

Medical Marijuana - a Dopey Idea?

Dr Gregory K Pike

Director, Adelaide Centre for Bioethics and Culture

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Introduction

As long as humans have suffered from ailments, medicine has sought treatments. To attempt to alleviate suffering is a mark of the better face of humanity, or at least recognition that we all, at one time or another, are subject to illnesses that need relief. Hence, maladies are markers of our shared condition and an opportunity for our better qualities to find expression.

The search for healing has taken many turns down the centuries, and along the way there have been good and bad treatments, effective ones, futile ones, burdensome ones, 'miraculous' ones, deceptive ones and downright dangerous ones. Just as humans can act wisely or foolishly, so treatments have been wisely or foolishly developed and employed. And noble motives are no guarantee that genuinely good treatments will be used.

As the scientific enterprise has grown and understanding of human biology advanced, so has our understanding of the biological basis of medicine. While our knowledge is far from complete, modern medicine now has an impressive array of treatments, and in many cases cures. There will always be mistakes, more inquiry, refinement, and new discoveries, but the general trend is moving forwards with hope for improvements and new ways of alleviating human suffering.

Modern medicine is not only built upon understanding human biology, but also upon an understanding of human nature itself. This is where a proper appreciation of human nature aligns with an ethical framework directed towards the good of the person receiving treatment. Hence, medicine has always developed codes of ethics that serve as a foundation or point of constant referral against which the discipline measures any new development. A sound ethical framework also recognizes the place of the patient within a community and also the unique nature of the relationship between patient and physician.

It is within this broad context that the question of medical marijuana needs to be considered.

At the outset an important distinction needs to be made, and that is between use and abuse. Health practitioners are aware of the abuse of legally available pharmaceuticals; for example, benzodiazepines like Xanax, opiates like Morphine and Oxycodone, antipsychotics like Seroquel, and amphetamines like Ritalin and Adderall. These are substances used for treatment of defined medical conditions that at the same time can be abused. Health practitioners are also aware of the abuse of illicit drugs like heroin, cocaine, cannabis and amphetamine. These substances have been deemed to have either no or limited medical application along with a high risk of abuse as 'recreational' drugs. Moreover, the link between such abuse and the phenomenon of addiction makes these substances especially problematic.

The term 'medical marijuana' has been used variably, but will be taken here to mean smoking the herbal product. This is to be distinguished from other means of delivery of the crude product, which could include tinctures, taking in an oral form, or vaporizing. The active ingredient(s) can also be isolated and taken orally or by nasal spray.

How does marijuana work?

The active ingredients in cannabis exert their effects by acting upon specific receptor sites in the brain and elsewhere. Much like the better understood endogenous opiate receptor system upon which drugs like morphine, codeine and heroin act, there is an endogenous cannabinoid receptor system upon which cannabis acts, or more correctly, upon which the active ingredients act, which are primarily tetrahydrocannabinol (THC) and cannabidiol (CBD). And just as there are naturally occurring substances within the brain that act upon opiate receptors, that is, the endorphins and enkephalins, there are naturally occurring substances which act upon cannabinoid receptors. The two identified so far are anandamide and 2-arachidonoylglycerol (2-AG).

The cannabinoid receptor system is widespread throughout the brain and serves a range of functions that are gradually becoming better understood. So far the system has been shown to be involved in motor control, cognition, emotional responses, motivated behaviour, learning and memory, appetite, pain and neuroprotection.

When cannabis is smoked and the active ingredients enter the bloodstream they are able to act upon these systems. Given that the systems are so widespread and complex, THC and CBD act upon many different processes that are involved in the functions listed above. Hence, it is not surprising that when someone smokes cannabis it affects their coordination, emotional responses, appetite, memory and ability to learn, ability to think clearly and rationally, and so on. Since the purpose of smoking cannabis 'recreationally' is to get high, the doses involved typically interfere with these systems in an adverse way and therefore the result of sustained exposure gives rise to the harms associated with cannabis. The endocannabinoid system is effectively swamped by THC, CBD and the other ingredients in marijuana at well beyond the natural physiological stimulation that occurs with anandamide and/or 2-AG.

The harms caused by cannabis are still being explored, but there is reasonable and growing evidence to indicate that the risks are significant, particularly with respect to mental health, where the results may be psychosis, depression, anxiety, memory deficits, impaired learning and motivation. These harms are of particular relevance for the developing brain and so all that can be done to protect young people from the harm of smoking cannabis should be a priority. Other harms include risks associated with immediate effects, for example due to impact upon motor control and decision-making, changes in perception and anxiety and possibly blacking out. Long term harms may also include risk of certain cancers and other respiratory diseases.

It is also important to note that the intrinsic harm of addiction makes all the difference. Substances with addictive potential are categorically unique and add a problematic dimension that must be taken into proper account when considering any possible therapeutic effect.

Human beings place a high value on freedom. To be free to act as an autonomous agent, to make real choices about how to live one's life, is universally valued and desired. The essence of addiction is the loss of

freedom, the substantial impairment of voluntary control over one's behaviour ... Addiction causes serious harm to individuals as well as to their friends, relatives and the community. It is the type of problem that varies not only in degree but also with considerable individual distinctiveness. It can be an intensely personal inner struggle that remains private, or a painfully public and alienating experience.¹

It is estimated that approximately 10% of those who smoke cannabis will develop an addiction. The phenomenon of withdrawal should also be considered as one of the harmful effects of cannabis dependence. It includes, headaches, irritation, nausea, depression, insomnia, anxiety, poor appetite and restlessness.²

Is Marijuana Medicine?

If marijuana has medicinal value, the first question to be asked is, "In what form might it have medicinal value?" Currently, many people claim that smoking marijuana treats a medical condition. Research directed towards this question will be considered shortly, along with a series of related questions about abuse, harm, and other social and legal issues that are largely prudential in nature - but are nonetheless important and with far-reaching implications.

The modern scientific approach to medicines typically follows a path of inquiry directed towards obtaining the most beneficial form of a medicine to treat a specified condition. For example, while opium has been recognised for its medicinal value for many centuries, the active ingredients codeine and morphine have now been extracted and subjected to extensive research and analysis over many years. We now have both in various formulations with known dosage and purity, a body of information on side-effects, known indications and contraindications, knowledge of therapeutic targets, patient populations for whom treatment is appropriate, and knowledge of abuse potential. No medical authority would ever prescribe or even recommend smoking opium, not only because of the availability of formulations of active ingredients which are superior, but also because of the harm of smoking as a delivery system.

Might not THC, CBD and other ingredients in marijuana likewise be useful medicines?

This is an important question in its own right regardless of the 'recreational' abuse of marijuana, and this area of research has gained considerable traction as discoveries about the endocannabinoid system in the brain have been made.

Currently there are 4 formulations of active ingredients, dronabinol (Marinol), nabilone, nabiximols (Sativex) and rimonabant. The first two are THC lookalikes, whereas Nabiximols is a marijuana extract containing both THC and CBD. Rimonabant is a cannabinoid receptor blocker which was initially marketed as an anti-obesity drug in Europe in 2006 before being withdrawn soon after when side effects including serious depression and suicidal ideation were found to be frequent.

Dronabinol was approved by the US *Food and Drug Administration* (FDA) in 1985 for treating chemotherapy-induced nausea and vomiting and AIDS-related wasting, and although proven effective, both dronabinol and nabilone have not become the

¹ Pike, GK, The Debate on Drug Law Reform, paper delivered at the Catholic Bioethics Colloquium, Melbourne, January 2013.

² NSW Government Health Department fact sheet on Cannabis, May 2011.

mainstays of treatment mainly because of their side effects, which include sedation, anxiety, dizziness, euphoria/dysphoria and hypotension, as well as the presence of superior alternatives.

Dronabinol and nabilone have also been shown to produce symptomatic relief of neuropathic pain and the spasticity associated with multiple sclerosis. However, whilst patients report alleviation of spasticity, measures of objective changes are mixed. In a recent study by Kraft and co-workers, an orally administered extract of cannabis containing mainly THC was found to have no beneficial impact on acute pain and may possibly have enhanced pain sensation.³ This study highlights not only the complex nature of pain itself, but also the importance of identifying specific therapeutic contexts in which THC may or may not be useful.

It should be noted that while these studies are conducted much like other studies on medical agents, a particular problem arises because the psychoactive side effects of dronabinol and nabilone make it difficult to maintain appropriate blinding, which is a basic requirement of a randomized controlled trial. In other words, when the research subjects become aware that they are receiving the active ingredient and not the placebo, their perception of therapeutic value is potentially confounded and a study's claim of therapeutic advantage over placebo may be compromised.

Nabiximols is an interesting example of a novel form of delivery by nasal spray that has the advantage of rapid absorption. By including both THC and CBD together, it may be that CBD limits some of the adverse side effects common with THC alone. It has been licensed for the treatment of cancer pain and neuropathic pain.

The role of CBD in potentially mitigating some of the adverse effects of THC may prove to be a valuable finding. It also highlights why use of the raw herbal product could be even more problematic than already thought, because as new strains have been developed, the amount of THC has risen at the same time as the amount of CBD has declined. In some strains, CBD is virtually absent. When production of cannabis is permitted by the public for medical use, there is no control over the levels of active ingredients and in particular the ratio of THC to CBD.

One final variation on delivery systems involves vaporization of the herbal product. This means of delivery is about as close as possible to smoked marijuana. Some clinical trials are currently underway.

It is important to note that with each of these formulations little is known about the medium to long term adverse effects. However, given that there is evidence for long-term harm arising from studies of those who smoke cannabis regularly, significant caution should be exercised about these formulations of active ingredients.

Research on smoked marijuana has occurred in parallel with research on the active ingredients. Smoked cannabis has been found to improve appetite and weight gain in HIV patients without adverse effect on viral load.^{4,5} However, again the validity of the

³ Kraft B et al., Lack of analgesia by oral standardized cannabis extract on acute inflammatory pain and hyperalgesia in volunteers. *Anesthesiology* 109(1):101-10, 2008

⁴ Abrams DI et al., Short-term effects of cannabinoids in patients with HIV-1 infection: a randomized, placebo-controlled clinical trial. *Annals of Internal Medicine* 139(4): 258-266, 2003

⁵ Haney M et al., Dronabinol and Marijuana in HIV(+) marijuana smokers: acute effects on caloric intake and mood. *Psychopharmacology(Berl)* 181(1): 170-178, 2005

results may be affected by poor blinding, and the effectiveness would of course need to be balanced against adverse effects.

Following the establishment of the *Center for Medicinal Cannabis Research (CMCR)* at the *University of California* in 1999, the number of research projects on smoked cannabis has increased. Several clinical studies have been published on neuropathic pain and experimentally induced pain. In general the results show a modest analgesic effect of smoked cannabis over placebo.^{6,7,8}

It is important to note that most of the subjects in these studies were cannabis experienced, so the results may not be able to be extrapolated to cannabis naïve patients. Moreover, because the subjects were cannabis-experienced, it is likely that blinding was compromised and hence the findings should be interpreted with this in mind.

In 1999, the US *Institute of Medicine (IOM)* undertook an analysis of all the available evidence on the clinical utility of cannabis in its various forms. In its recommendations it made clear that,

The goal of clinical trials of smoked cannabis would not be to develop cannabis as a licensed drug, but rather to serve as a first step towards the possible development of non-smoked rapid-onset cannabinoid delivery systems.⁹

Similarly, the FDA has stated,

No sound scientific studies supported the medical use of marijuana for treatment in the United States and no animal or human data supported the safety or efficacy of marijuana for general medical use. There are alternative FDA-approved medications in existence for treatment of many of the proposed uses of smoked marijuana.¹⁰

Why did the FDA come to this conclusion?

Their position is grounded in an approach to the development of medicines that must take into consideration a range of factors. To be accepted as a medicine, the following criteria must be met,

- The drug's chemistry must be known and reproducible
- There must be adequate safety studies
- There must be adequate and well-controlled studies proving efficacy
- The drug must be accepted by qualified experts
- The scientific evidence must be widely available¹¹

⁶ Abrams DI *et al.*, Cannabis in painful HIV-associated sensory neuropathy: a randomized placebo-controlled trial. *Neurology* 68(7): 515-521, 2007

⁷ Ellis RJ *et al.*, Smoked medicinal cannabis for neuropathic pain in HIV: a randomized, crossover clinical trial. *Neuropsychopharmacology* 34(3):672-680, 2009

⁸ Wilsey B *et al.*, A randomized, placebo-controlled, crossover trial of cannabis cigarettes in neuropathic pain. *Journal of Neurology* 253(10): 1337-1341, 2006

⁹ Joy JE *et al.*, Marijuana and Medicine: Assessing the Science Base. Division of Neuroscience and Behavioral Health. Institute of Medicine. Washington DC, National Academy Press, 1999,

¹⁰ See DOJ, DEA, "Lyle E. Craker; Denial of Application," 74 Fed. Reg. 2101, 2104 (Jan. 14, 2009).

¹¹ Barthwell AG, Early findings in Controlled Studies of Herbal Cannabis: A Review. *The Journal of Global Drug Policy and Practice*, June 24, 2010

Smoked marijuana does not meet these criteria and hence the FDA has not approved its use as a medicine.

Of additional concern is the fact that the herbal product is produced with little or no quality assurance and may therefore be contaminated by microbes, other pathogens, heavy metals and pesticides. This would not be tolerated for other medicines over which the FDA has regulatory control.

It is not surprising that other peak organisations like the *American Medical Association*, the *American College of Physicians*, the *American Nurses Association*, the *American Cancer Society*, the *American Glaucoma Foundation*, the *National Multiple Sclerosis Society*, the *American Academy of Pediatrics* and the *American Society of Addiction Medicine* all support the FDA approval process and have expressed either opposition to or concern over the use of smoked marijuana as a therapeutic product.¹²

It is important that peak bodies like the FDA in the US and the *Therapeutic Goods Administration* (TGA) in Australia are able to maintain their position as the gatekeepers of the regulatory process by which new medicines become available to the public. They are undermined when, by alternate regulatory means, medicines are made available. This is the case in the US where States have enacted legislation that makes smoked marijuana available for medical purposes without FDA approval.

A dangerous precedent is set by approval processes that are effectively achieved by popular vote of citizens who are not expert judges of medical efficacy, side-effects, abuse potential, or ethics of the doctor-patient relationship. Popular vote is also risky because the public is then at the mercy of pressure from groups who are using medical marijuana as a beachhead for generalised legal access to marijuana.

Medical Marijuana in the US and elsewhere

Smoked marijuana for medical purposes is now legal in 18 US States. The first was California in 1996 when the citizen referendum Proposition 215 was passed by a majority of 56% to 44%. Most of the medical marijuana in the US is grown and utilized in California and Colorado.

In California it is estimated that there are between 250,000 and 300,000 people who have physician approval for their use of marijuana.¹³ This number is so large that it clearly serves those who are not only within the category of the seriously ill and dying, which were the grounds upon which many campaigns were argued. In Colorado, which has twice as many medical marijuana users per capita as California, 2% of the population is registered.¹⁴ This yields approximately 100,000 people.

Whilst there is limited data, some aspects of the demographic profile of medical marijuana registrants appears to be similar in the different States. The average age of registrants in Colorado is 40 years of age and 69% are male.¹⁵ Even so, there are 40

¹² Barthwell, *Op. Cit.* See also http://nrfocus.org/latest_topics/is-marijuana-medicine/

¹³ Bostwick JM, Blurred Boundaries: The Therapeutics and Politics of Medical marijuana. *Mayo Clinic Proceedings* 87(2): 172-186, 2012

¹⁴ Nussbaum AM & Thurstone C, Mile High Macaroons: The Medicalization of Marijuana in Colorado. *The Journal of Global Drug Policy and Practice* 5: 5-15, 2011

¹⁵ Medical Marijuana registry program update [Internet]. Denver CO: Colorado Department of Public Health and environment, c2011 Mar 31

See www.cdphe.state.co.us/hs/medicalmarijuana/statistics.html

under the age of 18. In a UK study, users were predominantly young, male and recreationally familiar with cannabis.¹⁶ A Californian study revealed users to be approximately 75% male, 60% white, and mostly from a background of recreational use.¹⁷ In a separate study, 89% had started using before the age of 19, and 90% were daily smokers.¹⁸ In another recent Californian study, it was found that applicants to the medical marijuana program self-reported their use of marijuana for pain relief (82.6%), improved sleep (70.6%), relaxation (55.6%), muscle spasms (41.3%), headache (40.8%), relief of anxiety (38.1%), improved appetite (38.0%), relief of nausea and vomiting (27.7%), and relief of depression (26.1%).¹⁹

These observations are consistent with the specified conditions for which marijuana can be used in California, along with those covered by the catchall phrase, 'or any other illness for which marijuana provides relief'. The conditions vary in each of the States, but by and large, the breadth of conditions for which marijuana can be used is relatively expansive.

In Nevada, the majority of marijuana is used for generalised conditions; for example, 53% for severe pain, 29% for muscle spasms, and 11% for severe nausea.²⁰ There is no straightforward way to assess each of these conditions objectively. The remaining 7% are for glaucoma, HIV+/AIDS, cancer and cachexia (wasting).

The demographic data and usage data reveal that most registrants have come from a background of recreational use and are smoking marijuana for conditions which cannot be easily objectively verified. This is not to necessarily argue that registrants do not have medical conditions which they believe may be treated by marijuana, but simply to note that this mode of drug delivery and means of treatment are not subject to the usual controls put in place for ensuring the good of the patient. There is also no straightforward way to assess whether someone might simply be seeking marijuana for 'recreational' use under the guise of medical treatment, and thereby exposing themselves to a litany of avoidable harms.

In most of the States, marijuana can be grown by registrants or by a caregiver, and often the amounts involved allow for considerable excess beyond use for medical reasons. For example, in Oregon, registrants can possess 6 mature plants and 24 ounces of usable cannabis. Morgan has calculated that 24 ounces of cannabis can be rolled into 1896 joints.²¹

Despite the fact that most States permit users to grow their own marijuana, but do not permit dispensaries, they are nevertheless proliferating. In the city of Denver in Colorado, there are "more dispensaries than public schools, liquor stores, or even

¹⁶ Ware MS *et al.*, The medicinal use of cannabis in the UK: results of a nationwide survey. *Int J Clin Pract* 59(3): 291-295, 2005

¹⁷ Reinerman C *et al.*, Who are medical marijuana patients? Population characteristics from nine California assessment clinics. *J Psychoactive Drugs* 43(2): 128-135, 2011

¹⁸ O'Connell TJ & Bou-Matar CB, Long term marijuana users seeking medical cannabis in California (2001-2007): demographics, social characteristics, patterns of cannabis and other drug use of 4117 applicants. *Harm Reduction Journal* 4:16, 2007

¹⁹ Nunberg H *et al.*, An Analysis of Applicants Presenting to a Medical Marijuana Specialty Practice in California. *Journal of Drug Policy Analysis* 4(1): Article 1, 2011

²⁰ Raybuck T, Medical Marijuana, Nevada's Big Gamble. *The Journal of Global Drug Policy and Practice* 5(2), 2011

²¹ Morgan S, The Impact of Oregon's Marijuana Program, *The Journal of Global Drug Policy and Practice*

Starbucks coffee shops”.²² The incentive for owners is considerable. Average monthly cost for consumers has been estimated to be between \$562 and \$2250. Moreover, as there is no FDA approval, no insurer will contribute.²³

In Colorado, dispensaries advertise a variety of products and offer free samples.²⁴ In Nevada tourists are greeted with large billboards advertising medical marijuana.²⁵ This is an industry that is growing and operates in a fashion unlike other providers of medical products.

A particular problem arises in contexts where cannabis can be legally provided by a cooperative, which must source their product from the black market, as in California. The result of this is stimulation of the illegal production of cannabis. In their submission to the NSW inquiry into medical marijuana, Hall & Farrell comment:

The effect of these forms of liberalization has been to create a quasi-legal system of cannabis production and distribution in many parts of California and some of this cannabis is sold to recreational users.²⁶

There seems little doubt that marijuana is being diverted from medical programs for ‘recreational’ purposes. The *Las Vegas Metropolitan Police Department* recorded an enormous 1200 percent increase in grow site seizures between 2006 and 2010.²⁷

In Colorado, 48.8 percent of adolescents admitted to substance abuse treatment obtained their marijuana from someone registered to use medically.²⁸ The authors conclude:

Diversion of medical marijuana is common among adolescents in substance treatment. These data support a relationship between medical marijuana exposure and marijuana availability, social norms, frequency of use, substance-related problems and general problems among teens in substance treatment.

In a recent study by Cerda and co-workers, it was found that states with medical marijuana laws had higher rates of use, abuse and dependence.²⁹ The authors are careful not to assume a causal link, and acknowledge that there are several possible mechanisms by which medical marijuana laws could lead to increased abuse. Harper and coworkers suggest that there is unlikely to be a causal link.³⁰

In a retrospective case study series of marijuana exposure in children under 5 years of age presenting to emergency hospital departments in Colorado, it was found that 5

²² Nussbaum & Thurstone, *Op. Cit.*, 2011

²³ Barthwell, AG, Marijuana Dispensaries and the Federal Government: Recommendations to the Obama Administration 2009: Part 1, *The Journal of Global Drug Policy and Practice*

²⁴ Nussbaum & Thurstone, *Op. Cit.*, 2011

²⁵ Raybuck, *Op. Cit.*, 2011

²⁶ Hall W & Farrell M, Submission No 46 to the New South Wales Inquiry into use of cannabis for medical purposes, 13 Feb 2013

²⁷ Raybuck, *Op. Cit.*, 2011

²⁸ Thurstone C, Lieberman SA & Schmiede SJ, Medical marijuana diversion and associated problems in adolescent substance treatment. *Drug Alcohol Dependence* 118(2-3):489-492, 2011

²⁹ Cerda M *et al.*, Medical marijuana laws in 50 states: investigating the relationship between state legalization of medical marijuana and marijuana use, abuse and dependence, *Drug Alcohol Depend.* 120(1-3): 22-27, 2012

³⁰ Harper S *et al.*, Do medical marijuana laws increase marijuana use? Replication study and extension, *Ann Epidemiol* 22: 207-212, 2012

children had been exposed over a 6 month period. Importantly, 4 of the 5 children came from home environments where medical marijuana cards were present.³¹

One of the complications of States enacting laws such as these is that cannabis remains a schedule 1 drug and hence possession and use is a federal offence. The laws therefore represent a strange and messy juxtaposition between State and Federal legislation. This is not only a difficult and inconsistent regulatory environment but also one in which there is potential for laws to come into disrepute. This is especially the case since the Obama administration issued a statement in 2009 indicating it would give low priority to the prosecution of individuals in those states with medical marijuana laws.³² Thus a deterrent for dispensaries to provide a federally prohibited substance was removed.

What is the impact on the medical profession?

It has long been recognised that the relationship between patient and physician is a unique one. It is unlike the relationship between consumer and service provider in many other professions, largely because of the vulnerability of the patient, but also because the physician is entrusted with direct engagement with diagnosis and treatment that deals closely with the person's body and its integrity. It has an intimacy that calls forth particular ethical reflection and guidance.

Codes of ethics have been developed to govern the relationship, the oldest being the Hippocratic Oath. Even older is the basic requirement *primum non nocere*, 'do no harm'. More recently, the *Declaration of Geneva* states, "The health of my patient will be my first consideration." All of these are designed to protect the patient and ensure that care is directed towards their well-being, recovery, and ultimately, flourishing. Hence, physicians have a duty of care and a fiduciary responsibility to their patients. They should also be aware of potential conflicts of interest.

In the modern context, the standard of care typically requires the physician to perform an examination, and if necessary implement appropriate diagnostic tests, take a patient's history to check for possible contraindications, check for the failure of other treatments, communicate with the person's other health professionals, and assess response to treatment and monitor adverse effects.

Medical marijuana programs generally fail in some or all of these normal requirements, compromising the doctor-patient relationship and potentially putting the patient at risk. Doctors are placed in a difficult position when asked to provide a substance that is federally controlled, is of unknown purity, potentially contaminated, and about which there is limited evidence on indications, contraindications, adverse effects and dosage.

It is not surprising that many physicians are unwilling to recommend marijuana to their patients. In Colorado, for example, 10% of recommendations were made by one physician and 49% by just 15.³³ Some doctors may also be concerned about their legal liability if harm were to come to a patient. In one case, a physician recommended

³¹ Wang GS *et al.*, A case series of marijuana exposures in pediatric patients less than 5 years of age, *Child Abuse & Neglect: The International Journal* 35(7): 563-565, 2011

³² Johnston D & Lewise NA, Obama administration to stop raids on medical marijuana dispensers. *The New York Times* Mar 19 2009

See <http://www.nytimes.com/2009/03/19/us/19holder.html? r=0>

³³ Nussbaum & Thurstone, *Op. Cit.*, 2011

marijuana to a 20 year old pregnant woman without examining her or documenting her pregnancy. The child was born and tested positive for marijuana.³⁴

In some contexts there are clearly conflicts of interest. Some physicians are employees of dispensaries and therefore have personal interest in recommending cannabis.³⁵

In a recent letter to the *American Journal of Psychiatry*, a medical practitioner described a case where a young man with a history of psychiatric problems was recommended medical marijuana. His problems were exacerbated, eventually resulting in hospitalization for psychosis. He eventually withdrew from marijuana and recovered.³⁶ This case highlights not only the risk of psychosis with marijuana, but also the failure of a duty of care by a recommending physician.

Who is driving medical marijuana initiatives?

The impetus behind legislative changes for medical marijuana comes from several different sources.

Those who have been using marijuana in the belief that it is treating their medical condition are often strong advocates for legal change. As we have seen, there is therapeutic potential in cannabis, so there is some rationale behind pressure from those who find relief for their symptoms. However, not only is anecdotal evidence alone an unreliable path to new medicines, but the complications with 'recreational' use make it very difficult to sift out a real benefit from a sense of 'feeling better'.

There are also individual health practitioners who may believe that some of their patients could benefit from medical marijuana, and hence they may advocate for legislative change.

However, by far the most active players are those who would like to see marijuana legally available for 'recreational' purposes. Some of these groups as well as individuals have been pressing for change for decades and with medical marijuana, they see the opportunity for a beachhead. The rationale is based upon the idea that the image of marijuana will be considerably softened by its use as a medicine. They would also likely be aware that medical marijuana constitutes such a regulatory mess that as more people use medical marijuana, policing of 'recreational' use becomes more difficult. To some in authority it may appear simpler to accede to pressure for full legalization.

Groups like the *National Organisation for the Reform of Marijuana Laws* (NORML) have been agitating for medical marijuana for a long time, as has the *Drug Policy Alliance*. However, particular individuals have also put in considerable funds. These include billionaire financier George Soros and insurance magnate Peter Lewis. It is estimated that Lewis alone has spent between \$40 and \$60 million on medical marijuana initiatives since the early 80s.³⁷

³⁴ Nussbaum AM *et al.*, "But my Doctor Recommended Pot": Medical Marijuana and the Patient-Physician Relationship, *J Gen Intern Med* 26(11): 1364-7, 2011

³⁵ Nussbaum AM *et al.*, *Op. Cit.*, 2011

³⁶ Pierre JM, Psychosis associated with medical marijuana: risk vs. benefits of medicinal cannabis use. *Am J Psychiatry* 167(5): 598-9, 2010

³⁷ O'Connor C, High Roller: How Billionaire Peter Lewis Is Bankrolling Marijuana Legalization, *Forbes Magazine*, April 2012 See <http://www.forbes.com/sites/clareoconnor/2012/04/20/high-roller-how-billionaire-peter-lewis-is-bankrolling-marijuana-legalization/>

Soros-watcher Rachel Ehrenfeld has described the Soros strategy as set forth to pro-legalisation group *Drug Policy Foundation* in the early nineties:

... in 1993 Soros gave DPF a "set of suggestions to follow if they wanted his assistance: Come up with an approach that emphasizes 'treatment and humanitarian endeavors,' he said ... target a few winnable issues, like medical marijuana and the repeal of mandatory minimums." Apparently, they took his advice.³⁸

Conclusion

Medical marijuana is an example of a complex blurring of the lines between use and abuse, between potential medical utility and 'recreational' use. Concern about the use of smoked marijuana being made publically available has been vindicated by the spread of medical marijuana legislation throughout the US and the proliferation of dispensaries providing marijuana for dubious purposes including 'recreational' use.

The situation has made it difficult for policing and compromised the medical profession. It undermines the FDA process of approval of medicines and complicates State-Federal relations. By doing so it has the potential to bring the regulatory process as well as the law itself into disrepute.

The active ingredients in cannabis are showing promise for therapeutic use and may prove to be useful for the treatment of various ailments. Ironically, permission to smoke marijuana for medical purposes may delay the development of cannabinoid medicines by 'muddying the waters' and drawing valuable resources away from genuine research.

Colorado psychiatrist Christian Thurstone puts it well:

In the absence of credible data, this debate is being dominated by bad science and misinformation from people interested in using medical marijuana as a step to legalization for recreational use. Bypassing the FDA's well-established approval process has created a mess that especially affects children and adolescents. Young people, who are clearly being targeted with medical marijuana advertising and diversion, are most vulnerable to developing marijuana addiction and suffering from its lasting effects."³⁹

When reflected upon years from now, how will medical marijuana be viewed?

With the advent of treatments designed to work with the body's own cannabinoid system, the medical use of marijuana should fade as a topic of heated debate to a footnote in the history of medicine.⁴⁰

³⁸ Rachel Ehrenfeld, May 1996, *The Movement to Legalize Drugs in the United States: Who's Behind It?* Downloaded from the Capital Research website (www.capitalresearch.com).

³⁹ http://nrfocus.org/latest_topics/is-marijuana-medicine/

⁴⁰ Mack A & Joy J, *Marijuana as Medicine? The science beyond the controversy*. 2001