were previously habituated to cannabis. He does not say how many of these are taking it for cannabis-induced diseases. He does not give data on the overall physical or mental health of cannabis smokers, prior to the commencement of their supposed serious illness.
29. The other chestnut which Dr Wodak frequently mentions, although it is absent from the present paper, is that alcohol and tobacco are related to far more ill-health in the Australian community than cannabis. In a simple quantitative sense it may or may not be correct. In either event it is an appalling argument in that it fails to correct for the very different exposure patterns of the different agents. The more frequent use of tobacco and alcohol in our community is directly related to their differing legal status. Both the numbers consuming tobacco and alcohol and the relative amounts consumed, are greater for the legal drugs than any of the illegal drugs, precisely because of their legal status. So whilst Wodak and colleagues frequently use this argument to ridicule genuine medical concerns in relation to the illicit drugs, in fact it is a potent argument in favour of retention of the present status quo, and the illicit status of the presently proscribed agents including cannabis. Given what has now been established by medical researchers in relation to cannabis-induced toxicity it presumes far too much to suppose that cannabis is any less toxic than our presently legal intoxicants. No reputable scientist who is unbiased and familiar with the published research in this area would support this liberalist position.
30. In fact detailed examination of communities where cannabis consumption is normative, such as the northern rivers district of NSW including the Nimbin-Mullumbimby area, show that the area is shockingly affected by unduly elevated rates of depression, suicide, murder, unemployment, family breakdown rates, poverty and general unhappiness<sup>18</sup>, despite its being situated in some of the most fertile and productive rural landscapes in the country. Given what is now known of the medical effects of cannabis, much of this social disadvantage and community repression which is reflected on every metric, can likely be related directly or indirectly to the known high cannabis consumption rate in the area, and the apparently legally protected status of the region's not insignificant cannabis crop.

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<sup>18</sup> These comments are based upon from an internal review of Centelink social security and Australian Bureau of Statistics data.

## General Remarks

31. Overall one is left with the impression that the work that has been produced by Wodak and Mather is a thoroughly activist piece. This document distorts and mishandles the truth at most points. In short it is a document such as might be expected from Australia's leading drug advocate. In that sense it is highly predictable.
32. That it purports to be a reputable and scientifically reliable source of information for lawmakers is appalling. It is neither scientific nor reliable. In a scientific sense it is nothing less than a national scandal. It is not so much a scurrilous abuse of scientific process and current evidence in regard to both the basic science of pathophysiology and applied clinical therapeutics, as a mockery, a debasement, and a frank abuse of science and medical data.
33. Given that Dr Alex Wodak appears to position himself as one of Australia's leading national figures advising the nation on addictive drugs, the conclusion becomes inescapable that Australia has been ill-advised on illicit drug policy by this self-confessed drugs legalization activist, and that our policies in this area are therefore likely misinformed, ill-conceived and / or ill-constructed.
34. Given that the activist position adopted by Dr Wodak, speaking in the name of Science, is clearly at major variance with the contemporaneous pronouncement of acknowledged world leaders, sufficient evidence exists for a formal motion of censure against Dr. Wodak from this house for attempting to mislead the Legislative Council of NSW.

## **References**

1. Volkow ND, Baler RD, Compton WM, Weiss SR. Adverse health effects of marijuana use. *N Engl J Med* 2014;370(23):2219-27.
2. Reece AS. Chronic toxicology of cannabis. *Clin Toxicol (Phila)* 2009;47(6):517-24.

## Some frequently asked Q's and A's about medicinal cannabis

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### **A History:**

*Q: What is cannabis?*

A: Some people call it by its American name, marijuana. The name 'cannabis' describes its botanical origins and comes from the Latin word for hemp. The name 'marijuana' (or sometimes 'marihuana') is a contrived name given to associate it with African and Hispanic Americans who used it as a recreational drug in the United States during the 1930s.

*Q: What has the cannabis plant been used for?*

A: Cannabis is an ancient herb-like plant that has been used for thousands of years for fibre-making for products such as clothing and rope, for dietary ingredients, as an element of folk medicine, and as an agent to promote spiritual transcendence, particularly in the religions of South Asia. 'Recreational' cannabis use was uncommon in the West before the 1960s. A League of Nations meeting in Geneva in 1925 decided to ban cannabis internationally. Cannabis first started to come to the attention of law makers and enforcers in the USA in the 1930s. The Congressional Record from that time includes comments about perceived depravity attributed to cannabis use along with racial slurs. Progressively it became an illegal substance in many countries, including Australia.

*Q: When did cannabis come into Western civilisations?*

A: European venturers over many centuries, as judged by their writings, certainly encountered cannabis in their travels to exotic Eastern and Far Eastern lands. By the mid 19<sup>th</sup> century, cannabis, in one form or another, had become part of the medical-societal-experimental experience of many European societies.

*Q: When did cannabis come into Western-style medicine?*

A: Cannabis was adopted into British medicine from India in the mid-19th century having been observed there to relieve pain, muscle spasm, convulsions of tetanus, rabies, rheumatism and epilepsy.

### **B Cannabis as a medicine:**

*Q: How does cannabis work?*

A: As a plant preparation, cannabis ordinarily contains many hundreds of chemical substances commonly found in plants ('phytochemicals'), and a hundred or so unique substances commonly referred to as 'phytocannabinoids'. A small number of phytocannabinoids are believed to cause the main pharmacological effects of cannabis in

humans. Cannabis attaches to special receptors in the brain and some other organs in the body. This releases a special chemical that the body produces. The chemical acts as a transmitter.

*Q: What is 'medicinal cannabis'? Some people also refer to this as 'medical marijuana'.*

A: The 'medicinal' tag recognizes that cannabis, among many other uses, has the properties of a medicine.

### **C Benefits of medicinal cannabis:**

*Q: Why do some argue that medicinal cannabis be legalised?*

A: It helps some people with distressing symptoms from serious medical conditions when they have not been sufficiently helped by the standard medicines. Cannabis is considered a 'second line' drug to be used when the first line drugs have been tried and have either not worked or had unacceptable side effects.

*Q: What kind of evidence is there that cannabis can help some people?*

A: The evidence is basically of three kinds. First, there is anecdotal evidence, usually provided by people who have experienced in themselves or observed in others some effect. Most information like this is hard to assess because it lacks corroborative documentation – and this is the kind of evidence that tends to appear in the lay press and on internet blog sites. This is not to say that the evidence is invalid – but only to say that the much of the vital information underpinning the claims is not available in a way that permits scientific scrutiny. The second type of evidence is papers published in reputable medical and scientific journals after peer-review. A third type of evidence is careful reviews of papers reporting the results of cannabis research.

*Q: How good is the evidence that cannabis can help some people?*

A: Randomised controlled trials (RCTs) are usually regarded as the best way of telling whether a medication is effective. In one recent review, for example, 82 RCTs showed that medicinal cannabis is effective in relieving distressing symptoms in about half a dozen conditions. 9 RCTs found that medicinal cannabis was not effective. This is quite an impressive result. There are at least half a dozen favourable reviews by prestigious organisations.

*Q: What are the main medical conditions that might be helped by medicinal cannabis?*

A: Severe nausea and vomiting after cancer chemotherapy, especially if no standard treatment has worked; severe chronic non cancer pain, especially if the pain is due to nerve damage; severe wasting in cancer or AIDS (though this is less common these days); stiffness due to multiple sclerosis. There are also some other conditions.

*Q: Is cannabis a cure for any conditions or diseases?*

A: Not as far as we know so far from scientifically assessed evidence.

*Q: Can cannabis help young children with severe epilepsy resistant to all known treatments?*

A: A number of people have claimed this. But this possible benefit has not yet been tested in scientifically assessable research.

#### **D Potential risks:**

*Q: Are there any bad side effects from medicinal cannabis? People talk a lot about psychosis and marijuana: should we be worried about using a medicine that could cause schizophrenia?*

A: Most of the assessment of side effects has been based on what is known from studying recreational cannabis. That's like studying the safety of bootleg alcohol to estimate the safety of regulated alcohol. Used medically, cannabis can cause some mental disorientation, sleepiness, and dry mouth but these are typically less severe and troublesome than many of the medications that might be used to treat the same conditions. Besides, the effects of not treating the conditions also has to be considered. It has also been said that some of these side effects counteract the worse side effects of the other medications such as chemotherapy agents that cause serious side effects themselves. People distressed by severe symptoms unrelieved by conventional medications are unlikely to be concerned by the small risk of serious mental illness in a couple of decades time.

*Q: Is there a risk that legal medicinal cannabis would increase the use of recreational cannabis.*

A: Recreational cannabis use in those US states which allow medicinal cannabis is not greater than those states where medicinal cannabis is not permitted.

*Q: Can't people taking cannabis become addicted to it?*

A: Dependence is a small risk with cannabis in the sense that it is not as severe as the dependence that occurs with tobacco, heroin or cocaine. What matters is not just the risks of cannabis but also its possible benefits and the benefits and risks of using other medicines or no medicines.

*Q: Aren't there more modern and more effective drugs than cannabis?*

A: Yes there are. But these don't work in every case and sometimes they too can produce nasty side effects. Many of the more modern drugs are also much more expensive and some require the patient to be kept in hospital while they are being administered.

#### **E Taking medicinal cannabis:**

*Q: Are there alternatives to taking cannabis by smoking it? How else can medicinal cannabis be taken?*

A: Cannabis can also be vaporised and the vapour inhaled. Devices are now available to make inhalation of cannabis vapour convenient and inexpensive. Oral forms of cannabis (dronabinol and nabilone, developed some 30 years ago) used to be available in Australia but are not available any more because they were expensive and not especially reliable, and they

have been made obsolete. There is little scientific information available about other forms of medicinal cannabis given by mouth (such as tincture). Cannabis taken by mouth, although perhaps well-enough absorbed, is broken down in the liver before it gets into the main blood stream, making it hard to get the right dose in many people. Also, when cannabis is taken by mouth there seems to be an increased risk of anxiety attacks because there is no way to 'stop giving it' once it has been swallowed. Sativex (aka nabiximols) is a form of medicinal cannabis manufactured by a small pharmaceutical company. It is sprayed on the inside of the mouth. There are many attractive aspects of Sativex®, particularly convenience, but it is not readily available in Australia, and is only permitted in cases of stiffness (spasticity) from multiple sclerosis. Tincture of cannabis used to be legally available some 20 years ago. It has been made available by some individuals in Australia but its supply, these days, is not legal. If medicinal cannabis is allowed in Australia, some people with only a short time left to live and others who have been smoking cannabis for a long time are likely to continue to smoke the drug

*Q: Aren't Sativex and dronabinol available on the Pharmaceutical Benefits Scheme?*

A: Neither Sativex (nabiximols) nor dronabinol are available on the Pharmaceutical Benefits Scheme.

*Q: Is cannabis available medically in any other countries?*

A: Medicinal cannabis is now available in about twenty countries including the USA (23 states), Canada, Switzerland, the Netherlands, and Israel.

*Q: How is medicinal cannabis controlled in other countries?*

A: In some countries medicinal cannabis controlled quite carefully with prescriptions by doctors and pharmacy dispensing. In some other countries, controls are much more relaxed and cannabis can be bought over the counter.

## **F Political and community factors:**

*Q: What's stopping the government from legalising medicinal cannabis in Australia?*

A: The main reason cannabis is not available in Australia is because of political impediments. Some Commonwealth and state/territory laws would have to be changed slightly. States make their decisions independently. Medicinal cannabis is allowed, in principle, under Australia's international treaty obligations.

*Q: How can we allow cannabis to be used medically while stopping it being used recreationally?*

A: Easy. Australia allows morphine, cocaine, amphetamine and ketamine to be used medically while the recreational use of these drugs is prohibited.

*Q: Is Australia doing enough research on medicinal cannabis?*

A: Very little research on medicinal cannabis is carried out in Australia.

*Q: What about people who might take medicinal cannabis and then try to drive a car?*

A: There is an increased risk of a car crash if a driver has taken cannabis recently. This risk is much less than with alcohol but the risk is even greater after a combination of alcohol plus cannabis has been taken. A number of medicines which are prescribed today in Australia also increase the risk of a car crash.

*Q: What is public opinion in Australia about medicinal cannabis?*

A: In a community survey commissioned by the Commonwealth Department of Health in 2010, 69% of Australians supported medicinal cannabis with 75% supporting more research.

*Q: Do many Australians take cannabis for medicinal purposes now?*

A: Yes, but we don't know how many.

*Q: Will medicinal cannabis be allowed in Australia?*

A: Possibly. But it's very hard to predict this.