

**1. Medical condition proposed: Please be specific.**

Opioid dependence

**2. Provide justification for why this medical condition should be included as a qualifying debilitating medical condition for the use of medical marihuana. Be specific as to why medical marihuana should be used for this condition.**

In a study on 244 medical cannabis patients with chronic pain in Michigan titled “Medical Cannabis Use Is Associated With Decreased Opiate Medication Use in a Retrospective Cross-Sectional Survey of Patients With Chronic Pain.”, researchers found that people were using medical marijuana to treat pain while decreasing the use of opioids.

Among study participants, medical cannabis use was associated with a 64% decrease in opioid use (n = 118), decreased number and side effects of medications, and an improved quality of life (45%). This study suggests that many CP patients are essentially substituting medical cannabis for opioids and other medications for CP treatment, and finding the benefit and side effect profile of cannabis to be greater than these other classes of medications.

<https://www.ncbi.nlm.nih.gov/pubmed/27001005>

In a study on 2897 medical cannabis patients in California titled “Cannabis as a Substitute for Opioid-Based Pain Medication: Patient Self-Report”, researchers found that people were using medical marijuana to treat pain while decreasing the use of opioids.

Respondents overwhelmingly reported that cannabis provided relief on par with their other medications, but without the unwanted side effects. Ninety-seven percent of the sample “strongly agreed/agreed” that they are able to decrease the amount of opiates they consume when they also use cannabis, and 81% “strongly agreed/agreed” that taking cannabis by itself was more effective at treating their condition than taking cannabis with opioids. Results were similar for those using cannabis with non opioid-based pain medications.

10.1089/can.2017.0012

In a study of 350 patients in California,

Forty percent have used cannabis as a substitute for alcohol, 26% as a substitute for illicit drugs and 66% as a substitute for prescription drugs. The most common reasons given for substituting were: less adverse side effects (65%), better symptom management (57%), and less withdrawal potential (34%) with cannabis.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2795734/>

In a study on 271 medical marijuana patients in Canada titled “Medical cannabis access, use, and substitution for prescription opioids and other substances: A survey of authorized medical cannabis patients”, researchers found that people were using medical marijuana to substitute for opioids and alcohol.

Cannabis is perceived to be an effective treatment for diverse conditions, with pain and mental health the most prominent. Findings include high self-reported use of cannabis as a substitute for prescription drugs (63%), particularly pharmaceutical opioids (30%), benzodiazepines (16%), and antidepressants (12%). Patients also reported substituting cannabis for alcohol (25%), cigarettes/tobacco (12%), and illicit drugs (3%).

The finding that patients report its use as a substitute for prescription drugs supports prior research on medical cannabis users; however, this study is the first to specify the classes of prescription drugs for which cannabis it is used as a substitute, and to match this substitution to specific diagnostic categories

<https://www.ncbi.nlm.nih.gov/pubmed/28189912>

In a study on 367 medical marijuana patients in Arizona titled “Medical Cannabis in Arizona: Patient Characteristics, Perceptions, and Impressions of Medical Cannabis Legalization”, researchers found that people were using medical marijuana to treat withdrawal symptoms of opioids and alcohol.

8 patients reported using medical marijuana for opioid dependence.

Relief of opioid dependence symptoms when using medical marijuana compared to other medications was 60%

Use of other medications to deal with opioid dependence had a 50% reduction after using medical marijuana.

23 patients reported using medical marijuana for Alcohol Dependency

Relief of alcohol dependency was 91.30% with medical marijuana.

Relief of medical marijuana compared to other medications was 100%.

Less frequent use of other medications to treat alcohol dependency was 100% after using medical marijuana.

<http://www.tandfonline.com/doi/full/10.1080/02791072.2015.1074766>

This isn't a petri dish model, it's not a study on mice or rats or monkeys. These are real people using a safe non toxic plant to treat opioid and alcohol dependence. These people are not waiting for the FDA to do research, they are bypassing the FDA and using medical marijuana under the supervision of a physician.

A total of 1,248 (46%) respondents reported using cannabis as a substitute for prescription drugs. The most common classes of drugs substituted were narcotics/opioids (35.8%), anxiolytics/benzodiazepines (13.6%) and antidepressants (12.7%). A total of 2,473 substitutions were reported or approximately two drug substitutions per affirmative respondent. The odds of reporting substituting were 4.59 (95% confidence interval [CI], 3.87–5.43) greater among medical cannabis users compared with non-medical users and 1.66 (95% CI, 1.27–2.16) greater among those reporting use for managing the comorbidities of pain, anxiety and depression. A slightly higher percentage of those who reported substituting resided in states where medical cannabis was legal at the time of the survey (47% vs. 45%,  $p=0.58$ ), but this difference was not statistically significant.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5422566/>

Fewer Canadian veterans have sought prescription opioids and tranquillizers in recent years, while at the same time prescriptions for medical marijuana have skyrocketed. It is not clear whether the two are related, but the trend echoes what researchers have found in U.S. states with medical-cannabis laws.

New data provided to The Globe and Mail by Veterans Affairs Canada show that over the past four years, the number of veterans prescribed benzodiazepines – with brands such as Xanax, Ativan and Valium – had decreased nearly 30 per cent. Opioid prescriptions also shrank almost 17 per cent during that same period.

<https://beta.theglobeandmail.com/news/national/among-veterans-opioid-prescription-requests-down-in-step-with-rise-in-medical-pot/article30285591/>

Pilot data also suggested that objective ratings of opiate withdrawal decrease in MMT patients using cannabis during stabilization.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4717827/>

While more research and improved study designs are needed to better identify the extent and impact of cannabis substitution on those affected by AUD, cannabis does appear to be a potential substitute for alcohol. Perhaps more importantly, cannabis is both safer and potentially less addictive than benzodiazepines and other pharmaceuticals that have been evaluated as substitutes for alcohol.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3992908/>

The Institute of Medicine in a 1999 report, the same report that the people of Michigan described when creating the MMMA, declared that cannabinoids from the marijuana plant, could be useful for patients “who have developed tolerance to opioids”.

All of the currently available analgesic (pain-relieving) drugs have limited efficacy for some types of pain. Some are limited by dose-related side effects and some by the development of tolerance or dependence. A cannabinoid, or other analgesic, could potentially be useful under any of the following circumstances:

- There is a medical condition for which it is more effective than any currently available medication.
- It has a broad clinical spectrum of efficacy and a unique side effect profile.
- It has synergistic interactions with other analgesics.
- It exhibits "side effects" that are considered useful in some clinical situations.
- Its efficacy is enhanced in patients who have developed tolerance to opioids.

President Trump's ONDCP task force on the opioid prescriptions crisis has recommended calling for a national emergency.

<https://www.whitehouse.gov/sites/whitehouse.gov/files/ondcp/commission-interim-report.pdf>

The first and most urgent recommendation of this Commission is direct and completely within your control. Declare a national emergency under either the Public Health Service Act or the Stafford Act. With approximately 142 Americans dying every day, America is enduring a death toll equal to September 11th every three weeks.

Due to the interim report, President Donald J. Trump has instructed his Administration to use all appropriate emergency and other authorities to respond to the crisis caused by the opioid epidemic. 8-10-2017

<https://www.whitehouse.gov/the-press-office/2017/08/10/president-donald-j-trump-directs-administration-use-all-appropriate>

In Medical Marijuana states, overdoses on opioid prescription painkillers are reduced by 25%.

**Conclusions and Relevance** Medical cannabis laws are associated with significantly lower state-level opioid overdose mortality rates."

Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in the United States, 1999-2010, Marcus A. Bachhuber, MD<sup>1,2,3</sup>; Brendan Saloner, PhD, Chinazo O. Cunningham, MD, MS; et al doi:[10.1001/jamainternmed.2014.4005](https://doi.org/10.1001/jamainternmed.2014.4005)

Using data on all prescriptions filled by Medicare Part D enrollees from 2010 to 2013, we found that the use of prescription drugs for which marijuana could serve as a clinical alternative fell significantly, once a medical marijuana law was implemented.

<http://content.healthaffairs.org/content/35/7/1230>

The CDC has declared opioid prescription overdoses an epidemic.

Drug overdose deaths and opioid-involved deaths continue to increase in the United States. The majority of drug overdose deaths (more than six out of ten) involve an opioid. Since 1999, the number of overdose deaths involving opioids (including prescription opioids and heroin) quadrupled. From 2000 to 2015 more than half a million people died from drug overdoses. Americans die every day from an opioid overdose.

<https://www.cdc.gov/drugoverdose/epidemic/index.html>

Similar to comments made by President Obama at the National Prescription Drug Abuse and Heroin Summit.

It's important to recognize that today we are seeing more people killed because of opioid overdose than traffic accidents.

<https://obamawhitehouse.archives.gov/the-press-office/2016/03/29/remarks-president-panel-discussion-national-prescription-drug-abuse-and>

As well as President Trump's plan to limit opioid prescriptions.

Reduce the amount of Schedule II opioids (drugs like oxycodone, methadone and fentanyl) that can be made and sold in the U.S.

<http://web.archive.org/web/20170103232128/https://www.donaldjtrump.com/press-releases/donald-j.-trump-addresses-the-drug-epidemic-in-the-united-states>

President Obama and President Trump have instructed the FDA and DEA to limit opioid based prescription painkillers.

<https://www.nytimes.com/2016/03/17/health/er-pain-pills-opioids-addiction-doctors.html>

<http://jamanetwork.com/journals/jama/fullarticle/2503508>

April 19, 2016 CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016  
Deborah Dowell, MD, MPH. Tamara M. Haegerich, PhD. Roger Chou, MD.  
JAMA. 2016;315(15):1624-1645. doi:10.1001/jama.2016.1464

Governor Rick Snyder and Michigan Attorney Bill Schuette also are working to reduce opioid addiction, abuse and overdoses.

<http://www.michigan.gov/ag/0,4534,7-164-46849-365940--,00.html>

A study by Pinsger (2006) on the effects of nabilone (a synthetic cannabinoid) as an adjunct to existing chronic pain therapy resulted in reduced pain and improved quality of life. Although some mild to moderate side effects were noted, the majority of patients reported overall benefits when compared to their usual chronic pain treatment.

A clinical study by Nurmikko (2007) examining the effects of Sativex as an adjunct to existing stable analgesia in patients suffering from peripheral neuropathic pain showed that 26% of participants reported more than 30% reductions in pain intensity, compared with 15% in those using placebo. Adverse events were few and largely mild or moderate.

A randomized clinical study by Skrabek and colleagues (2008) on nabilone as an adjunct treatment for 15 patients affected by fibromyalgia reported significant benefits in pain and overall function. Mild side-effects were reported, including weight gain, but participants indicated overall increases in quality of life.

Narang and colleagues (2008) conducted a phase 1 and phase 2 study examining the efficacy of dronabinol as an adjunct to opioid therapy for the treatment of chronic pain. Both studies showed that dronabinol decreased pain intensity and increased quality of life compared to baseline opiate therapy. The findings also reported mild to moderate side effects including drowsiness, but patients also reported an improvement in the quality of sleep and overall satisfaction with the treatment compared to placebo.

Additionally, studies also show that cannabinoids can prevent the development of tolerance to and withdrawal from opiates (Cichewicz & Welch 2003), and can even rekindle opiate analgesia after a prior dosage has become ineffective (Russo 2008a; Cichewicz & McCarthy 2003). Furthermore, research by Blume and colleagues (2011) and Ramesh and colleagues (2011) suggests that cannabinoid receptors might interrupt signaling in the opioid receptor systems, affecting both cravings for opiates and withdrawal severity.

Pain medications lead the list of the most common substances implicated in adult poison exposures (20 years old or older, NPDS, 2015).

Cannabis as an Adjunct to or Substitute for Opiates in the Treatment of Chronic Pain  
Philippe Lucas, M.A Journal of Psychoactive Drugs, 44 (2), 125–133, 2012  
Doi 10.1080/02791072.2012.684624

Adults aged 45–54 had the highest rate of drug overdose deaths in 2015.

<http://www.poison.org/poison-statistics-national>  
<https://www.cdc.gov/nchs/products/databriefs/db273.htm>

With the current nationwide epidemic of opioid abuse, dependence, and fatalities, clinicians are being asked by federal agencies and professional societies to control their prescribing of narcotic medications for pain. Federal guidelines emphasize tapering, discontinuing, and limiting initiation of these drugs except in provision of end-of-life care. Reducing reliance on opioids, however, is a massive task. According to one estimate, more than 650 000 opioid prescriptions are dispensed each day in the United States. Unless the nation develops an increased tolerance to chronic pain, reduction in opioid prescribing leaves a vacuum that will be filled with other therapies.

Enter cannabis. As of August 2016, the District of Columbia and 25 states have legalized cannabis for medical use. Recreational use of cannabis has been legalized in 4 of these states and Washington, DC, and like initiatives are pending in other states. The mandated transition to limit use of opioids, paired with the current climate around liberalizing cannabis, may lead to patients' formal and informal substitution of cannabis for opioids. Observational studies have found that state legalization of cannabis is associated with a decrease in opioid addiction and opioid-related overdose deaths

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332546/>

Opioids have a negative effect on driving performance.

**Effects on Driving:** The drug manufacturer states that morphine may impair the mental and/or physical abilities needed to perform potentially hazardous activities such as driving a car, and patients must be cautioned accordingly. Driving ability in cancer patients receiving long-term morphine analgesia (mean 209 mg daily) was considered not to be impaired by the sedative effects of morphine to an extent that accidents might occur. There were no significant differences between the morphine treated cancer patients and a control group in vigilance, concentration, motor reactions, or divided attention. A small but significant slowing of reaction time was observed at 3 hours. In several driving under the influence case reports, where the subjects tested positive for morphine and/or 6-acetylmorphine, observations included slow driving, weaving, poor vehicle control, poor coordination, slow response to stimuli, delayed reactions, difficulty in following instructions, and falling asleep at the wheel.

<https://one.nhtsa.gov/people/injury/research/job185drugs/morphine.htm>

The study of Marijuana and driving is clear.

*When factoring age, sex, and race, there was no “significant increased risk of crash involvement” due to marijuana use.*

<http://blog.caranddriver.com/marijuana-doesnt-pose-significant-risk-in-car-crashes-nhtsa-says/>

<https://one.nhtsa.gov/people/injury/research/job185drugs/cannabis.htm>

[http://www.nhtsa.gov/staticfiles/nti/pdf/812117-Drug\\_and\\_Alcohol\\_Crash\\_Risk.pdf](http://www.nhtsa.gov/staticfiles/nti/pdf/812117-Drug_and_Alcohol_Crash_Risk.pdf)

Excessive alcohol use is a leading cause of preventable death. This dangerous behavior accounted for approximately 88,000 deaths per year from 2006–2010, and accounted for 1 in 10 deaths among working-age adults aged 20–64 years.

<https://www.cdc.gov/features/alcohol-deaths/index.html>

- In 2015, 10,265 people died in alcohol-impaired driving crashes, accounting for nearly one-third (29%) of all traffic-related deaths in the United States.<sup>1</sup>
- Of the 1,132 traffic deaths among children ages 0 to 14 years in 2015, 209 (16%) involved an alcohol-impaired driver.<sup>1</sup>
- In 2015, nearly 1.1 million drivers were arrested for driving under the influence of alcohol or narcotics.

[https://www.cdc.gov/motorvehiclesafety/impaired\\_driving/impaired-driv\\_factsheet.html](https://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-driv_factsheet.html)

A safety profile of Medical Marijuana can be found in the first year report of the Minnesota medical marijuana program. The Minnesota Department of Health surveyed 1500+ patients enrolled in the program.

Adverse Side Effects: At this point, the safety profile of the medical cannabis products available through the Minnesota program seems quite favorable. Approximately 20-25% of enrolled patients report negative physical or mental side effects of some kind, with the majority – around 60% - reporting only one and 90% reporting three or fewer. The vast majority of adverse side effects, around 90%, are mild to moderate in severity. An assessment of the 30 patients reporting severe side effects, meaning “interrupts usual daily activities,” found no apparent pattern of patient age, medical condition, or type of medical cannabis used. The most common adverse side effects are dry



mouth, drowsiness, and fatigue. Fortunately, up to the present no serious adverse events (life threatening or requiring hospitalization) have been reported.

<http://www.health.state.mn.us/topics/cannabis/about/firstyearreport.html>

Medical Marijuana's mild to moderate side effects of dry mouth, drowsiness and fatigue are easily tolerated by the vast majority of patients.

The Mayo Clinic website has assembled dosage information on Medical Marijuana.

<http://www.mayoclinic.org/drugs-supplements/marijuana/dosing/hrb-20059701>

NIDA finds it difficult to put the words together, but finally begrudgingly admits there is no gateway theory of marijuana use.

These findings are consistent with the idea of marijuana as a "gateway drug." However, the majority of people who use marijuana do not go on to use other, "harder" substances.

<https://www.drugabuse.gov/publications/research-reports/marijuana/marijuana-gateway-drug>

As evidenced by the included medical marijuana patient surveys in other states and countries, adults are using medical marijuana to treat this disease. Patients will continue to use medical marijuana to treat symptoms whether or not you approve this condition. Approving this condition to the list of Qualifying Conditions in the MMMA has the only effect of protecting sick people from arrest or penalty. These patients are currently breaking the law by using a safe and non-toxic plant that they can grow themselves. The alternative are prescriptions that cost thousands of dollars per month, that the FDA approves even if it is toxic and poisons and kills many Americans each year.

Historically, over 100 years ago, the anti-addictive properties of cannabis were known and tested and prescribed by physicians to break opium addictions for many people. Case reports were then published in the Lancet, 1889.

Birch EA. The use of Indian hemp in the treatment of chronic chloral and chronic opium poisoning. The Lancet. 1889;133:625.

**3. Provide a summary of the evidence that the use of medical marihuana will provide palliative or therapeutic benefit for this medical condition or is a treatment for this condition.**

1. <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2016.303426>

Conclusions. Operational Medical Marijuana Laws are associated with reductions in opioid positivity among 21- to 40-year-old fatally injured drivers and may reduce opioid use and overdose.

2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2503660/>

Cannabinoid analgesics have generally been well tolerated in clinical trials with acceptable adverse event profiles. Their adjunctive addition to the pharmacological armamentarium for treatment of pain shows great promise.

3. <https://www.ncbi.nlm.nih.gov/pubmed/12604676>

The analgesic effects of opioids, such as morphine and codeine, in mice are enhanced by oral administration of the cannabinoid delta(9)-tetrahydrocannabinol (delta(9)-THC). All of the fixed-ratio combinations tested produced greater antinociception (synergy) than predicted from simple additivity. These findings suggest that the use of a low-dose combination of analgesics is a valid and effective approach for the treatment of pain and necessitates further study.

4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3742578/>

Future studies may contribute to the development of novel cannabinoid-based therapeutics that provide clinicians an additional tool to support the recovery of opioid-dependent persons undergoing treatment.

5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3728280/>

Cannabinoids may form a useful adjunct to current analgesic drugs in many conditions, especially in low doses incapable of inducing hyperalgesia or other side effects. They can also be used as rescue drugs when opioid analgesia is ineffective or inadequate, or as opioid sparing agent. They also appear to antagonize several side effects of opioids, and the opioid-cannabinoid combination may become a very useful agent in the long-term management of severe pain. Preclinical data also suggest a beneficial effect of cannabinoids on the disease process in HIV, cancer, and MS. While smoked marijuana tends to be a controversial territory, evidence points to significant multi-symptom relief from it especially in HIV patients.

6. [10.1345/aph.1G217](https://doi.org/10.1345/aph.1G217)

Cannabinoids provide a potential approach to pain management with a novel therapeutic target and mechanism. Chronic pain often requires a polypharmaceutical approach to management, and cannabinoids are a potential addition to the arsenal of treatment options.

7. [10.1016/j.ejphar.2007.04.010](https://doi.org/10.1016/j.ejphar.2007.04.010)

In summary, the synergistic interaction of  $\Delta 9$  -THC and morphine in arthritic rats, as well as the potency of  $\Delta 9$  -THC in the CFA chronic pain condition, points to the possibility of the use of the combination, or to the use of a  $\Delta 9$  -THC analog, to treat chronic pain conditions for which opioids alone are ineffective.

8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4791148/>

Cannabinoids could be synergistic with opioids in the relief of pain. The safety profile of cannabis is acceptable, with side effects that are generally tolerable and short-lived.

9. 10.1111/dar.12323

Participants presented with the range of conditions that is generally consistent with surveys of CTP users, the most prominent conditions being pain (32%), mood (i.e. anxiety and depression; 18%), arthritis (15%), HIV (10%), gastrointestinal disorder (7%)

The high rate of substitution for prescribed substances, particularly among patients with pain-related conditions, suggests that further research into cannabis/ cannabinoids as a potentially safer substitute for or adjunct to opiates is justified, and adds to research suggesting this phenomenon is robust across samples [6,20].

We created a dichotomous pain condition variable by aggregating respondents who identified the primary condition treated with CTP as spinal pain, non-spinal pain, or arthritis (n = 220), and comparing these participants to an aggregation of all other conditions (n = 241). A large contingent of these non-pain respondents nonetheless endorsed pain among the symptoms for which they used CTP (71%, n = 171), therefore, we conducted supplementary analyses comparing those who endorsed treating pain with CTP among a list of symptoms (83%, n = 390) with those who did not endorse treating pain with CTP (17%, n = 82).

10. [10.1080/02791072.2015.1074766](https://doi.org/10.1080/02791072.2015.1074766)

8 patients reported using medical marijuana for opioid dependence.

Relief of opioid dependence symptoms when using medical marijuana compared to other medications was 60%

Use of other medications to deal with opioid dependence had a 50% reduction after using medical marijuana.

23 patients reported using medical marijuana for Alcohol Dependency

Relief of alcohol dependency was 91.30% with medical marijuana.

Relief of medical marijuana compared to other medications was 100%.

Less frequent use of other medications to treat alcohol dependency was 100% after using medical marijuana.

11. <https://www.ncbi.nlm.nih.gov/pubmed/11210205>

This article reports on an exploratory study of medical cannabis users. Interviews were completed with 50 self-identified medical cannabis users recruited through notices in newspapers and on bulletin boards. They reported using cannabis for a variety of conditions including HIV-AIDS-related problems, chronic pain, depression, anxiety, menstrual cramps, migraine, narcotic addiction as well as everyday aches, pains, stresses and sleeping difficulties. 2 patients reported using medical marijuana for Narcotic addiction.

However, cannabis was also used to treat menstrual cramps, anorexia, narcotic addiction, migraine, Tourette's Syndrome, lupus, Grave 's Disease, epilepsy, retinitis, chemotherapy-induced loss of appetite, Crohn 's Disease, arthritis and everyday aches, pains, stresses and sleeping difficulties.

Many reported benefits of cannabis were consistent with those reported elsewhere. Cannabis was typically used for its sedative, analgesic, antispasmodic, appetite stimulating, anticonvulsant and euphoric properties. These properties were well known in the past century when cannabis was used to treat conditions that required medications with these properties. Although scientific evidence in favor of medical cannabis is limited (Gurley, Aranow & Katz 1998), self-treatment with cannabis could become popular as more users publicize their own experiences. This is especially so if the everyday aches and pains and psychological problems are promoted as medical reasons for using cannabis.

12. [10.1186/1477-7517-2-18](https://doi.org/10.1186/1477-7517-2-18)

Cannabis dependence was a concern for one in five participants (21%). This study provided indirect evidence that participants were unlikely to experience withdrawal symptoms on ceasing medical use, but this was only a crude measure. While the risk of dependence is probably low when used medicinally, this risk needs to be weighed up with the other concerns of the patient – for example, it may be low on the list of concerns for those with terminal illness [19].

13. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3673028/>

Applicants most frequently reported using medical marijuana for pain relief (82.6%), improved sleep (70.6%), and relaxation (55.6%). The next most frequently reported benefits included relief of 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%). Half the applicants (50.8%) reported using marijuana as a substitute for prescription medication and 13.2% reported using marijuana as a substitute for alcohol.

14. <http://dx.doi.org/10.1016/j.drugpo.2013.08.010>

Symptoms addressed with medical cannabis by condition.

76 patients reported using medical marijuana for Drug Withdrawal symptoms.

15. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5549367/>

Recent epidemiological studies have provided initial evidence for a possible reduction in opioid pharmacotherapy for pain as a result of increased implementation of medical cannabis regimens.

16. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4607066/>

... the interactions of certain endocannabinoids and cannabinoid-based drugs have been shown to affect the motivation to consume alcohol; however, further studies must be conducted and substantial evidence must be acquired in order to use these novel endocannabinoid and exocannabinoid -based therapeutic approaches in the clinic for the treatment of alcohol use disorders.

17. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3992908/>

In fact, results imply that those using medical cannabis may have had better treatment completion, employment and alcohol use outcomes compared with their non-medical cannabis using counterparts.

Similarly, [Raby et al. \(2009\)](#) showed that cannabis use may enhance treatment retention and improve outcomes for opiate-dependent individuals. Intermittent cannabis use predicted greater treatment retention and adherence to naltrexone pill taking. The authors speculate that cannabis may improve tolerability of naltrexone, perhaps because naltrexone enhanced the intoxicating effects of cannabis; this may have implications for naltrexone compliance among alcohol-dependent individuals, even though the study only included opiate-dependent individuals who did not drink much alcohol ([Raby et al., 2009](#)).

A 2005 study of college students reported that they might reduce their drinking if cannabis were legalized, especially among daily drinkers and those who drank spirits ([Clements and Daryal, 2005](#)). A study of alcohol and cannabis policy effects on drug use similarly suggested lower alcohol use in states, where cannabis was decriminalized ([Saffer and Chaloupka, 1999](#)). Furthermore, when the minimum legal drinking age was raised in the 1980s, cannabis consumption went up among American students in 43 states ([DiNardo and Lemieux, 2001](#)). A similar substitution effect has been observed in high school students ([Alter et al., 2006](#)). Interestingly, [Alter et al.](#) also found that students who reported no alcohol use were more likely to report cannabis use. Although [Alter et al. \(2006\)](#) focus on perceived access to cannabis and perceptions of related harms, the findings may imply that cannabis can substitute for alcohol among individuals who choose to completely abstain from alcohol.

While more research and improved study designs are needed to better identify the extent and impact of cannabis substitution on those affected by AUD, cannabis does appear to be a potential substitute for alcohol. Perhaps more importantly, cannabis is both safer and potentially less addictive than benzodiazepines and other pharmaceuticals that have been evaluated as substitutes for alcohol.

18. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4717827/>

Pilot data also suggested that objective ratings of opiate withdrawal decrease in MMT patients using cannabis during stabilization.

Conclusions and Scientific Significance—The present findings may point to novel interventions to be employed during treatment for opiate dependence that specifically target cannabinoid-opioid system interactions.

19. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3742578/>

The findings from basic and pre-clinical studies in rodent models highlight several potential mechanisms through which cannabinoids may modulate the phenomenon of opioid withdrawal, and call attention to the importance of cannabinoid-opioid interactions within noradrenergic brain circuits such as the coeruleo-cortical pathway.

20. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2795734/>

Forty percent have used cannabis as a substitute for alcohol, 26% as a substitute for illicit drugs and 66% as a substitute for prescription drugs. The most common reasons given for substituting were: less adverse side effects (65%), better symptom management (57%), and less withdrawal potential (34%) with cannabis.

21. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3889953/>

Among adults in primary care who screen positive for any recent illicit or non-medical prescription drug use, we were unable to detect an association between frequency of marijuana use and health, emergency department use, or hospital utilization.

22. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2753886/>

Cannabis also stimulates appetite and has antiemetic, antispasmodic and analgesic effects that have been clinically useful during cancer chemotherapy and wasting syndromes.<sup>64,65</sup> This might be useful in helping relieve the gastrointestinal distress and other physical discomfort associated with opioid withdrawal.

23. <https://www.ncbi.nlm.nih.gov/pubmed/28189912>

Cannabis is perceived to be an effective treatment for diverse conditions, with pain and mental health the most prominent. Findings include high self-reported use of cannabis as a substitute for prescription drugs (63%), particularly pharmaceutical opioids (30%), benzodiazepines (16%), and antidepressants (12%). Patients also reported substituting cannabis for alcohol (25%), cigarettes/tobacco (12%), and illicit drugs (3%).

The finding that patients report its use as a substitute for prescription drugs supports prior research on medical cannabis users; however, this study is the first to specify the classes of prescription drugs for which cannabis it is used as a substitute, and to match this substitution to specific diagnostic categories

24. <https://www.ncbi.nlm.nih.gov/pubmed/28861516>

Respondents overwhelmingly reported that cannabis provided relief on par with their other medications, but without the unwanted side effects. Ninety-seven percent of the sample "strongly agreed/agreed" that they are able to decrease the amount of opiates they consume when they also use cannabis, and 81% "strongly agreed/agreed" that taking cannabis by itself was more effective at treating their condition than taking cannabis with opioids. Results were similar for those using cannabis with nonopioid-based pain medications.

25. <https://www.ncbi.nlm.nih.gov/pubmed/27001005>

Among study participants, medical cannabis use was associated with a 64% decrease in opioid use (n = 118), decreased number and side effects of medications, and an improved quality of life (45%). This study suggests that many CP patients are essentially substituting medical cannabis for opioids and other medications for CP treatment, and finding the benefit and side effect profile of cannabis to be greater than these other classes of medications.

26. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5422566/>

A total of 1,248 (46%) respondents reported using cannabis as a substitute for prescription drugs. The most common classes of drugs substituted were narcotics/opioids (35.8%), anxiolytics/benzodiazepines (13.6%) and antidepressants (12.7%). A total of 2,473 substitutions were reported or approximately two drug substitutions per affirmative respondent. The odds of reporting substituting were 4.59 (95% confidence interval [CI], 3.87–5.43) greater among medical cannabis users compared with non-medical users and 1.66 (95% CI, 1.27–2.16) greater among those reporting use for managing the comorbidities of pain, anxiety and depression. A slightly higher percentage of those who reported substituting resided in states where medical cannabis was legal at the time of the survey (47% vs. 45%,  $p=0.58$ ), but this difference was not statistically significant.

27. Birch EA. The use of Indian hemp in the treatment of chronic chloral and chronic opium poisoning. The Lancet. 1889;133:625.

28. <https://www.ncbi.nlm.nih.gov/pubmed/1663410>

Self-detoxification by Opiate Addicts

Twelve stated that cannabis made withdrawal worse and six that it reduced distress.

29. <http://www.sciencedirect.com/science/article/pii/S0306460301001940>

Self-detoxification attempts among methadone maintenance patients: What methods and what success?

Six reported that cannabis had helped and two that it had made withdrawals worse.

**4. Provide articles published in peer-reviewed scientific journals reporting the results of research on the effects of marihuana on the medical condition or treatment of the medical condition and supporting why the medical condition should be added to the list of debilitating medical conditions under the Medical Marihuana Act. Attach a copy of all articles that are discussed in this section. Please do not attach articles that are not discussed in this section.**

See enclosed.





