



MEDICAL MARIJUANA: POLICY CONSIDERATIONS

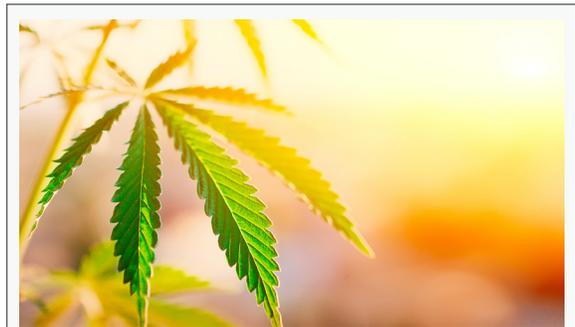
Kansas Among Four States With No Established Program

Introduction

Thirty-four states have legalized marijuana for a broad range of medical purposes. Ten of those states also have legalized recreational use for adults, thereby creating conflicts between state and federal laws in an environment of evolving research regarding therapeutic benefits of medical marijuana and risks to public health.

While the legal conflicts might be new, archaeological evidence demonstrates that marijuana has been used for millennia. In the U.S., marijuana was used for medical purposes through the 18th and early 19th centuries until its restriction with the “Marihuana Tax Act” (sic) of 1937.

Today, marijuana is classified as a Schedule I substance by the U.S. Drug Enforcement Agency (DEA), which limits research on potential therapeutic uses of the plant or its compounds, called cannabinoids. In June 2018, Epidiolex® (cannabidiol, or CBD) oral solution – used to treat rare, severe forms of epilepsy – became the first drug derived from the natural marijuana plant to be approved by the U.S. Food and Drug Administration (FDA). While CBD is a cannabinoid, it is not psychoactive. Previously,



Understanding Marijuana and Cannabis

“Marijuana” refers to the dried leaves, flower, stems and seeds from the *Cannabis sativa* plant.

“Cannabis” is a broad term used to describe products and chemical compounds (such as marijuana or cannabinoids) derived from the *Cannabis sativa* plant.

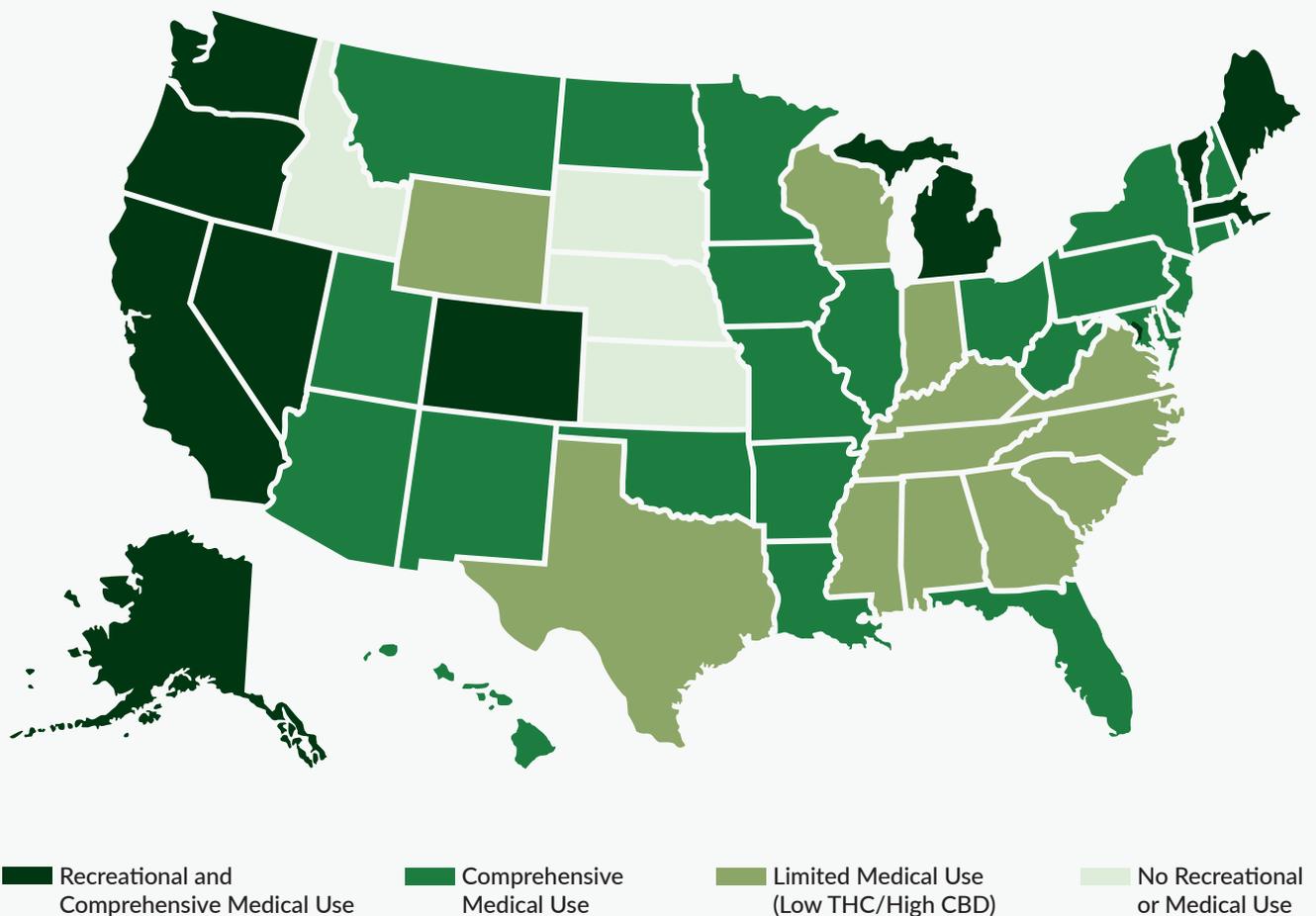
“Tetrahydrocannabinol” or “THC” is the main psychoactive compound in marijuana.

“Cannabidiol” or “CBD” is a compound in marijuana that is not psychoactive. It is the main ingredient of the FDA-approved drug Epidiolex®.

KEY POINTS

- ✓ Only four states, including Kansas, do not permit some form of medical marijuana use.
- ✓ In 2018, the Kansas Legislature excluded cannabidiol (CBD) from the state definition of marijuana, allowing the legal retail sale of CBD products.
- ✓ The strongest evidence of effectiveness of marijuana or its compounds exists for treating chemotherapy-induced nausea, chronic pain and patient-reported spasticity symptoms associated with multiple sclerosis.
- ✓ Among children, rates of marijuana exposures reported to poison control centers in the U.S. have increased significantly in states that have enacted medical marijuana laws.
- ✓ Study results are mixed concerning whether medical marijuana legalization leads to an increase in traffic accidents and fatalities.
- ✓ More research also is needed to determine whether medical marijuana legalization leads to decreased prescription opioid overdose deaths.

Figure 1. State Marijuana Laws, as of November 2018



Note: Guam and Puerto Rico also allow comprehensive medical use. The Commonwealth of the Northern Mariana Islands has legalized recreational use of marijuana without first having legalized medical use of marijuana. (Not included in map.)

Source: Kansas Health Institute analysis of data from the National Conference of State Legislatures, 2019.

the only three cannabinoid-based licensed drugs were synthetic forms of tetrahydrocannabinol (THC) – the main psychoactive compound in marijuana. Marinol® and Syndros® are oral forms of dronabinol and Cesamet® is an oral form of nabilone. All three drugs are used to treat chemotherapy-induced nausea and for increasing appetite in AIDS patients (HIV stage 4).

As research regarding potential health impacts of medical marijuana evolves, this issue brief provides an update to a comprehensive Health Impact Assessment on medical marijuana published by the Kansas Health Institute (KHI) in 2015 (<http://bit.ly/MarijuanaStudy>).

State Marijuana Laws

Thirty-four states, the District of Columbia, Guam and Puerto Rico have legalized comprehensive

medical use of marijuana. These laws provide protection from criminal penalties for medical use, allow broad access through home cultivation or dispensaries, or both, to a variety of strains (including those with high concentrations of THC), and allow smoking or vaping. Ten of these states and the District of Columbia, representing 24 percent of the U.S. population, also have legalized adult recreational use of marijuana, as has the Commonwealth of the Northern Mariana Islands. Twelve additional states have legalized limited medical use of marijuana, with more restrictions on qualifying medical conditions and types of products, including thresholds for THC and CBD concentrations. Idaho, Kansas, Nebraska and South Dakota, representing only 2 percent of the U.S. population, are the only states that have not established medical marijuana programs, although CBD is legal in some form in each (Figure 1).

Kansas Efforts to Legalize Medical Marijuana

Eighteen bills to establish a medical marijuana program have been introduced in Kansas since 2006. Most of the legislation specified qualifying medical conditions, set taxes and fees, and permitted the establishment of dispensaries. While some of these bills established maximum THC concentration, none established limits on CBD concentration. In 2018, Kansas passed legislation excluding CBD from the state definition of marijuana, thereby permitting the legal, retail sale of CBD products with no limits on qualifying medical conditions, age or other restrictions typical in other states. In November 2018, a web-based search identified 128 individual stores in 45 towns or cities in Kansas selling CBD products. Examples of products include tinctures, oral capsules, lotions and edible products such as gummies, chocolates and cookies. Many of these stores also offer online sales.

Therapeutic Effects and Health Risks of Marijuana Use

In 2017, prior to the FDA approval of Epidiolex®, the National Academies of Sciences, Engineering, and Medicine (the National Academies) published a comprehensive study of the medical and scientific literature regarding the health effects of marijuana. This study reported conclusive or substantial evidence of modest therapeutic benefit for the following:

- In adults with chemotherapy-induced nausea and vomiting, oral cannabinoids are effective antiemetics;
- In adults with chronic pain, patients treated with cannabis or cannabinoids are more likely to experience a clinically significant reduction in pain symptoms; and
- In adults with multiple sclerosis (MS)-related spasticity, short-term use of oral cannabinoids improves patient-reported spasticity symptoms.

While the National Academies study found moderate or limited evidence of therapeutic benefit for some other conditions evaluated, firm conclusions could not be made.

The National Academies study also concluded that marijuana use is associated with increased health risks, such as respiratory problems, lower

birth weight in the offspring of women who smoke marijuana during pregnancy, problem marijuana use or other substance dependence, psychosocial impairment and mental health problems.

Impact on Driving under the Influence, Traffic Crashes and Fatalities

The National Academies study and other research have demonstrated that marijuana use impairs driving-related skills and increases the risk of motor vehicle crashes. However, the overall impact on the population is less clear. For example, although the U.S. Department of Transportation, in a 2017 report to Congress, stated that several indicators suggest that a problem exists, the scope and magnitude of marijuana-impaired driving could not be clearly specified.

Furthermore, research examining the impact of marijuana legalization on motor vehicle crashes is limited and findings have been mixed. Some studies have found that marijuana legalization is associated with increased risk of crashes, while others have found that the risk of crashes declines after legalization. Still others found that marijuana legalization has had no impact on crash risks.

It is important to note that this research is challenging because there is no standard to measure marijuana impairment through laboratory testing and no uniformity in defining impairment among law enforcement.



Marijuana-Related Exposures Reported to Poison Control Centers

As additional states have legalized marijuana, concerns about unintentional exposures have increased. Although marijuana and other cannabis products account for a small proportion (less than 1 percent in 2016) of all exposures reported to U.S. poison control centers, exposures among all age groups have increased substantially, from 3,699 in 2006 to 7,497 in 2016. Especially concerning are exposures among children. Many edible marijuana products — such as chocolates, candy or baked goods palatable to young children — might contain high amounts of THC, thereby increasing the risk of acute toxicity. Clinical effects vary substantially, but can be severe, including central nervous system and respiratory problems.

Rates of pediatric marijuana exposures have increased significantly more in states that have legalized medical marijuana than in states that have not. An often-cited national study (Wang et al. 2014) found that rates of marijuana exposures among children less than 9 years of age increased by an average 30.3 percent per year between 2005 and 2011 in states that legalized medical marijuana before 2005. In contrast, rates increased by an average 11.5 percent per year in states that legalized medical marijuana between 2005 and 2011 and an average of 1.5 percent per year in states that did not legalize medical marijuana.

Impact on Opioid Prescribing and Opioid-Related Mortality

While some studies suggest that decreased prescription opioid use and overdose deaths are associated with legalized medical marijuana use, there have been conflicting results. Studies based on self-report surveys among patients generally have shown a strong correlation between medical marijuana use and decreased opiate use, while studies examining the association between opioid prescribing rates

and medical or recreational marijuana use laws have shown moderate impacts. The mechanism by which opioid prescriptions are reduced is unclear. Some studies suggest that medical marijuana augments the analgesic effects of opioids, thereby allowing for a lower dose of opioids. Other studies found that states with operational networks of medical marijuana dispensaries may experience a greater decrease in opioid prescribing than states without these networks. While declines in opioid mortality rates have been observed following the passage of medical marijuana legislation, there has not been enough research to establish a causal relationship.

Conclusions

Policymakers in states considering the legalization of medical marijuana use face a lack of clear evidence of potential therapeutic benefits beyond treating chemotherapy-induced nausea, chronic pain and patient-reported spasticity symptoms associated with multiple sclerosis. They also must consider potential societal risks. Specific concerns have been addressed in other states by establishing a legal limit for marijuana-impaired driving, ensuring a product free of contaminants, requiring packaging that is child-resistant and properly labeled, adding marijuana to existing clean indoor air laws to prevent exposure to secondhand smoke, and conducting prevention/educational programs for adolescents. Furthermore, to improve surveillance and monitoring, several states have incorporated marijuana-related questions into existing population-based surveys and state trauma registries.

If Kansas were to legalize medical marijuana, similar risk-reduction strategies could be considered as part of its program as well. Given the evolving research on potential therapeutic benefits of medical marijuana, Kansas also could consider authorizing an appropriate state agency to specify qualifying conditions for patients through administrative regulations as an alternative to specifying them in statute. The regulatory process could enable more timely revisions in response to new research and growing medical knowledge.

ABOUT THE ISSUE BRIEF

This issue brief is based on work done by D. Charles Hunt, M.P.H.; Tatiana Y. Lin, M.A.; Carlie J. Houchen, M.P.H.; Steve Corbett, Ph.D.; and Madison Hoover, M.S. It is available online at khi.org/policy/article/19-24.

KANSAS HEALTH INSTITUTE

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