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Better Policy Is Needed to Improve Access to Medical Cannabis

By Stacey McKenna

It is critical that cannabis be descheduled at the federal level and that policy changes be implemented at the state level to improve access and choice for patients who require medical cannabis to maintain their quality of life.

Executive Summary

After decades of strict prohibition that ignored cannabis' long therapeutic history, efforts to legalize the plant have been gaining considerable traction in the United States. Although cannabis remains illegal at the federal level, as of December 2022, roughly three-quarters of states have operational, legal markets for medical use. This study draws on interviews with patients who use medical cannabis in four states: California, Colorado, Florida and Virginia. We focused on patients from these states to elucidate how different states' policy environments and the persistent conflict with federal prohibition affect patients' access to medical cannabis in distinct ways.

Study participants reported the following barriers to access: restrictions on purchase and consumption; limited choice of dispensaries and products; and cost. All of these factors were affected to some degree by policies, although the connection between policy and access was often indirect or unintentional.

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For example, expensive licensing fees for medical dispensaries may both driveup the cost of medical cannabis and make it much harder for businesses to operate in the medical market than in emerging recreational adult use markets, potentially reducing the variety of medically oriented products available.

To combat these issues, which stem from overregulation, overtaxation and federal prohibition, we propose the implementation of smart medical cannabis policies that promote a safe, competitive market and facilitate patient choice. We recommend limited taxation; federal descheduling; the approval or protection of delivery and other innovative retail mechanisms; the elimination of too-low caps on purchase and possession; and licensing protections for health care providers who recommend medical cannabis in alignment with state law.

A growing body of evidence supports medical cannabis' therapeutic potential for a number of health issues, including several of the most common qualifying conditions in state-level programs: chronic pain, multiple sclerosis spasticity and nausea.

Introduction

Humans have been using cannabis for thousands of years.[1] The plant is often mentioned in ancient Ayurvedic and Chinese medicine texts and in Western medical publications from the 19th and early 20th centuries.[2] However, political shifts and moral panic during the 1900s led to targeted taxation and widespread prohibition, including the 1970 passage of the Controlled Substances Act, which classified cannabis as a Schedule 1 substance, effectively labeling it as a drug with high potential for abuse and no accepted medical use.[3] The Schedule I classification subjected possession and distribution of cannabis to the highest penalties and also dramatically restricted research and medical studies on the plant.[4]

Despite federal scheduling and the resulting dearth of modern scientific research coming out of the United States, lawmakers and citizens began reconsidering cannabis' therapeutic potential in the 1990s.[5] In the decades since, a veritable medical marijuana industry has boomed across the country. In 2021, U.S. medical sales exceeded $10 billion, and as of February 2022, 37 states, four territories and Washington, D.C. had some type of legal therapeutic cannabis program and more than 5 million Americans were state-legal patients.[6]

Although federal restrictions prevent researchers from using commercially available medical cannabis in randomized controlled trials to test the substance's safety and efficacy, a growing body of evidence supports its therapeutic potential for a number of health issues, including several of the most common qualifying conditions in state-

1. Simona Pisanti and Maurizio Bifulco, "Medical *Cannabis*: A plurimillennial history of an evergreen," *Journal of Cellular Physiology* 234:6 (Nov. 11, 2018), pp. 8342-8351. https://onlinelibrary.wiley.com/doi/abs/10.1002/jcp.27725.
2. Ibid.; Simona Pisanti and Maurizio Bifulco, "Modern History of Medical *Cannabis*: From Widespread Use to Prohibitionism and Back," *Trends in Pharmacological Sciences* 38:3 (Jan. 14, 2017), pp. 195-198. https://www.cell.com/trends/pharmacological-sciences/fulltext/S0165-6147(16)30184-5.
3. Pisanti and Bifulco, "Modern History of Medical *Cannabis*: From Widespread Use to Prohibitionism and Back." https://www.cell.com/trends/pharmacological-sciences/fulltext/S0165-6147(16)30184-5; Lori Moore, "Milestones in U.S. Marijuana Laws," *The New York Times*, last accessed Dec. 12, 2022. https://archive.nytimes.com/www.nytimes.com/interactive/2013/10/27/us/marijuana-legalization-timeline.html#/#time283_8154.
4. German Lopez, "The federal drug scheduling system, explained," *Vox*, Aug. 11, 2016. https://www.vox.com/2014/9/25/6842187/drug-schedule-list-marijuana.
5. Pisanti and Bifulco, "Modern History of Medical *Cannabis*: From Widespread Use to Prohibitionism and Back." https://www.cell.com/trends/pharmacological-sciences/fulltext/S0165-6147(16)30184-5.
6. "U.S. Medical Cannabis Sales Estimates: 2021-26," *MJ Biz Daily*, June 2022. https://mjbizdaily.com/us-cannabis-sales-estimates; "State Medical Cannabis Laws," National Conference of State Legislatures, Nov. 9, 2022. https://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx; "Medical Marijuana Patient Numbers," Marijuana Policy Project, May 27, 2021. https://www.mpp.org/issues/medical-marijuana/state-by-state-medical-marijuana-laws/medical-marijuana-patient-numbers.

level programs: chronic pain, multiple sclerosis spasticity and nausea.[7] In response to the lack of federal guidance and exclusive reliance on state-level regulatory bodies, additional research has emerged highlighting the lack of consistency in the quality and labeling of medical cannabis products across real-world, legal markets.[8] In addition, a handful of studies have analyzed the patchwork of state medical cannabis policies, the ways in which state policies conflict with federal law and the resulting impact.[9]

However, very little research has explored how these diverse policy environments affect patients' experiences in accessing and consuming medical cannabis.[10] The present study builds on existing literature and fills this gap by examining the ways in which medical cannabis patients in four states find their access to these products to be hindered or facilitated by local, state and federal policy.

Methods

We recruited participants via social media and the research team's personal and professional networks and screened interested individuals via email. Eligible individuals were at least 18 years old, had been medical cannabis patients for at least six months and consistently consumed medical cannabis at least twice weekly. In addition, they had to be medical cannabis cardholders (or equivalent) in one of five select states with legal medical cannabis markets. Because we wanted to elucidate the *types* of policy—rather than *exact* policies—that can affect state-legal patients' access to medical cannabis, we purposively identified five states that represented a range of geographic, political, medical-cannabis-policy and legal-recreational-cannabis environments: California, Colorado, Florida, Minnesota and Virginia.

Study Methods:
Participant Screening

Fourteen medical cannabis patients participated in this study. They were from California, Colorado, Florida and Virginia. Despite initially attempting to recruit individuals from Minnesota, we did not receive any qualified participants from that state. Eligible participants engaged in 15- to 45-minute, semistructured interviews conducted over Zoom. These interviews covered demographic information, the process of obtaining a medical cannabis recommendation from a provider, and participants' experiences consuming and accessing medical cannabis. We recorded interviews with participants' permission and had them transcribed via Rev.com's automated transcription service. We then deidentified the transcripts and coded

Study Methods:
Participant Interviews

7. Michelle Sexton et al., "A Cross-Sectional Survey of Medical Cannabis Users: Patterns of Use and Perceived Efficacy," *Cannabis and Cannabinoid Research* 1:1 (June 2, 2016), pp. 131-138. https://www.liebertpub.com/doi/full/10.1089/can.2016.0007; National Academies of Sciences, Engineering, and Medicine, *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research* (National Academies Press, 2017), pp. 85-140. https://nap.nationalacademies.org/read/24625/chapter/1; Kevin F. Boehnke et al., "Qualifying Conditions Of Medical Cannabis License Holders In The United States," *Health Affairs* 38:2 (February 2019). https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2018.05266.
8. Ryan Vandrey et al., "Cannabinoid Dose and Label Accuracy in Edible Medical Cannabis Products," *JAMA* 313:24 (June 23/30, 2015), pp. 2491-2493. https://jamanetwork.com/journals/jama/article-abstract/2338239; Daniel J. Kruger et al., "Requirements for Cannabis Product Labeling by U.S. State," *Cannabis and Cannabinoid Research* 7:2 (April 19, 2022), pp. 156-160. https://www.liebertpub.com/doi/abs/10.1089/can.2020.0079; Mary Catherine Cash et al., "Mapping cannabis potency in medical and recreational programs in the United States," *PLoS One* 15:3 (March 26, 2020). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0230167.
9. Rosalie Liccardo Pacula et al., "Words Can Be Deceiving: A Review of Variation Among Legally Effective Medical Marijuana Laws in the United States," *Journal of Drug Policy Analysis* 7:1 (December 2014), pp. 1-19. https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC4314612&blobtype=pdf; Jennie E. Ryan et al., "Medical Cannabis: Policy, Patients, and Providers," *Policy, Politics, & Nursing Practice* 22:2 (May 2021), pp. 126-133. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8098049.
10. Marion McNabb and D. Steven White, "2019 Veterans Health and Medical Cannabis Study: Massachusetts Preliminary Results," Cannabis Center of Excellence, April 14, 2020. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3743014; "2021 State of the States Report: An Analysis of Medical Cannabis Access in the United States," Americans for Safe Access, last accessed Dec. 12, 2022. https://www.safeaccessnow.org/sos.

them for factors that shaped patients' ability to access and consume medically indicated cannabis. We then organized these codes into a spreadsheet and identified themes across multiple interviews and policy environments.[11] Table 1 outlines key patient characteristics and the medical conditions for which cannabis was indicated.

Table 1: Participant Characteristics

Characteristic	Number	Percent
Gender		
M	10	71.4
F	4	28.6
Age		
18-35	6	42.9
36-44	3	21.4
45-59	3	21.4
60+	2	14.3
Racial/ethnic identity		
Black	3	21.4
Hispanic/Latine	2	14.3
Native American	2	14.3
White	6	42.9
Mixed	1	7.1
State		
California	6	42.9
Colorado	2	14.3
Florida	3	21.4
Virginia	3	21.4
Health condition(s)		
Post-traumatic stress disorder (PTSD)	3	21.4
Anxiety	1	7.1
Gastrointestinal issues	2	14.3
Chronic pain	8	57.1
Epilepsy	2	14.3
Attention-deficit hyperactivity disorder (ADHD)	1	7.1
Arthritis	3	21.4
Insomnia	1	7.1

Patient Challenges in Accessing Medical Cannabis

We categorized the barriers participants reported in accessing medical cannabis into three primary themes: restricted purchase and consumption; limited choice of products and dispensaries; and excessive cost. In some cases, these barriers were the direct result of specific, possibly intentional policies; in other cases, they were unintended consequences of restrictions that were indirectly related to the barrier itself. Very often, several policies interacted with one another in ways that amplified barriers.

Patient Challenges

Restricted Purchase and Consumption

Limited Choice

Costs

11. Alyona Medelyan, "Coding Qualitative Data: How to Code Qualitative Research," Thematic, last accessed June 10, 2022. https://getthematic.com/insights/coding-qualitative-data/#:~:text=What%20is%20Inductive%20Coding%3F,directly%20from%20the%20survey%20responses.

Restricted Purchase and Consumption

Many patients who use medical cannabis do so daily to manage acute symptoms. As a result, they are likely to consume larger overall quantities of cannabis than recreational users and may experience negative physical symptoms if they are unable to access cannabis.[12] For this reason, state, local and federal policies that limit the amount of cannabis that patients can purchase or possess or that impose stipulations on where patients can consume legally purchased products can negatively affect access.

Several participants in this study highlighted the loose limits on cannabis purchase and possession as factors that allow them to consume cannabis as needed, serve as a way to minimize trips to dispensaries (something that can be especially difficult for individuals living with severe health conditions), maximize benefits of cost-saving tools (such as sales or coupons), and ensure a safe and sufficient supply of medication when they are away from home.

Indeed, some study participants living in Colorado and California suggested that access to larger quantities of state-legal medical cannabis can be a benefit of obtaining medical certification. For example, Tomas* in California noted that he feels safer when pulled over by law enforcement officers because California's medical card allows patients to possess an unspecified amount of medical cannabis "consistent with the patient's needs," whereas recreational consumers are limited to 28.5 grams, or about an ounce.[13] Additionally, Barbara* in Colorado—which limits recreational possession to 1 ounce and medical possession to 2 ounces—explained that the additional possession amount permitted with a medical card allows her to purchase enough product to last for two months in one trip to the dispensary.[14]

Conversely, study participants expressed challenges if they lived in states that tightly restrict the amount of different types of product a medical cannabis patient may possess or purchase at one time or how much they can purchase within a specified timeframe. Florida's medical cannabis law, for example, limits patient purchases of smokable cannabis to no more than 2.5 ounces every 35 days.[15] Rick*, who is based in Florida, explained that this restriction sometimes drives him to supplement his regulated medical supply with uncontrolled cannabis from the illicit market: "I'm more of a flower guy, and 2.5 ounces, at 3.5 grams a day [...doesn't] cut it. So, I run out, which leads me to getting it off the streets because the medical doesn't provide enough."[16]

People who use medical cannabis also face travel-related challenges.

Most of the participants in this study recognized that cannabis' federal status as an illegal drug and its varied legality from state to state increased the risk of taking cannabis products with them.

Pseudonyms have been used throughout this paper to protect the identity of study participants.

12. Lewei A. Lin et al., "Comparing adults who use cannabis medically with those who use recreationally: Results from a national sample," *Addictive Behaviors* 61 (October 2016), pp. 99-103. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4915997; Jasmine Turna et al., "Overlapping patterns of recreational and medical cannabis use in a large community sample of cannabis users," *Comprehensive Psychiatry* 102 (October 2020). https://www.sciencedirect.com/science/article/pii/S0010440X20300304.
13. Stacey McKenna interview with "Tomas" (Zoom), July 29, 2022; "California Medical Marijuana Law," NORML, last accessed Nov. 29, 2022. https://norml.org/laws/medical-laws/california-medical-marijuana-law; "California Marijuana Laws," California Cannabis Information, last accessed Nov. 29, 2022. https://californiacannabis.org/laws.
14. Stacey McKenna interview with "Barbara" (Zoom), Aug. 18, 2022; "Colorado Medical Marijuana Law," NORML, last accessed Feb. 8, 2023. https://norml.org/laws/medical-laws/colorado-medical-marijuana-law.
15. "Florida Medical Marijuana Law," NORML, last accessed Nov. 1, 2022. https://norml.org/laws/medical-laws/florida-medical-marijuana-law.
16. Stacey McKenna interview with "Rick" (Zoom), [June 30, 2022].

Consequences of Increased Medical Cannibas Restrictions in Colorado

Colorado recently enacted House Bill 21-1317, a law that caps tetrahydrocannabinol (THC) potency; expands certification requirements for 18- to 20-year-old patients; mandates more thorough physician assessments; and requires providers to make detailed, prescriptive recommendations regarding dosage, product and consumption. Although proponents of the legislation claim it will protect public health, patients and providers have raised concerns. Patients report making more trips to the dispensary to treat the same problems, and some are struggling to find the high-potency products that alleviate their symptoms. In addition, many health care providers have raised prices or stopped offering medical cannabis services due to increased risks to their medical license.[1]

1. Thomas Mitchell, "Colorado Lawmakers Approve New Rules Tightening Medical Marijuana Access," *Westword*, June 8, 2021. https://www.westword.com/marijuana/colorado-lawmakers-medical-marijuana-cannbis-restrictions-pass-11990142; Stephen K. Hirst, "New regulations for medical marijuana are making life harder for patients," *Colorado Springs Indy*, March 30, 2022. https://www.csindy.com/news/new-regulations-for-medical-marijuana-are-making-life-harder-for-patients/article_0d894bb8-af81-11ec-ae08-e71421ead5a1.html.

In addition to issues with purchase and possession limits, people who use medical cannabis also have travel-related challenges to navigate. Most of the participants in this study recognized that cannabis' federal status as an illegal drug and its varied legality from state to state increased the risk of taking cannabis products with them when traveling out of state. For some, fear of criminalization led them to temporarily stop using cannabis when traveling. Martin*, for example, said:

> It might be recognized in California that I can use it medicinally, but […] other countries and different […] states […] don't recognize it the same way. So, a lot of the time, I'll just abstain from bringing it, you know? Because it's just not worth it. I'd love for it to get to the point where there could be traveling accommodations for people.[17]

Others acknowledged the risk but felt that their personal risk was low (often due to race, age or gender) or their need for medicinal cannabis made the risk worthwhile. Two participants—both of whom were older white women who preferred edibles and vapes over flower—reported a willingness to travel with their cannabis, even on a plane. Margaret* explained: "There's no risk bringing it on a plane as long as it's not bud. […] It's completely sealed, and it can't be smelled, […so] I bring my vapes and my tincture."[18]

The above examples illustrate that restrictions on the purchase and possession of medical cannabis have the unintended consequence of forcing some patients to choose between suboptimal management of their approved condition and engagement with the illegal market. This contradicts the programs' intention to provide approved participants with access to a safe, regulated, well-labeled supply of the drug.

Limited Choice

Although policy environments varied substantially across the states included in this study, individuals from each state expressed challenges related to choice, both in where they could purchase medical cannabis and what products were available for purchase.

The vast majority of states that allow medical cannabis consumption have built a system of regulated retail locations, known as dispensaries. However, dispensary access is not the same across or even within states (Table 2). For example, in 2021, Colorado (with 87,196 registered patients) had more than 450 medical cannabis dispensaries, Virginia (with 32,950 registered patients) had only five and Florida (with 607,132 registered patients) had 371.[19]

17. Stacey McKenna interview with "Martín" (Zoom), July 27, 2022.
18. Stacey McKenna interview with "Margaret" (Zoom), July 13, 2022.
19. "2021 State of the States Report: An Analysis of Medical Cannabis Access in the United States." https://www.safeaccessnow.org/sos.

Table 2: Ratio of Medical Cannabis Patients to Dispensaries by State

State	Number of Medical Dispensaries	Patients Per Dispensaries
Alabama	0	N/A
Alaska	93	4
Arizona	130	2,126
Arkansas	33	2,407
California	650	1,944
Colorado	466	187
Connecticut	18	3,001
Delaware	6	2,749
District of Columbia	7	1,674
Florida	371	1,636
Georgia	0	N/A
Hawaii	13	2,275
Idaho	0	N/A
Illinois	55	2,482
Indiana	0	N/A
Iowa	0	N/A
Kansas	0	N/A
Kentucky	0	N/A
Louisiana	9	483
Maine	430	223
Maryland	103	1,216
Massachusetts	136	634
Michigan	291	829
Minnesota	13	3,999
Mississippi	0	N/A
Missouri	3	22,740
Montana	355	98
Nebraska	0	N/A
Nevada	68	215
New Hampshire	4	2,672
New Jersey	22	5,351
New Mexico	117	1,104
New York	38	3,977
North Carolina	0	N/A
North Dakota	8	861
Ohio	56	2,239
Oklahoma	2,519	153
Oregon	447	50
Pennsylvania	143	2,403
Rhode Island	3	6,601
South Carolina	0	N/A
South Dakota	0	N/A
Tennessee	0	N/A
Texas	2	N/A
Utah	3	2,504
Vermont	5	1,059
Virginia	5	6,590
Washington	157	70
West Virginia	2	1,075
Wisconsin	0	N/A
Wyoming	0	N/A

Clearly, the number of dispensaries in a state can impact patient access to medical cannabis, especially in states with fewer dispensaries. However, the location of the dispensaries and their ability to cater to the specific needs of their customers are also

important factors. We observed this in comments from our study participants. Even though a comprehensive, state-based report assessed three of the four states included in our study—California, Colorado and Florida—as having a reasonable number of dispensaries for the number of medical cannabis patients, study participants from each of those states still mentioned dispensary-related access challenges.[20]

Protecting Medical Access

In 2022, the California legislature passed the Medicinal Cannabis Patients' Right of Access Act in an effort to "stop cities from banning medicinal cannabis."[1] The law requires cities and counties to permit the delivery of medical cannabis to patients and caregivers within their jurisdictions.[2]

1. "Senator Wiener's Legislation to Stop Cities from Banning Medicinal Cannabis Passes Assembly Business and Professions Committee," Scott Wiener Representing Senate District 11, last accessed Dec. 12, 2022. https://sd11.senate.ca.gov/news/20220622-senator-wiener%E2%80%99s-legislation-stop-cities-banning-medicinal-cannabis-passes-assembly.
2. California Senate Bill No. 1186, Sept. 18, 2022. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB1186.

As Donna* from California explained, when she first started using medical cannabis, "the closest dispensary was an hour away, […] so I would have to drive in pain an hour away, or get somebody to drive me an hour away."[21] This type of geographic barrier can result from policy that treats medical cannabis dispensaries more like alcohol retailers than pharmacies, imposing zoning restrictions that cause the outlets to cluster in low-income and industrial areas.[22] For example, California's medical cannabis law—which dates back to 1996—has long permitted local jurisdictions to ban "any and all" cannabis sales, including medical cannabis.[23]

Additionally, even if a medical cannabis patient has a dispensary within a reasonable distance, it may not suit that patient's specific needs. For example, some evidence suggests that medical cannabis dispensaries often specialize in certain types of products, and customers must sometimes drive greater distances to access the specific products they prefer.[24] In other instances, a lack of competition leaves patients with few options. Sean* shared of his experience in Florida, "[t]here's not a lot of choice down here in dispensaries. There's some opening up, but there's a couple of main companies that run them all."[25]

Even if a medical cannabis patient has a dispensary within a reasonable distance, it may not suit that patient's specific needs.

Indeed, in Florida, Virginia and a number of other states, the vast majority of dispensaries are run by just a handful of companies.[26] The limited number of independent businesses is often the result of state policies that make running a medical cannabis business prohibitively expensive for startups.[27] Costly and intensive regulatory schemes especially limit opportunities for potential entrepreneurs who

20. Ibid.
21. Stacey McKenna interview with "Donna" (Zoom), July 14, 2022.
22. Yuyan Shi et al., "Availability of Medical and Recreational Marijuana Stores and Neighborhood Characteristics in Colorado," *Journal of Addiction* 2016 (April 24, 2016). http://dx.doi.org/10.1155/2016/7193740; Solmaz Amiri et al., "Availability of licensed cannabis businesses in relation to area deprivation in Washington state: A spatiotemporal analysis of cannabis business presence between 2014 and 2017," *Drug and Alcohol Review* 38 (November 2019), pp. 790-797. https://onlinelibrary.wiley.com/doi/abs/10.1111/dar.12987; Chris Morrison et al., "The economic geography of medical marijuana dispensaries in California," *International Journal of Drug Policy* 25:3 (May 2014), pp. 508-515. https://www.sciencedirect.com/science/article/abs/pii/S0955395913002387.
23. Melissa Schiller, "Bill to Prohibit California Municipalities From Banning Medical Cannabis Access Passes Senate Committee," *Cannabis Business Times*, April 25, 2022. https://www.cannabisbusinesstimes.com/article/bill-to-prohibit-california-municipalities-from-bannins-medical-cannabis-access-passes-senate-committee.
24. Alexis Cooke et al., "Examination of Market Segmentation among Medical Marijuana Dispensaries," *Substance Use and Misuse* 53:9 (July 29, 2018), pp. 1463-1467. https://pubmed.ncbi.nlm.nih.gov/29303392.
25. Stacey McKenna interview with "Sean" (Zoom), July 1, 2022.
26. Andrew Long, "A look at Trulieve's dominant presence in Florida's medical marijuana market," *MJ Biz Daily*, Sept. 22, 2022. https://mjbizdaily.com/a-look-at-trulieves-dominant-presence-in-florida-medical-marijuana-market; Ben Paviour, "Advocates warn of weed 'oligopoly' as Virginia looks to speed up sales," *VPM News*, Feb. 9, 2022. https://vpm.org/news/articles/29587/advocates-warn-of-weed-oligopoly-as-virginia-looks-to-speed-up-sales.
27. Ibid.

have been disproportionately affected by cannabis prohibition—particularly low-income and Black Americans.

James* in Colorado expressed concern that the state's medical dispensaries may be on the decline now that the state has legalized adult recreational use of cannabis:

> I do know there are multiple medical dispensaries that have stopped being medical dispensaries that I've gone to in the past. So access to [medical dispensaries] in certain areas has gone down. I had a long conversation with someone at a dispensary when they had just stopped [selling medical cannabis], and the manager said it's not worth it for them to take up this space in the building anymore because not enough people show up for it. The legalities of it are just too painful to deal with. And now that they can sell recreationally, they don't really care.[28]

Number of Medical Dispensaries Is Declining

A 2021 report indicated that, in several states, the cost of operating a medical dispensary exceeds that of running an adult-use cannabis business, effectively giving preference to recreational markets.

In fact, a 2021 report indicated that, in several states—including both Colorado and California—the economic, administrative and regulatory cost of operating a medical dispensary exceeds that of running an adult use cannabis business, effectively giving preference to recreational markets.[29] A range of progressive and free-market-oriented advocates have also raised concerns that, in an effort to facilitate its emerging adult-use market, Virginia law may be unintentionally privileging a handful of larger, well-funded companies over smaller startups.[30] A look at the United States' broader health care marketplace demonstrates that such financial, administrative and regulatory burdens can lead to anticompetitive behavior, increased patient cost and diminished quality of care.[31]

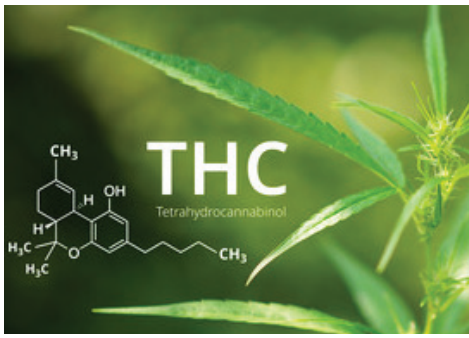
Additionally, beyond issues of limited access to dispensaries, medical cannabis patients also experience issues related to limited choice in the types of products available. THC and cannabidiol (CBD) are the most commonly cited active components of cannabis, and both have been found to have therapeutic effects.[32] In addition, the plant has hundreds of other cannabinoids and terpenes, many of which are also believed to have medicinal potential.[33] Advocates and scientists posit that cannabis is most effective when this complexity is exploited and the plant is either consumed "intact" or multiple cannabinoids and terpenes are included in a single product.[34] This complexity may also explain the highly individualized effects of cannabis on individual users that can lead patients to seek out specific cannabinoid and terpene profiles to maximize benefits and minimize undesirable side effects such as an unwanted "high."[35] Although high-THC cannabis strains are sometimes preferred by patients suffering from certain conditions—including cancer, HIV/AIDS and chronic

28. Stacey McKenna interview with "James" (Zoom), Aug. 17, 2022.
29. "2021 State of the States Report: An Analysis of Medical Cannabis Access in the United States." https://www.safeaccessnow.org/sos.
30. Paviour. https://vpm.org/news/articles/29587/advocates-warn-of-weed-oligopoly-as-virginia-looks-to-speed-up-sales.
31. Martin Gaynor et al., "Making Health Care Markets Work: Competition Policy for Health Care," *JAMA* 317:13 (April 4, 2017), pp. 1313-1314. https://jamanetwork.com/journals/jama/article-abstract/2607819.
32. Zerrin Atakan, "Cannabis, a complex plant: different compounds and different effects on individuals," *Therapeutic Advances in Psychopharmacology* 2:6 (December 2012), pp. 241-254. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3736954; Mohamed Ben Amar, "Cannabinoids in medicine: A review of their therapeutic potential," *Journal of Ethnopharmacology* 105:1-2 (April 2006), pp. 1-25. https://www.sciencedirect.com/science/article/abs/pii/S0378874106000821; Sarah S. Stith et al., "The Association between Cannabis Product Characteristics and Symptom Relief," *Scientific Reports* 9:2712 (Feb. 25, 2019). https://www.nature.com/articles/s41598-019-39462-1; Barbara Darš et al., "Cannabinoids in cancer treatment: Therapeutic potential and legislation," *Bosnian Journal of Basic Medical Sciences* 19:1 (February 2019), pp. 14-23. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6387667.
33. Ibid.
34. Sari Goldstein Ferber et al., "The 'Entourage Effect': Terpenes Coupled with Cannabinoids for the Treatment of Mood Disorders and Anxiety Disorders," *Current Neuropharmacology* 18:2 (February 2020), pp. 87-96. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7324885.
35. Atakan. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3736954; Jennifer Baumbusch et al., "Exploring New Use of Cannabis among Older Adults," *Clinical Gerontologist* 44:1 (March 29, 2021), pp. 25-31. https://www.tandfonline.com/doi/abs/10.1080/07317115.2020.1746720; Erwin Krediet et al., "Experiences with medical cannabis in the treatment of veterans with PTSD: Results from a focus group discussion," *European Neuropsychopharmacology* 36 (July 2020), pp. 244-254. https://www.sciencedirect.com/science/article/pii/S0924977X20301280.

pain—others actively seek out alternatives with lower levels of THC alongside more diverse cannabinoids and terpenes.[36]

This bore out in our research, as several participants in this study expressed dismay about the dominance of high-THC products in the medical market, noting that it leaves little selection for individuals seeking other therapeutic compounds. Erik*, who lives in Virginia, explained, "[dispensaries] don't really listen when patients ask for certain strains or to treat certain problems. Like a certain high-CBD strain, like ACDC or Charlotte's Web, you won't see that around very much. And it's just sad for patients that are there for more than just the THC."[37] Martin*, from California, noted that Harley Quinn, a high-CBD strain reputed to work well for chronic pain, could be especially hard to come by, perhaps because the state's shops do double duty supplying the recreational market, "I think Harley Quinn was hard to find because it was such a high CBD content that it was at the expense of the THC content […] I was seeking this more specifically for pain management […] I could see how your average person or your recreational user wouldn't want […] a lower-THC-level cannabis."[38] Experiences like these highlight the challenges that medical cannabis patients face when seeking therapeutic products within the wider market.

High-THC Products Aren't Always the Answer



"[Dispensaries] don't really listen when patients ask for certain strains or to treat certain problems. And it's just sad for patients that are there for more than just the THC."

Product research supports our participants' experiences, finding that the cannabis available in medical shops has similar THC levels to that found in recreational shops, although the reason for this lack of variety is unclear.[39] Some participants speculated that this limited selection may be the result of cannabis cultivators, manufacturers, wholesalers and retailers opting to make and sell products for the more profitable recreational market. However, participants in this study experienced these challenges, regardless of whether they lived in states with medical markets only or those with active recreational markets as well.

Cost

The typical medical cannabis consumer is wealthier and better insured than the average person.[40] Nonetheless, the cost of medical cannabis was the most prominent concern raised by participants in this study, with nearly every interviewee citing it as an issue. One participant said that he spends as much as $200 per week on medical cannabis. Others reported spending more than $200 per month. This is consistent with larger surveys, which indicate that the average medical cannabis patient spends more than $300 per month on product.[41]

Even though study participants were generally able to afford their monthly medical cannabis expenses, most had experienced challenges at some point related to

Patient Challenges
Restricted Purchase and Consumption
Limited Choice
Costs

36. Sarah D. Pennypacker et al., "Potency and Therapeutic THC and CBD Ratios: U.S. Cannabis Markets Overshoot," *Frontiers in Pharmacology* 13 (June 6, 2022). https://www.frontiersin.org/articles/10.3389/fphar.2022.921493/full; Alexandra F. Kritikos and Rosalie Liccardo Pacula, "Characterization of Cannabis Products Purchased for Medical Use in New York State," *JAMA Network Open* 5:8 (Aug. 19, 2022). https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2795415.
37. Stacey McKenna interview with "Erik" (Zoom), July 7, 2022.
38. Stacey McKenna interview with "Martin" (Zoom), July 27, 2022.
39. Cash et al. https://doi.org/10.1371/journal.pone.0230167.
40. Celina I. Valencia et al., "Structural barriers in access to medical marijuana in the USA—a systematic review protocol," *Systematic Reviews* 6:154 (Aug. 7, 2017). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5547531; Julia Arnsten, "Access to medical cannabis: a new health disparity," *STAT News*, May 30, 2019. https://www.statnews.com/2019/05/30/medical-marijuana-health-care-disparity.
41. McNabb et al. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3743014; Bill Brown and Yoko McCarthy, *Report on Medical Cannabis Price Study*, Version 1.2, Minnesota Department of Health Office of Medical Cannabis, Aug. 11, 2021, p. 27. https://www.health.state.mn.us/people/cannabis/docs/rulemaking/pricereport.pdf.

the cost. Martin* explained, "there have been times when I wasn't doing so great financially and I just couldn't afford cannabis."[42]

One contributing factor to the cost of medical cannabis is taxation, although its impact is not consistent from state to state. Some states exempt medical cannabis patients from all taxes, but many programs tax the products at some level (Table 3).[43] In addition, steep costs that are often associated with strict operational licensing and product regulation not only push out small businesses, but may also be passed on to consumers.[44]

Table 3: Medical Cannabis Taxes in Study States

Tax Type	California	Colorado	Florida	Virginia
Excise Tax	$9.25/ounce on flower; 15% general	Exempt	Exempt	Exempt
State Sales Tax	Exempt	2.9%	6%	Exempt
Local Sales Tax	1%-15%	Variable	Variable	Exempt

Max Savage Levenson, "Marijuana tax rates: a state-by-state guide," *Leafly*, May 10, 2022. https://www.leafly.com/news/industry/marijuana-tax-rates-by-state; "Medical Marijuana Dispensary Laws: Fees and Taxes," *Marijuana Policy Project*, last accessed Nov. 1, 2022. https://www.mpp.org/issues/medical-marijuana/medical-marijuana-dispensary-laws-fees-and-taxes; "Marijuana Taxes," Colorado General Assembly, last accessed Nov. 29, 2022. https://leg.colorado.gov/agencies/legislative-council-staff/marijuana-taxes%C2%A0#:~:text=Medical%20marijuana%20is%20subject%20to,is%20subject%20to%20TABOR's%20limits.

The expense is exacerbated by the fact that insurance coverage for medical cannabis is almost nonexistent, and only a handful of states have donation programs or hardship waivers.[45] For several participants in this study, the high cost of medical cannabis was especially irksome compared to the low cost of pharmaceuticals they had eschewed for the plant. For example, Charles* in California noted, "I used to be on like seven, eight psychiatric medications at one time. And I didn't have to pay basically anything, maybe less than $5 for all. But [cannabis], I need to pay $80 for one delivery."[46]

In addition to the absolute cost of cannabis products, restrictions on sales can prevent patients from taking advantage of cost-saving measures. For example, as mentioned above, Florida limits the amount of product that patients can purchase within a 35-day period. Rick* explained, "[b]ecause I smoke so much, I buy mine on sale, so when it goes on sale, I would go spend my two and a half ounces all at once and come home with my stuff. But now I can't do that."[47]

These experiences demonstrate how the retail price of medical cannabis, the drug's legal status and restrictions on purchase amounts intersect in ways that result in high out-of-pocket costs for consumers. This hindered the ability of some of our study participants to meet their treatment needs and potentially excluded others from participating in state-approved medical cannabis programs.

Policy change is needed.

The high price of medical cannabis, its legal status and restrictions on purchase amounts hindered the ability of some study participants to meet their treatment needs and potentially excluded others from participating in state-approved medical cannabis programs.

42. Stacey McKenna interview with "Martin" (Zoom), July 27, 2022.
43. "Medical Marijuana Dispensary Laws: Fees and Taxes," Marijuana Policy Project, last accessed Nov. 1, 2022. https://www.mpp.org/issues/medical-marijuana/medical-marijuana-dispensary-laws-fees-and-taxes; Max Savage Levenson, "Marijuana tax rates: a state-by-state guide," *Leafly*, March 15, 2021. https://www.leafly.com/news/industry/marijuana-tax-rates-by-state.
44. Paviour. https://vpm.org/news/articles/29587/advocates-warn-of-weed-oligopoly-as-virginia-looks-to-speed-up-sales; Jeffrey Miron and Pedro Aldighieri, "Regulation and Taxes Are Stifling California's Weed Industry," Cato at Liberty, Nov. 3, 2021. https://www.cato.org/blog/regulation-taxes-are-stifling-californias-weed-industry#:~:text=Even%20though%20California%20legalized%20the,government%20opposition%2C%20and%20burdensome%20regulation.
45. "2021 State of the States Report: An Analysis of Medical Cannabis Access in the United States." https://www.safeaccessnow.org/sos; Celina I. Valencia et al. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5547531.
46. Stacey McKenna interview with "Charles" (Zoom), July 25, 2022.
47. Stacey McKenna interview with "Rick" (Zoom), June 30, 2022.

Policy Recommendations to Improve Access

State regulations, emerging adult-use markets and the federal Schedule 1 status of cannabis intersect to affect patient access to medical cannabis in nuanced and complex ways. Our policy recommendations to reduce these challenges and improve access are as follows:

- **IMPROVE AFFORDABILITY**
  States can make cannabis more affordable by removing or reducing excise and other taxes on medical cannabis; facilitating "donation" programs or need-based waivers and discounts; and incorporating medical cannabis into state-based insurance programs.

- **DESCHEDULE CANNABIS AT THE FEDERAL LEVEL**
  Federal descheduling of cannabis could open financial doors for a more diverse mix of potential producers, wholesalers and retailers. Descheduling could also help reduce the risk of transporting medical cannabis between states where it is legal.

- **IMPROVE ACCESS**
  States can protect patient access to medical cannabis by permitting brick-and-mortar dispensaries and delivery services without requiring local approval. Local jurisdictions can promote broader access by regulating zoning requirements for medical dispensaries similarly to pharmacies.

- **INCREASE PURCHASE AND POSSESSION LIMITS**
  States should set high monthly purchase or possession limits of no less than 5 ounces and allow provider recommendations to override these limits.

- **REVIEW LICENSING REGULATIONS**
  Provider licensing regulations should evolve—aligned with federal descheduling—to protect providers who make specific recommendations for their patients' consumption of medical cannabis.

Conclusion

In the last three decades, public and scientific acceptance of medical cannabis has expanded, and more than three dozen states have created legal medical cannabis programs. Nonetheless, medications are not always easily accessible to patients. Drawing on interviews with patients from California, Colorado, Florida and Virginia, this policy paper highlights how overregulation and taxation limit product and dispensary choice, restrict geographic accessibility and drive up costs. Smart, equitable policy recommendations can reduce these barriers for patients—many of whom use medical cannabis to manage debilitating symptoms of chronic and terminal conditions. It is therefore critical that cannabis be descheduled at the federal level and that policy changes be implemented at the state level to improve access and choice for patients who require medical cannabis to maintain their quality of life.

About the Author

Stacey McKenna is a resident senior fellow in the R Street Institute's Integrated Harm Reduction Program.