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As More States Legalize Marijuana, Economics Comes into Play

KEY TAKEAWAYS

- More states are legalizing marijuana for medical or recreational use, and this movement has created a patchwork of laws and policies on how the drug is treated.
- Among the states that allow the medical use of marijuana, laws can vary greatly in terms of the medical conditions that can be treated by the drug.
- Policymakers face complex decisions on how to regulate marijuana. For example, the goal of maximizing revenue may conflict with the goal of reducing recreational use.





PRINT FRIENDLY VERSION

By Charles S. Gascon

Monday, May 18, 2020

The topic of marijuana (cannabis) legalization moved into headlines following Colorado's and Washington's decisions to permit recreational use of the drug in 2012. Yet, these changes reflect nearly 50 years of evolution in drug policy. 1

The relaxation of state laws on the possession and use of marijuana can be traced back to 1973, when Oregon became the first state to decriminalize the possession of modest quantities of marijuana, with a maximum penalty of a \$100 fine. Then, in 1996, California approved marijuana usage for medical purposes. As of January 2020, about half of the states and numerous local jurisdictions have decriminalized possession to varying degrees, and 33 states currently have policies that allow patients to use marijuana if they qualify based on their medical diagnosis. ²

Data for recreational-use states do indicate growth in legal sales and use. For example, in Colorado, monthly recreational sales were between \$10 million and \$20 million in early 2012; these sales have stabilized to around \$90 million per month in 2018, or around \$1 billion per year (just under \$200 per person per year). Reported marijuana usage by adults in Colorado rose from 10.4% in 2011-12 to 18.1% by 2017-18.4

Notable increases in usage after legalization are also evident in Washington and Oregon; in fact, Oregon had the second highest usage rate in the country in 2017-18, with 20% of adults using marijuana at least one time in the past month. In contrast, national usage has been only slowly increasing, up from 7.1% in 2011-12 to 9.8% in 2017-18. Longer-term trends indicate that *daily* marijuana use by all adults has remained relatively stable and at low levels since 2000; some subgroupings put daily rates at below 3%.

A Closer Look at the Eighth District States

Marijuana is treated differently among the seven states that are part of the Eighth Federal Reserve District: 5

- Three states (Illinois, Missouri and Mississippi) have decriminalized personal possession of marijuana to some degree.
- Three states (Arkansas, Illinois and Missouri) currently have or will have medical marijuana programs in 2020.
- Illinois has allowed sales of marijuana for recreational use.
- Three states (Indiana, Kentucky and Tennessee) continue to criminalize all possession of marijuana.

Adult marijuana use across these seven states is near or below the national average, with 2016-17 estimates ranging from 7.9% in Kentucky to 9.6% in Indiana.

On Jan. 1, 2020, Illinois became the first state in the Eighth District to allow the sale of marijuana for recreational use. January sales reached just under \$41 million. Assuming no growth in sales, annually this is \$480 million, or about \$12 per capita. The Colorado experience suggests sales are likely to exceed this amount, assuming adequate supply.

The year 2020 also marked the addition of Missouri as a state allowing sales of medical marijuana. The table below summarizes key statistics of the medical markets in the three District states that allow these sales; it provides a snapshot of the supply and demand in the market in each respective state. Assuming similar demographics and medical needs in these states, varying state policies explain the different outcomes.

State	First Year of Medical Marijuana	Initial Number of Patients	Current Number of Patients	Number of Licensed Dispensaries in Operation	Average Number of Patients per Dispensary in Operation
Illinois	2015	2,663	76,939	55	1,399
Arkansas	2017	5,459	15,466	6	2,578
Missouri (estimate)	2020	21,000*	[46,319; 128,070**]	192	[241; 667]

^{*} Reported number of preregistered patients

NOTES: Arkansas has 32 licensed dispensaries, but only six are operating. The Missouri figure for licensed dispensaries in operation assumes every approved license applicant will operate a dispensary.

SOURCES: Arkansas Department of Health, 2019; Illinois Department of Public Health, 2019; Haslag, Crader and Balossi; and author's calculations.

Initial patient enrollment in Illinois (2,663) and Arkansas (5,459) has steadily increased over time and at similar growth rates. Although Arkansas' population is only a quarter of the population of Illinois, initial enrollment was more than twice as high. In contrast, initial reports for Missouri (with a population around half of Illinois') indicated that over 21,000 patient cards were issued in 2019, well before the program came into effect. 6

One reason for different enrollment rates is the differences in qualifying medical conditions among these states. For example, post-traumatic stress disorder (PTSD) was the top condition

^{**} The lower-bound estimate is based on the average share of population registered as patients (0.8%) across all U.S. states where medical marijuana is legal, and the higher-bound estimate is based on the maximum share in any state, which is Colorado at 2.1%.

of qualifying patients for medical marijuana in Illinois at over 20% in 2019. In Arkansas, intractable pain, which is not included in the Illinois program, is the top qualifying condition at over 30%, whereas PTSD was reported by only 12% of qualifying patients. In Missouri, the list of qualifying conditions appears to be broader than for both Illinois and Arkansas by including:

- "a chronic medical condition that is normally treated with prescription medication that could lead to physical or psychological dependence" and
- "in the professional judgment of a physician, any other chronic, debilitating or other medical condition."

State governments are also responsible for determining the supply in the market and approving facilities to grow, produce and dispense marijuana to patients. Missouri has licensed many more dispensaries than both Illinois and Arkansas, meaning Missouri will maintain a system with the fewest patients per dispensary when they start operating this year. Fewer patients per dispensary could result in smaller establishments with lower revenue per store or, if fixed costs are high enough, some licensed dispensaries deciding not to operate. For example, in Arkansas, only six of the 32 licensed dispensaries are in operation because of a range of regulatory and market challenges.

Do Policies Align with Economic Theory?

While public discourse surrounding the legalization of marijuana often revolves around perceptions toward recreational drug use, an economic argument supporting (or opposing) legalization can be made regardless of one's moral standing on use.

The medical use of marijuana raises the question of potential medical benefits and costs. One could view any drug from the same lens by asking, do the potential benefits from appropriate use of the drug outweigh the costs or risk of abuse? What makes the medical marijuana market unique to those of other drugs (e.g., prescription narcotics) is how it is treated by policymakers. For example, states typically do not subject prescription drugs to state sales taxes, while medical marijuana has been subjected to both state sales and excise taxes. Therefore, medical marijuana is taxed more like alcohol or tobacco than a medical drug.

The recreational use of any drug may create social costs, such as long-term health problems, injuries, accidents, unemployment, vagrancy and crime. As a result of these social costs, the free-market price is likely too low and therefore consumption is too high. Policymakers can attempt to solve this problem in two ways: first is criminal enforcement, which increases the cost of supplying drugs, reducing supply in the market and subsequently pushing up prices. Second is taxation on purchases, which reduces the quantity demanded in the market by increasing the price. In theory, both policies could achieve the same outcome of reducing drug use to a socially optimal level.

Policymakers face the difficult task of taking this theory to practice. Enforcement requires determining the most efficient techniques and the severity of penalization. Policymakers must also account for the adverse consequences of incarceration. On the other hand, taxation requires determining the optimal tax rate, which may vary for different types of consumers. Again, there may be a cost of enforcing this tax on those who seek to avoid payment. For both policies, the main challenge is determining the social cost of drug use, which ultimately determines the degree of necessary enforcement or taxation.

Conclusions

Research is still needed to understand the economic impact of recent state policy changes, and differences across states provide researchers with many real-world "experiments" to study.



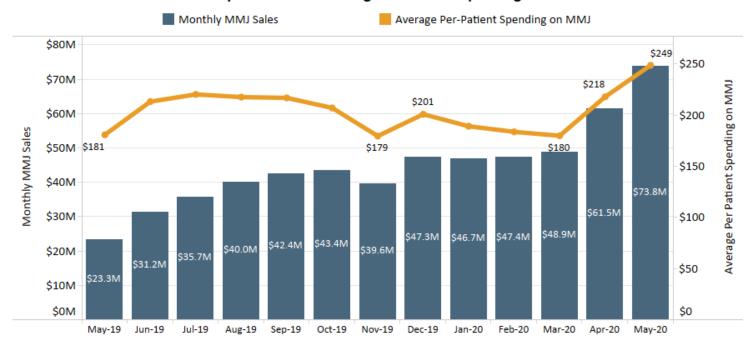
Chart: Medical marijuana sales in Oklahoma near \$300 million in first five months of 2020

Published June 9, 2020 I By Eli McVey





Oklahoma Medical Cannabis Market Overview: Monthly MMJ Sales & Average Per-Patient Spending on MMJ



Source: Oklahoma Tax Commission, Oklahoma Medical Marijuana Authority
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Already one of the largest and fastest-growing markets in the country, Oklahoma's medical marijuana industry broke sales records in both April and May as consumers stocked up on products amid the coronavirus pandemic.

In April, sales in Oklahoma shot up to \$61.5 million, a 21% increase from March.

Sales rose again in May to reach nearly \$74 million – a monthly figure that far exceeds that of adult-use markets in Illinois, Massachusetts, Michigan and Nevada.

With more than \$275 million in MMJ sales in 2020 to date, Oklahoma's market could easily eclipse \$700 million by the end of the year – in the same ballpark as more populous states such as Arizona and Florida.

Patients continued to enroll in Oklahoma's medical cannabis program throughout the <u>COVID-19 crisis</u> – rising from roughly 272,000 in March to 297,000 by the end of May – though the recent monthly sales gains were driven by additional spending from existing patients.

For the first three months of 2020, the average patient spent \$184 on medical cannabis products. In May, the average spend was \$249, a 35% increase.

Oklahoma declared medical marijuana businesses as essential during the pandemic, allowing dispensaries to provide curbside-pickup services to patients.

Generally speaking, when retailers and dispensaries allow customers and patients to order online or call ahead before coming to the store to pick up products, average order sizes increase.

What remains to be seen is how these per-patient spending figures will fare in the coming months.

If patients are consuming more during the pandemic and that trend persists, sales likely will remain higher than their pre-pandemic levels.

But patients might have been stocking up in April and May for many reasons – such as limiting the number of trips to the dispensary or ensuring they had enough product on-hand in the event of a supply shortage.

If consumption habits haven't meaningfully changed, it's likely that many patients will curb their spending on medical marijuana and monthly sales will pull back.

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ABOUT US

Growing like a weed: Oklahoma's medical marijuana taxes this year already nearly 1.5 times the amount in all of 2019

Samantha Vicent Sep 4, 2020



Medical marijuana tax revenue in 2020 already is about 1.5 times the amount collected in 2019, according to statistics from the Oklahoma Tax Commission and the Oklahoma Medical Marijuana Authority.

IAN MAULE, Tulsa World file

ollections of excise taxes from Oklahoma medical marijuana sales in August showed a nominal increase in revenue from the amount in July, but tax revenue so far this year already far surpasses what the state received in 2019.

The Oklahoma Medical Marijuana Authority on Thursday released a **tax revenue report** indicating that total state and local tax collections from January through July — as well as collections of the 7% excise tax outlined in State Question 788 — exceeded \$80 million. The amount is already nearly 1.5 times the amount taken in on cannabis sales last year.

A Tax Commission spokeswoman has previously said the agency **interpreted** the 7% tax in SQ 788 as a gross receipts, or excise, tax and advised businesses to collect it along with the 4.5% state sales tax and any state or local sales tax. The amount of that tax collected in August alone is about \$5.75 million, or **5% more** than the amount received in excise taxes in July, **according to the Tax Commission.**

So far in 2020, more than \$45 million in tax proceeds from medical marijuana sales have gone to state and local entities, the Tax Commission said Wednesday. It said those entities **include** the OMMA for operating costs, the state's general revenue fund, and a drug and alcohol rehabilitation fund.

Meanwhile, the OMMA reported Tuesday that its total number of active medical marijuana patient licensees exceeded 350,000 for the first time, a roughly 6% boost from the number of patients on record in July. The number is nearly 9% of Oklahoma's population.

There were 5,971 licensed growers, 2,087 dispensaries and 1,328 processors in the state as of Tuesday, the OMMA said.

Samantha Vicent

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Rank	Company Name	Private/Public	Headquarters	Management	Employees	Ancillary Business Segment/Category
\$100 N	lillion Plus Revenue F	Range				
1	♦ HAWTHORNE Hawthorne Garden Products	Public: NYSE: SMG	New York, NY	Chris Hagedorn, General Manager	NA	Cultivation Products and Services
2	Advanced Nutrients Advanced Nutrients Advanced Nutrients	Private	Abbotsford, BC	Michael Straumietis, Robert C. Higgins, Founder & Co-Founder & President	NA	Cultivation Products and Services
\$75-99	.99 Million Revenue R	lange				
3	weedmaps WeedMaps	Private	Los Angelas, CA	Doug Francis, Chairman and Chief Executive Officer	170	Media/Publishing
4	KushCo Holdings,	Public: OTCQB: KUSH	Santa Ana, CA	Nick Kovacevich, CEO Co-Founder	100+	Packaging & Supplies
\$50-74	.99 Million Revenue R	Range				
5	Cool Jarz (Earthwise packaging).	Private	Irvine, CA	Ken Loritz, President & CEO	16	Packaging & Supplies
	NEXUS ORESPONDE POSIDA NOTIFICACION NEXUS Greenhouse Systems					
6	Tetra Indoor Grow	Private	Northglenn,	Craig Humphrey, VP Sales	200	Cultivation Products & Services - Greenhouses



Rank	Company Name	Private/Public	Headquarters	Management	Employees	Ancillary Business Segment/Category
7	SLATER Slater Builders Inc.	Private	Costa Mesa, CA	Lizabeth Slater, CEO	41	Design Build General Contractors
8	↑ Grodan	Private	Netherlands	Ryan Halvorsen, Retail Business Manager	110	Cultivation Products and Services
9	SHIMADZU Excellence in Science Shimadzu	Private	Tokyo, JP	Teruhisa Ueda, President & CEO	1000	Laboratory Equipment
\$25-49	0.99 Million Revenue R	ange				
10	Waters THE SCIENCE OF WHAT'S POSSIBLE.* Waters Corporation	Public: NYSE: WAT	Milford, MA	Christopher J. O'Connell, CEO	7000 plus	Extraction and Lab Testing Equipment
11	GGS Structures	Private	Ontario, CN	Leigh Coulter, Owner	85	Cultivation Products & Services - Greenhouses
12	grewershouse Growers House	Private	Tucson AZ	Nate & Paul Lipton, Owners	60	Cultivation Products & Services - Supplies
13	Generation WHERE THE PROS GO TO GROW Grow Generation	Public: OTC: GRWG	Denver, CO	Darren Lampert, Co-founder & CEO	NA	Cultivation Products & Services - Retailer
14	urban-gro° urban-gro, Inc.	Private	Lafayette, CO	Bradley Nattrass, CEO	54	Cultivation Products & Services
15	Precision Extraction	Private	Detroit, MI	Marc Beginin, CEO	30	Extraction Equipment

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Rank	Company Name	Private/Public	Headquarters	Management	Employees	Ancillary Business Segment/Category
16	NEXTG3N	Private	Chino, CA	Josh Connelly, CEO	10	Cultivation Products & Services - Greenhouses
17	VITALIS VITALIS VITALIS VItalis Extraction Technology Inc.	Private	Kelowna, BC	Pete Patterson, Co-Founder & COO	46	Extraction/Distillation Equipment
\$15-24	I.99 Million Revenue F	Range				
18	IMarijuana Daily Business Daily Anne Holland Ventures	Private	Providence, RI	Anne Holland & Cassandra Farrington, Principle/CEO	31	Media/Publishing/Events
19	SAFE HARBOR private banking Safe Harbor Private Banking	Credit Union	Arvada, CO	Sundie Seefried, CEO	13	Banking Services
20	metrc Franwell/Metrc	Private	Nashville, TN	Jeff Wells/Scott Denham, CEO/Executive Director	70	Software & Technology (SOS)
21	ROOT SCIENCES	Private	Belfair, WA	Edal & Nenad Yashruti, Co-Founders	15	Extraction & Processing Equipment
22	MRX Xtractors	Private	Bend, OR	Paul Tomase, CEO	20	Extraction & Processing Equipment
23	Mary Staffing	Private	Denver, CO	Stephen Sullivan, CEO	12 internal/2500 Leased	Payroll/Staffing
24	apeks © The Power of CO2 Estraction Apeks Supercritical	Private	Columbus, OH	Andy Joseph, CEO	31	Extraction & Processing Equipment

Rank	Company Name	Private/Public	Headquarters	Management	Employees	Ancillary Business Segment/Category
25	COMMERCIAL HARDWARE SERVING NEVADA SINCE 1904 Commercial Hardware	Private	Las Vegas, NV	David Hough, President	25	Facility Maintenance , Consumables, and Capital equipment for cannabis facilities

26	CENTURIONPRO EUTE TRAMMINIO TECHNOLOGIES CENTURION Pro	Private	Vancouver, CN	Paul Niger, CEO	15	Cultivation Products & Services Trimming Equipment
27	extraktLAB ExtraktLab	Private	Osceola, WI	Jon Thompson, PHD	30	Extraction & Processing Equipment
28	CERTIFIED PUBLIC ACCOUNTANTS LGSH LLP	Private	Vencino, CA	Robert Cohen, Partner	65	Public Accounting
\$10	-14.99 Million Revenue Rang	je				
29	PURE EXTRACTION Isolate Extraction	Private	Lafayette, CO	Kelly Knudson, CEO	33	Extraction & Processing Equipment
30	ExtractionTek Solutions GLOSED LOOP HYDROCARRON EXTRACTORS ExtractionTek Solutions	Private	Denver, Colorado	Matthew Ellis, CEO	18	Extraction & Processing EquipmentClosed Loop Hydrocarbons
31	I-B Harris Bricken	Private	Seattle, WA	Hillary Bricken & Dan Harris, Managing Attornies	40	Legal Services
32	BHO = - I = I X	Private	San Jose, CA	Tom Lynch and David Schaefer Co- Founders	48	Extraction & Processing Equipment
33	HELIX TCS Helix TCS, Inc.	Public: OTCQB: HLIX	Greenwood Village, CO	Zachary Venegas, CEO & Founder	150+	Software, Security
34	GreenBroz Inc.	Private	San Diego, CA	Cullen Raichart, CEO/Owner	45	Cultivation Products & Services
35	<u>CannaPro</u>	Private	Burlington, Ontario, Canada	George Dickinson, President	6	Cultivation Products & Services-Greenhouses
36	EnviroTech CULTIVATION SOLUTIONS PIONT. People. Piesson. EnviroTech	Private	Richmond, CA	Zev Ilovitz, President	10	Greenhouses, Accessories & Controls

37	VICENTESEDERBERG Vicente Sederberg	Private	Denver, CO	Brian Vicente & Christian Sederberg, Co-Founders/Partners	60	Legal Services
\$7.5	-9.99 Million Revenue Range	9				
38	EVOLVE Evolve Greenhouse Solutions	Private	Medford, OR	Johnathan T. DiBiasi, Owner	20	Cultivation Products & Services-Greenhouses
39	Cb2Insights CB2 Insights (Formerly, MVC Technologies)	Private	Mississauga, Ontario	Prad Sekar, Chief Executive Officer	NA	Data Analytics & Research
40	Medicine Man Technologies	Private	Denver, CO	Andy Williams, Interim CEO	35	Consulting Services
41	Surna Inc.	Public: OTC: SRNA	Boulder, CO	Chris Bechtel, CEO	35	Consulting Services, Cultivation Products & Services, Manufacturing Equipment
42	WITLON Witlon PM	Private	Denver, CO	Nicholas Murer, CEO	200	Consulting Services; Professional Services
43	ample organics <u>Ample Organics</u>	Private	Toronto, Canada	John Prentice, CEO	90	Software & Technology
44	GreenspoonMarder Greenspoon Marder	Private	Ft Lauderdale, FL	Gerald Greenspoon, Co-Managing Director	54	Legal Services
\$5-7	7.49 Million Revenue Range					
45	ARK Innovations, LLC	Private	Chicago, III	William DeGironemo, CEO	8	Kiosk Suppliers
46	CANNAFAM CANNAFAM	Private	Scottsdale, Arizona	Ryan Bishop, CEO	37	Packaging, Compliance, Consulting, Licensing
47	DYMA PAK™ THE INNOVATIVE PACKAGING CO. <u>Dymakpak</u>	Private	Edgewater, NJ	Ross Kirsh, CEO	9	Packaging & Supplies

48	green bits	Private	Portland, OR	Ben Curran, Co-Founder and CEO	85	Software & Technology (POS)
49	Mammoth Microbes [Growcentia]	Private	Fort Collins, CO	Gregg Steinberg, CEO	60	Cultivation Products and Services

Despite COVID, Cannabis Sales To Hit \$20.4 Billion In 2020



Photo by Vladimir Solomyani via Unsplash

The pandemic certainly affected the industry for the first half of 2020, but the lingering effects will still be felt throughout the rest of the year.

Legal cannabis sales continue to grow despite the strength of the illegal market. The new State of Legal Cannabis Markets report from the Arcview Group highlights the strengths of the industry going into 2020, while also acknowledging the challenges ahead.

Arcview partnered with analytics firm BDSA and is forecasting that worldwide spending on legal cannabis will grow 38% to \$20.4 billion in 2020. Despite this, the lions share of purchases occur in the illegal markets. The report estimates that in 2019 \$214 billion was spent in the illicit channels, while \$14.8 billion was spent in the legal market.

This had been one of the biggest arguments for legalizing marijuana. Activists promised that if cannabis was legalized, then the illicit market would crumble because consumers would want to support legal businesses and enjoy the tested products with lots of variety. Instead, states that have enjoyed legal adult-use cannabis for at least five years continue to see 30-50% of sales occur in the

illegal market. It would seem that this would not support more legalization, but it could have the opposite effect.

The report suggests that high taxation resulting in higher prices for product in the legal stores is the biggest hurdle. It said, "Local regulators could lower tax rates and/or relax regulations in pursuit of a quicker reduction in illicit-market sales, driving more legal spending and ultimately more tax revenue."

RELATED: Dark Web Marijuana Sales Soar During Pandemic

This will be harder than it sounds. Oklahoma opted for a typical sales tax of 4%, while Washington is at an eye-popping 39%. California attempted to keep cannabis taxes from increasing, but it was blocked. It seems the state is pleased with the money it gets despite the effect it is having on pushing customers to cheaper options.

The COVID-19 pandemic certainly affected the industry for the first half of 2020, but the lingering effects will still be felt throughout the rest of the year. Cannabis was deemed an essential service in many states, but that didn't mean all companies thrived under that designation. The report suggests that a recession starting this year could have short-term impacts that could be dire for some cannabis companies. Still, there could be a silver lining.

"State tax shortfalls due to recession could prompt more legislatures to proceed with cannabis legalization sooner rather than later," read the report. It has the support of the population. BDSA's fourth-quarter Consumer Insights study determined 29% of Americans already consumer cannabis. States that legalized cannabis also experienced an increase in cannabis consumers. In other words, passing new legislation would be popular and in turn increase, the tax revenue as more consumers come into the industry.

New Legalization

The flip side to COVID and new legislation is that with quarantines in place, it's hard to push through new legal states even though it's a big election year. 2016 was a big year for new states, but 2020 looks to be less so. Only three states have initiatives on the November ballot. Mississippi for medical use, New Jersey for adult use, and South Dakota for both. With limited federal aid, Governor Cuomo is considering cannabis legalization as a key strategy to generate crucial revenue streams for NYC and the entire state.

RELATED: Nielsen Predicts Legal Cannabis Sales In The U.S. To Reach \$41 Billion By 2025

New Jersey had tried to pass legislation in 2019, but couldn't get the three-fifths majority needed from legislators. Now the state is letting voters decide and it is expected to pass. That means sales could begin in 2022 or sooner. The report forecasts that New Jersey could jump from \$107 million in 2019 spending to \$1.3 billion by 2025.

The issue of federal illegality still looms over the industry. All the legislation that looked promising has stalled. While some thought President Trump might make a legalization move to garner support as his popularity declines amongst his base, he has not signaled any such effort. The Democratic nominee Joe Biden has taken a moderate approach and according to the latest CNN poll, looks to be leading Trump. However, COVID and racial injustice issues look to be the hot button issues, pushing legalization to the back burner

This article originally appeared on Green Market Report.