

Special Update
to The U.S. Cannabis
Report 2020-2021

CANNABIS IN AMERICA FOR 2021 & BEYOND

A New Normal in Consumption & Demand



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letter from the **PUBLISHER**

UNQUESTIONABLY, 2020 HAS been an historic year for the legal cannabis industry, one of change at a global scale both economically and socially, and of the like unseen in our lifetimes; a year whose impact and effects we are poised to feel throughout the foreseeable future, if not indefinitely. Both in the United States and across the quickly evolving North American cannabis markets overall, 2020 marked an inflection point in the maturation of the industry as a whole, embraced and encouraged by cannabis consumers' behavior, demand, and continually increasing appetites in general.

While crises are dangerous, expensive, and detract from other priorities, history reminds us how extreme threats can also inspire focus, dynamism, and innovation often born of necessity. The pandemic has been no different, and from it opportunities have indeed emerged, especially in an industry where paradigms are being reshaped by newly emerging forces, morphed incentives, and unanticipated possibilities. While coping with COVID-19, the global industry has now seen the World Health Organization recommend cannabis for medical use and research, most of the U.S. mandate legal access to the plant, and the United Nations remove cannabis and resin from Schedule IV of the 1961 Single Convention on Narcotic Drugs.

Even as these potentialities only begin to take shape on the cusp of 2021, New Frontier Data is more committed than ever to uphold its mission of elevating the discussion around this unique plant: By not only reporting on what is happening, but more importantly in giving you a first look at what can and most likely will happen; building upon the past, looking at the present,

and projecting the most likely future. It is with great pride that New Frontier Data along with report sponsor Merida Capital Holdings thus release ***Cannabis in America 2021 & Beyond: A New Normal in Consumption & Demand.***

Herein, readers will find how despite the pandemic's socioeconomic disruptions, total 2020 U.S. legal cannabis sales are expected to exceed \$20 billion, with post-election expansion and existing state markets to combine for a projected compound annual growth rate (CAGR) of 21%, and reach \$41.5 billion by 2025. Annual U.S. sales of legalized medical cannabis are projected to reach \$16.3 billion by 2025, and regulated adult-use sales meanwhile projected to top \$25.1 billion. While New Frontier Data will quantify them with characteristic sapience and expertise, the impacts and importance of such revenues for businesses, investors, and stakeholders throughout local, state, and national economies seeking remedies and restoration after the worst public-health crisis in a century shall ultimately prove immeasurable.

Encompassing the legal cannabis and industrial hemp sectors, New Frontier Data remains uniquely positioned to gather, analyze, and extrapolate in vital detail for readers those key elements most necessary for stakeholders' success. As is the case with all the reports available through New Frontier Data's online intelligence portal **Equio™**, we trust that you will benefit from fact-based assessments, our proprietary insights, and the actionable intelligence to be leveraged for success and agility in a fast-paced and indeed historically dynamic market.

As we endure nightmares transmitted through COVID-19, we also persist toward solutions to end the pandemic. While data and science as ever shall guide our course, we also take heart to be reminded that in the unrelated and ironic numerology of Tarot, "21" is symbolic of success, completion, and fulfillment. After 2020, we welcome good news however it comes.



Giadha A. DeCarcner
Founder and CEO,
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Strength in Knowledge®



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ABOUT

New Frontier Data



NEW FRONTIER DATA is an independent, technology-driven analytics company specializing in the global cannabis industry. It offers vetted data, actionable business intelligence and risk management solutions for investors, operators, researchers, and policy makers. New Frontier Data's reports and data have been cited in more than 85 countries worldwide to inform industry leaders. Founded in 2014, New Frontier Data is headquartered in Washington, D.C., with additional offices in Denver, CO, and London, U.K.

New Frontier Data does not take a position on the merits of cannabis legalization. Rather, its mission and mandate are to inform cannabis-related policy and business decisions through rigorous, issue-neutral, and comprehensive analysis of the legal cannabis industry worldwide.

For more information about New Frontier Data, please visit: NewFrontierData.com.

Mission

New Frontier Data's mission is to elevate the discussion around the legal cannabis industry worldwide by providing unbiased and vetted information intended to educate stakeholders to make informed decisions.

Core Values

-  Honesty
-  Respect
-  Understanding

Vision

Be the Global Big Data & Intelligence Authority for the Cannabis Industry.

Commitment to Our Clients

The trusted one-stop shop for actionable cannabis intelligence, New Frontier Data provides individuals and organizations operating, researching, or investing in the cannabis industry with unparalleled access to actionable industry intelligence and insight, helping them leverage the power of big data to succeed in a fast-paced and dynamic market.

We are committed to the highest standards and most rigorous protocols in data collection, analysis, and reporting, protecting all IP and sources, as we continue to improve transparency into the global cannabis industry.



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DATE PUBLISHED

December 2020

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METHODOLOGY

Data Overview

New Frontier Data's analysis in this report represents a new threshold of modeling in the evolving cannabis industry. The forecasts presented herein leverage data collected over 12 years, both spanning the breadth of the cannabis industry and including insights gained from dozens of state, national, and global forecasting iterations. The term "cannabis" here (i.e., also commonly referred to as marijuana) refers to high-THC cannabis and cannabis products sold in both legal and illicit markets. Legal cannabis refers to products sold in regulated channels, including dispensaries and delivery services. The illicit market is defined as sales of cannabis and cannabis products outside of regulated and taxed dispensaries or retail sales.

NOTE: Legal sales through dispensaries can include a small percentage of marijuana-derived CBD products; however, the sales and revenue forecasts do not include the hemp-derived CBD products sold in mainstream retail and nutritional supplement stores. New Frontier Data has separate models for hemp and CBD sold in mainstream (i.e., non-dispensary) channels, based on newly collected national cultivation and consumer demand data. We recently released our revised U.S. CBD market estimates in The 2020 U.S. CBD Consumer Report, Vol. II: Consumer Spending & Market Forecasts.

The data included in this report is drawn from a wide range of sources, including:

GOVERNMENT AGENCIES

We obtained data from federal, state, and municipal agencies ranging from tax revenues and medical cannabis patient participation rates, to rates of illicit cannabis use, and general demographic data.

RETAIL SALES

Point-of-sale data from strategic partnerships with industry-leading technology platforms provide visibility into retail sales trends, including evolving product demand, pricing and sales trends, and variability across markets.

ANCILLARY COMPANIES

Non-plant-touching businesses have been critical sources for insights into the evolving needs and multisectoral impacts of the cannabis industry. Data ranging from capital flows to cultivation supply sales provide valuable indicators into the leading edges of the market. Interviews with strategically placed stakeholders, including leading investors, business owners, regulators and lawmakers further hone our insights into emerging legal, regulatory, and industrial developments that will impact the industry.

CANNABIS LAW REFORM ADVOCATES

Projections for the states most likely to legalize in the next four years were based on extensive discussions with leading drug law reform advocates who have been central in the national and state-level campaigns to legalize cannabis. Their input was critical in informing our understanding of the arc of the national legal-



ization movement, as well as the local political and legislative dynamics that could influence the growth and performance of each market.

ACADEMIC, RESEARCH, AND MEDICAL INSTITUTIONS

Research conducted by a broad range of academic institutions, medical centers, think tanks, and universities provided rich insight into issues including health effects of cannabis consumption, medical applications of the plant, and the socioeconomic costs and outcomes of both cannabis prohibition and legalization.

CONSUMER SURVEYS

New Frontier Data has conducted cannabis consumer surveys, which have informed broad understanding of how cannabis consumer attitudes, perceptions, and use in the United States have been evolving over time. Survey themes have included cannabis use, purchasing behavior and decision influencers, product preferences and expenditures, beliefs about cannabis, and policy attitudes. Sampling was

demographically representative of the adult population in the U.S., covering both legal medical and adult markets as well as consumers in unregulated states.

Since 2018, New Frontier Data has surveyed 10,896 consumers about their cannabis use attitudes and behaviors.

CBD Consumer Survey

In a census-aligned survey of the general U.S. population, New Frontier Data gathered information about the uses, purchasing habits, beliefs, and attitudes about the cannabinoid CBD, and products containing it. Survey themes included CBD use, purchasing behavior, decision influencers, product preferences, and expenditures, beliefs about CBD, and policy attitudes.

About New Frontier Data Cannabis and CBD Consumer Archetype Clustering

In general, algorithmic clustering is a technique used to automatically organize objects into groups that are similar in some aspect. The result is a collection of objects which are like one another, yet different from those in other collections. New Frontier Data previously used unsupervised clustering algorithms to mathematically explore the consumer and nonconsumer archetypes (i.e., groups) defining U.S. and EU cannabis and CBD markets. The data used in the algorithms was sourced from key variables relating to respondent behavior, beliefs, attitudes, and exposure to cannabis and CBD. Importantly, such techniques ascertain the inherent divisions within consumer and nonconsumer groups, as opposed to predefining (i.e., guessing) the qualities of each group. In the current analysis, New Frontier Data uses the same cluster centroids as defined in our previous archetype reporting, and classified the newest respondents with the respective archetype centroids closest to them. In effect, that affords us not only to determine the share of each archetype in the current market environment, but also to analyze how the sizes of the archetypes change over time. This represents a critical datapoint in understanding evolution of the consumer market.

 2020 U.S. CBD CONSUMER SURVEY STATS	
SAMPLE SIZE 4,074	MARGIN OF ERROR ±1.38%
FIELDING DATES March 18-24, 2020	METHODOLOGY Online Survey



Market Projection Methodology

New Frontier Data has developed proprietary models for estimating the size of both the legal and illicit cannabis markets in the U.S. The models are continually refined based on new data inputs, expansion of legalization into new markets, changes in state regulations, and other market-disrupting events. The market growth projections for legal sales included in this report reference both adult-use and medical markets, and are focused exclusively on retail sales to medical patients and adult-use consumers. These projections do not include wholesale transactions between producers, processors, and retailers, or revenues collected by state governments. Nor do they include revenues from the ancillary (non-plant-touching) sectors of the industry.

The growth models were developed based on analysis of key inputs including:

- Size and growth of the total population within each state;
- Size and growth of the adult population within each state;
- Growth of cannabis usage rates in each state market;
- Monthly changes in legal medical and adult-use cannabis sales in legal state markets;
- Size and growth of the tourism population in states with adult-use sales, as well as in medical-use states that offer reciprocity to cardholding medical patients from other states;
- Monthly changes in patient registrations in each medical market since the activation of a medical program;
- Number and types of qualifying medical conditions accepted in the states which track patient registration growth;
- Monthly changes in medical cannabis expenditures per patient in the states which track this data;
- Monthly changes in expenditures per person in adult-use states which track this data;
- Interplay between medical and adult-use sales in states where adult-use sales are legal (specifically including demand elasticity to price differences in open-access markets);
- Time between passage of each state's respective legalization measure and launch of sales; and
- Analysis of each state's regulatory model to identify similarities and differences in each market's structure, to apply appropriate proxy estimations for more accurate variable predictions in new markets.

Based on such inputs, an economic growth model was applied to project the sizes of legal and illicit state markets through 2025. The projections depend on estimated sales per capita in both medical and adult-use markets, and the model is iteratively refined as additional data is collected on each market.

CANNABIS CONSUMER ESTIMATIONS

The number of estimated cannabis consumers in a given state depends heavily on both the state's total adult population, and reported cannabis usage rates compiled by the U.S. Department of Health and Human Services from its annual Nation Survey on Drug Use and Health (NSDUH) – which New Frontier Data has adjusted to account for underreporting errors, and projected growth in usage rates according to each state's unique legal status and legal market growth.



2020-2021 HIGHLIGHTS

Cannabis in America for 2021 & Beyond, a special update to *The U.S. Cannabis Report: 2020-2021 Industry Outlook*, provides New Frontier Data's latest perspective on the transformational growth of the legal cannabis industry. Featuring the most refined sales forecast methodology that we have built to date, analysis of the key trends shaping the industry's evolution, and a review of the influence of market-specific regulations and evolving consumer behavior on the sector's performance, this report delivers fresh insights into the accelerating growth of legal cannabis in the United States.

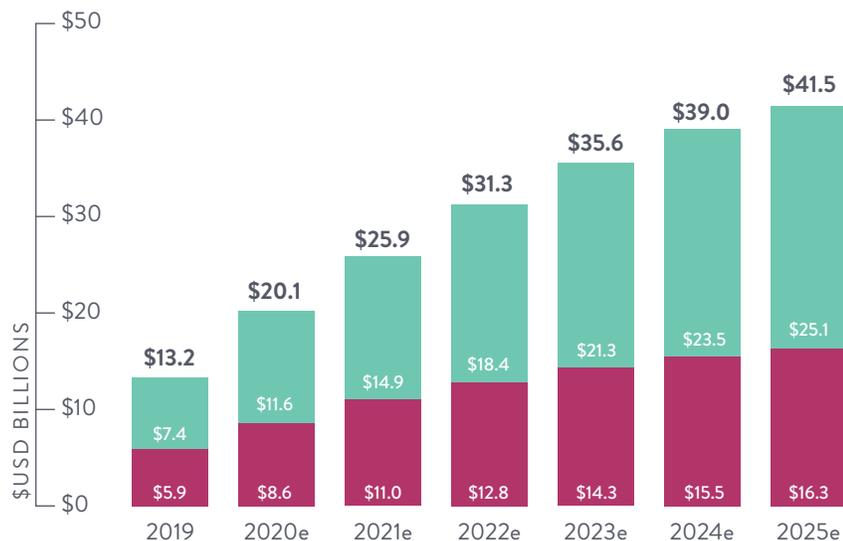
Market Growth Exceeds Expectations

The legal cannabis market was worth an estimated \$13.2 billion in 2019, and is expected to reach \$20.1 billion in annual sales for 2020. Fueled by strong consumer demand, annual legal sales are projected to grow at a compound annual growth rate (CAGR) of 21%, to reach more than \$41 billion by 2025.

In states where it is currently legal, annual sales of medical cannabis are projected to grow at an 19% CAGR through 2025, from \$5.9 billion in 2019 to an estimated \$16.3 billion by 2025. During the same period, adult-use sales are projected to grow at a 23% CAGR, from \$7.4 billion to \$25.1 billion.

Growth of the U.S. Legal Cannabis Industry

2019-2025 est. (\$USD billions)



2019-2025
GROWTH RATES (CAGR)

21%

TOTAL LEGAL SALES

Legal Adult-Use Sales: 22.7%

Legal Medical Sales: 18.7%

■ Legal Adult-Use

■ Legal Medical Use

Note: Market size projections are based solely on the state markets that have passed medical and adult-use legalization initiatives as of November 2020, and do not include assumptions for any additional states that may pass legalization measures in the future.

Source: New Frontier Data

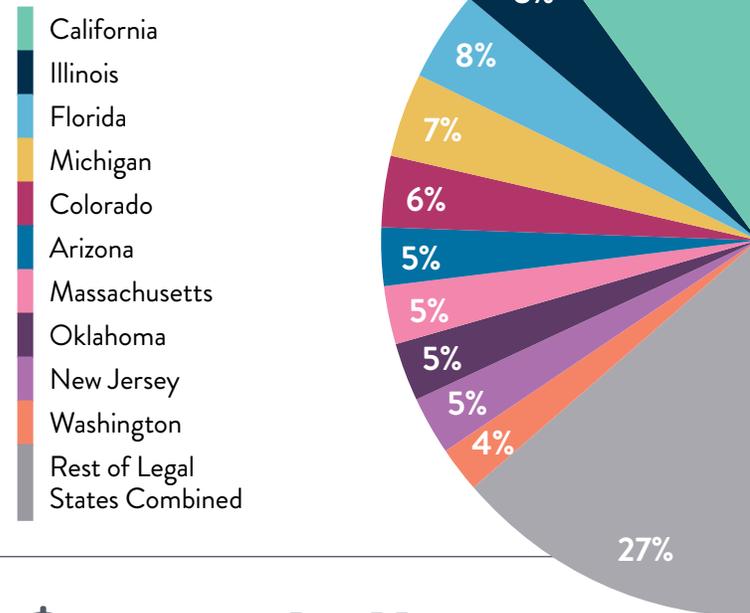


The industry expansion is fueled by convergent forces, including:

- The addition of new legal markets as more states reform their cannabis laws;
- Sustained growth in demand in legal states as consumers make the transition from the unregulated market to the legal one; and
- Increased cannabis consumption as the public recognition of cannabis’ expansive therapeutic value grows, and cannabis is diversified for varying medical and wellness uses.

While competitive forces and economies of scale should continue to drive down both wholesale and retail prices, continued growth in consumer demand will ensure sustained positive market growth through 2025. Furthermore, strong demand for value-added products (i.e., vapes, concentrates, edibles, and topicals) will expectedly buoy prices as those products have held their premium pricing better than flower. By 2025, New Frontier Data projects the largest state markets for legal cannabis to be California, Illinois, Florida, Michigan, and Colorado.

Legal Market Share by 2025



\$41.5 billion

2025 EST. TOTAL U.S. LEGAL MARKET

Note: "Rest of Legal States Combined" includes annual revenue projections for 27 states with operating legal cannabis markets. All share calculations are based on combined legal sales in both existing medical and adult-use markets.

Source: New Frontier Data

NOTE: Projections are based solely on the state markets that passed medical and adult-use legalization initiatives as of November 2020, and do not include assumptions for any additional states which may pass legalization measures before 2025. Projections do not include assumptions about potential changes to federal policy before 2025. It remains conceivable that there could be passage of sweeping changes in federal cannabis laws within the next decade, including the rescheduling of cannabis from its current status as a Schedule I substance – i.e., included among the ranks of the most dangerous drugs – to Schedule II or III status, or potentially a complete descheduling, which would bring cannabis regulations more closely aligned to those for alcohol. However, unpredictability in any timing of changes to federal policy, coupled with uncertainty about changes to laws, preclude accurate prediction of the potential market size for cannabis under federal legalization before 2025.



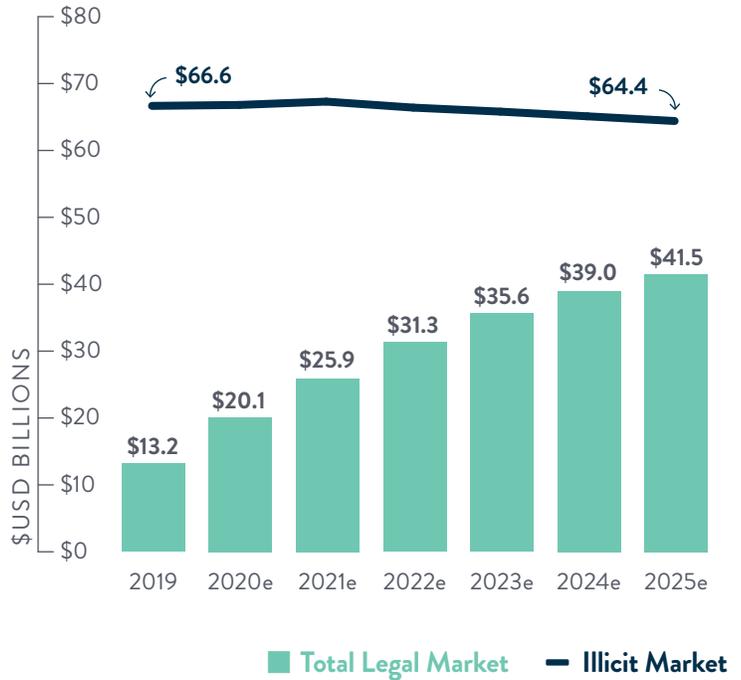
Growth in Illicit Markets Eroded by Legalization

Despite strong performances seen in legal state markets, the illicit market will serve the majority of national demand, given that most consumers still live either in medical-only markets, or in states with no legalized cannabis. And despite cannabis' broad illegality, the total number of frequent (past-month) cannabis consumers in the U.S. is expected to grow by roughly 4% per year over the next six years, reaching an estimated 37 million consumers by the year 2025 (i.e., 14% of the U.S. population).

Among states having no medical or adult-use cannabis sales in place, Texas, North Carolina, and Georgia currently represent the three largest unregulated state markets, worth a combined \$8.3 billion in estimated illicit can-

Legal vs. Illicit Cannabis Sales

2019-2025 est. (\$USD billions)

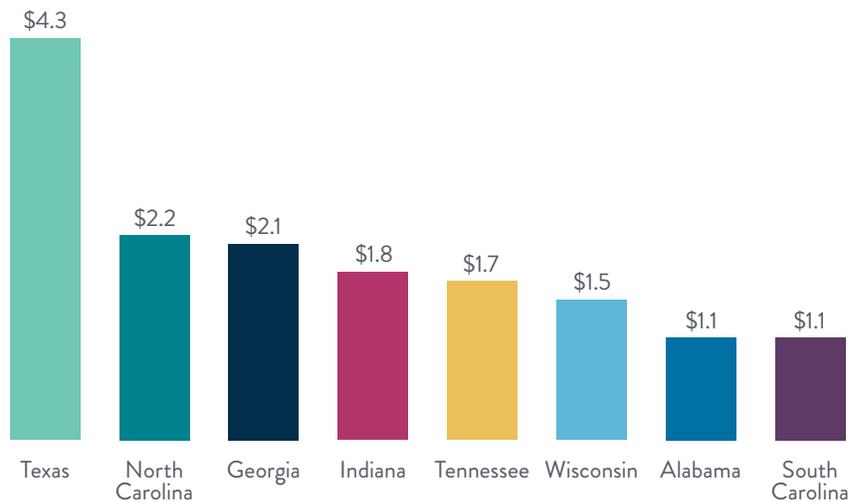


\$16 billion

COMBINED ANNUAL SALES OF CANNABIS IN 8 LARGEST ILLICIT STATES

Largest Estimated Illicit Markets in 2020 (in States with No Cannabis Legalization)

Annual Illicit Market Spending (\$USD billions)



All charts, source: New Frontier Data



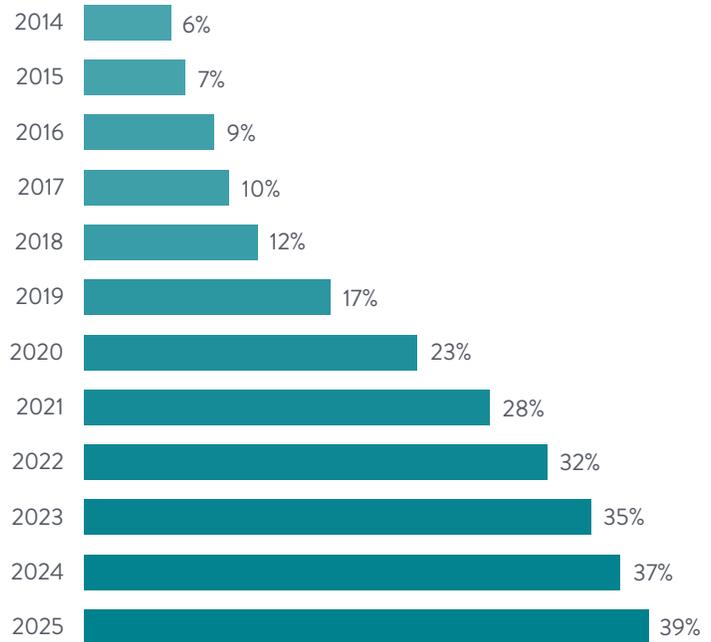
nabis sales in 2019. Without action to legalize cannabis, the combined illicit market in those three states is projected to be worth roughly \$8.6 billion in 2020, rising to an estimated \$9.8 billion by 2025.

If a key objective of legalization is to disrupt illicit markets, that end is being achieved in those states where cannabis is legal. Even with continued growth in the number of cannabis consumers nationally, both legal medical and adult-use markets are projected to increasingly erode the proportion of demand met by illicit sources. In 2019, while an estimated 17% of U.S. cannabis sales were believed legal, New Frontier Data estimates that by 2025 more than one-third (39%) of total annual cannabis demand across the country will be met by legal purchases in regulated marketplaces.

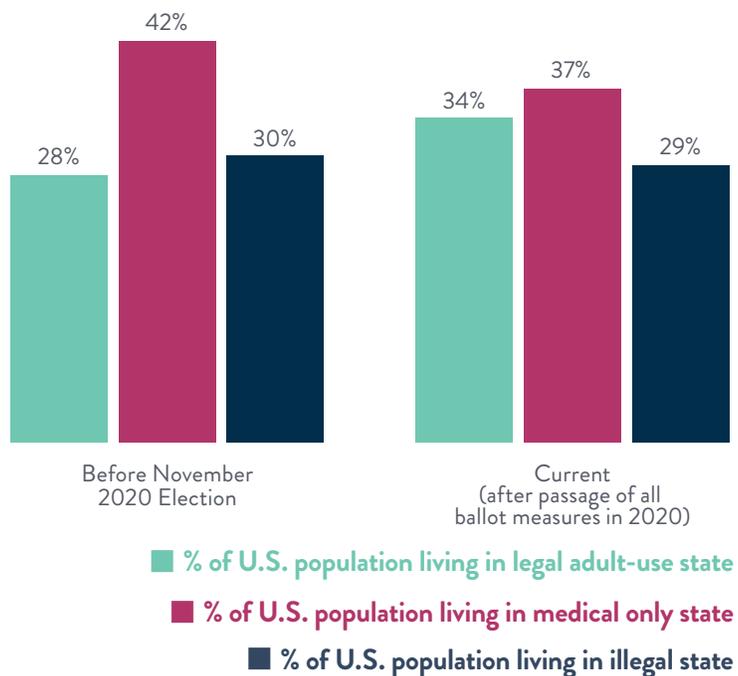
Cannabis Legalization Initiatives Passed in 2020 Will Add Significantly to Total Legal Cannabis Market

Five new states passed measures to legalize medical or adult-use cannabis in the November 2020 elections. The new adult-use states include New Jersey (where passage has monumental implications, given potential for legal access by consumers drawn from major populations centers including New York City and Philadelphia), Arizona (a legal medical state that fell just short of legalizing adult-use cannabis in the 2016 election), South Dakota (the first state to legalize programs for both

Percentage of Total U.S. Cannabis Demand Met via Legal Sources



% of Americans Living in Legal States



All charts, source: New Frontier Data



medical and adult-use during the same election cycle), and Montana. Mississippi passed medical legalization.

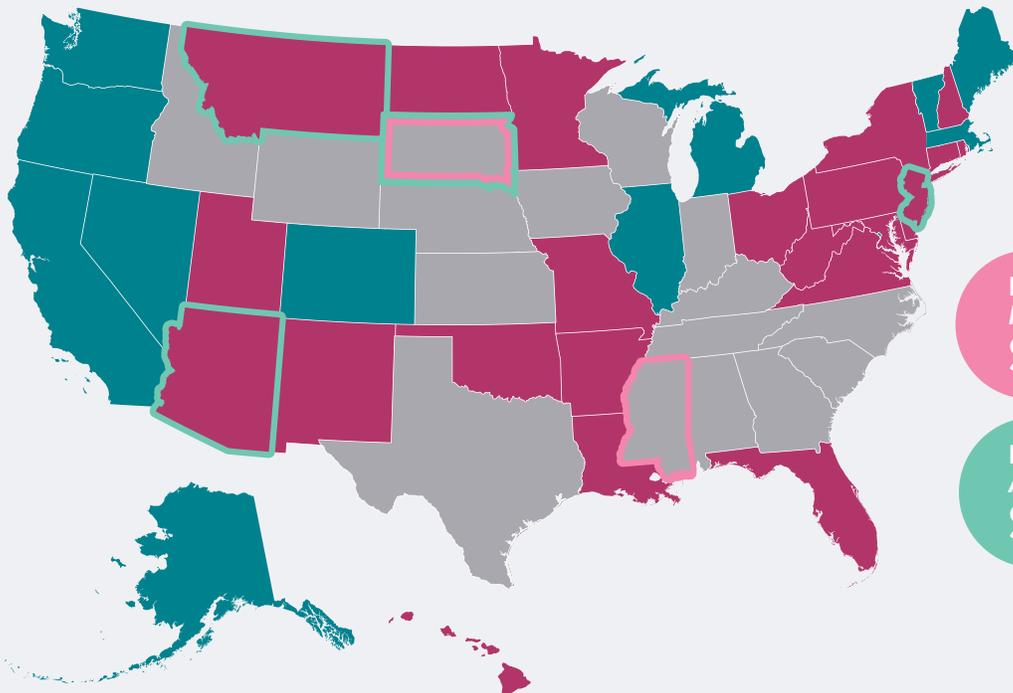
When all five states begin operational programs, they could collectively add another projected \$3.3 billion in combined annual sales revenue to the legal U.S. market by their fourth years of operation.

Legalization in those markets will not only generate significant new revenues, but also fundamentally reshapes the status of cannabis in the U.S. It marks the first time that more Americans live in states with legal adult-use access than in states where cannabis remains completely prohibited (i.e., 34% residing in legalized adult-use states, vs. 29% in states where illegal).

Projected Additional Revenues from States Legalized in 2020 Election

\$3.3 billion

Total Potential Revenue by 4th Year of Operation



Potential Additional Annual Medical Revenue: **\$87 million**

Potential Additional Annual Adult-Use Revenue: **\$3.2 billion**

■ Current Adult-Use

■ Current Medical Use Only

■ Newly Passed Adult-Use / Medical Use

■ Newly Passed Medical Use

Source: New Frontier Data



Legal Market Expansion Presents Growth Opportunities, New Challenges

Additional regulatory, social, economic, and investment trends discussed in *Cannabis in America for 2021 & Beyond* include:

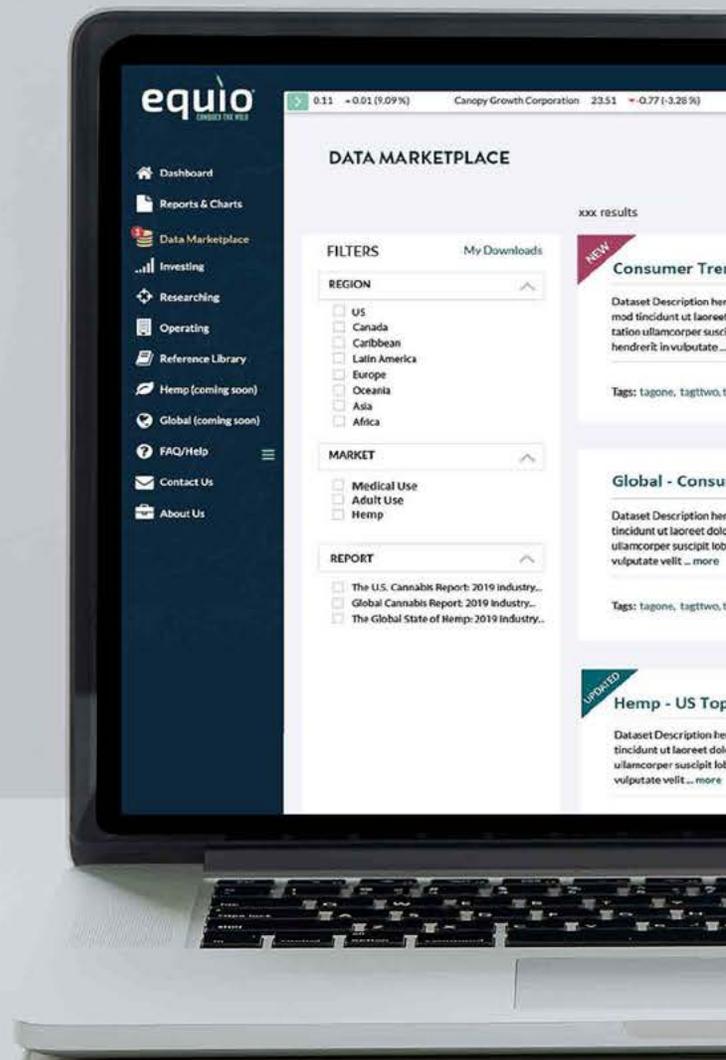
- The U.S. total addressable market and factors driving growth in the population of cannabis consumers;
- The growing support for fully legal cannabis among adults;
- The surge in retail sales fueled by social and economic disruptions caused by the COVID-19 pandemic;
- Evolution of consumer product preferences in a market with increasingly diversified product options;
- Continued expansion of medical cannabis programs nationally, including analysis of the qualifying conditions which are driving the greatest growth in patient participation, and a deep dive into Oklahoma's unique and outperforming medical market;
- Hemp, CBD, and overall growth in demand for minor cannabinoids as consumer awareness grows and scientific research continues;
- Lessons from the first six full years of legal cannabis in Colorado;
- Revised tax revenues altering the forecast for California's legal market;
- Analysis of the critical roles of licensing policy and consumer retail access in program growth;
- How different regulatory structures have shaped the interplay of medical and adult-use programs in the states where both are legal;
- The impact of accelerating consolidation and rise of multistate operators on the national market's future growth;
- Strong capital inflow into cannabis as a catalyst for the growing scale of merger and acquisition activity;
- An evolving national debate on cannabis prohibition enforcement within the broader calls for criminal justice reform, including analysis of disparities in policing and civil asset forfeiture; and
- A discussion of the federal action on cannabis that is often at odds with the accelerating shift in public attitudes.



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2021 & Beyond

KEY TRENDS TO WATCH

The U.S. will be the most consequential cannabis market globally for the next four years.

If the past two years have been defined by moves in Canada's legal cannabis industry, focus will return to the U.S., where the states where cannabis is now legal collectively represent the world's largest regulated cannabis market.

Three factors will define the trajectory of cannabis in the U.S.:

1 | THE END OF WHITE HOUSE OPPOSITION TO REFORM

For the first time, Americans have elected a president who supports reform of federal cannabis laws. Securing descheduling, which Biden has supported, may be a tall order, especially with a deeply divided congress, but at a minimum, a Biden administration will maintain the status quo on legal cannabis, which has been minimal intervention in regulated state markets with prioritization of interstate and cross-border trafficking. For the industry, a Democrat in the White House presents opportunity for historic change, and even barring drastic action, the industry can operate with assurance that compliant state operators will not face federal sanctions - a signal which de-risks industry growth for the next four years. Furthermore, even if gridlock in Washington

stymies broader rescheduling efforts, it is possible for both banking and tax reform to secure approval, as they become more urgent issues in both liberal and conservative states.

A U.S. administration that is progressive on cannabis will have global implications, both for the strategic positioning of cannabis companies already operating in federally legal countries that permit importing or exporting of cannabis, and for the formation of federal policies across the world. Many countries have based their policies on direction of the U.S. government, and advocates globally will be reading for signals in what Washington does next.

2 | SCALABLE INNOVATION

High barriers to multi-state expansion have turned legal states into the world's hotbed for consumer product innovation - with most products still serving one or a small number of markets. The capital markets' focus on novel or differentiated products amidst the rise of multi-state operators will gradually allow more products to build national reach. Highly data driven operations ensure expansion to spec, resulting in consumers getting access to a wider array of high-quality products more quickly when new markets launch. And with an ever-widening selection of products, the legal market is offering a more compelling and competitive alternative to the illicit market, lowering sensitivities to higher counter prices from taxes. The widening gap in the consumer experience between legal and illicit markets consumer experience will draw both new and existing cannabis consumers into the regulated markets,

3 | REPLICABLE IMPLEMENTATION

With nearly three-dozen legal cannabis markets in the U.S., newly legal states have a wide range of operational models to choose from as they develop their regulations. This library of ex-



perience and best practices is enabling states to transition from legalization to operation more quickly, seamlessly, and cost effectively. Having well-defined and market tested operational paths presents an attractive alternative to investors wary of financing development in untested international markets.

Pressure builds on Congress to tackle reform, but sweeping change will come slowly.

Over two-thirds of members of congress now represent a jurisdiction where cannabis is legal medically or fully, a caucus that has grown again with the success of the six ballot initiatives in November. Despite this, other urgent national priorities and deep political partisanship will make it difficult to pass any sweeping effective federal cannabis legislation in 2021.

Even if the Democrats win the Senate in January, a President Biden would find a deeply divided congress facing epochal national crises. Containing the pandemic, managing vaccine distribution, securing stimulus relief, securing health care, addressing tax policy, and the environment, all will likely take precedence among legislative priorities.

New Jersey will ignite a race to legalize cannabis in eastern states, driving significant expansion of adult use markets over the next two years.

Pennsylvania and New York were first to declare their intention to legalize adult use, but shortly

after the success of New Jersey's ballot initiative, Virginia Governor Ralph Northam came out in support of legalization and said he would start an initiative to legalize in his state in January 2021.

Other states, including Connecticut, Delaware, New Hampshire, Ohio and Rhode Island will require strong coalitions to push adult use legalization through, but local political dynamics coupled with the additional pressure created by legalization in New Jersey will likely push at least one of these states to tip in the next two years.

Even despite the pandemic, we expect New Jersey to be a major regional canna-tourism destination, benefiting from its proximity to major population centers in New York, Pennsylvania, Maryland, and Delaware.

Medical cannabis in the South proves it can pass in all states, but local political dynamics, not popular support, will determine which markets legalize next.

With the comfortable passage of medical cannabis in South Dakota and Mississippi, it is likely that medical measures would easily pass in the other southern and mid-western states, namely, Alabama, Idaho, Kentucky, Nebraska, and Texas. Despite rigid political structures and the inability to readily advance ballot initiatives making it challenging to get new laws passed in these states, the rapid shift in cannabis attitudes, especially among conservative voters, is making it easier than ever to build winning cannabis coalitions.

Furthermore, with the COVID-19 pandemic forcing renewed focus on the state of healthcare nationally, Americans are viewing cannabis with a deepening belief in its therapeutic value and increasing openness to trying it for themselves. This embrace by a once-wary public will drive the next phase of growth of America's medical cannabis markets.



Capital will flow back into the market, but liquidity will become more asymmetrical, favoring speed, scale, and IP.

Cannabis has proven itself recession-proof, and the 2020 election created a clear runway for growth. The strong financial performance of the legal markets, and the potential presented by these new markets will attract more investors to the industry in 2021. However, incoming capital will be more selective than the last two capital waves, focusing on more mature companies with an existing operational footprint in key markets, or new companies solving intractable problems around quality, efficiency, and scale.

If the past six years has seen significant investment go to early stage companies, the next few years will see more investment allocated to companies with a proven track record, a clear path to profitability, and national (or international) scalability. The pandemic-induced recession will continue to offer discounted investment opportunities for distressed assets, but capital will become cheaper as more liquidity enters the market.

The race to minor cannabinoids will be lucrative, but fraught with peril.

Minor cannabinoids have captured the imagination as they show strong therapeutic value across a range of wellness applications. From cannabichromene's (CBC) potential role in neurogenesis, to cannabidivarin (CBDV) which shows promise for epilepsy and muscular dystrophy, and tetrahydrocannabivarin (THCV), nicknamed the "diet

2021 WILL BRING THE DAWN OF A NEW AGE OF INFUSED PRODUCTS

The non-combustible product categories (edibles, beverages, topicals) are poised for strong growth in the year ahead. Three forces will drive the growth of ingestibles in particular:

- 1) **RAPID ONSET:** Cutting the effect onset time from 30+ minutes to less than 10 has been a major goal for the edibles market, as the delayed onset of edibles has been long-standing criticism among consumers. The proliferation of products that offer shorter onset times across a growing number of state markets is introducing new consumers to the product in an entirely different way. As the product effectiveness improves, ingestibles will increasingly complement (and ultimately substitute) inhalation as the main method of product consumption among a growing number of consumers.
- 2) **INCREASED BIOAVAILABILITY:** Beyond onset time, the efficiency with which cannabinoids are absorbed into the body is also improving, enabling development of more consistent (and cost-effective) products. Improving bioavailability allows consumers to track their dosing more precisely, which is especially important for cannabis patients who require carefully calibrated dose management, as well as for new consumers who are experiencing an ingestible product for the first time.
- 3) **NOVEL FOOD SCIENCE:** The innovations in consumer product formulations - the food science underpinning how products are made - is the third factor that will drive increased edible adoption among a growing consumer base. The combination of tasty, fast-acting, and precisely dosed products will make this category especially attractive to newer consumers who want to consume discretely, or have limited experience with combustion-based products.

The COVID-19 pandemic, which has dramatically changed cannabis consumption habits, with consumers now far less likely to share joints and pipes, and more likely to consume on their own. The disruption to entrenched consumption habits creates a window in which ingestibles can be positioned as an alternative to combustible products, capitalizing on current heightened sensitivity around smoking caused by the pandemic. Flower may remain the largest product category, as old habits die hard, but the coming year will see edibles grow revenue significantly as new products proliferate.



cannabinoid” for its appetite suppression properties, minor cannabinoids are attracting increased interest as science affirms their therapeutic value. The knowledge gap remains wide, with most consumers generally having low familiarity with any of the minor cannabinoids. However, as seen with CBD, awareness will rise quickly as access grows following scientific research.

Unlike the THC and CBD markets, which have well defined regulatory structures, the minor cannabinoid environment remains largely unregulated. As a result, the risk of false or unfounded claims, products which fail to include the listed cannabinoid doses, and formulations developed without an understanding of the impact on human health could damage consumer perceptions and negatively impact the category’s growth. Companies working with minor cannabinoids should therefore ensure that any product claims are validated, dosing is tested for safety and toxicity, and the formulations offered are exactly as specified.

A Democratic White House gives the industry license to scale.

The industry has faced two challenging years financially. In 2019, the cratering of public company valuations, especially of the Canadian Licensed Producers, forced an overdue reset of performance expectations following three years of irrational exuberance. In 2020, despite buoyant sales, broader pandemic-induced economic upheaval has tightened capital markets and led to some capital flight.

However, with a Democrat in the White House, a vaccine promising a return to normalcy, strong industry support in congress, and the outsized wins in the state ballot initiatives, the national conditions for cannabis going into 2021 all point to growth. And with so many new states now positioned for activation or early in their market growth, merger and acquisition activity is sure to increase across the board as existing operators aim build scale and shorten time to market in new states.

The Trump Administration's Justice Department actively targeted cannabis deal activity, initiating investigations into 10 cannabis deals in 2019 alone. (The cannabis industry made up 29% of the Antitrust Division's caseload that year.) The added cost and expense of the DOJ review caused deals to fall apart and public equities to plummet. Under a Biden administration, the industry faces far less risk of similarly punitive federal oversight, with the new administration likely taking a hands-off approach in legal state markets. Ending the likelihood of federal intervention in large deals is another positive factor in a market primed for consolidation.

Despite the constraints, the deal market has remained fertile for well-capitalized companies, but lack of capital has limited the movements of most. With a strengthening economy, and new liquidity in capital markets, the coming year will see a surge in deal activity as companies secure reach in mature markets and compete to enter new, limited-license states.

The likelihood of federal reform is an additional driver of scale. If cannabis were to be descheduled, not only would the market quickly flood with new entrants but interstate commerce would be in play. With such drastic changes potentially on the horizon, more companies intend to size up as a defense against the coming upheaval.



national OVERVIEW

FOLLOWING THE 2020 U.S. elections, 36 states plus the District of Columbia (D.C.) have legalized cannabis for medical use, and 15 states plus D.C. have legalized cannabis for personal or adult use. Those numbers bring the total population of U.S. residents living in a state (or D.C.) with legalized medical or adult-use cannabis to 235 million, or 71% of the national population.

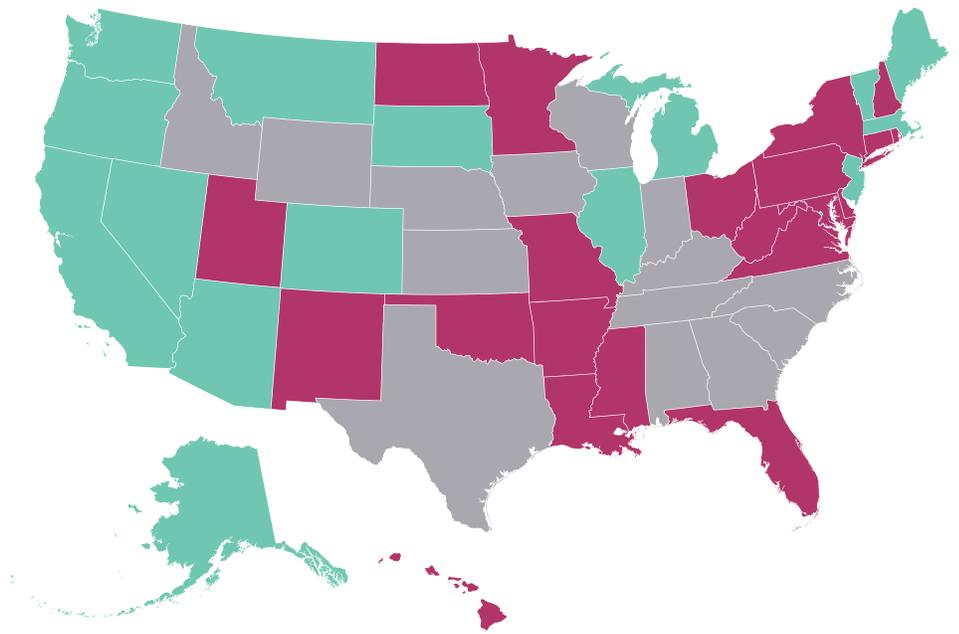
Among medical cannabis markets, 2019 saw the start of legalized sales in multiple states, including Oklahoma, Ohio, Arkansas, Louisiana, and North Dakota.

In the first half of 2020, Illinois and Michigan both began adult-use sales, and Virginia became the latest southern state to legalize medical cannabis and approved a decriminalization measure ending the enforcement of the state's historically punitive prohibition laws. During the second half of 2020, 5 states passed new legalization initiatives in the historic November election, and Maine finally launched its adult-use market.

**235
million**

NUMBER OF PEOPLE
LIVING IN A STATE WITH
SOME FORM OF
LEGALIZED CANNABIS

Legalized States



■ Legal Medical & Adult-Use ■ Legal Medical Use Only ■ No Legal High-THC Market

Source: New Frontier Data



Legal Market Size & Growth

In 2019 the U.S. legal cannabis industry generated an estimated \$13.2 billion in consumer sales across all legal medical and adult-use state markets combined. In 2020, amidst the seismic economic disruptions caused by the COVID-19 pandemic, cannabis sales have surged, and are projected to surpass \$20 billion for the year. Total legal sales nationwide (i.e., sales of both medical and adult-use cannabis combined) are projected to see a compound annual growth rate (CAGR) of 21% over the next five years, to reach \$41 billion by 2025.

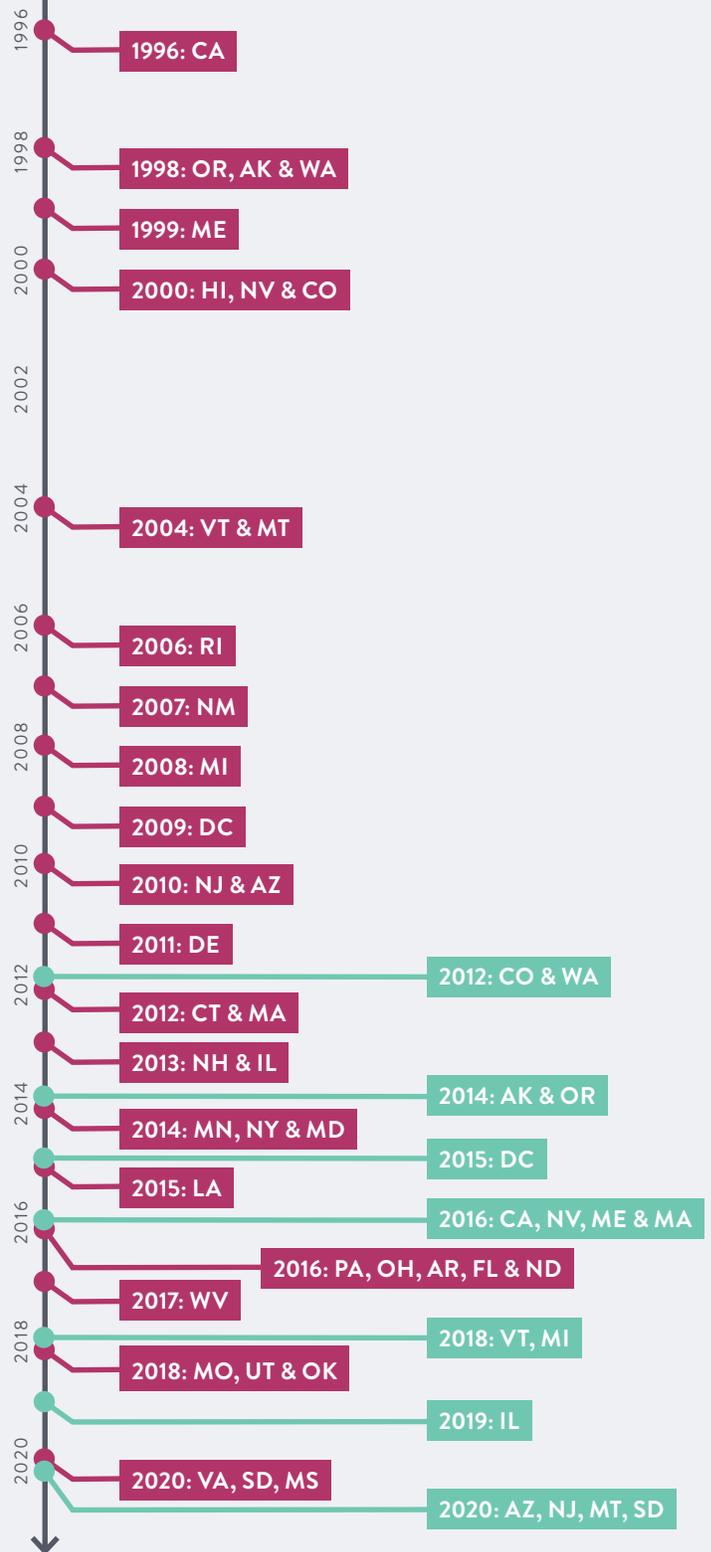
Between the years 2020 and 2025, combined sales of legal cannabis in existing U.S. state programs are projected to total \$193 billion.

Annual sales of medical cannabis are projected to grow at a 19% CAGR through 2025, from \$5.9 billion in 2019, to an estimated \$16.3 billion by 2025. During the same period adult-use sales are projected to grow at a 23% CAGR, from \$7.4 billion to \$25.1 billion. The industry expansion is fueled by two convergent forces: the addition of new markets as more states continue to legalize cannabis use and activate sales, and from sustained growth in demand in legal states as consumers make the transition from illicit to legal markets. While competitive forces and economies of scale will eventually drive down both wholesale and retail prices, increasing consumer demand will propel sustained positive growth in total legal revenues through 2025.



Legalization Timeline

■ Adult-Use ■ Medical Use



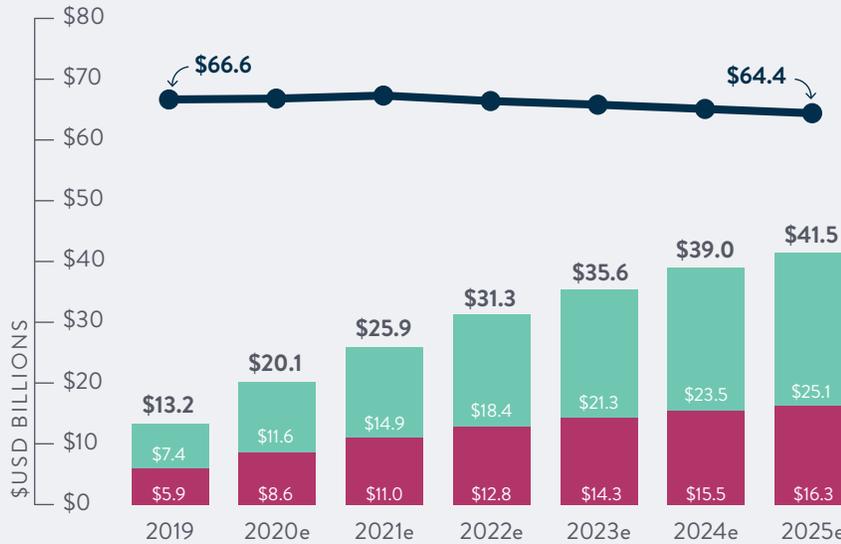
Source: New Frontier Data



2019-2025
GROWTH RATES (CAGR)

Growth of the U.S. Legal Cannabis Industry

2019-2025 est. (\$USD billions)



21%

TOTAL LEGAL SALES

Legal Adult-Use Sales: 22.7%

Legal Medical Sales: 18.7%

Legal Adult-Use

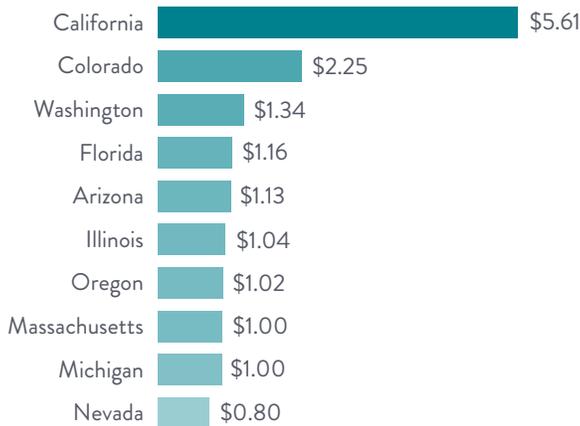
Legal Medical Use

Illicit Market

Note: Market size projections are based solely on the state markets that have passed medical and adult-use legalization initiatives as of November 2020, and do not include assumptions for any additional states that may pass legalization measures in the future.

Top 10 Largest Legal State Cannabis Markets

Est. 2020 Legal Sales (\$USD billions)



Legal Market Share by 2025



\$9.2 billion

TOP 3 STATES (CA, CO, WA)
PROJECTED 2020 LEGAL SALES

\$41.5 billion

2025 EST. TOTAL U.S. LEGAL MARKET

Note: Values shown are for total legal market, medical and adult-use (when applicable) sales combined.

Note: "Rest of Legal States Combined" includes annual revenue projections for 27 states. All share calculations are based on combined legal sales in both existing medical and adult-use markets.

All charts, source: New Frontier Data



Legal Cannabis Sales Experienced Strong Growth Amid Covid-Related Disruptions

One unanticipated effect of the COVID-19 pandemic has been the growth acceleration of legal cannabis markets in those states which have activated both medical and adult-use sales. In 2019, the total illicit market for cannabis in the United States was an estimated \$66 billion, and due to the growth in legal state markets, is expected to stay flat through 2025. Through higher sales and increased patient participation in medical-only markets, the second quarter of 2020 saw surging patient counts in medical markets – particularly in those having 1) lower barriers to entry (i.e., less restrictive qualification requirements), and 2) more accessible markets (i.e., greater density of dispensaries).

High-Performing Medical Markets

Both Florida and Oklahoma were seeing very strong patient participation rates before the pandemic's disruptions began, and continued those trends despite sheltering-in-place orders effected in April and May, respectively. That the registrations would continue apace (and in the case of Florida, increase) amid the dramatic contraction of broader social and economic activity underscores the strong demand for cannabis in those markets.

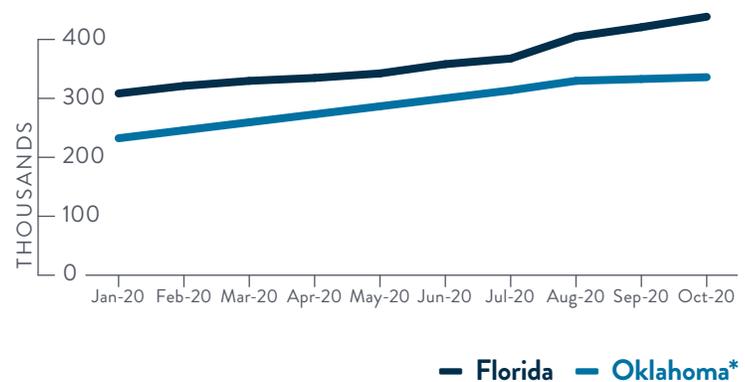
State Data Showing Increase in Participation & Sales

Sales numbers released out of Oregon and Colorado (the two most mature legal cannabis markets in the U.S.) as well as California and Michigan, all showed marked revenue increases in Q2.

Oregon saw record-setting sales in March, April, and May (the latter seeing the state generate \$100 million in cannabis sales for the single-highest monthly total since the program's launch). For its part, Colorado (with the country's most mature adult-use market) saw record sales in May, which neared \$200 million for the first time in its program's history. Medical sales in Michigan (previously flat between December 2019-February) saw a 48% increase in monthly sales between March-May. Adult-use sales in the state, which saw a strong growth trajectory since before the pandemic, received an additional boost in demand through April and May.

Medical Cannabis Patient Growth

Florida & Oklahoma

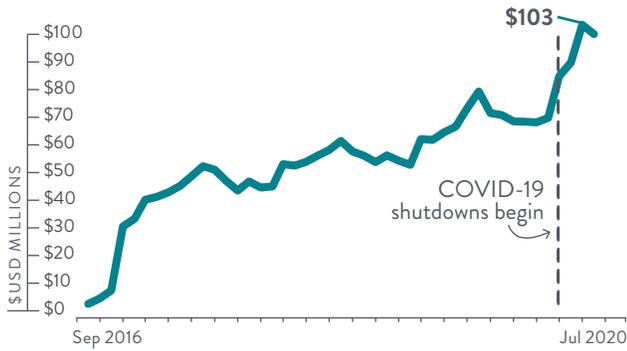


*Oklahoma now has the highest patient saturation (patients expressed as a percentage of population) of any legal state medical market in the U.S.

Source: New Frontier Data



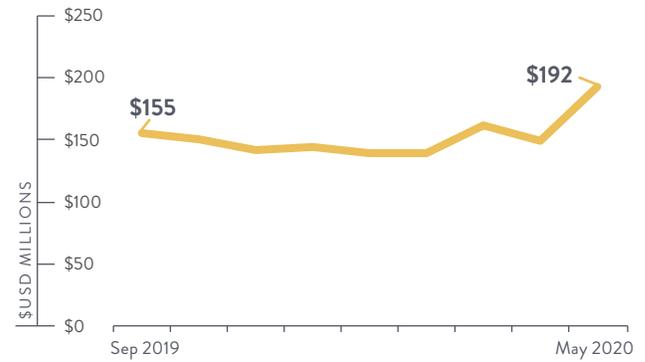
Oregon Total Sales by Month*



*This market trend data is from Metric, Oregon's Cannabis Tracking System, based on information entered by licensees.

Colorado Cannabis Sales

Medical & Adult-Use



Source: Colorado Department of Revenue

Analyzing retail data from 20 legal cannabis markets, New Frontier Data found that average consumer monthly spending rose to record highs in April and May, reaching \$300 and \$302, respectively, per consumer per month. By August, spending had fallen slightly to \$286, but was still significantly higher than the corresponding average of \$247 per month spent during the first three months of the year.

California Revised Cannabis Retail Sales Tax Revenues

2018 - Q3 2020

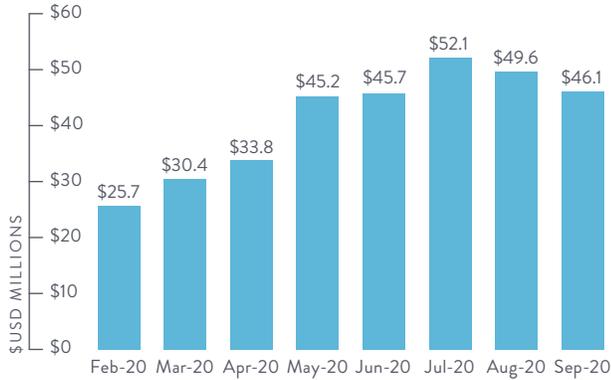


■ Initial state tax collections reported ■ Revised collections reported

All charts, source: New Frontier Data

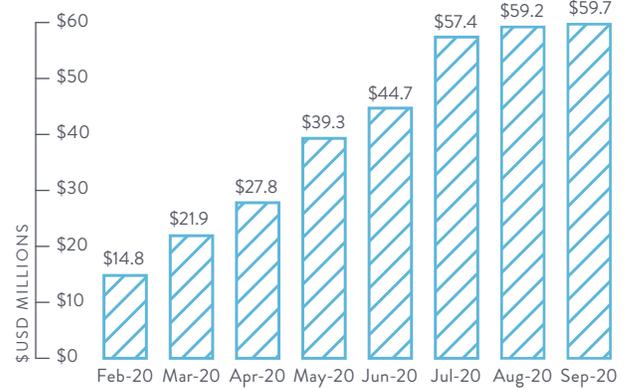


Michigan Medical Cannabis Sales



Source: Michigan Marijuana Regulatory Agency.

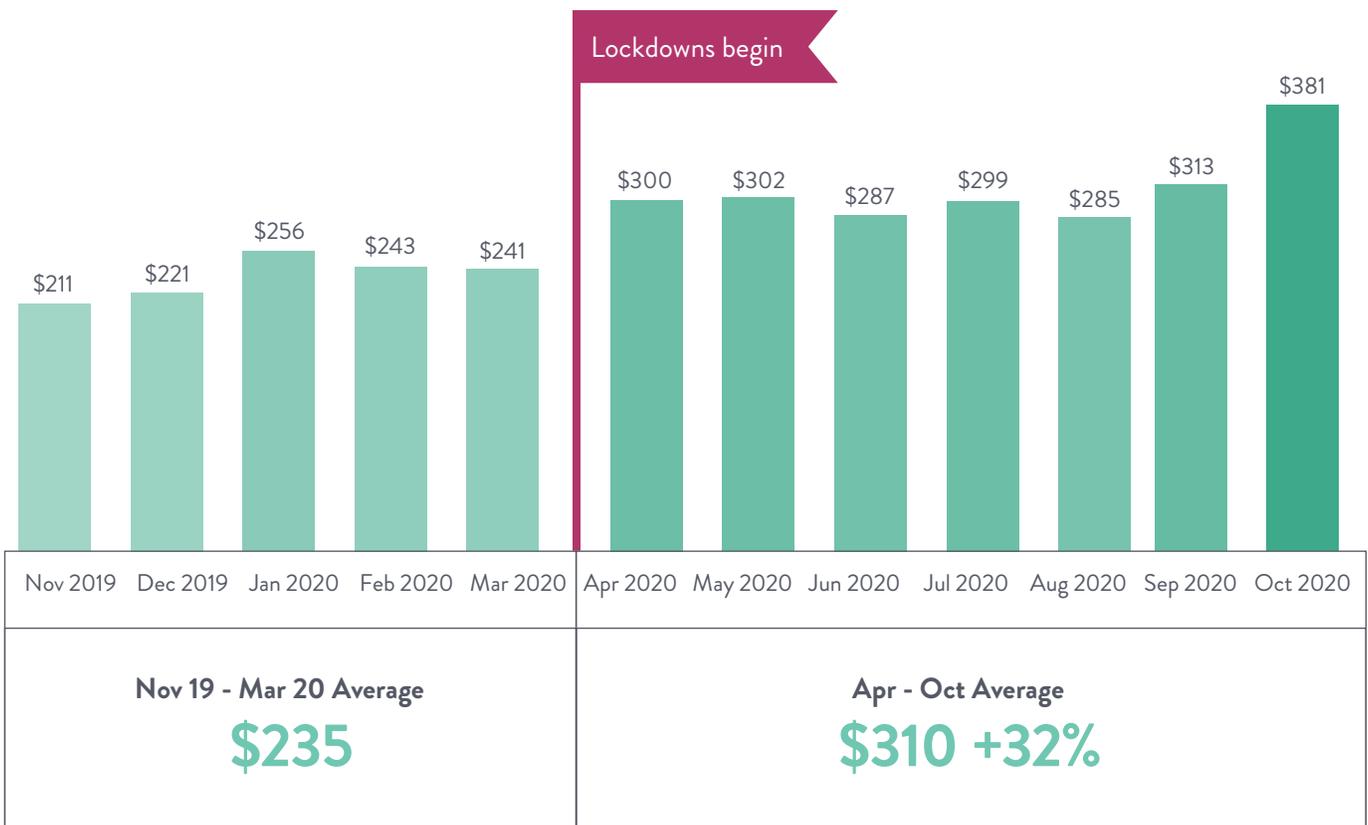
Michigan Adult-Use Cannabis Sales



Source: Michigan Marijuana Regulatory Agency.

Average Monthly Spending per Consumer Across 20 Legal Cannabis Markets

Sep 2019 - Aug 2020



Source: New Frontier Data



COVID-19 Impact on U.S. Cannabis

2020-2021 INDUSTRY OUTLOOK SPECIAL UPDATE

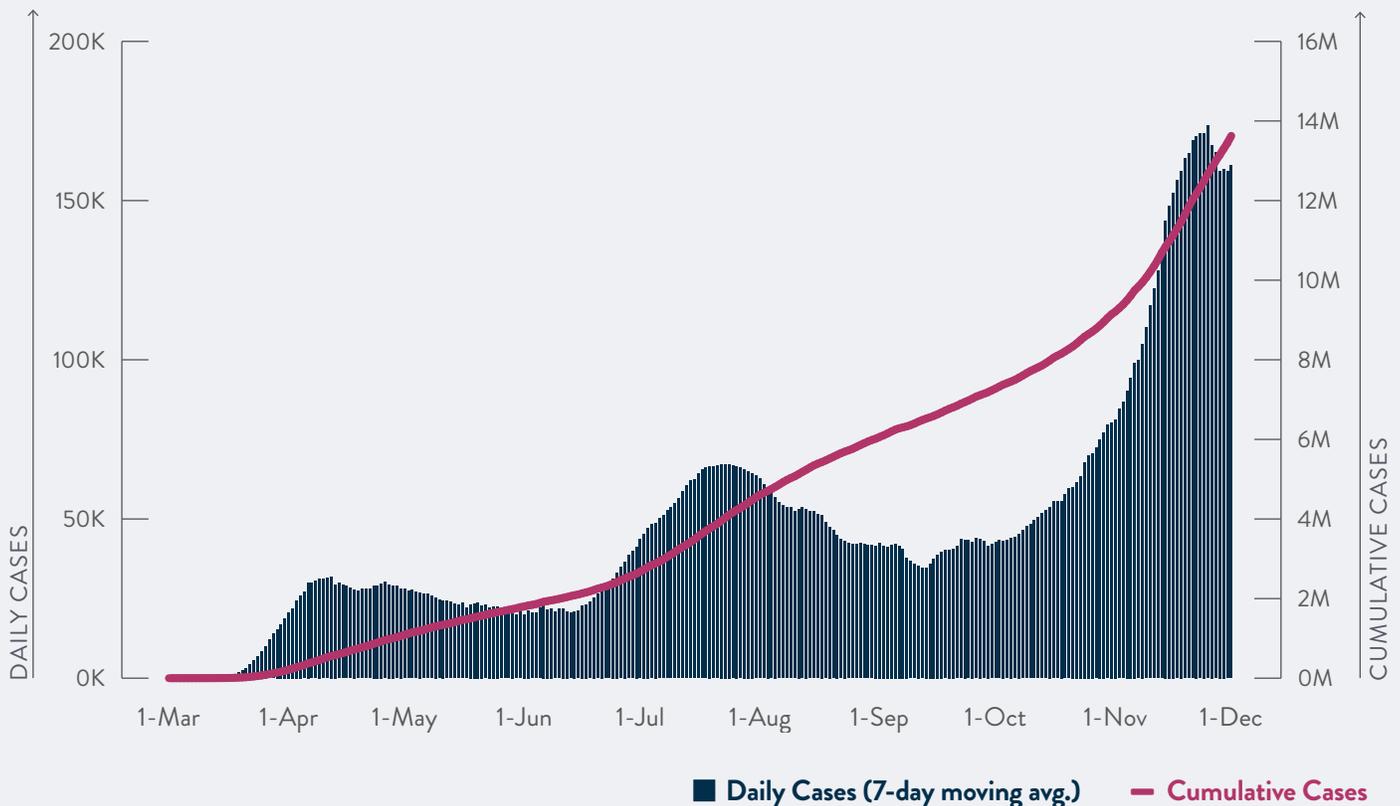
The COVID-19 pandemic has disrupted routines and changed behavior on an unprecedented scale. Using survey data from late September—six months after pandemic lockdowns first upended Americans' daily life—this report seeks to understand how the pandemic has affected current cannabis consumers' (i.e., those who consume cannabis with THC at least annually) consumption behaviors, sourcing, and spending.

How are Cannabis Consumers Experiencing the COVID-19 Pandemic?

As of December 1, daily confirmed COVID-19 cases topped 13.6 million in the U.S., with the virus having killed 270,000, leaving many Americans uncertain about both near-term and long-term implications for their personal well-being, the public health of the nation, and national economic stability. Cannabis consumers have been no exception—three in five (59%) being very or extremely concerned with the potential for themselves or a loved one to contract COVID-19, with two in five (43%) reporting that either they knew someone personally who had contracted the virus, or they themselves had contracted it.

COVID-19 Cases in the U.S.

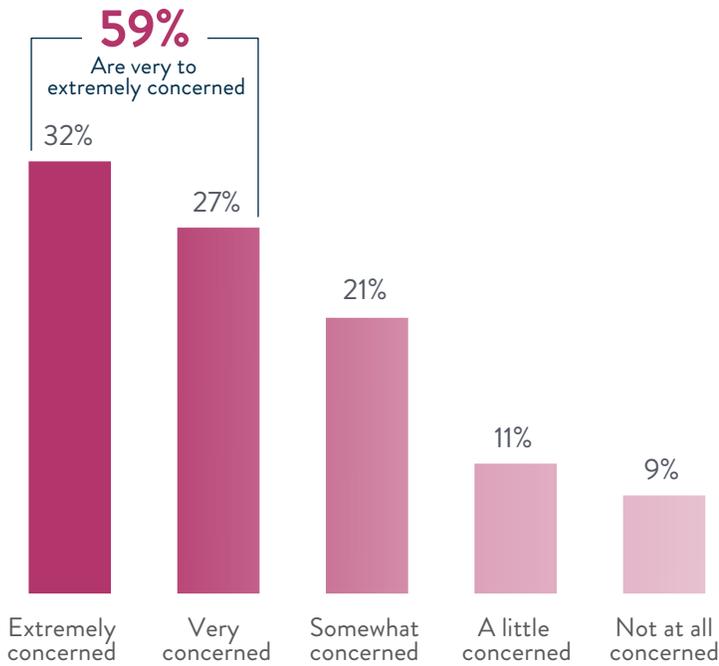
Daily and Cumulative Cases
(March 1 - November 30, 2020)



Source: CDC

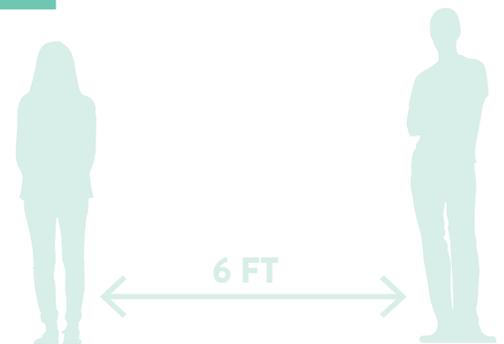
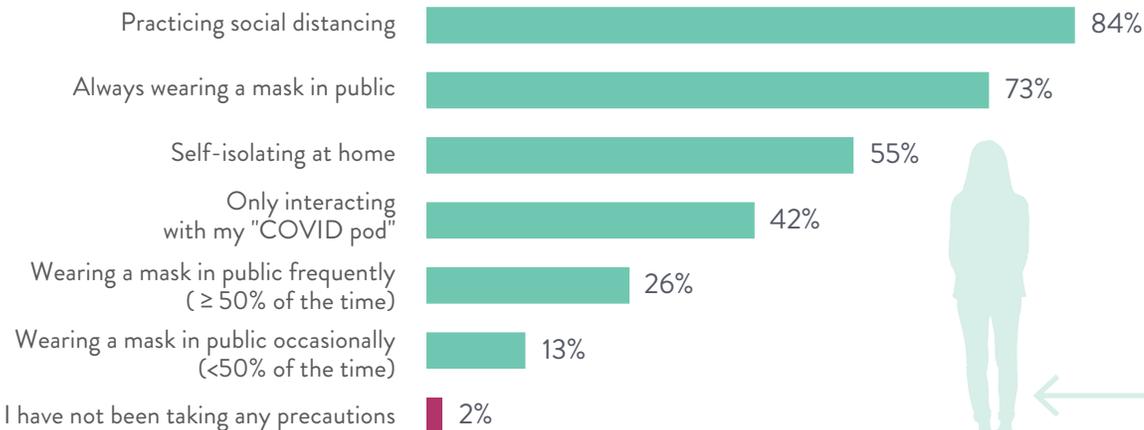


How Concerned Are You About You or A Loved One Contracting COVID-19?



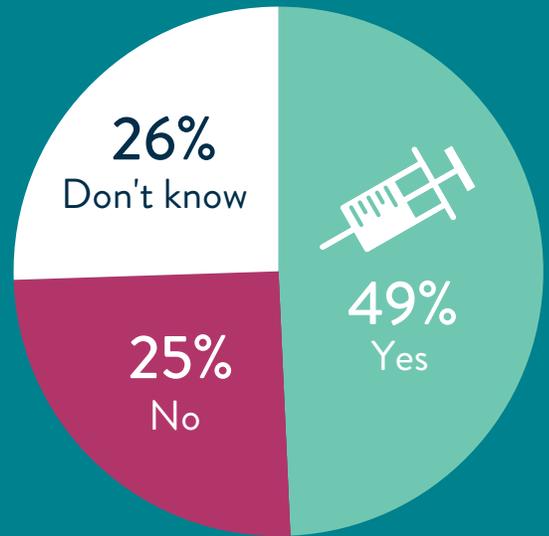
43% of cannabis consumers reported having a friend or family member who had contracted COVID-19, or having contracted it themselves.

Cannabis Consumers' COVID-19 Precautions



CONSUMERS ARE DIVIDED IN THEIR RECEPTIVENESS TO A POSSIBLE COVID-19 VACCINE

Would cannabis consumers get vaccinated?



The survey was conducted before two companies – Pfizer and Moderna – applied for the FDA's emergency use authorization for their two-shot vaccine candidates; public receptiveness may increase as effectiveness is borne out.

Nearly all (98%) current cannabis consumers reported changing their daily behaviors to incorporate precautionary measures.

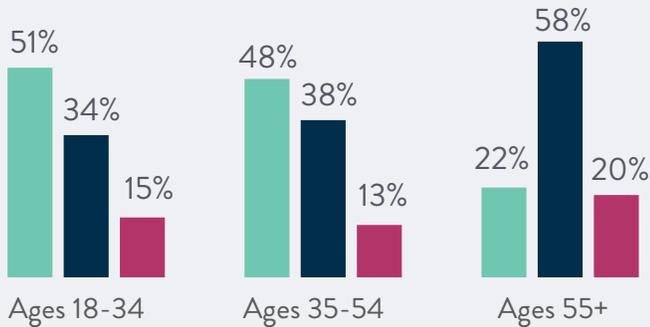
Charts, source: New Frontier Data



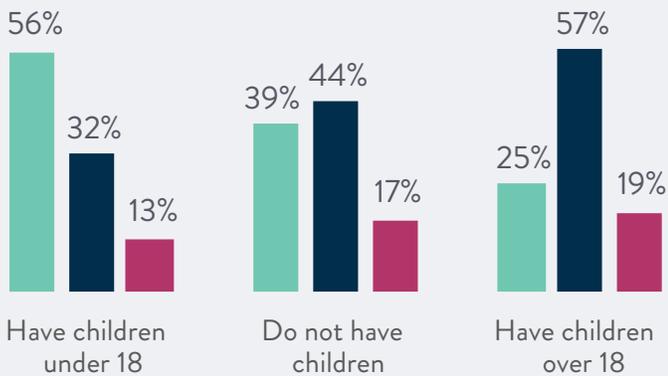
How have consumers changed their cannabis use during the pandemic?

OVERALL CHANGE IN CONSUMPTION

About Half of Consumers Under Age 55 Increased Their Consumption



Consumers with Children Under Age 18 at Home Were Most Likely to Increase Their Use of Cannabis

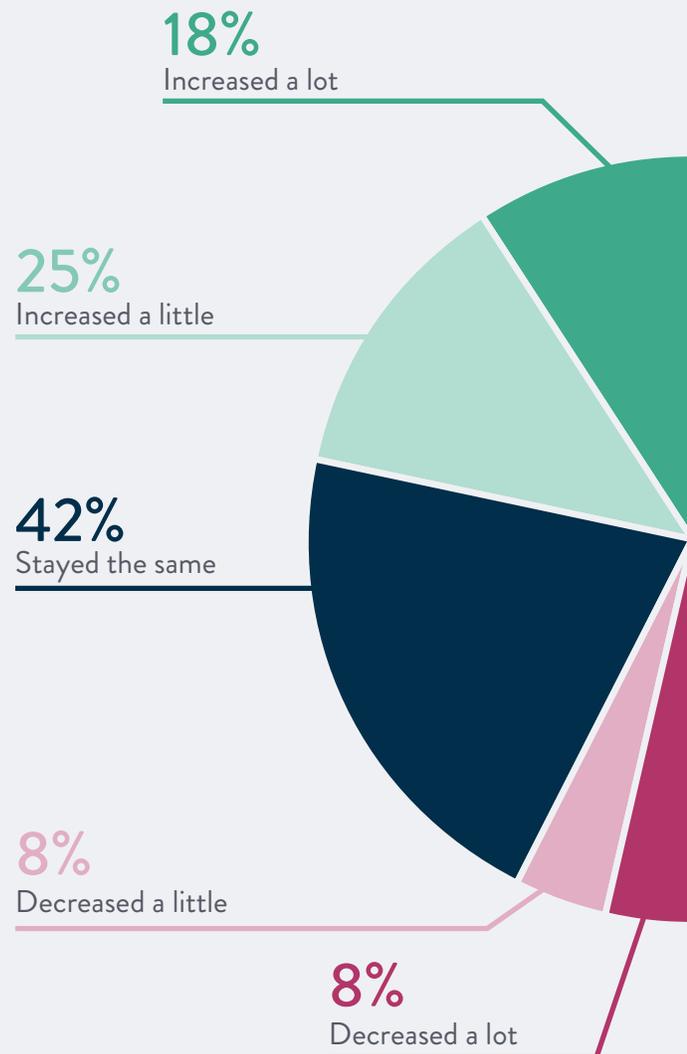


■ Increased
 ■ Stayed the same
 ■ Decreased

More than two in five consumers reported increasing their overall cannabis consumption during the pandemic, and fewer than one in five reported a decrease. Those patterns were remarkably consistent across adult-use, medical, and illicit states, indicating that state cannabis laws do not seem to affect overall changes in consumers' use of cannabis.

Compared to the Beginning of the 2020 Calendar Year, How Has Your Overall Cannabis Consumption Changed?

September 2020



Charts, source: New Frontier Data



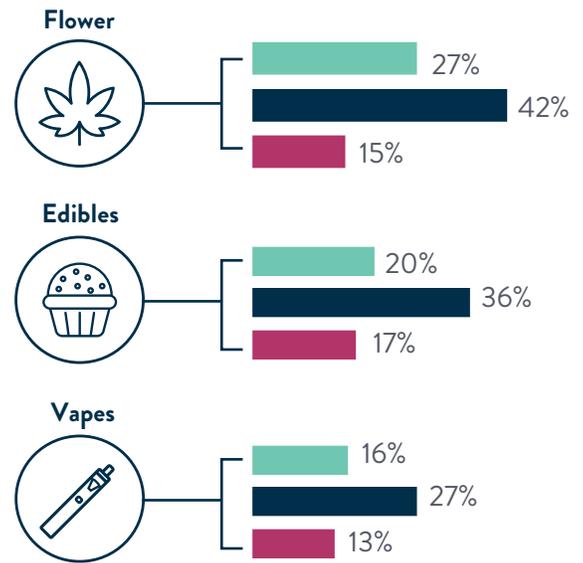
CHANGE IN CANNABIS PRODUCT FORMS

Flower – already the most popular form of cannabis, and a staple even among consumers who consume a diversity of forms – saw the greatest increase in use during the first six months of the pandemic.

In summer 2019, vapes saw a drop in share with the news of EVALI (e-cigarette or vaping product use associated lung injury) affecting illicit vapes nationwide. After having fully recovered their share of sales by the beginning of 2020, vapes again fell to about one-quarter of sales when news of the pandemic revived lung health concerns, and EVALI was still fresh in consumers' memories.

Flower's appeal over vapes was also furthered by lockdown orders; pre-pandemic, many consumers opted for vapes as a less-conspicuous form to consume outside the home, and with many more consumers at home, the need to be discreet became less salient.

Change in Use of Specific Product Forms Since the Beginning of 2020

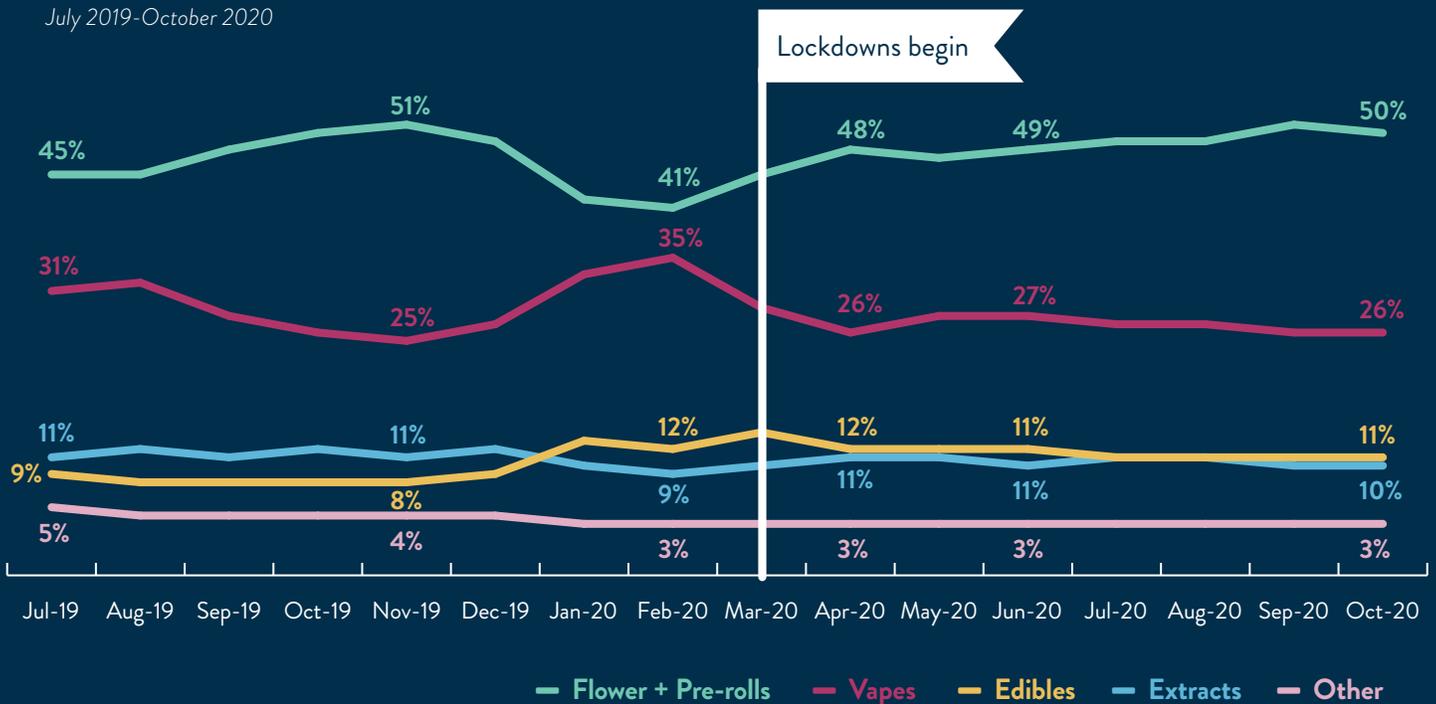


- Now consuming more
- Consuming same amount
- Now consuming less

Note: Not shown - consumers reporting not using specified product form.

Share of Sales by Product Form

July 2019 - October 2020



Charts, source: New Frontier Data

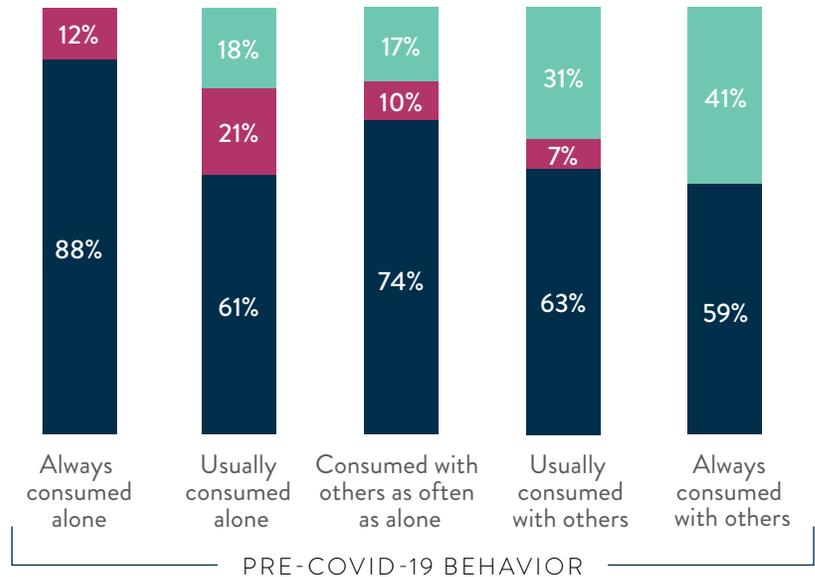


How is the pandemic affecting the social consumption of cannabis?

The pandemic has resulted in the desocialization of cannabis consumption. Among those who only consumed with others before the pandemic, 4 in 10 said they became more likely to consume alone. Comparatively, 1 in 10 of those who always consumed alone before the pandemic reported being more likely to consume with others.

One-third (33%) of purely social consumers (those who only ever consumed with others before the pandemic) have reportedly not used cannabis since the pandemic began. This reflects the reliance by some social consumers on their friends to provide the cannabis they consume because they rarely or never buy their own cannabis.

Changes in Social Consumption During Pandemic



- Same as before
- Now more likely to use with others
- Now more likely to use alone



72%

have changed their social consumption habits since the pandemic began

Changes in Social Use Behaviors During Pandemic



Charts, source: New Frontier Data



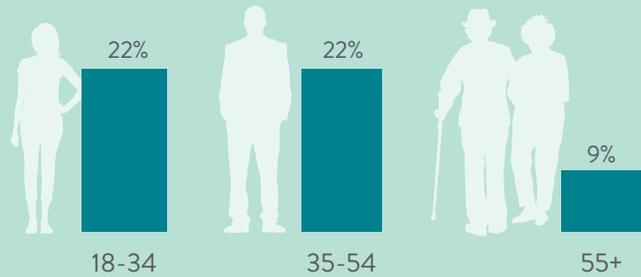
How has the pandemic changed how consumers are getting their cannabis?

About 1 in 5 consumers (19%) reported having acquired cannabis from a new source during the pandemic. Consumers under age 55 were much more likely than older consumers to have used a new source. And the more frequently that consumers report using cannabis, the more likely they were to have used a new source.

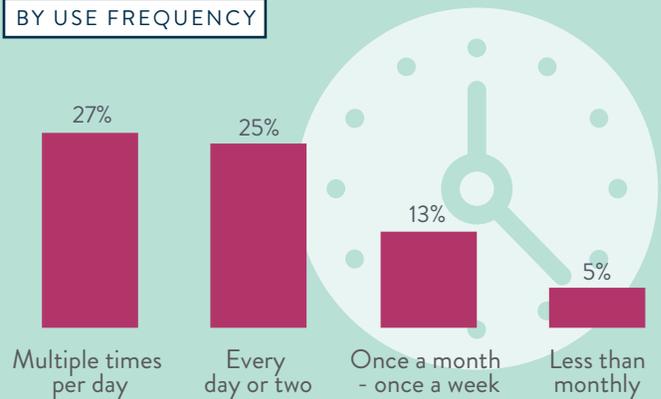
The majority of consumers continued to use the same type of primary source for cannabis during the pandemic as they used before.

Have Acquired Cannabis From A New Source During the Pandemic

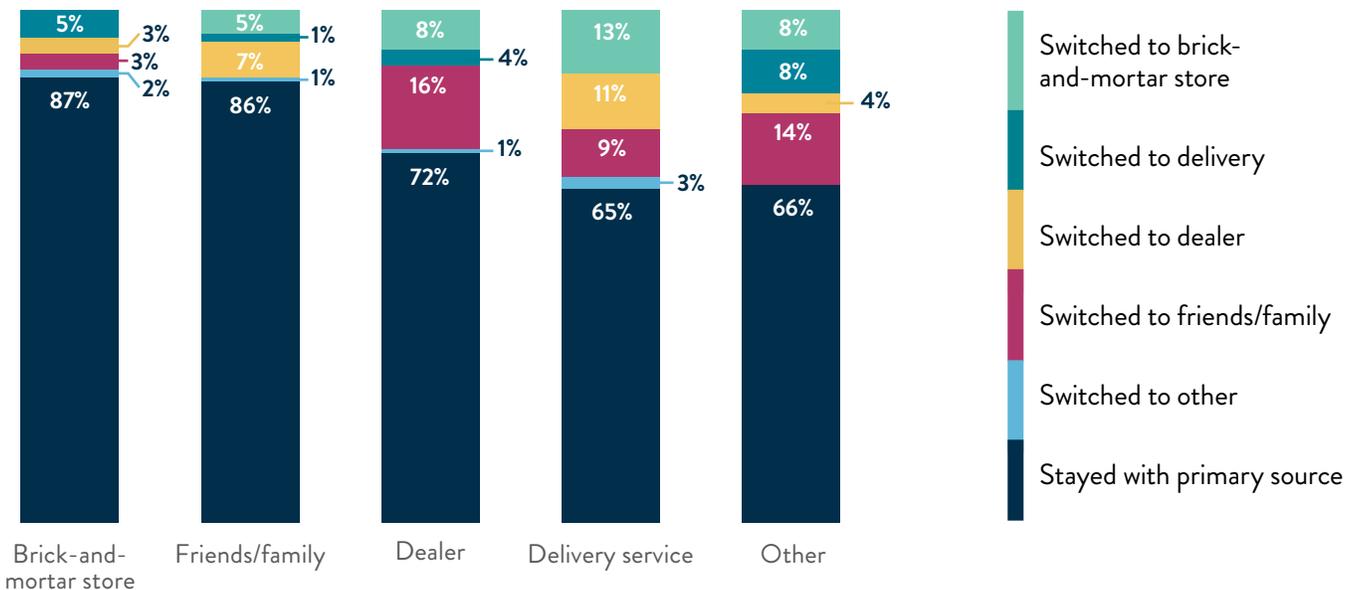
BY AGE



BY USE FREQUENCY



Changes in Primary Source of Cannabis During COVID-19 Pandemic



PRE-COVID-19 PRIMARY SOURCE

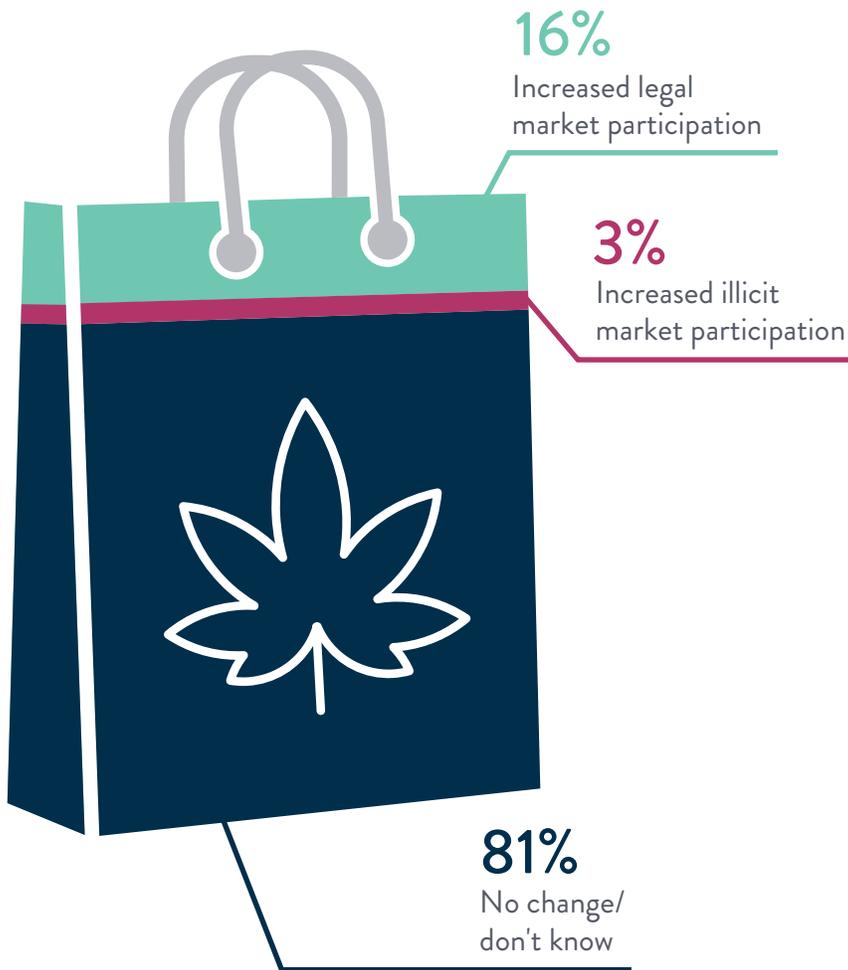
Charts, source: New Frontier Data



REGULATED VS. ILLICIT MARKET

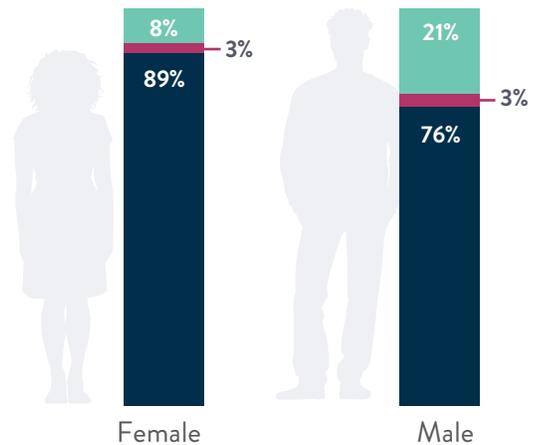
Has COVID-19 Affected Whether You Purchase Cannabis From the Legal Market Relative to the Illicit Market?

Among Consumers in Legal Markets

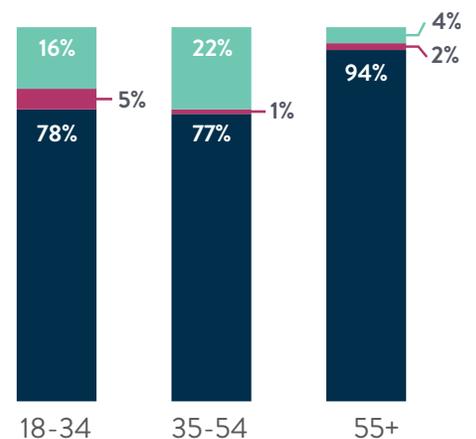


The majority of legal consumers* – those who live in adult-use states, or who are registered patients in medical markets – said that COVID-19 did not affect whether they chose to participate in the regulated or illicit markets. However, of those who did switch markets, many more shifted to the regulated market than to the illicit market.

BY GENDER



BY AGE



- Increased legal market participation
- Increased illicit market participation
- No change / don't know

Note: *"Legal consumers" are defined as those consuming legally within their state's cannabis laws: registered patients in medical markets or any consumers in adult-use markets. These consumers have the choice of whether to participate in the legal or illicit market, whereas consumers in states without legal markets can only participate in the illicit market.

Charts, source: New Frontier Data



How have consumer spending habits evolved during the pandemic?

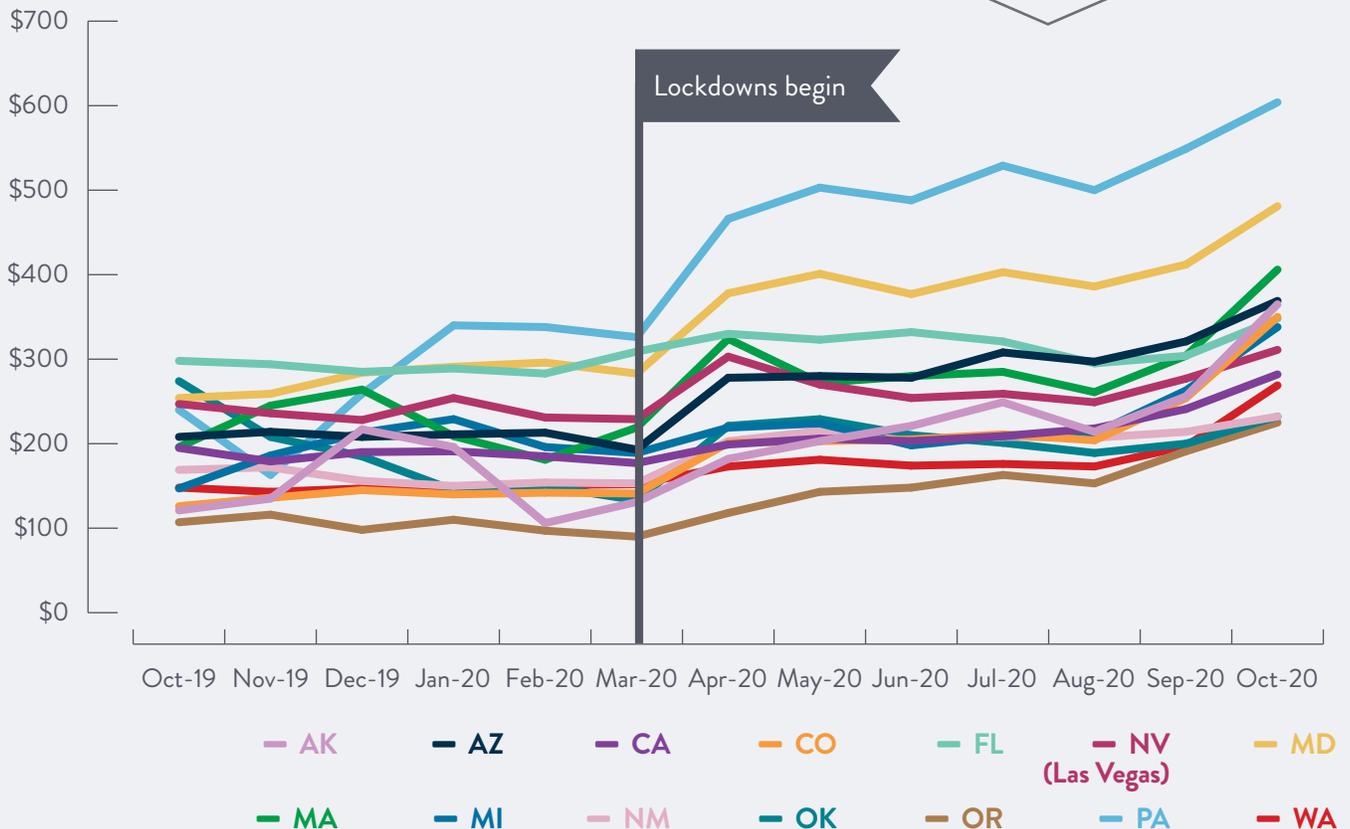
In the last two weeks of March, facing the uncertainty of lockdown, 53% of consumers reported stocking up on cannabis. With the majority of regulated states deeming cannabis retailers as “essential businesses”, consumers’ overall ability to purchase legally was minimally disrupted in legal markets.

Spending on cannabis in virtually every legal market has increased—in some cases dramatically—since late March.

\$149

average increase in monthly spending in markets shown, March - October 2020

Average Monthly Cannabis Spending per Consumer
in Select Legal Markets, Oct. 2019 - Oct. 2020



Source: New Frontier Data



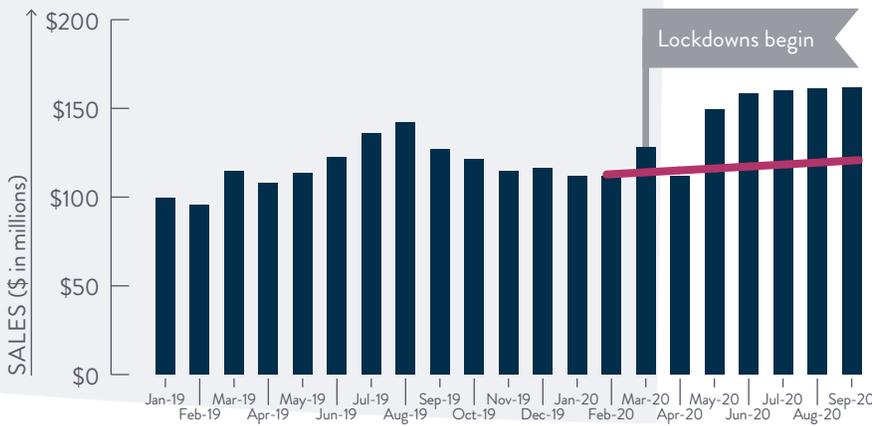
THIS INCREASED CONSUMER SPENDING HAS CONTRIBUTED TO MAJOR GROWTH IN STATE CANNABIS REVENUE IN LEGAL, MATURE MARKETS.

In Colorado and Oregon, two states with mature adult-use markets, actual revenue since the beginning of the pandemic has grown considerably faster than would have been expected based on observed growth through the end of 2019.

From March-September 2020, Colorado averaged 25% higher growth than was expected before the pandemic. Oregon averaged 37% higher growth than expected in monthly revenues.

Colorado Adult-Use Cannabis Monthly Revenues

Actuals vs. Pre-Pandemic Projections



25%

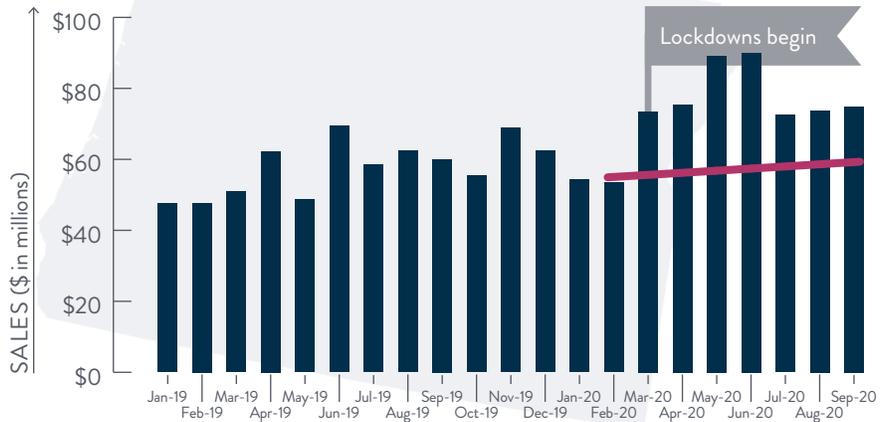
HIGHER GROWTH THAN PREDICTED SINCE THE PANDEMIC BEGAN

37%

HIGHER GROWTH THAN PREDICTED SINCE THE PANDEMIC BEGAN

Oregon Adult-Use Cannabis Monthly Revenues

Actuals vs. Pre-Pandemic Projections



■ Actual revenue — Previous growth path revenue

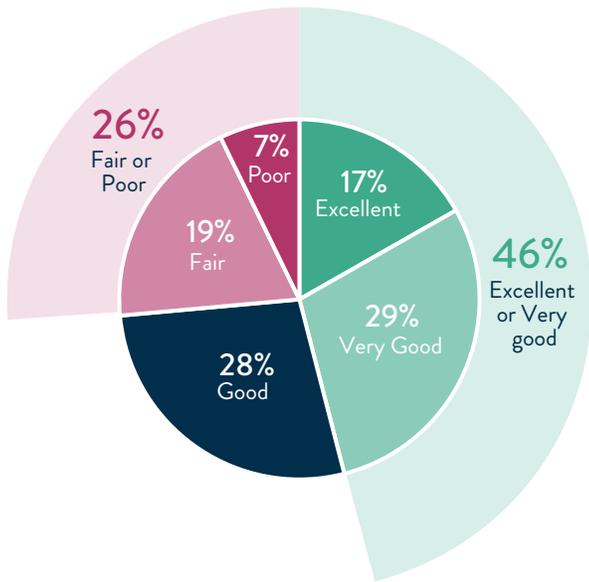
Charts, source: New Frontier Data



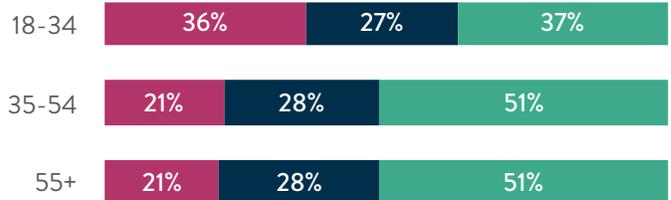
How are consumers' mental health faring during the pandemic?

Female consumers and those aged 18-34 reported worse mental health overall and were more likely to say that their mental health has worsened during the pandemic than did other cohorts (males and ages 35+).

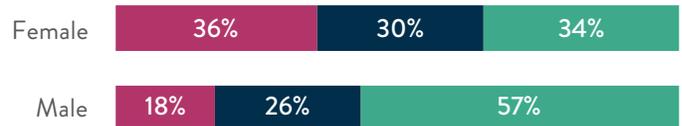
Overall, How Would You Rate Your Mental Health?



AGE

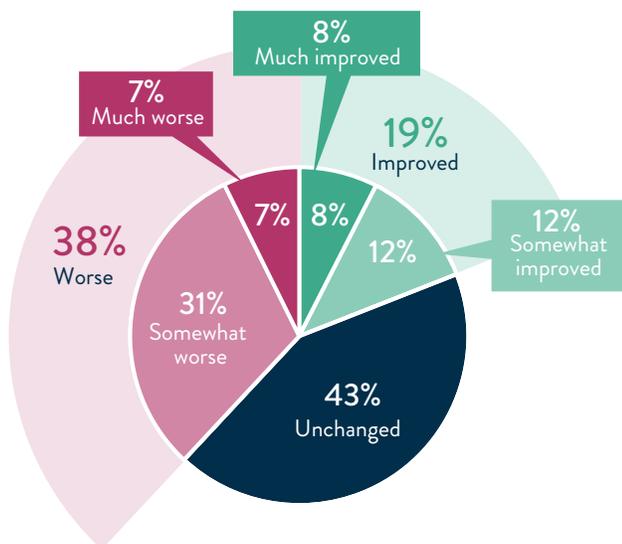


GENDER

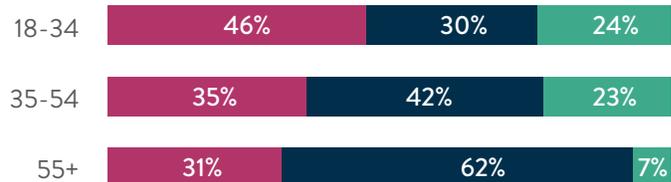


■ Fair / Poor ■ Good ■ Very good / Excellent

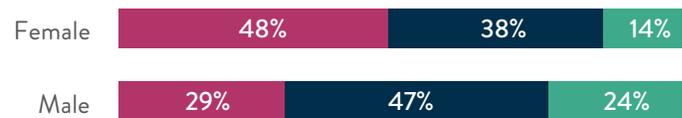
Changes in Mental Health During Pandemic



AGE



GENDER



■ Worse ■ Unchanged ■ Improved

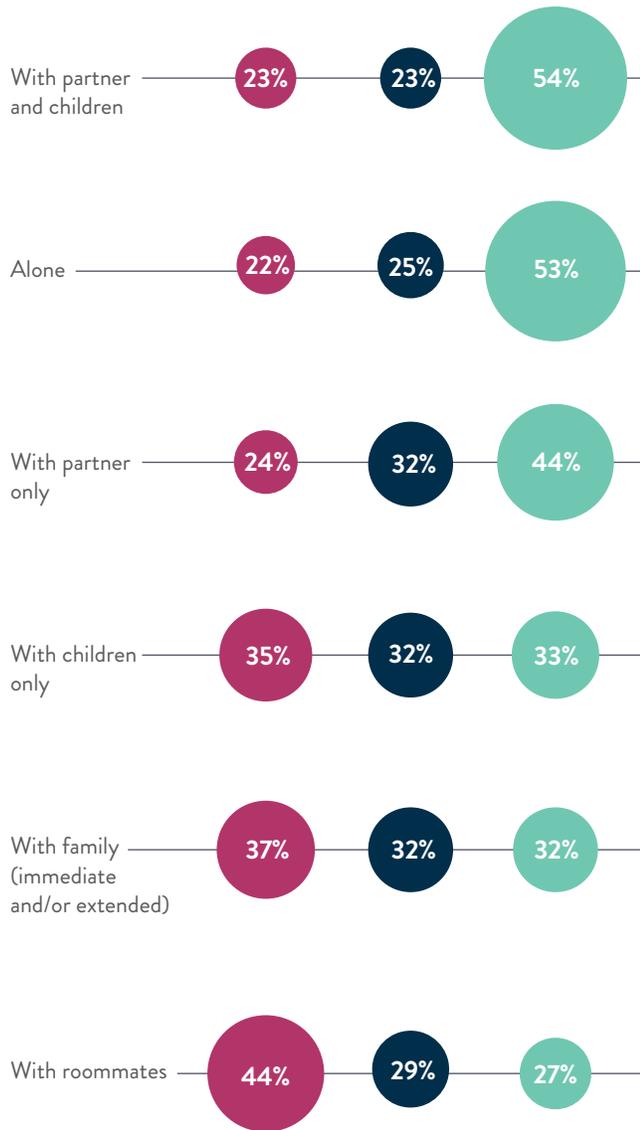
Charts, source: New Frontier Data



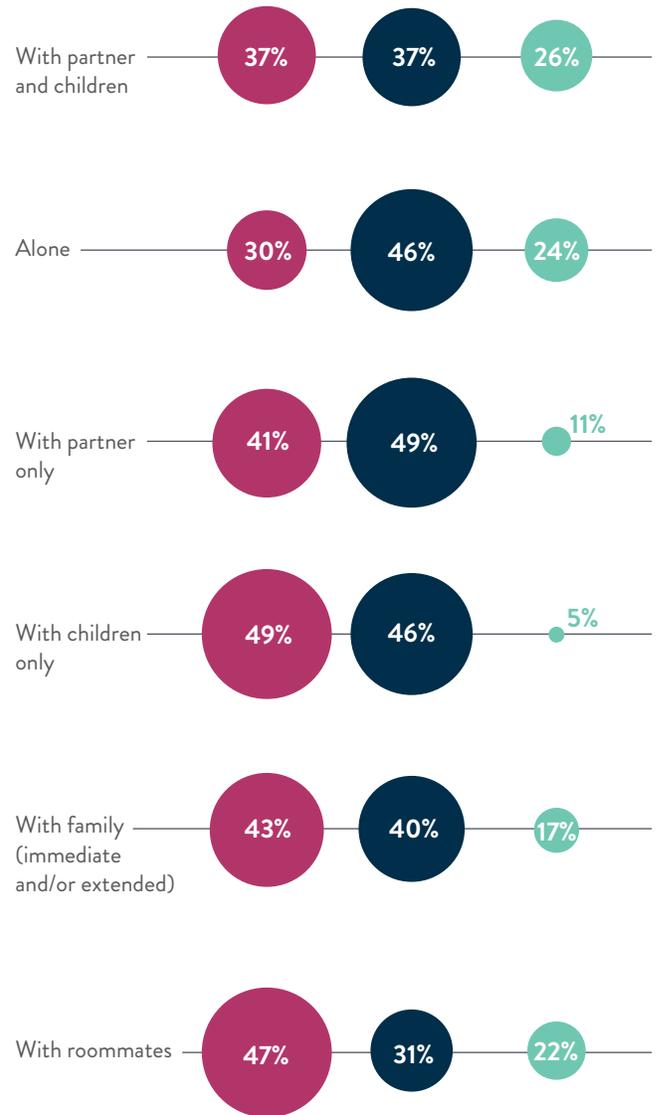
There is a striking correlation between living situations and mental health outcomes. Consumers living alone or with a partner and children seem to be faring best, with more than half describing their mental health as “very good” or “excellent”, and about one-quarter reporting that their mental health actually improved during the pandemic.

Worst off were consumers living with roommates, family (immediate, extended, or multigenerational), or as the sole adult with one or more children.

Mental Health by Living Situation



Changes in Mental Health During Pandemic



■ Fair / Poor ■ Good ■ Very good / Excellent

■ Worse ■ Unchanged ■ Improved

Charts, source: New Frontier Data



CANNABIS USE TO MANAGE MENTAL HEALTH

More than half (52%) of current consumers reported having used cannabis to improve their mental health during the pandemic.

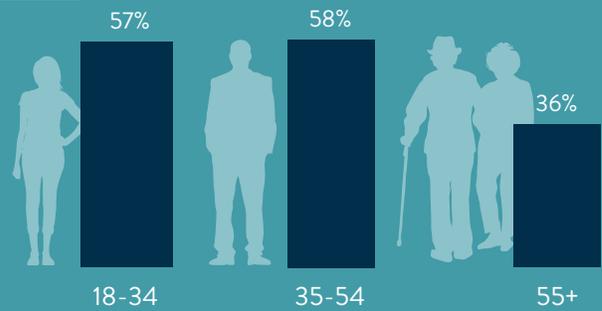


52%

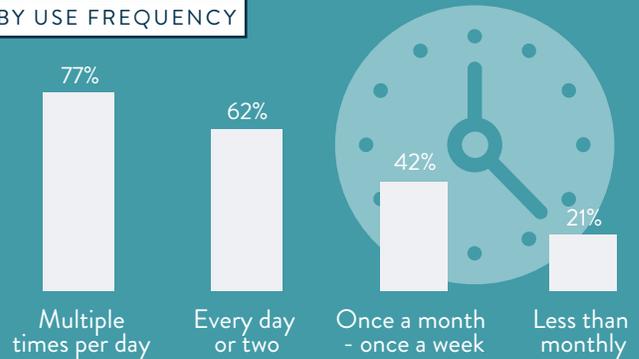
of current consumers say reported using cannabis to improve their mental health during the pandemic.

Have Used Cannabis to Improve Mental Health During the Pandemic

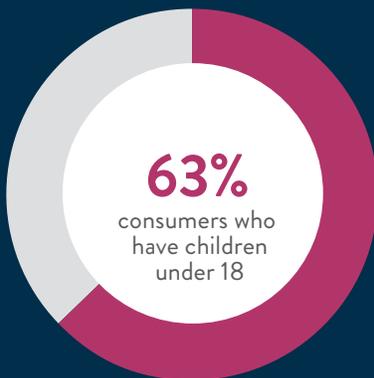
BY AGE



BY USE FREQUENCY



Have Used Cannabis to Improve Mental Health During the Pandemic



63%

of consumers living with minor children at home reported having consumed cannabis to manage their mental health during the pandemic.



Charts, source: New Frontier Data



Key Takeaways on the Impact of COVID-19

The COVID-19 pandemic has consequentially impacted cannabis consumer behavior. More than 4 in 10 (42%) current consumers reported increasing their overall consumption of cannabis, compared to 16% reporting less frequent use. Notably, heavier consumers were most likely to increase their consumption, and less frequent consumers were more likely than very frequent consumers to report a decrease in consumption. A similar outcome¹ has been observed in Europe.

Many patterns of behavioral change were remarkably similar between consumers living in different state market types. Overall increases and decreases in use, and of rates acquiring cannabis from new sources, were nearly identical among consumers in legal adult-use, medical, and illicit states, indicating that state regulation frameworks do not shape these core aspects of consumption behavior.

The broad increase in cannabis consumption has led to increased revenue and growth in legal cannabis markets. Some growth in the legal market is likely also attributable to consumers moving from illicit to regulated markets, with consumers perhaps more comfortable with the safety protocols of regulated businesses than of circumstances surrounding acquiring from dealers, which may occur in people's homes or cars.

The pandemic and suggested practices of social distancing have triggered the desocialization of cannabis use, with a larger proportion of consumers now reporting consuming alone. Female consumers and those aged 18-34—the groups most likely to report consuming cannabis socially before the pandemic—reported considerably worse mental health overall, and were more likely than were males and older consumers to say that their mental health had worsened during the pandemic. It is possible that higher rates of cannabis consumption with others before the pandemic indicated a stronger general tendency toward extroversion and social behavior in general, which the pandemic interrupted.

The desocialization of cannabis use could also prove problematic for emerging business models such as cannabis cafes, private clubs, and smoking lounges which were positioned to capitalize on the historically communal nature of cannabis consumption. Similarly, as social distancing practices remain in effect, canna-tourism may also be adversely impacted as tourism itself remains depressed and the opportunities for social use are limited. With decreased opportunities for use in a social setting, and a loss of the communal cannabis experience, operators will need to create a greater emphasis on the intended effects products, and clearly communicate how the users (especially new users) can maximize their experiences especially when consuming alone.

1. European Monitoring Centre for Drugs and Drug Addiction, "Impact of COVID-19 on patterns of drug use and drug-related harms in Europe", EMCDDA Trendspotter Briefing, June 2020



More than half (52%) of current cannabis consumers report using cannabis to improve their mental health during the pandemic. While there is support for the medical utility of cannabis for a range of ailments, its role in supporting mental health is an under-addressed opportunity by the industry. Operators have effectively seized upon the relaxation/unwinding applications of cannabis to directly compete with alcohol. Industry operators could similarly leverage the mental-health benefits and uses of cannabis to position their products as tools to manage stress and anxiety, particularly as alternatives to alcohol or other nonprescription drugs.

Dispensaries have potential as centers to provide community public-health services. Recent surveys indicate that roughly 75% of Americans² would take a COVID-19 vaccine were it proven safe and effective. Current cannabis consumers expressed less enthusiasm for a vaccine, with 49% indicating that they would get the vaccine, though an additional 26% indicated that they were unsure. That finding presents an opportunity for public health officials, and provides insight into how different segments of the population may or not be receptive to COVID-19 vaccination. While dispensaries are not typically thought of as direct points of contact for public health initiatives, given the lower-than-average receptiveness to vaccination they could provide a low-pressure environment for community outreach to inform and educate the public about the utility and efficacy of the vaccine.

2. Lazarus et al., "A global survey of potential acceptance of a COVID-19 vaccine", *Nature Medicine*, 2020, doi.org/10.1038/s41591-020-1124-9

ABOUT THE SURVEYS

 2020-2021 Cannabis Consumer Survey	
U.S. CENSUS-ALIGNED SAMPLING 4,601 Cannabis Consumers	MARGIN OF ERROR ±1.45%
FIELDING DATES Sep. 21-30, 2020	METHODOLOGY Online Survey

 March 2020 COVID & Cannabis Survey	
U.S. CENSUS-ALIGNED SAMPLING 1,807 Respondents	MARGIN OF ERROR ±2.31%
FIELDING DATES Mar. 23-25, 2020	METHODOLOGY Online Survey

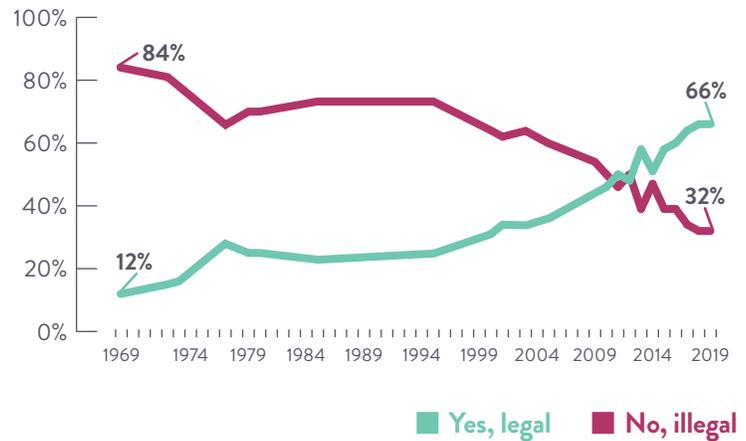


Growing National Support for Legalization

Support for cannabis legalization is one of the fastest-evolving social issues in the U.S. According to the Pew Research Center, more than two-thirds (67%) of Americans support full legalization: up from 41% in 2010, and more than double what it was in 2000 (31%). The General Social Survey (GSS) and the Gallup Poll, two other leading institutions reporting on long-term trends in public opinion on cannabis, both corroborate Pew's results. The GSS pegs support for cannabis legalization at 62%, while the Gallup Poll shows support at 66%.

Support for Full Legalization

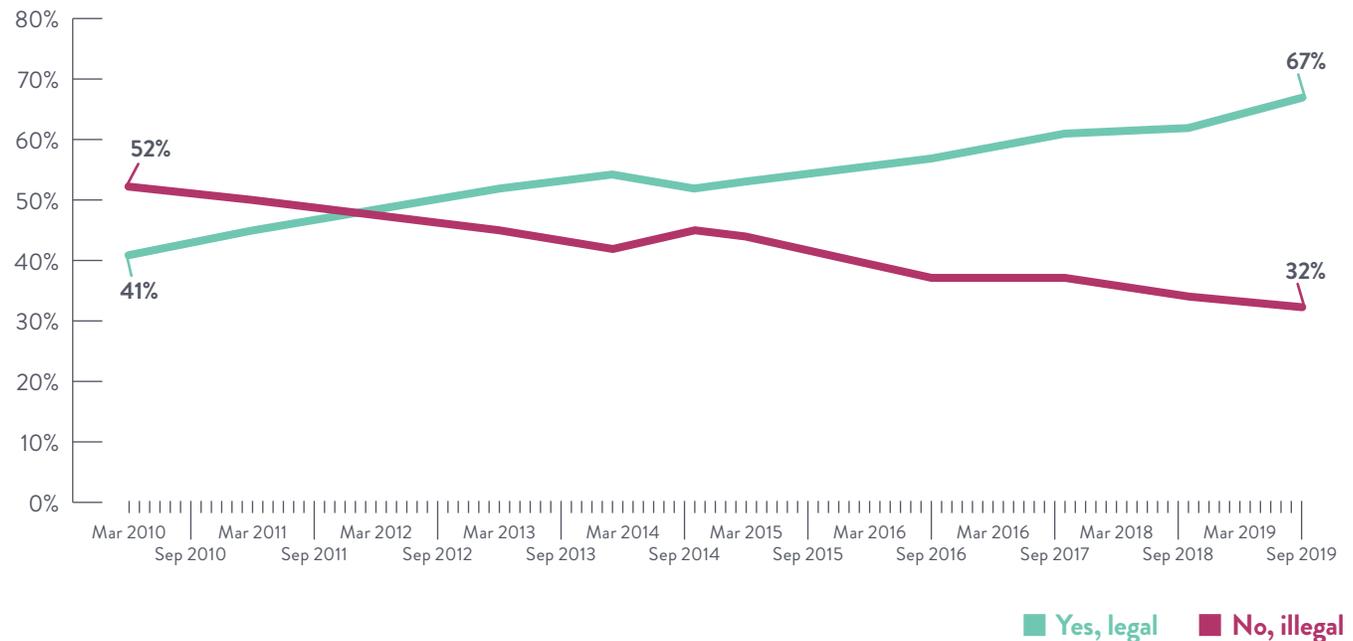
1969 - 2019



Source: Gallop Opinion Poll on Support for Legalization

U.S. Support for Cannabis Legalization

2010-2019



Note: The short change in direction of opinion seen in 2014 in the data from all sources coincides with the timing of adult-use activation in the first states to legalize in the U.S., suggesting that the historic events brought the topic of legalization into the spotlight and stoked strong short-term interest and volatility. The positive momentum in support resumed after one year, however, and has been growing over the last five years among the legalization of eight additional legal adult-use markets.

Source: Pew Research



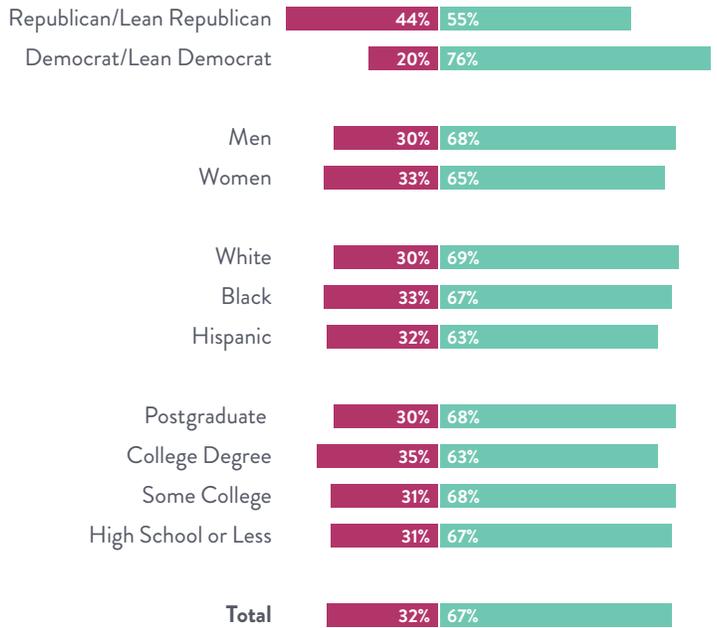
According to the Pew Research Center, nearly eight in 10 Democrats (and Democratic-leaning independents) say marijuana use should be legal, as do the majority of Republicans and Republican-leaning Independents (55%).

Support for cannabis legalization is not being driven solely by changes either in opinion across young adults or the aging-out of prohibitionist views which tend to exist across older segments of the population. Rather, the long-term trends in increasing support have been seen across all age groups, illustrating that support for legalization is a durable generational trend. With a strong and growing majority now supporting full adult-use legalization, the momentum and pressure to expand state programs and adopt federal prohibition reform seems likely to continue growing in coming years.

Wide Partisan Gap in Opinions About Legalizing Marijuana

% Who Say the Use of Marijuana...

Should not be made legal ■ **Should be made legal**

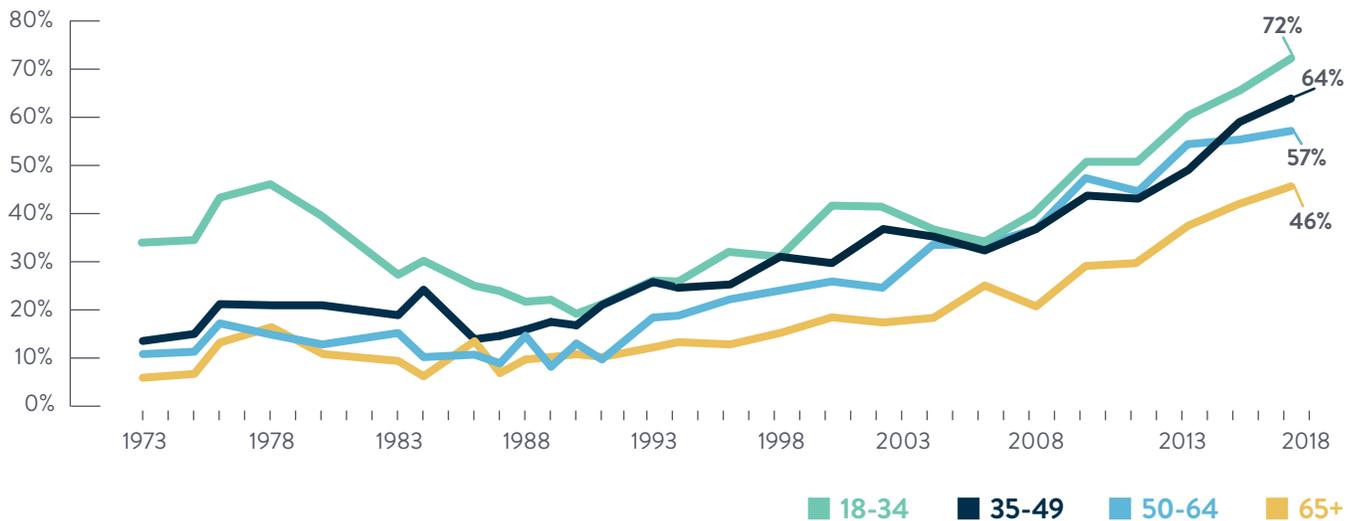


Note: Figures may not add to 100% because of rounding. Whites and blacks include only those who are not Hispanic; Hispanics are of any race. No answer responses not shown.

Source: Pew Research Center Survey of U.S. adults, Sep 3-15, 2019

U.S. Cannabis Legalization Support by Age

1973-2018



Source: General Social Survey

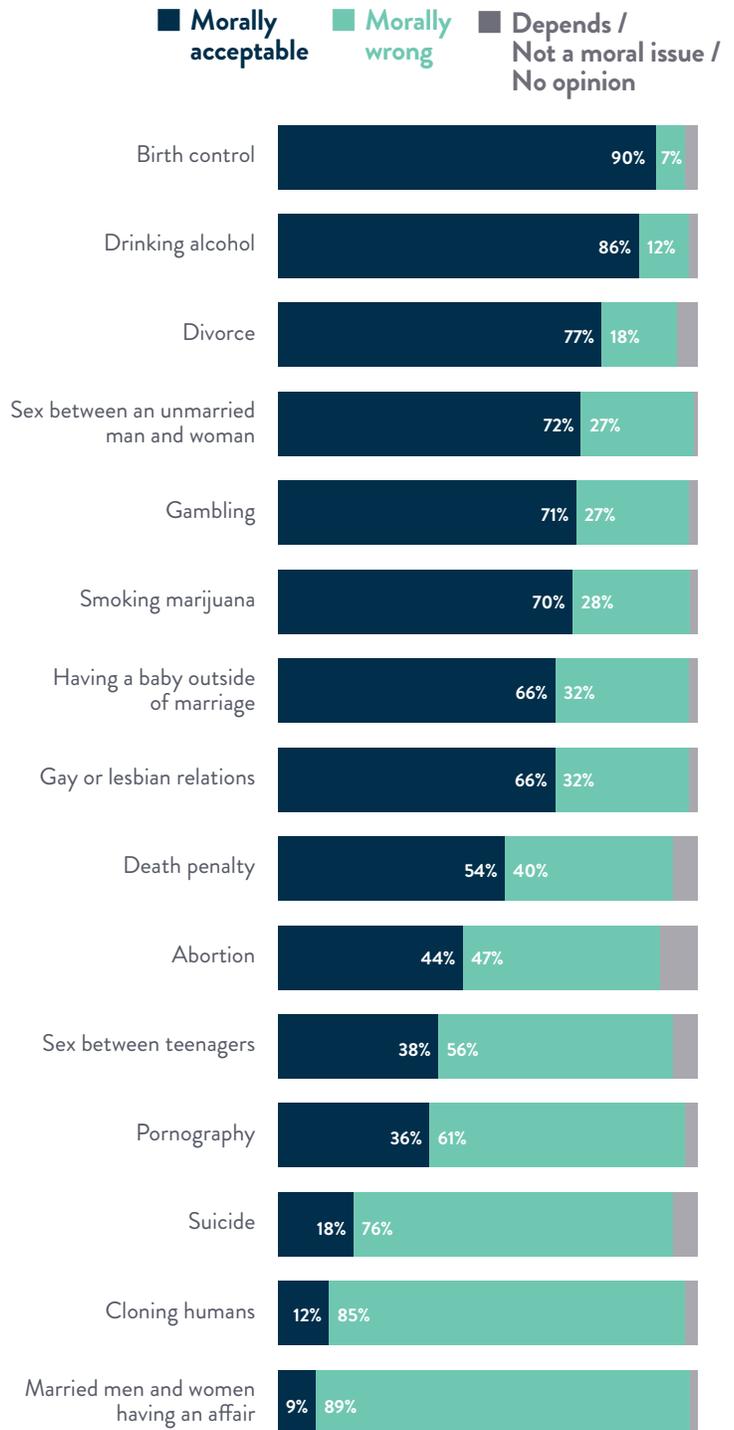


Morality of Cannabis

Aside from the issue of full legalization is the consideration of cannabis consumption as "morally acceptable", representing a quantitative metric by which to judge the shedding of negative stigmas historically associated with the plant. A recent Gallup Poll found that 70% of Americans consider cannabis use morally acceptable, up from 65% in 2018 and 2019. In the survey covering 21 topics, only five ranked as more morally acceptable than "smoking marijuana": birth control (90%), drinking alcohol (86%), divorce (77%), sex between an unmarried man and woman (72%), and gambling (71%) — the latter two outpacing marijuana by within the survey's margin of error.

Americans in general now reportedly find smoking cannabis as more acceptable than gay/lesbian relations (66%), stem-cell research using human embryos (66%), and buying or wearing fur (54%). They are nearly twice as likely to accept cannabis use as morally acceptable than they are to believe the same of pornography (36%), reflecting the seismic shift in social attitudes toward cannabis over the past two decades.

American's Views of the Moral Acceptability of Issues



Source: Gallop, May 2020



“
 With attitudes toward cannabis shifting quickly, the 2022 legislative election cycle may yield the most pro-cannabis legislators seen in U.S. history.”

Public Attitudes as Indicators of Legal Reform

The convergence of both public acceptance and cannabis' increasing prevalence of use portend the continued and deepening entrenchment of cannabis in American society. Those trends are not limited to the 36 states already allowing cannabis for medical use, or the 15 having legalized its full adult use, but rather they extend nationally, if imperfectly, through a patchwork of laws regulating cannabis in locales throughout the country.

The variances between laws nationally are often reflected by political orientation. There is a 30% gap between Democrats and Republicans about the moral acceptability of smoking cannabis (83% vs. 51%, respectively). While notable that a slight majority of Republicans now accept it (after the GOP has long been strongly opposed it), the rising acceptance has yet to translate to support for legalization in historically Republican states. Conversely, liberal-leaning states have been far more progressive toward legalizing and decriminalizing cannabis. Nevertheless, change seems apparent as traditionally conservative states such as Florida and Arizona rank among leading contenders to legalize recreational use by 2022.

While cannabis use (and the war against drugs writ large) has been a wedge issue in politics for decades, politicians in even the most conservative regions would seem increasingly likely to heed the rapidly shifting tide of public support, especially as scientific research bears out therapeutic value for medical cannabis, and the legal industry proves to be a positive economic engine for legal states. With attitudes toward cannabis shifting quickly, the 2022 legislative election cycle may yield the most pro-cannabis legislators seen in U.S. history. With them, advocates hope, will follow the strongest likelihood for national cannabis reform since federal prohibition went into effect in 1937.



Federal Actions vs. Public Opinion & Morality of Use

Despite broad and growing public support for cannabis legalization, movement at the federal level has been much slower than collective changes seen in individual states, with many forces in power making direct moves against the industry. In June 2020, it was uncovered that Attorney General William Barr had ordered antitrust staffers to investigate 10 proposed mergers in the cannabis sector that did not otherwise meet standard legal grounds for the investigation, allegedly out of his own personal politics and dislike of the industry.

While mergers are usually subjected to antitrust investigations only if they are likely to have an impact on competition or create a monopoly, Barr ordered the most thorough level of investigation of mergers between cannabis companies - even after his antitrust staffers had previously determined that the companies in question had not met the standard requirements for market share concentration to warrant such investigation. Merging companies must comply with a Second Request subpoena, and they cannot close a deal until they have complied, thereby causing extended delays and drops in the stock value of the participating companies.

In the case of a review of a proposed merger between cannabis retailer MedMen Enterprises Inc., and PharmaCann LLC, staffers found that the deal did not raise significant competitive concerns. Still, Barr reportedly called the antitrust division leadership to his office and ordered them to issue Second Request subpoenas. The companies were then asked to provide 1.3 million documents from the files of 40 employees. The investigation then found that the markets were indeed "unconcentrated", and was closed without enforcement action. By then, however, the deal had collapsed with MedMen citing delays in obtaining regulatory approval. The company's stock price had lost about one-third of its value while the investigation was being conducted.

That type of unprecedented politicization within public office roles that have historically acted in nonpartisan fashion is not entirely surprising under the current administration. However, with the 2020 elections behind us, and Joe Biden preparing to take office as the new President-Elect, the future for federal cannabis reform remains slightly more optimistic.

PRESIDENT-ELECT JOE BIDEN



Democratic President-Elect Joe Biden has long been on record for opposition to cannabis use and in support of law enforcement policies, standing firmly against total cannabis law reform for the length of his career in public service. Most recently, once his place on top of the 2020 Democratic ticket was secured, Biden partially softened his stance. The former vice president's official policy outlined calls for nationwide cannabis decriminalization and rescheduling, which would resultantly render minor marijuana offenses into ticketable offenses rather than criminal charges. Biden also supported a plan to allocate federal funds to help states expunge existing minor cannabis crimes from individuals' records. Meanwhile, however, the Biden campaign has maintained opposition to full-scale legalization.



2020 Elections: State Legalization Footprint Continues to Expand

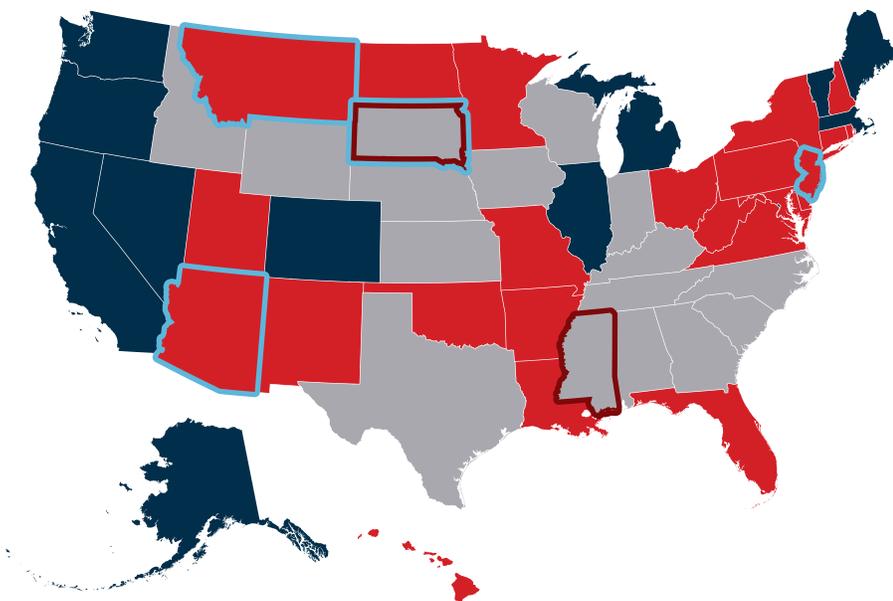
In the past, factors such as high regional cannabis usage rates and strong public support for legalization have proven to be reliable indicators of the potential for future state legalization. Based on trends among state indicators, momentum toward legalization seems persistent. Reported usage rates have been rising, bipartisan support for cannabis legalization has never been higher, and at least one new state has joined the growing ranks of legal medical and adult-use markets every year since 2006.

At the start of the 2020 calendar year, 12 states were considering adult-use legalization, with 10 considering legalized medical use. In

the past, U.S. presidential election cycles have proven to be distinct points of inflection for the growth of the national legalization landscape, as voter turnout is greatest and advocate groups accordingly target their strategies for ballot initiatives. Due to the COVID-19 pandemic and resultant economic shutdowns, nearly all of the states considering reform legislation were respectively challenged by legislative delays of various extents. Subsequently, just five of the aforementioned states considering legalization measures were prepared in the lead-up to put them to vote on Election Day.

The 2020 election cycle was a historic moment for the legal cannabis industry with states such as South Dakota (the first state to concurrently consider legalizing both medical and adult-use cannabis markets) and New Jersey (where passage will have monumental

Additional Annual Revenues from States After Passage of 2020 Cannabis Initiatives



\$3.3 billion

Total Estimated Annual Revenue by 4th Year of Legal Operation

Est. Annual Medical Revenue: **\$87 million**

Est. Annual Adult-Use Revenue: **\$3.2 billion**

■ Current Adult-Use ■ Current Medical Use Only ■ New Adult-Use / Medical Use ■ New Medical Use

Source: New Frontier Data



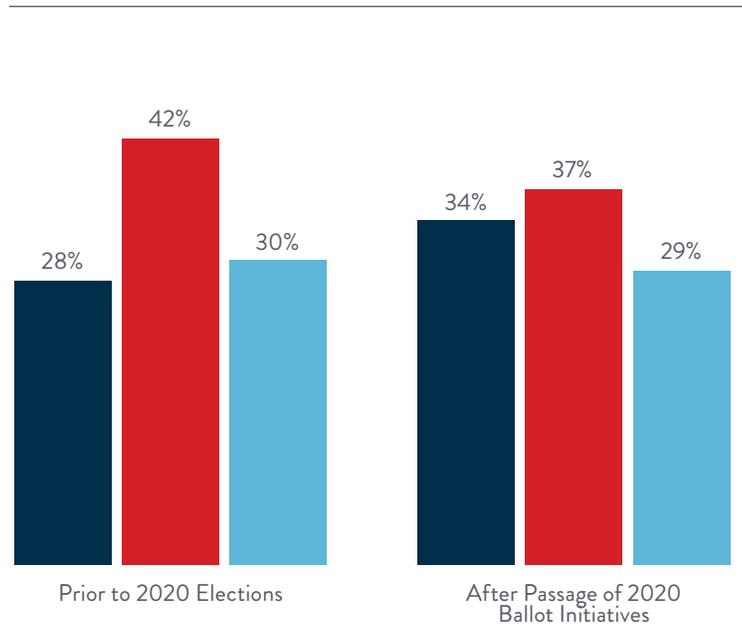
implications, given potential for legal access by consumers drawn from major populations centers including New York City and Philadelphia, etc) voting to legalize adult-use cannabis.

All five states with legalization on the ballot voted to approve their respective measures in 2020, representing a projected combined \$3.3 billion in annual sales revenue to the legal U.S. market by their fourth years of operation. Legalization in those markets is not only going to generate significant new revenues, but also fundamentally reshape the status of cannabis in the U.S.: It will mark the first time that more Americans will be living in states with legal adult-use access than living in states where cannabis remains completely illegal (34% living in a legal adult-use state vs. 29% living in an illegal state).

New Medical States:

STATE	Projected Annual Cannabis Sales by 4th yr. of Market Operation
Mississippi	\$66 million
South Dakota	\$21 million
TOTAL	\$87 million

% of Americans Living in Legal States



- % of U.S. population living in legal adult-use state
- % of U.S. population living in medical only state
- % of U.S. population living in illegal state

New Adult-Use States:

STATE	Projected Annual Cannabis Sales by 4th yr. of Market Operation
New Jersey	\$1.8 billion
Arizona	\$1.0 billion
Montana	\$175 million
South Dakota	\$123 million
TOTAL	\$3.2 billion

All charts, source: New Frontier Data



Arizona

2020 Election: Adult-Use Legalization

ARIZONA FAST FACTS

POPULATION
7.3 million

TOTAL # OF
CANNABIS CONSUMERS
1.2 million

OF REGISTERED MEDICAL
CANNABIS PATIENTS
261,464

EST. ANNUAL SALES FROM
LEGAL ADULT-USE CANNABIS



PROGRAM REGULATIONS: HIGHLIGHTS

Allows for the possession of up to one (1) ounce of cannabis; no more than five (5) grams of concentrate.

Further allows for an individual to have up to six (6) cannabis plants in one's home.

Arizona state sales tax of 5.6%, in addition to local taxes, will apply to all cannabis transactions, with an additional 16% excise tax applied to the sale of cannabis products.

Consumption in public places or open spaces remains prohibited.

As of July 12, 2021, individuals convicted of possessing an ounce or less of cannabis or growing six or fewer cannabis plants in their home for personal consumption may petition to have their conviction expunged. A portion of funds deposited into the Justice Reinvestment Fund will be allocated to research and develop social equity programs that promote the ownership of cannabis businesses by those most impacted by the failed War on Drugs.



THINGS TO WATCH:

Since failing to pass adult-use legalization in the 2016 election cycle, participation in the state's existing medical cannabis market has surged, with over 260,000 registered medical cannabis patients as of August 2020. With the passage of Prop 207 the resulting adult-use market will likely slow the high levels of growth seen in the medical program, but we expect a steady base of medical patients to continue participating.

ON THE BALLOT: Arizona Prop 207

RESULTS



Arizona's Proposition 207: The Smart and Safe Arizona Act

will legalize the sale and possession of cannabis for adult use. A majority of voters supported the measure, and while the 2016 measure failed by roughly 2.5%, Prop 207 passed with strong support with 60% of voters casting ballots in support.

Passage of prop 207 will significantly expand fully legal markets across the western states, creating a land bridge from WA through OR, CA, NV, AZ, and to CO.

With an estimated 1.2 million cannabis consumers in the state, **New Frontier Data estimates that by year four of legalization, annual revenues for legal adult-use cannabis will exceed \$1 billion.**

Mississippi

2020 Election: Medical Cannabis Legalization

MISSISSIPPI FAST FACTS

POPULATION
3 million

TOTAL # OF
CANNABIS CONSUMERS
263,000

EST. ANNUAL SALES FROM
LEGAL MEDICAL CANNABIS

YEAR 1
\$6.0 million

YEAR 2
\$21.1 million

YEAR 3
\$41.1 million

YEAR 4
\$66.0 million



PROGRAM REGULATIONS: HIGHLIGHTS

Initiative 65 allows for medical marijuana to be recommended for patients with one of the 22 specified qualifying conditions including cancer, epilepsy or other seizures, Parkinson's disease, Huntington's disease, muscular dystrophy, multiple sclerosis, cachexia, post-traumatic stress disorder, positive status for human immunodeficiency virus, acquired immune deficiency syndrome, chronic or debilitating pain, amyotrophic lateral sclerosis, glaucoma, agitation of dementias, Crohn's disease, ulcerative colitis, sickle-cell anemia, autism with aggressive or self-injurious behaviors, pain refractory to appropriate opioid management, spinal cord disease or severe injury, intractable nausea, severe muscle spasticity, or another medical condition of the same kind or class to those herein enumerated and for which a physician believes the benefits of using medical marijuana would reasonably outweigh potential health risks.

Alternative 65A would have restricted access access to medical cannabis to terminally ill patients and leave all other regulation, including taxes and allowed quantities for possession, to be determined at a later date.



THINGS TO WATCH:

Mississippi marked its own unique path in adopting medical cannabis. There, where two competing bills for legalization were presented, voters overwhelmingly preferred a citizen-backed proposal (Initiative 65) versus a more restrictive, government-designed measure (Initiative 65A). In so doing, the Magnolia State joined Florida as the second among the Deep South to legalize cannabis.

ON THE BALLOT: Mississippi Initiative 65 & Alternative 65A

RESULTS



Mississippi Initiative 65 and Alternative 65A, Medical Marijuana Amendment. A majority of Mississippi voters (68%) supported the implementation of a medical cannabis initiative. **Voters chose to pass the less restrictive Initiative 65 (74%)** over the more limited Alternative 65A (32%).

Initiative 65 allows access to medical cannabis for more than 20 qualifying conditions, including conditions with associated high rates of patient participation such as PTSD and chronic pain.

With an estimated 263,000 cannabis consumers in the state, **New Frontier Data estimates that with the passage of Initiative 65, by year four of an operational market, annual sales of legal medical cannabis could reach \$66 million.**



20 | ELECTION
20 | COVERAGE

Presented by:
New Frontier
data

NEWFRONTIERDATA.COM/2020

Montana

2020 Election: Adult-Use Legalization

MONTANA FAST FACTS

POPULATION
1.1 million

TOTAL # OF
CANNABIS CONSUMERS
194,239

OF REGISTERED MEDICAL
CANNABIS PATIENTS
38,577

EST. ANNUAL SALES FROM
LEGAL ADULT-USE CANNABIS



PROGRAM REGULATIONS: HIGHLIGHTS

Allows for an individual to have up to four (4) cannabis plants and four (4) seedlings in one's home.

Montana would apply a tax of 20% to the retail price of cannabis and cannabis-infused products.

The Montana Department of Revenue would be responsible for regulating the cultivation, manufacture, transport, and sale of marijuana in Montana. It would begin accepting marijuana provider and dispensary applications by January 1, 2022.

Delegates the regulation of cannabis businesses to local authorities.

Provides for individuals who are currently serving cannabis-related sentences for convictions no longer consider crimes under I-190 to request resentencing or, in certain circumstance, have convictions expunged.



THINGS TO WATCH:

Pre-election polling indicated broad support for I-190 and on election day a majority of Montanans came out in support of the measure which passed with 57% of voters in favor.

Montana voters approved medical-use cannabis in 2004 with 62% voting in support. However, the intervening years have seen conflict over the restrictive regulations governing dispensaries, with the legislature taking a more conservative stance than Montana voters on the availability and access to cannabis.

Montana's recently restructured legal medical cannabis market will likely see plateauing growth with the onset of adult use sales, however the 20% adult-use retail tax will likely keep a steady base of patients participating in the medical program.

ON THE BALLOT:
Montana I-90

RESULTS



Montana I-190, Marijuana Legalization and Tax Initiative

legalizes the possession and use of marijuana for adults 21 and older. The state of Montana will apply a 20% tax to all cannabis and cannabis infused products. Broader regulation on cannabis businesses will be left to individual municipalities and local authorities.

With an estimated 194,239 cannabis consumers in the state, **New Frontier Data estimates that by year four of market operation, annual sales of legal adult-use cannabis could reach \$175 million.**



20 | ELECTION
20 | COVERAGE

Presented by:
New Frontier
data

NEWFRONTIERDATA.COM/2020

New Jersey

2020 Election: Adult-Use Legalization

NEW JERSEY FAST FACTS

POPULATION
8.9 million

TOTAL EST. # OF
CANNABIS CONSUMERS
1 million

EST. ANNUAL SALES FROM
LEGAL ADULT-USE CANNABIS



PROGRAM REGULATIONS: HIGHLIGHTS

Legalizes the possession and use of cannabis for adults 21 and older.

Applies the state sales tax (6.625%) to adult-use sales, and the state Legislature would be authorized to allow local governments to enact an additional 2 percent sales tax.

Possession limits, guidance on home-grows, and retail regulations are not included in Question 1, but will be established later by the state's five-person Cannabis Regulatory Commission (which was first established to oversee the state's medical-marijuana program).



THINGS TO WATCH:

The 2020 referendum before voters enjoyed broad public support passing by a margin of 2-1.

New Jersey will be the first state in the Mid-Atlantic to legalize adult-use cannabis, attracting significant regional canna-tourism from the large population of neighboring states, including NY and PA. The proximity of Philadelphia and New York City will be especially significant in expanding the total available consumer base.

With regulations yet to be determined, the program may still face hurdles within restrictive regulations. Investors and operators should pay close attention to the details of the regulatory rollout following the passing of Question 1, as product concentration limits, product form limitations, local jurisdiction bans, and failure to issue enough licenses to adequately supply an anticipated heavy consumer demand, could all hamstring legal market growth.

ON THE BALLOT: New Jersey Public Question 1

RESULTS



New Jersey Public Question 1, Marijuana Legalization

Amendment legalizes the possession and use of cannabis for adults 21 and older, as well as the cultivation, processing, and sale of retail marijuana. The constitutional amendment will take effect on January 1, 2021.

With an estimated 1 million cannabis consumers in the state, and heavy tourism potential in nearby cities such as New York City and Philadelphia, **New Frontier Data** estimates that by year four of an operational market, annual sales of legal adult-use cannabis in NJ could reach \$1.8 billion.



20 | ELECTION
20 | COVERAGE

Presented by:
New Frontier
data

NEWFRONTIERDATA.COM/2020

South Dakota

2020 Election: Adult-Use Legalization

SOUTH DAKOTA FAST FACTS

POPULATION
884,659

TOTAL EST. # OF
CANNABIS CONSUMERS
97,429

EST. ANNUAL SALES FROM
LEGAL ADULT-USE CANNABIS

YEAR 1
\$41.3 million

YEAR 2
\$74.9 million

YEAR 3
\$103.8 million

YEAR 4
\$122.9 million

PROGRAM REGULATIONS: HIGHLIGHTS

Allows for the possession and distribution of up to one (1) ounce of cannabis.

Further allows for individuals to have up to three (3) cannabis plants in a private residence if they live in a jurisdiction with no licensed retail outlets.

Cannabis sales will be taxed at 15%.

Requires the Legislature to establish both a medical cannabis program and legalize the sale of hemp.

Consumption in public places or open spaces remains prohibited.

Local governments are able to ban the operation of any cannabis-related business from operating within their jurisdiction.

THINGS TO WATCH:

South Dakota is the first state to vote on medical and adult-use cannabis in the same election. The medical measure also on the ballot was the South Dakota Initiated Measure 26, Medical Marijuana Initiative, which establishes a medical marijuana program for individuals with a serious medical condition. Measure 26 may provide an alternative for voters who would have voted for Constitutional Amendment A due to their support for medical cannabis, but not adult-use, and this could undermine support for Amendment A.

Both the medical and adult-use initiatives were passed by voters; adult-use was supported by 54% of the electorate. The medical cannabis initiative passed with 70% support.

The ability for local jurisdictions to ban sales should not be overlooked – excessive local bans have successfully limited the growth of the legal cannabis market in other states, and South Dakota has historically leaned politically conservative.

In the case of local bans, the home-grow/caregiver market will likely flourish and provide healthy competition for the retail market.

ON THE BALLOT: Constitutional Amendment A

RESULTS

54%  **46%** 

South Dakota Constitutional Amendment A, Marijuana Legalization Initiative

legalizes the recreational use of cannabis for adults 21 years or older. South Dakota is the first state to vote on both medical and adult-use cannabis in the same election. Cannabis will be taxed at 15% and local governments retain the right to ban any type of cannabis business from their jurisdiction – including retail, cultivators, processors, and testing facilities.

With an estimated 97,429 current cannabis consumers in the state, **New Frontier Data estimates that by year four of an operational market, annual sales of legal adult-use cannabis in South Dakota will exceed \$122 million.**



NEWFRONTIERDATA.COM/2020

South Dakota

2020 Election: Medical Cannabis Legalization

SOUTH DAKOTA FAST FACTS

POPULATION
884,659

TOTAL EST. # OF
CANNABIS CONSUMERS
97,429

EST. ANNUAL SALES FROM
LEGAL MEDICAL CANNABIS

YEAR 1
\$1.8 million

YEAR 2
\$6.5 million

YEAR 3
\$12.7 million

YEAR 4
\$20.6 million



PROGRAM REGULATIONS: HIGHLIGHTS

Establishes a medical marijuana program for individuals with a chronic or debilitating disease, a medical condition or treatment that produces one or more of the following: cachexia or wasting syndrome; severe, debilitating pain; severe nausea; seizures; or severe and persistent muscle spasms, including those characteristic of multiple sclerosis.

Allows for patients to possess up to three (3) ounces of cannabis or another amount as prescribed by a physician.

Home cultivation by patients is permitted; patients may grow up to three (3) cannabis plants in one's home if registered to cultivate cannabis.

The measure requires the Department of Health to determine additional regulations to implement the program by October 29, 2021.

The Department of Health will be required to issue registry identification cards to qualified patients no later than 140 days after the effective date of the measure.



THINGS TO WATCH:

Initiated Measure 26 passed with a significant majority of voters (70%) supporting the measure. South Dakota Constitutional Amendment A, Marijuana Legalization Initiative, which legalizes the possession and distribution of cannabis for adult use also passed with a smaller majority (54%) of voters supporting the measure.

South Dakota made history as the first state to adopt both recreational and medical cannabis programs through the same ballot.

With the passage of both Constitutional Amendment A and Initiated Measure 26, South Dakota's legal market will likely evolve similar to other markets with legalized home cultivation – where caregiver/gifting system meets upwards of 50% of the state's demand for cannabis. This could be pushed higher if the ensuing rules include product form restrictions for the retail market.

ON THE BALLOT:
Initiated Measure 26

RESULTS

70% 30%

South Dakota Initiated Measure 26, Medical Marijuana Initiative

establishes a medical marijuana program for individuals with a debilitating medical condition. In contrast with the other legalization initiative on the ballot, Amendment A, Measure 26 is a more restricted measure legalizing access to medical cannabis for registered patients only.

New Frontier Data estimates that by year four of an operational market, annual sales of medical cannabis will exceed \$20 million.



NEWFRONTIERDATA.COM/2020

Shifting Cannabis Sentiment & Consumption: 2020 U.S. ELECTION SPECIAL INSERT

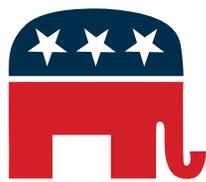
Support for cannabis policy reform is one of the most rapidly shifting social issues in the U.S., with more than two-thirds of American adults now supporting full legalization. With nearly half of American adults having tried cannabis at least once, cannabis consumers are nearly as diverse as the American public at large. This report investigates the political leanings and priority issues among this broad swath of American voters.

IN 2016

In the 2016 presidential election, 42% of cannabis consumers voted for Hillary Clinton, while 31% voted for Donald Trump.



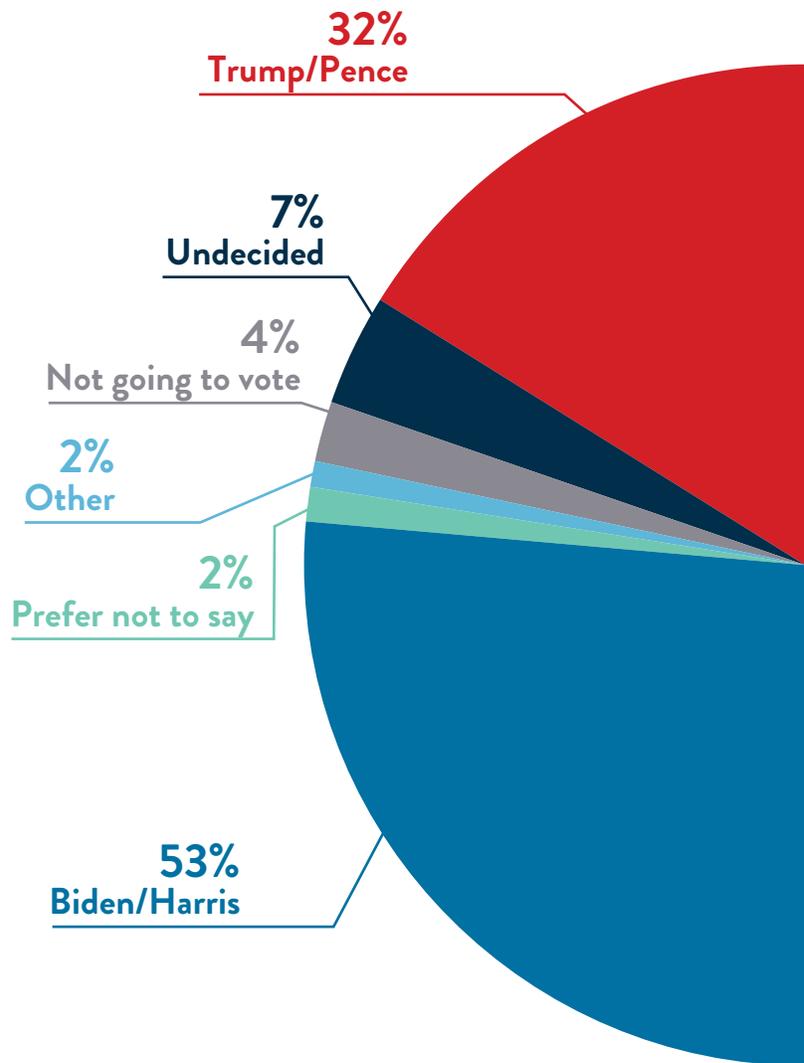
42%



31%



How did cannabis consumers plan to vote in the 2020 presidential election?



Note: Polling dates: September 21-30, 2020

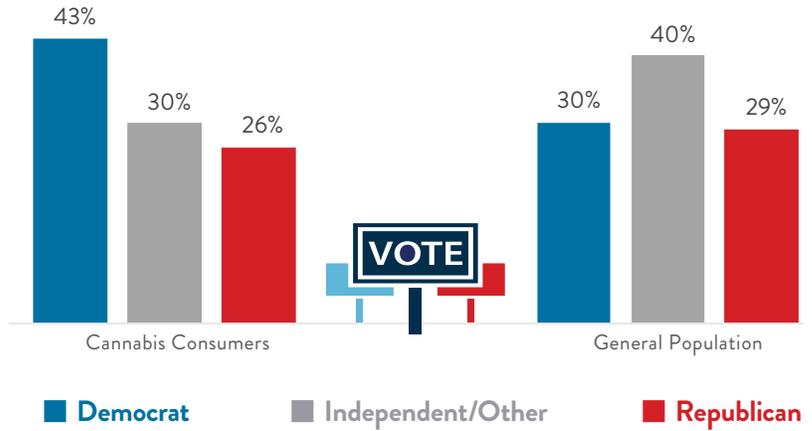
Charts, source: New Frontier Data

How do cannabis consumers align by political party?

Compared to the general U.S. population, cannabis consumers are likelier to identify as Democrats, less as Independents, and roughly on par as Republicans.

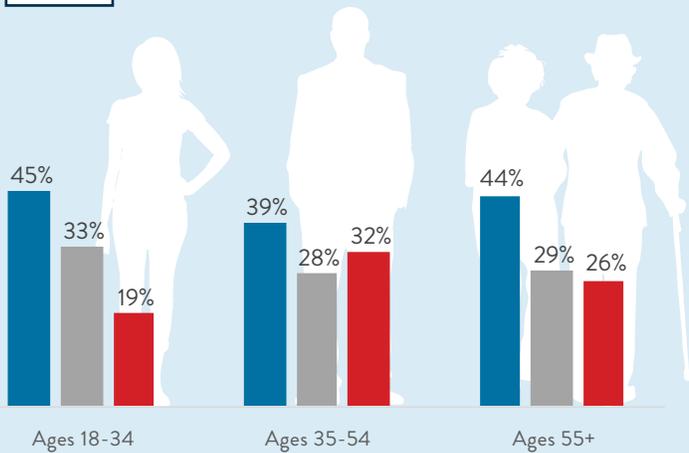
Political Party:

Cannabis Consumers vs. General Population

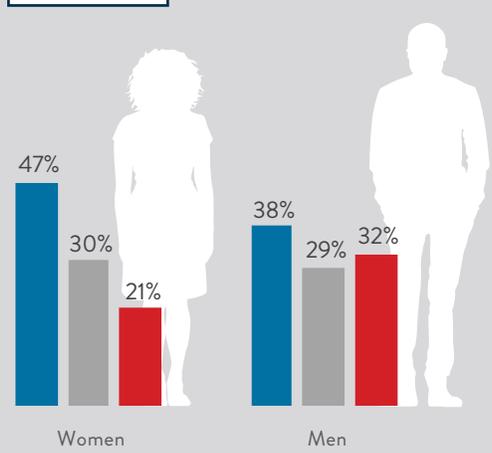


Cannabis Consumers' Political Party

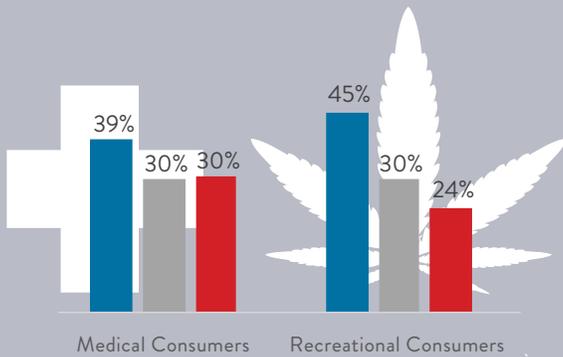
BY AGE



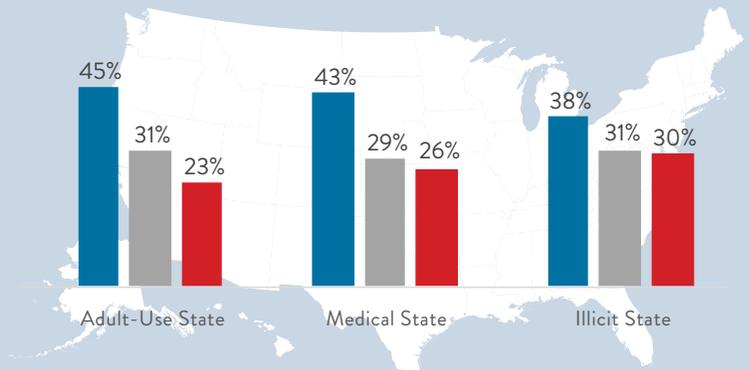
BY GENDER



BY CONSUMER TYPE



BY HOME STATE MARKET TYPE



Charts, sources: New Frontier Data, Gallup (Aug 31 - Sept 13, 2020)

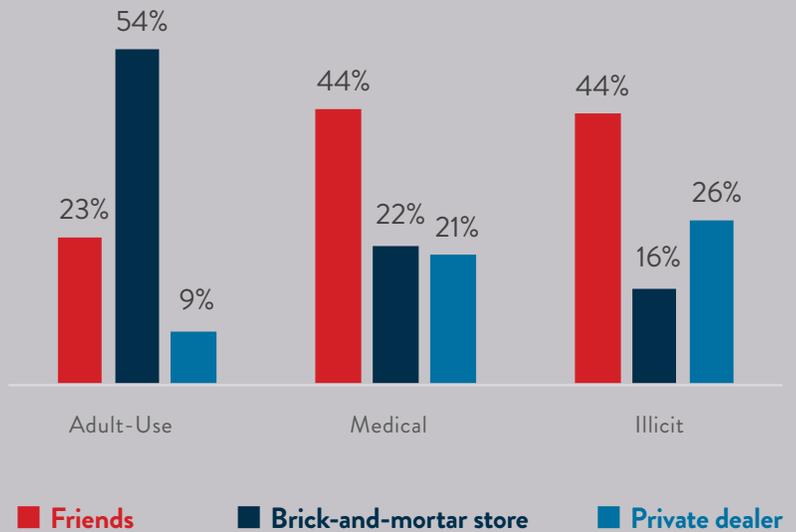


What effect does state-level cannabis legalization have on consumer behavior?

Legalization of adult-use cannabis sales erodes the illicit market by encouraging existing consumers to transition to the legal market.

More than half of cannabis consumers in adult-use states say that a brick-and-mortar store is their primary source of cannabis. In medical and illicit markets, friends are the leading source.

Primary Source of Cannabis by Market Type



Some growth in legal markets also comes from first-time cannabis consumers.

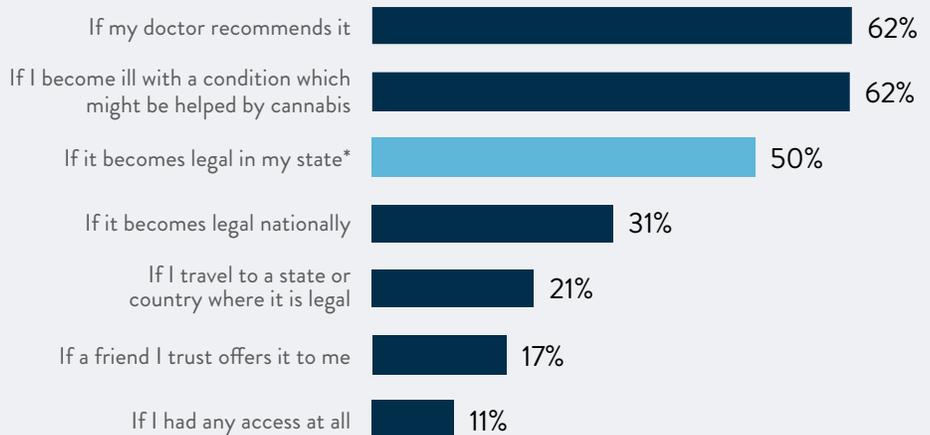
In medical-only and illicit markets, 50% of adults who have not consumed cannabis but are open to trying it said that legalization in their state would cause them to try cannabis.



50%

of adults who have not consumed cannabis but are open to trying it said that legalization in their state would cause them to try cannabis

Situations When Interested Nonconsumers Would Try Cannabis



* Among residents of illicit and medical-only markets.

Charts, source: New Frontier Data



What are the most animating political issues for cannabis consumers?

The top issues determining how cannabis consumers intended to vote in the 2020 elections were the economy, healthcare, and the COVID-19 pandemic.

Only 3% of consumers ranked cannabis legalization as their primary issue, but 36% listed it among their top five issues.

And consumers viewed its relative importance very differently depending on what the cannabis laws were in their home states, with nearly half of consumers in illicit markets naming cannabis legalization among their five most important issues.

Top Issue

1. The Economy	27%
2. The COVID-19 Pandemic	22%
3. Healthcare	20%
4. Gender/Racial Equity	6%
5. Climate Change/The Environment	5%
6. National Security	4%
7. Law Enforcement/Criminal Justice	4%
8. Cannabis Legalization	3%
9. Immigration	3%
10. Voting Rights/Fair Elections	2%
11. Taxes/Tax Cuts	2%
12. Education	2%
13. International Trade	0%

Among Top 5 Issues

1. Healthcare	72%
2. The Economy	69%
3. The COVID-19 Pandemic	63%
4. Climate Change/The Environment	40%
5. Gender/Racial Equity	38%
6. Cannabis Legalization	36%
7. Law Enforcement/Criminal Justice	35%
8. Taxes/Tax Cuts	33%
9. National Security	30%
10. Education	28%
11. Immigration	27%
12. Voting Rights/Fair Elections	23%
13. International Trade	7%

Among Top Five Issues	Live in Adult-Use State	Live in Medical State	Live in Illicit State	Difference Across Markets
Healthcare	71%	73%	73%	3%
The Economy	68%	71%	66%	4%
The COVID-19 Pandemic	65%	64%	60%	5%
Climate Change/The Environment	45%	37%	39%	8%
Gender/Racial Equity	36%	37%	39%	3%
Cannabis Legalization	25%	36%	46%	21%
Law Enforcement/Criminal Justice	35%	36%	34%	1%
Taxes/Tax Cuts	36%	30%	34%	6%
National Security	32%	30%	28%	4%
Education	26%	29%	28%	4%
Immigration	30%	28%	22%	8%
Voting Rights/Fair Elections	25%	21%	23%	4%
International Trade	7%	8%	7%	2%

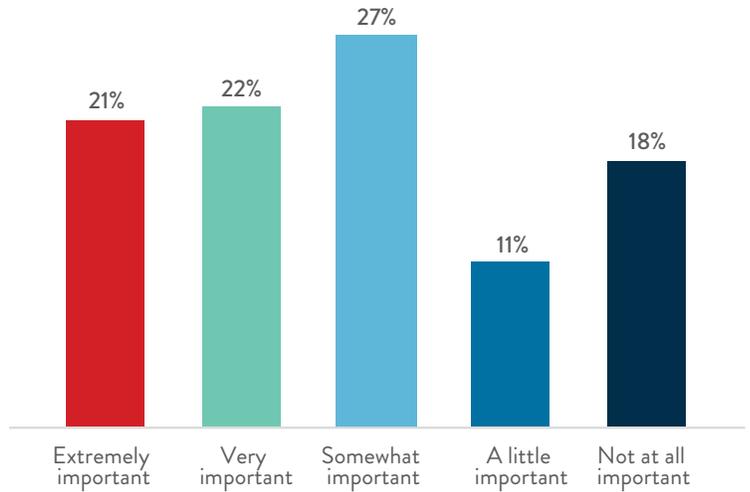
Charts, source: New Frontier Data



As a political issue, how important is cannabis legalization to consumers?

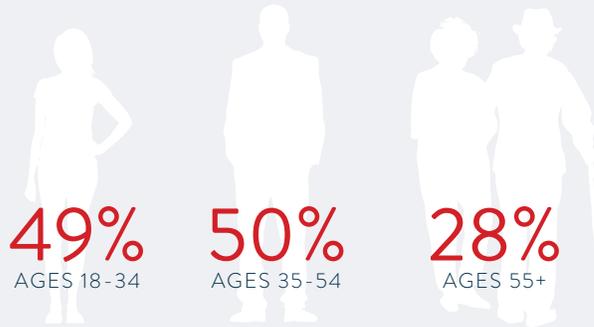
Cannabis legalization is a more influential issue for consumers under 55 years old; half of consumers aged 18-54 say cannabis legalization is a “very” or “extremely important” issue, compared to 28% of consumers 55 and older.

Importance of Cannabis Policy in Choosing Which Candidates to Support



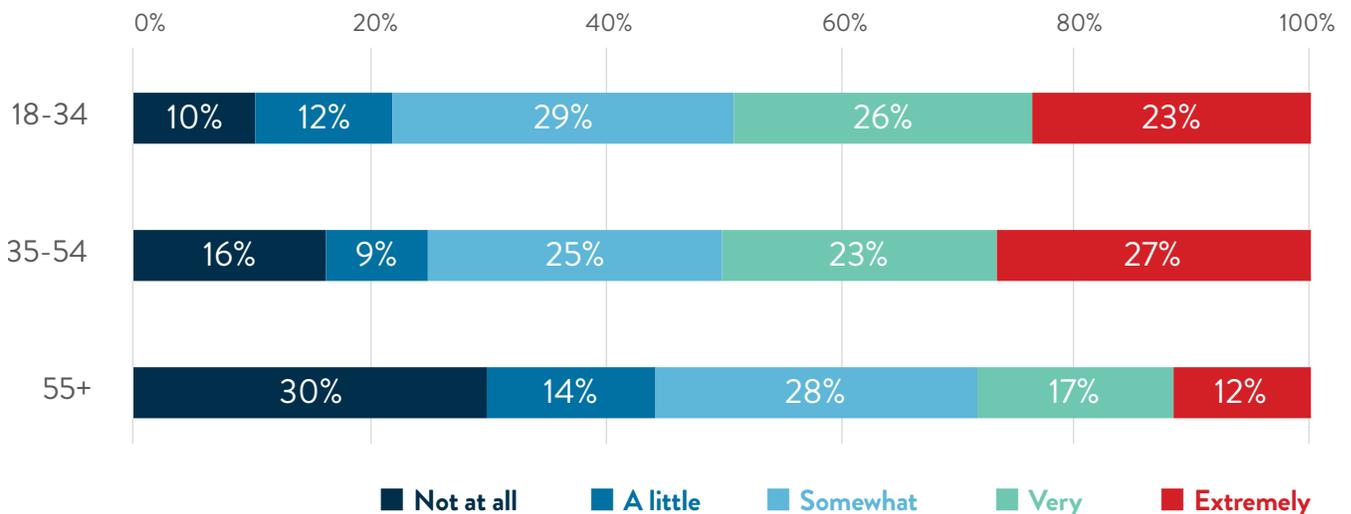
43%

of American consumers believe cannabis is “extremely” or “very important” in choosing political candidates



Importance of Cannabis Policy in Choosing Political Candidates

By Age



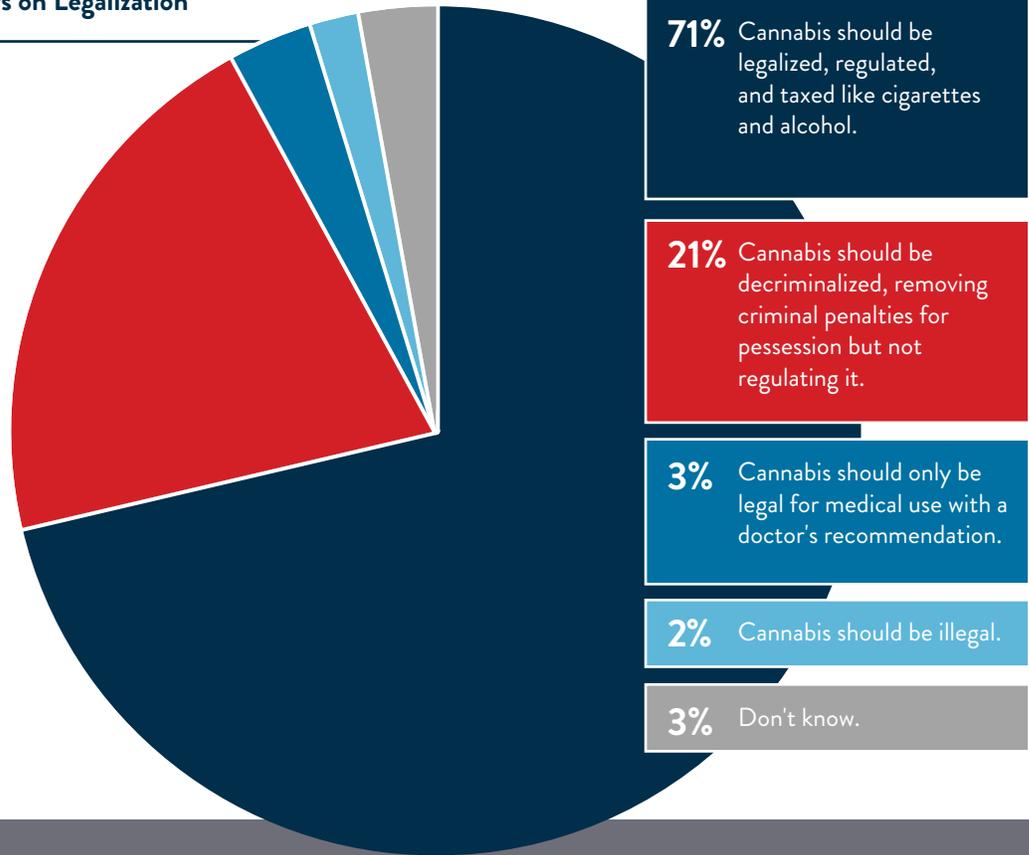
Charts, source: New Frontier Data



How do consumers believe cannabis should be regulated?

Cannabis Consumers' Views on Legalization

Seven in 10 cannabis consumers believe that cannabis should be legalized and regulated. Two in 10 believe that cannabis should be only decriminalized, and not regulated.



Consumers' Cannabis Policy Beliefs



Charts, source: New Frontier Data

Consumer Election Key Takeaways

A slight majority of cannabis consumers intended to vote for Joe Biden for president. Just under one-third indicated that they would vote for Donald Trump.

Cannabis consumers are divided between political parties, with roughly 4 in 10 identifying as Democrats, and 3 in 10 as Republicans, making them slightly more likely than the general public to be Democrat, but as equally likely as the general public to be Republican. Female cannabis consumers and those aged 18-34 are significantly more likely to be Democrats than Republicans.

Adult-use (but not medical-only)-legalization transitions the majority of existing cannabis consumers to the legal market, driving considerable revenue. With the approval of all six legalization ballot initiatives, New Frontier Data projects a combined revenue of \$3.3 billion for those five states in 2025.

Due to the restrictions on who can participate in legal medical markets, medical legalization does not have a similar cannibalization effect on the illicit cannabis market.

Half of potential consumers in illicit and medical-only states said that they would try cannabis if it were legalized in their states. That some nonconsumers are deterred by the threat of legal consequences speaks to the lasting stigma accrued to cannabis from long-standing institutional labeling and the punitive enforcement of cannabis prohibition. Legalization confers a legitimacy upon cannabis and provides a subset of consumers with the security and confidence to try cannabis products.

Cannabis consumers' key issues determining how they intended to vote in the 2020 election were healthcare, the economy, and the COVID-19 pandemic. A small minority of cannabis consumers held cannabis legalization as their driving political issue, but more than one-third placed it among their top five issues.

Half of cannabis consumers under age 55 consider cannabis policy "very" or "extremely important" in choosing which political candidates to support. Fewer than 30% of consumers aged 55 and older feel the same way. For younger demographics, cannabis policy extends beyond access to and use of cannabis. Rather, cannabis is now inextricably tied to broader notions of social equity and criminal justice reform.



About the Survey

U.S. CENSUS-ALIGNED SAMPLING

4,601

Cannabis Consumers*

557

Potential Consumers**

MARGIN OF ERROR

±1.445%

FIELDING DATES

Sep. 21-30, 2020

METHODOLOGY

Online Survey

* Cannabis consumers are defined as those who say they have consumed psychoactive cannabis (with THC/not including CBD-only products) in the past and will consume it again.

** Potential consumers are those who have not consumed cannabis before, but indicate an openness to using it in the future.



National Reach of Medical Cannabis Programs

With 35 legal medical state markets (plus D.C.), the total number of patients across the country treating ailments with legal medical cannabis has surpassed 3 million, and that number is projected to continue to climb as newly legal medical markets become operational.

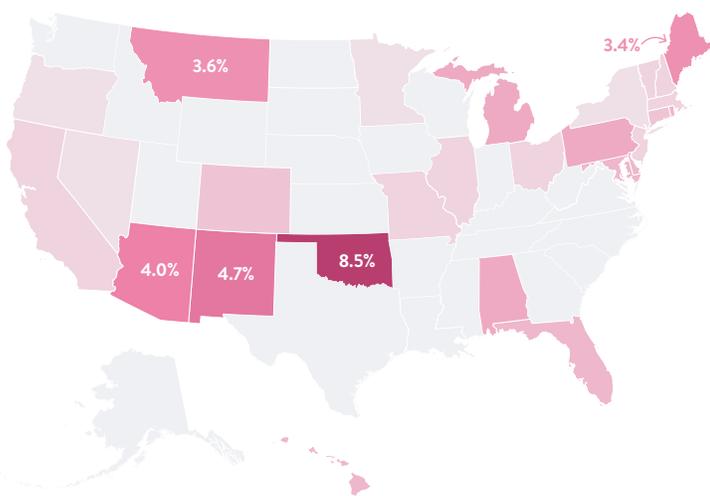
While legal state medical cannabis programs are providing medical cannabis access to a combined 3.2 million patients nationwide, strictly defined qualifying condition lists can greatly limit potential participation to a small

pool of residents in some medical markets. And with just a third (34%) of the U.S. population residing in a state that has legalized adult-use, the majority of Americans still do not have access to legal cannabis.

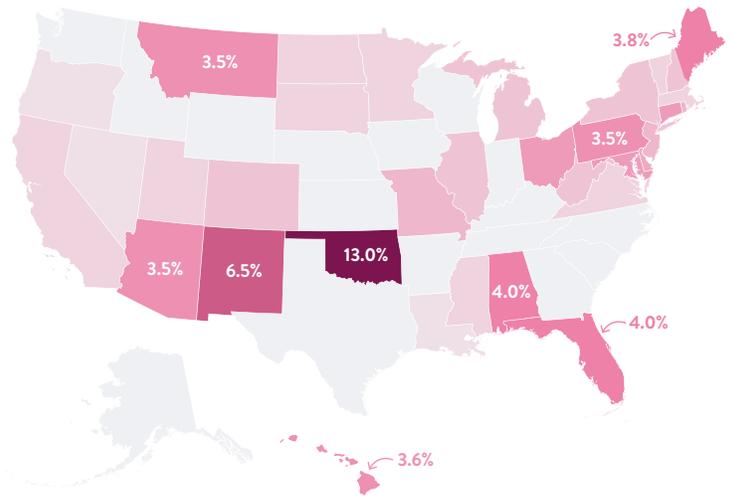
However, newly legal states are generally trending toward more expansive medical programs, permitting a broad array of health care practitioners to recommend medical cannabis for diverse lists of qualifying conditions.

U.S. Medical Cannabis Patients

Current Patient Saturation*



Estimated Saturation* by 2025



3.2 million

Current number of medical cannabis patients in the U.S. as of November 2020

1.6%

Average saturation rate across all legal medical states** as of November 2020

4.9 million

Est. number of medical cannabis patients in the U.S. by 2025

2.3%

Est. average saturation rate across all legal medical states by 2025

*Patient saturation reflects the number of estimated registered medical cannabis patients in each state as a percentage of state population.

**The national average saturation reflects the average patient saturation rate across all legal medical cannabis markets that have begun the patient registration process.

Source: New Frontier Data



Top 7 States by Patient Saturation

As of November 2020

	STATE	Patient Saturation
1	Oklahoma	8.5%
2	New Mexico	4.7%
3	Arizona	4.0%
4	Montana	3.6%
5	Maine ¹	3.4%
6	Pennsylvania	2.7%
7	Arkansas	2.6%

1. Estimate displayed for the state of Maine includes patients that shop from both regulated medical dispensaries as well as through the caregiver system

Note: Patient Saturation is defined as the number of registered patients expressed as a percentage of each state's population.

Top 7 States by Patient Count

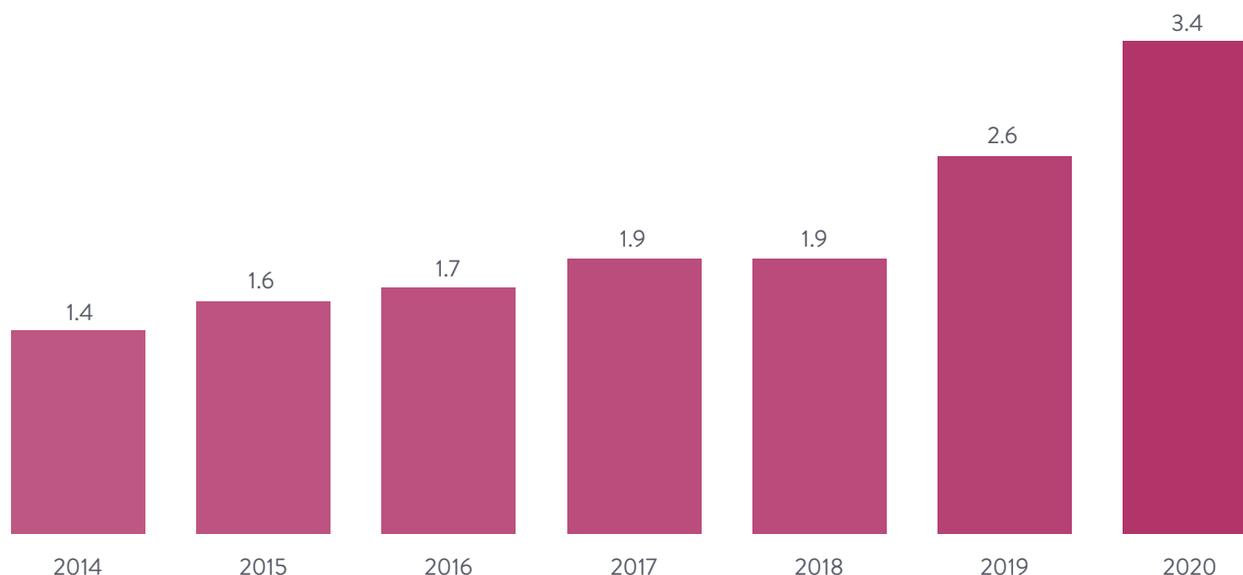
As of November 2020

	STATE	Patient Count
1	Florida	443,534
2	California ²	383,593
3	Pennsylvania	345,815
4	Oklahoma	339,032
5	Arizona	298,528
6	Michigan	240,791
7	Illinois	129,471

2. Estimates displayed for the state of California are New Frontier Data estimates for active medical patients only. There are an estimated 2 million card-holding medical cannabis patients in California (4.9% saturation), of which only an estimated 1/5th are active purchasers of medical cannabis products from licensed and regulated medical dispensaries.

Number of Registered U.S. Medical Cannabis Patients

2014-2020, in Millions



All charts, source: New Frontier Data



The Growing U.S. Cannabis Consumer Population

An estimated 44.5 million U.S. adults will consume cannabis at least once in 2020 across both legal and unregulated markets. That number is projected to grow by roughly 4% per year over the next six years, reaching an estimated 52.3 million consumers by 2025.

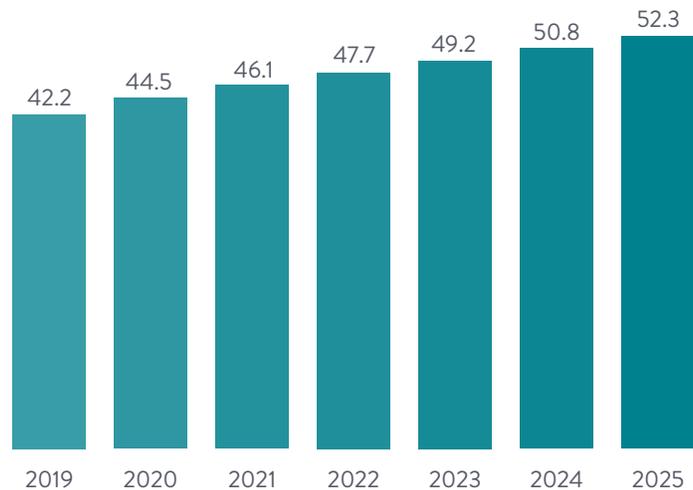
States with the Most Cannabis Consumers

The cannabis consumer estimates are modeled based on each state's total adult population, the reported cannabis usage rates compiled by the U.S. Department of Health and Human Services' annual Nation Survey on Drug Use and Health (NSDUH) – which New Frontier Data adjusts to account for underreporting errors – and projected growth in usage rates according to each state's regulatory status and legal market growth trajectory. California, Florida, and New York are the country's largest cannabis markets, due correspondingly to their rankings as three of the nation's four largest state populations.

When accounting for state populations, the states with the highest density of cannabis consumers are Oregon, D.C., Colorado, Vermont, Maine, and Washington – all states with legalized adult-use cannabis and strong public acceptance of its use.

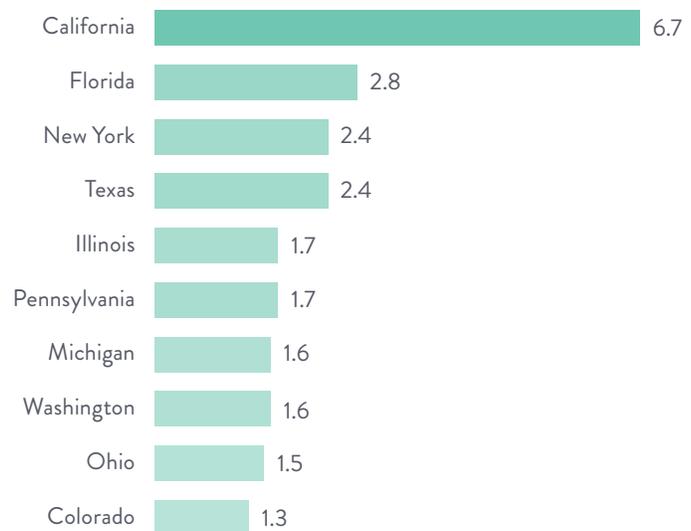
Total U.S. Estimated Cannabis Consumer Population

2019-2025, Population in Millions



States with the Most Cannabis Consumers

2020, Consumers in Millions



**"Cannabis Consumer" is defined as an adult 18+ who has consumed cannabis at least once in the past year*

All charts, source: New Frontier Data

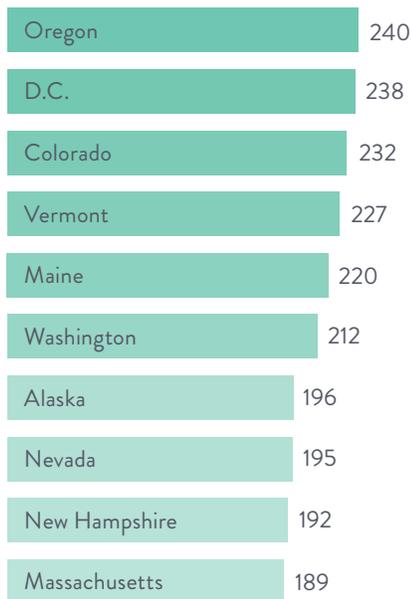


Rates of Reported Cannabis Use Continue to Rise

Roughly 10% of American adults aged 18+ report using cannabis in the past month, and 16% report having used cannabis in the previous year. The number of adults who use cannabis regularly has grown by 10 million since 2010, surpassing 25 million in 2018, reflecting rapidly evolving public attitudes toward cannabis. As the majority of states have advanced cannabis reform, and science has validated the plant's diverse therapeutic and industrial properties, the stigma once associated with the plant is quickly eroding, leading to a naturally expanding consumer base.

States with the Highest Cannabis Consumer Density

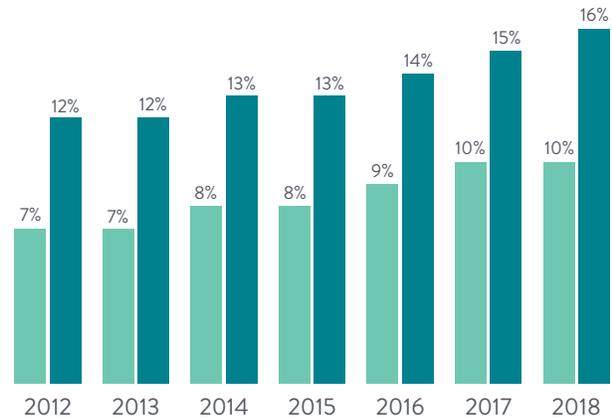
Est. Cannabis Consumers* per 1,000 People



*"Cannabis Consumer" is defined as an adult 18+ who has consumed cannabis at least once in the past year.

Source: New Frontier Data

Continuous Rise in Reported Cannabis Usage Across the U.S.

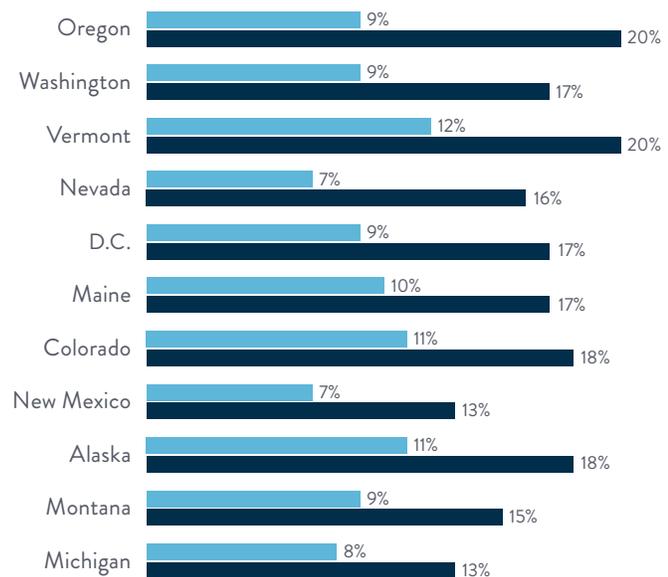


■ U.S. past-month usage rate ■ U.S. past-year usage rate

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 18+ population, Released Dec 2019

States with the Largest Increases in Reported Monthly Cannabis Use by Adults 18+

2010-2018



■ 2010 reported monthly usage ■ 2018 reported monthly usage

States are visually represented in order of their respective increase in reported usage between 2010 and 2018.

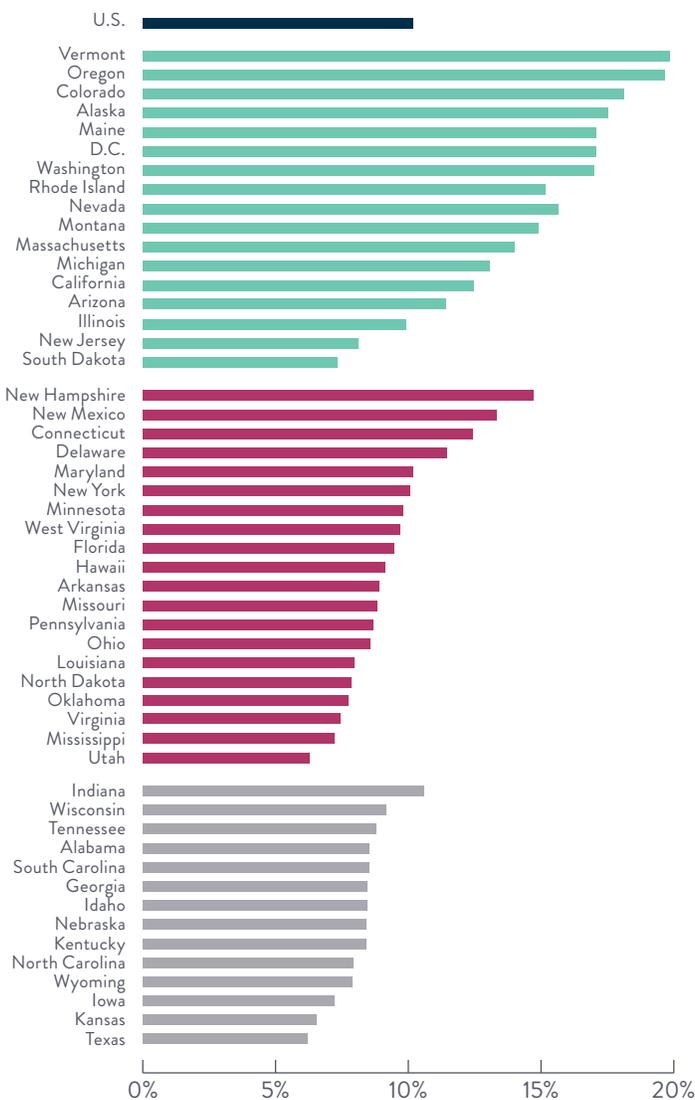
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 18+ population, Released Dec 2019



The states with the highest reported rates of monthly use are all states with some form of cannabis legalization in effect (i.e., an active medical market, an adult-use market, or both), which reflects both natural increases in usage in a legal environment, as well as increased comfort levels across consumers in reporting their usage to a government-run survey.

Cannabis Usage Rates by Legal Market Type

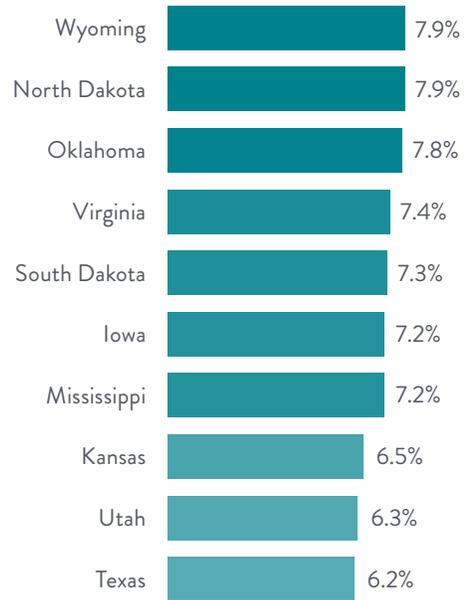
Past-Month Usage, 2018



■ Adult-Use
 ■ Medical Use Only
 ■ No Legal High-THC Market

States with the Lowest Reported Monthly Cannabis Use by Adults 18+

2018



2018 National Past Month Cannabis Users



All charts, source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 18+ population, Released Dec 2019



FACTORS LEADING TO INCREASED REPORTED CANNABIS USAGE:**1) Rising Social Acceptance of Cannabis Use**

Shifting public attitudes and societal acceptance have accelerated the normalization of cannabis, eroding the stigma and increasing occasions for "cannabis-appropriate" situations – social settings where cannabis use is acceptable. The trend is driven not by new consumers starting to use cannabis for the first time, but rather by formerly infrequent consumers becoming more frequent users as barriers to access are lifted, costs fall, and new product forms facilitate use among consumers who prefer not to smoke. Additionally, social settings where cannabis use is appropriate are becoming more commonplace, a trend which will accelerate as states increasingly allow venues where cannabis can be used socially.

2) Higher Likelihood to Report Use

Similarly shifting social norms create environments in which consumers are more likely to admit use, which assumedly reduces underreporting errors from previous years. While cannabis usage rates are trending upward across the U.S., there is a significant difference in reported usage rates between states where it is legal versus where it is not. The most socially and politically conservative states have been slowest to advance any type of cannabis law (including for CBD), whereas the country's more traditionally liberal states have established a vanguard of medical and adult-use legalization.

Cannabis use has been highly correlated to legalization, with states with the highest reported usage rates being most likely to legalize, while the lowest-use states have either passed highly restrictive measures or maintain prohibition. Additionally, states with the lowest reported use rates have also had the most punitive cannabis prohibition enforcement, which further disincentivizes consumers in those states from admitting use.

However, with public attitudes changing quickly, usage rates alone have become a less reliable predictor of which market will next legalize. Local political and social dynamics are now greater determinants of legislative reform (as was seen in the recent failed legalization efforts in New York and New Jersey and a successful measure in Illinois).



Adult-Use Cannabis:

CONVERTING EXISTING ILLICIT CANNABIS CONSUMERS TO THE LEGAL MARKET

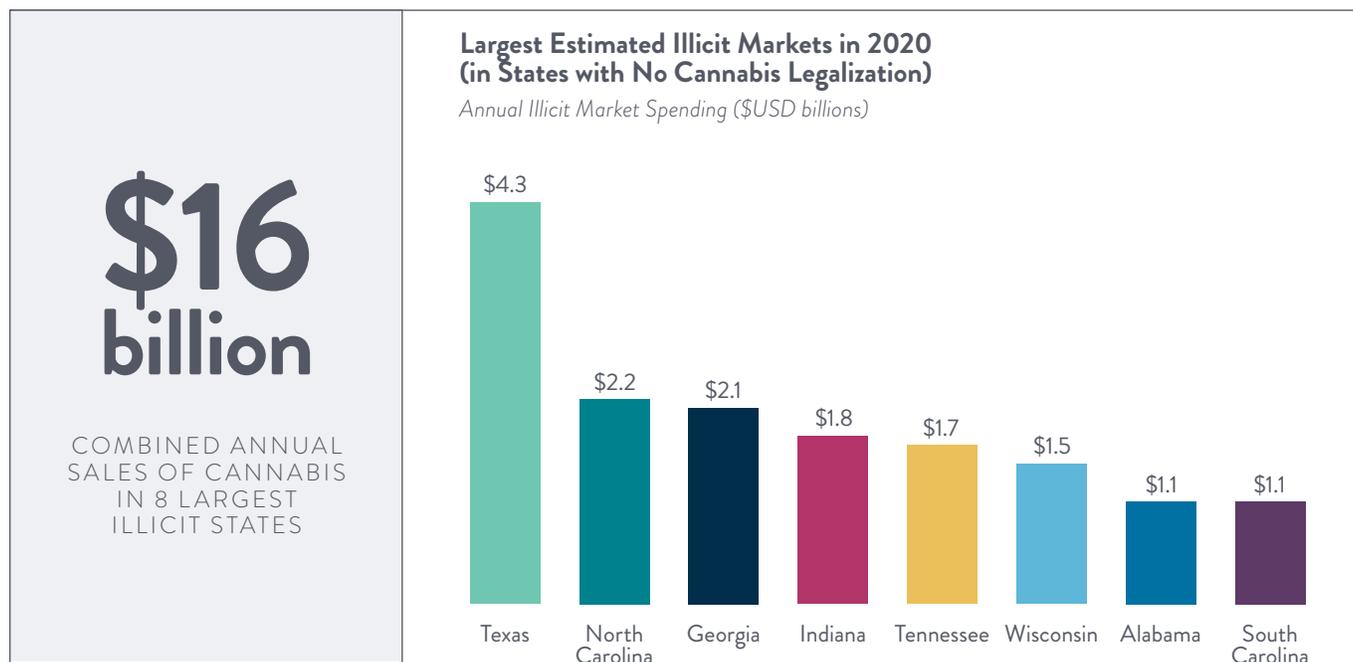
While population growth and rising usage rates will lead to a natural increase in the size of the total addressable market for cannabis, the illicit market will continue to serve the majority of the demand since most consumers in the U.S. live in either a medical-only market or a state without legalized cannabis.

Among the states that have no medical or adult-use cannabis sales in place, Texas, North Carolina, and Georgia currently represent the three largest illicit state markets, worth a combined \$8.3 billion in estimated illicit cannabis sales in 2019. With no action to legalize cannabis, the combined illicit market in those three states is projected to be worth roughly \$8.6 billion in 2020, rising to an estimated \$9.8 billion by 2025.

However, the 36 existing legal medical states and 16 existing legal adult-use states collectively are projected to capture some of this growing demand and erode some of the growth of the national illicit market. In 2019, 17% of cannabis sales in the U.S. were estimated to have been legal, but New Frontier Data estimates that by 2025 more than one-third (39%) of total annual cannabis demand will be met by legal purchases in regulated marketplaces.

Key factors influencing how much demand a legal market can capture - and how quickly - include:

- Flexibility of regulatory structures to adapt to changing market dynamics;
- Market implementation timelines;
- Allowances for diverse product types;
- Taxes and retail prices;



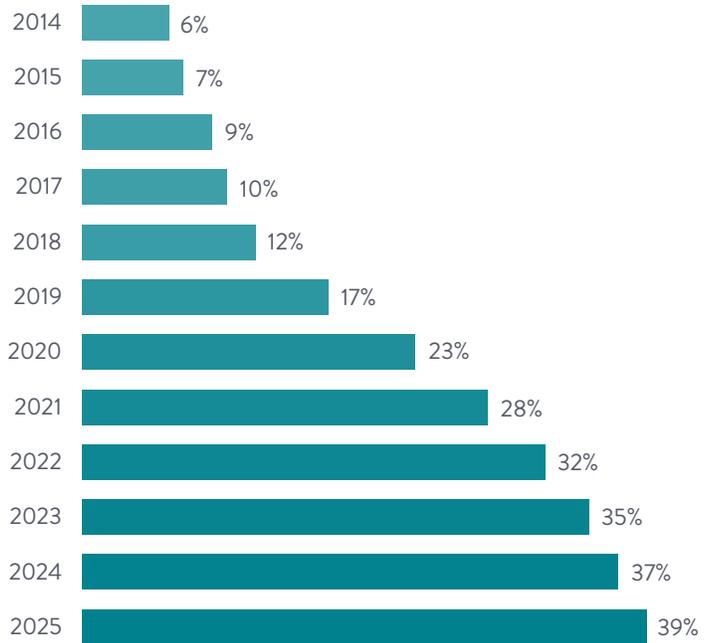
Source: New Frontier Data



- Product access (largely determined by number of licenses issued by the state for growers and dispensaries, as well as allowances for delivery services); and
- Barriers to patient participation (largely determined by qualifying conditions in medical states).

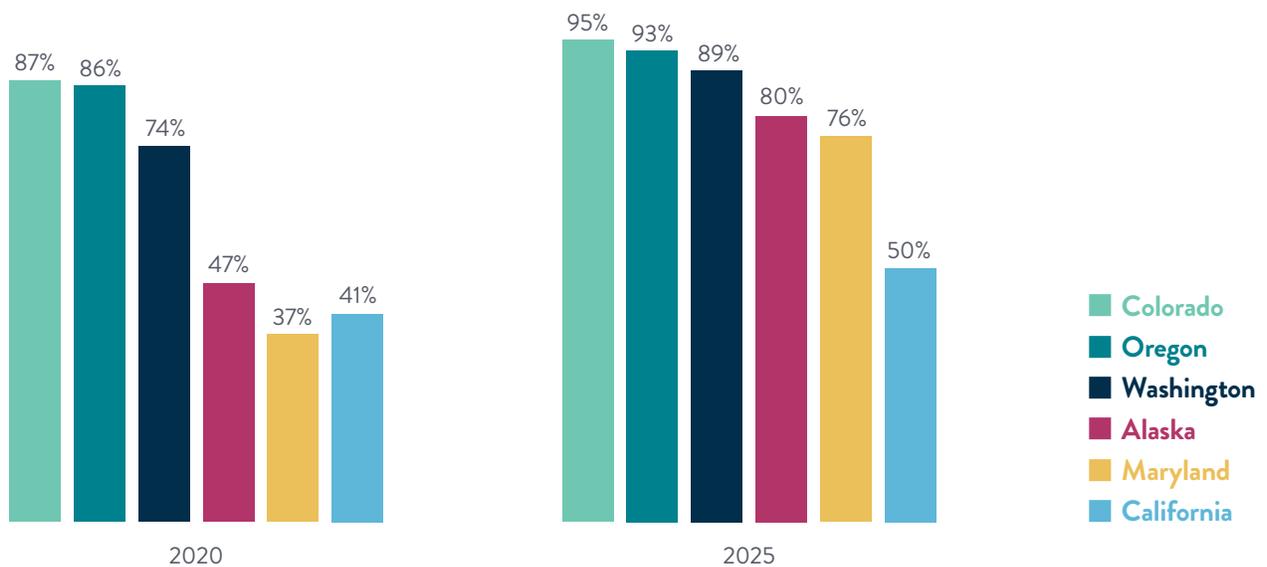
When individual states impose strict market limitations that limit access or experience delays, the illicit market can recapture those consumers. In California, for example, just 41% of in-state demand will likely be met by legal regulated sources in 2020; that share is projected to grow to 50% by 2025. Meanwhile, other recently activated regulated adult-use markets like Massachusetts are expected to convert three-quarters of all cannabis sales to the legal market.

Percentage of Total U.S. Cannabis Demand Met via Legal Sources



Percentage of State Cannabis Demand Met with Legal Source

2020 vs. 2025 est.



All charts, source: New Frontier Data



Six Years of Legal Cannabis in Colorado:

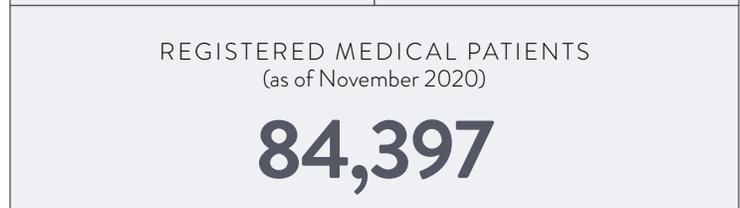
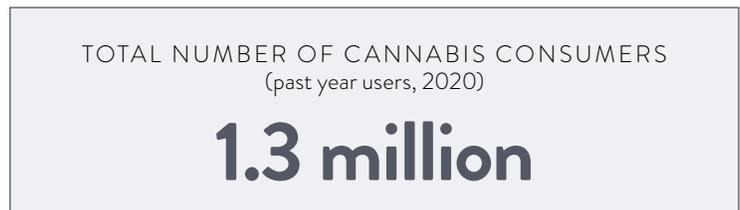
KEY TRENDS FROM AMERICA'S FIRST LEGAL ADULT-USE CANNABIS MARKET

In the six years since Colorado opened the nation's first legalized adult-use cannabis market, it has seen an extraordinary transformation through activity marked by a significant influx of consumers, surging sales, and dramatic evolution in the product landscape. The program has recorded \$7.8 billion in sales, \$1.2 billion in taxes, and grown to include nearly 3,000 businesses employing about 39,000 workers.

Demonstrating the third-highest rate of cannabis use in the United States (after Oregon and Vermont, respectively), one-fifth of Colorado's adults report regularly using cannabis (i.e., having done so in the preceding 30 days), reflecting a large, deeply entrenched consumer market welcoming an effectively regulated and deployed program.

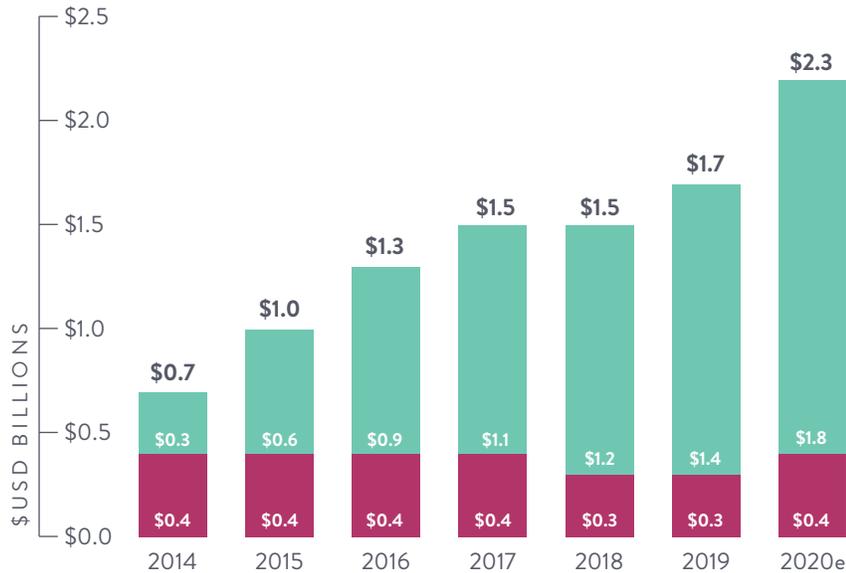
Based on New Frontier Data's modeling, the state indeed has been able to effectively cannibalize most of the market's illicit demand, with more than 80% of consumers now patronizing either Colorado's regulated adult-use or medical markets. Having captured so much of the illicit demand, Colorado's market is nearing saturation (regardless of small but in-transigent consumer cohorts given either to growing their own cannabis, fearing inclusion in government databases, lacking legal documents, or otherwise avoiding public association with cannabis for personal or professional reasons). While incremental growth is expected in demand from new consumers in the state, Colorado's market capture of attainable existing consumers is nearly complete.

Colorado by the Numbers: 2020



Colorado Legal Cannabis Sales Growth

2014-2020 (\$USD in billions)



TOTAL REVENUES EARNED (2014-2019)

\$7.8 billion

Medical Sales: \$2.3 billion

Adult-Use Sales: \$5.5 billion

■ Legal Adult-Use ■ Legal Medical Use

Source: New Frontier Data

Thus, the Rocky Mountain State has affirmed its strong consumer demand for legal cannabis, and its adult-use venture has proven to be highly lucrative for successful operators. Since 2014, cumulative adult-use and medical retail activities have nearly topped \$8 billion dollars, and New Frontier Data projects growth to proceed on pace for an additional \$14.6 billion in sales between 2020 and 2025, across both Colorado’s medical and adult-use markets.

The established durability of cannabis consumers’ spending suggests that they are less likely to decrease their purchases of cannabis than they will be for other consumer products during periods of economic destabi-

lization. So, despite the COVID-19 pandemic, its attendant economic shocks, and near-term instability, the long-term outlook for legal cannabis revenues remains very strong for the sector’s efficiently managed, strategically positioned brands.

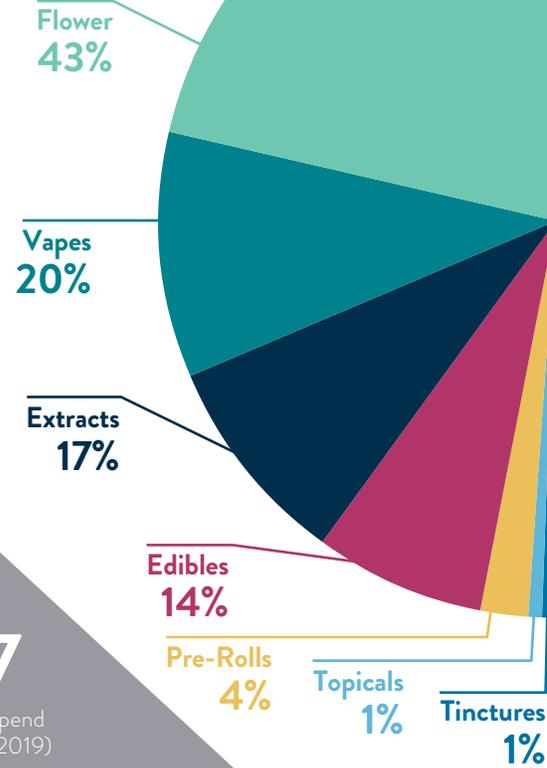
The sheer volume of products sold in Colorado is striking: With nearly 2 million pounds of flower sold over the past six years, the state’s consumers have purchased the equivalent of 2.6 billion 1/3-gram joints in that span (unsurprisingly, then, while the primacy of flower is increasingly rivaled by vapes, concentrates and edibles, New Frontier Data projects flower to remain the preferred ingestion option among consumers).

However, expansive innovations among value-added products (especially infused products including edibles and beverages) will keep drawing consumers to non combustion-based products,



Product Share of Sales

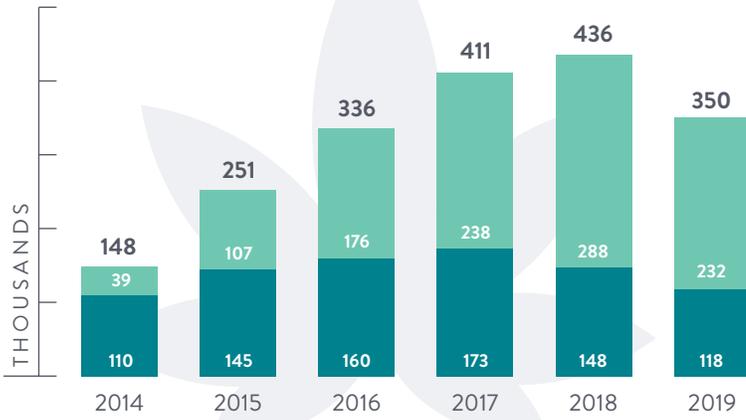
2019 Average



\$67

Average Spend per Cart (2019)

Pounds of Flower Sold

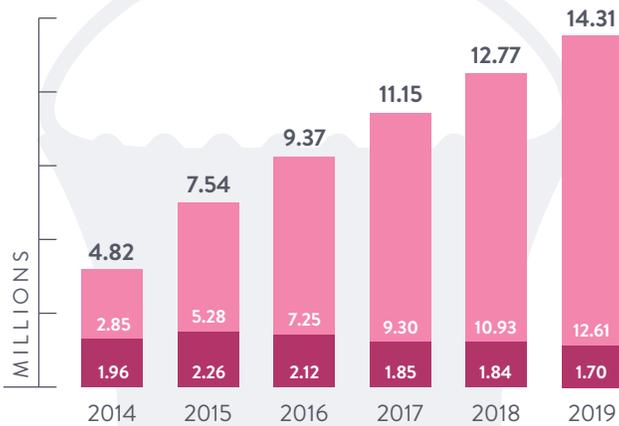


TOTAL POUNDS
1,933,074

ADULT-USE
1,079,731

MEDICAL
854,343

Edible Units Sold

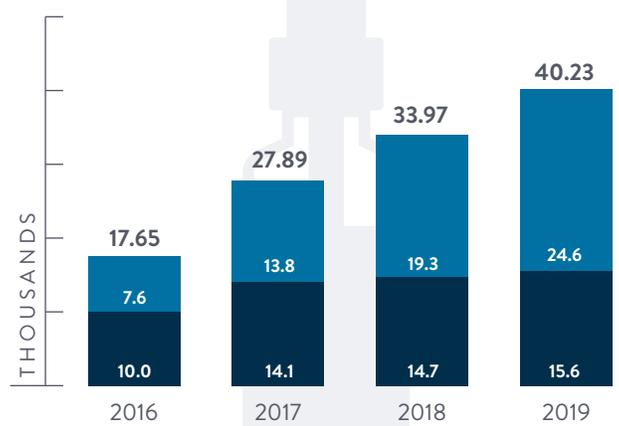


TOTAL UNITS
1,933,074

ADULT-USE
1,933,074

MEDICAL
1,933,074

Pounds of Concentrates Sold



TOTAL POUNDS*
1,933,074

ADULT-USE
1,933,074

MEDICAL
1,933,074

*Colorado did not begin reporting concentrate sales until 2016

All charts, source: New Frontier Data, Colorado Marijuana Enforcement Division



with revenues likewise expanding over time. A notable caveat is that the rising shares of value-added products have not yet translated to cannibalized sales from flower so much as simply the rate of flower sales growing less quickly than those seen among those newer product lines.

During the six years since Colorado began legalized adult-use sales, the state’s cannabis industry has proven to be a fast-growing source of tax revenue, generating over \$300 million in taxes and licensing fees in 2019 alone — equivalent to 1% of the state’s annual budget. The tax revenues earned have been fueled by rapid growth in the industry – specifically growth in adult-use sales. The adult-use market quickly surpassed the size and scale of the state’s much older medical market: Despite sales of medical cannabis being legal since 2000, there are now some 36% more adult-use businesses than medical dispensaries (1,562 vs. 1,147, respectively).

Two main drivers of tax revenue have been a 15% retail tax rate (yielding \$692 million over six years), and a 15% excise tax rate generating \$304 million. Those taxes have provided an infusion of needed revenue for a myriad of state programs, with Colorado’s education system being a notable beneficiary. In addition to the first \$40 million of excise-tax revenues being allocated toward the state’s school building fund, in the FY2019-20 budget the state appropriated an additional \$21 million for other education related initiatives, including early literacy, dropout-prevention, and behavioral health care programs. Further, the state is using the

Cannabis Business Licensing, Dec 2019

Number of Licensed Cannabis Businesses by Type	
Medical Centers	442
Medical Cultivation Operations	469
Medical Infused Product Manufacturers	219
Medical Testing Facilities	12
Medical Transporter	5
Medical Total Licenses	1,147
Adult-Use Stores	572
Adult-Use Cultivation Facilities	684
Adult-Use Product Manufacturing Facilities	288
Adult-Use Testing Facilities	13
Adult-Use Transporter	5



Source: New Frontier Data

revenues to advance cannabis research, with \$1.8 million channeled to Colorado State University’s Institute of Cannabis Research.

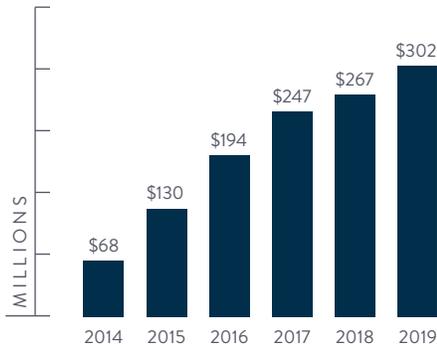
Human services programs have accounted for 33% of cannabis appropriations totaling \$44 million in the FY19-20 budget. The largest allocation of those funds was dedicated to increasing access to effective services treating substance abuse disorders, including evaluation and residential treatment services (\$15 million), mental



Marijuana Tax Revenue by Source (2014-2019)

Grand Total

All Marijuana Taxes, Licenses & Fees



\$1.2 billion

Total Taxes Raised & Fees Collected

\$692 million

Total Sales Tax Revenue Earned

\$304 million

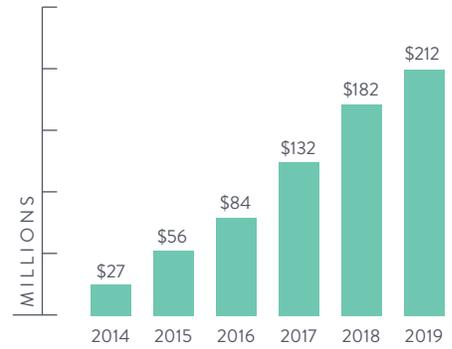
Total Excise Tax Revenue Earned

\$85 million

License & Application Fees Raised

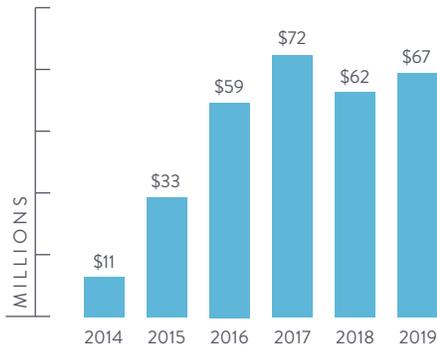
State Retail Marijuana Sales Tax

15% Rate



State Retail Marijuana Excise Tax

15% Rate



License & Application Fees



Source: New Frontier Data

health for juvenile and adult offenders (\$6 million), and criminal justice diversion programs intended to keep both juveniles and adults out of the criminal justice system by providing mental health, education, and social services in collaboration with state law enforcement.

A wide range of other programs have likewise benefited from Colorado's cannabis revenues, including affordable housing construction grants and loans (\$15.3 million), school bullying-prevention (\$2 million), a military veterans' service-to-career program (\$1 million), a marijuana impaired-driving

awareness campaign (\$950,000), and the administration of hemp regulation and seed certification (\$428,000).

Further, as jurisdictions nationally experience acute declines in tax revenues from other sectors of the consumer economy which have seen drastic contractions as a result of the shelter-in-place orders (and the acute recession expected to follow), the potential to generate significant, stable earnings from the cannabis industry is further expected to fuel support for adult-use legalization.

In operating a generally well-regulated, highly accessible, and appropriately taxed legal cannabis market, Colorado has successfully realized many of the state's targeted objectives for legalization. Most cannabis consumers avoid illicit sources, taxpaying operators



have generated billions in sales and revenues, and the industry and its ancillary commerce have created thousands of jobs. Through product innovation, high testing standards, and well-funded industry oversight, the state has been able to broadly ensure consumers' widespread access to clean, quality cannabis.

While time and a post-pandemic economic recovery yet remain before Colorado's legal

cannabis industry becomes fully entrenched in the state's economy or reaches its maximal potential, to date the data definitively illustrate how cannabis can provide both a major economic engine and catalyst for social and cultural change in the state and beyond.

Based on Colorado's being the first state in the nation to adopt adult-use cannabis, and its market's strong performance ever since, one might expect to see the Rocky Mountain State's lessons learned to be leveraged in important ways for the blueprints of national and global legalization.



40 million

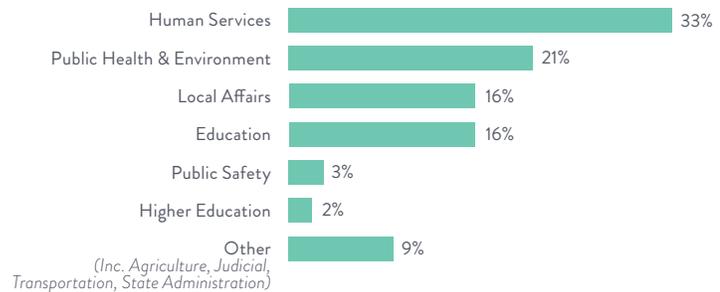
The first \$40 million of retail marijuana excise taxes is distributed to the Public School Capital Construction Assistance Fund

\$159 million

Total Marijuana Tax Appropriations (FY 2019-2020)

Marijuana Tax Revenue by Source (2014-2019)

State Appropriations of Marijuana Tax Revenues



Department	Program	FY 2018-19 Appropriation
Agriculture	Hemp regulatory and seed certification	\$428,150
Education	Early Literacy Competitive Grant Program (H.B. 18-1393)	\$5,378,678
Education	Office of Dropout Prevention and Student Reengagement	\$2,000,419
Health Care Policy & Financing	Training for health professionals to provide Screening, Brief Intervention, and Referral for Treatment (SBIRT) services for Medicaid clients at risk for substance abuse (H.B. 18-1003)	\$1,675,000
Higher Education	Institute of Cannabis Research at CSU-Pueblo (S.B. 16-191)	\$1,800,000
Human Services	Increasing access to effective substance use disorder services, including evaluation of intensive residential treatment (S.B. 16-202)	\$15,284,950
Human Services	Mental health services for juvenile and adult offenders	\$5,574,491
Human Services	Appropriation to the Youth Mentoring Services Cash Fund (Tony Grampas Youth Services Program)	\$1,000,000
Public Health & Environment	Substance abuse prevention	\$9,420,800
Public Health & Environment	Marijuana health effects monitoring	\$330,729
Public Health & Environment	Healthy Kids Colorado Survey	\$748,314
Public Safety	Division of Criminal Justice - Study of the impacts of the legalization of retail marijuana (S.B. 13-283/S.B. 16-191), and Law Enforcement Assistance Grant Program (H.B. 18-1020)	\$1,649,995
Transportation	Marijuana impaired driving campaign	\$950,000

Source: New Frontier Data



KEY LESSONS FROM COLORADO

Demand affirms that effectively regulated cannabis is an attractive alternative to the illicit market.

Over the first six years of its adult-use sales, Colorado's legal market has now captured over 80% of estimated total demand for cannabis in the state. Since most of the activity has been derived from consumers transitioning to the legal market from illicit sources (i.e., rather than new consumers trying cannabis for the first time), Colorado's market affirms that legalization can be highly disruptive to illicit sales.

With demand for cannabis deeply entrenched, illicit markets capture significant untaxed revenue.

Though it has been over 80 years since the first federal U.S. laws banning cannabis, the National Survey on Drug Use & Health reports that more than 1 among 10 Americans regularly consume cannabis, with the percentage increasing steadily over the past two decades. With an estimated 264 million cannabis consumers globally, spending nearly \$350 billion for it annually, not only has prohibition been ineffective in eliminating cannabis use, but governments stand to see significant revenues from effective taxation and regulation.

Rapidly shifting market economics make it imperative to plan for acute downward price pressure.

Since Colorado legalized, the average market rate for a pound of cannabis has fallen 42%, from \$2,007 to \$1,164. The drastic decline has made it extremely challenging for growers

who had pegged their break-even points at \$1,000+/pound to be both profitable and competitive. As operators in emerging markets consider the future of legal cannabis businesses, it is essential to plan for where the market is going, not where it resides at launch. Likewise, it is critical to assume that prices will fall steeply over time; thus, companies should devise aggressive cost-containment measures from the outset.

Taxes can make or break a program.

In keeping the total cannabis tax rates at approximately 27%, Colorado found a proverbial sweet spot of taxes high enough to drive meaningful revenues without being so high as to discourage consumers from paying a premium over illicit market prices. That approach stands in stark contrast to California, which has seen consumer taxes of nearly 50%, the highest in the nation. California's two-year-old legal market has struggled to gain traction in large part because of consumers' avoidance of such a heavy premium in a state where high-quality cannabis remains widely available in a long-established unregulated market. As lawmakers in prospective legal markets reconsider their tax rates, they would be wise to carefully weigh the tradeoffs of setting high taxes to maximize near-term revenues, versus what could be collected at a lower threshold where revenues would be drawn from a larger pool of consumers abandoning the illicit market.

Consumers are willing to pay a (slight) premium for legal cannabis.

While consumers may be hesitant to pay a 50% premium for legal cannabis, Colorado has proven that they are willing to pay a moderate premium for the benefits attendant to a legal market, including broader variety among products, convenience of retail stores, testing and quality standards, and the social legitimization in purchasing cannabis from a legal brand rather than an illicit source. Once such benefits are enjoyed, the illicit market loses appeal, thereby achieving another key regulatory policy objective.



Investing in public health and safety can help minimize negative social externalities of legalization.

Opponents to legalization often fear negative public health outcomes which may arise. Specific concerns often include underage use, highway safety, and mental-health issues among those predisposed to drug addiction or mental disorders. Yet, Colorado's approach of appropriating the largest part of program revenues to apply toward public health and social services appears to have largely helped minimize such issues as its legal market has matured. Notably, intent toward improving school-age drug education programs, and supporting criminal justice diversion programs which steer offenders toward social services rather than incarceration, has helped lower the state's spending on cannabis-related law enforcement.

Opportunities for product innovation remain significant.

Over the past six years, sales of cannabis flower have fallen from their representing the overwhelmingly predominant segment among product sales, to accounting for less than 50% of market share as the popularity of processed and value-added products has risen. As New Frontier Data describes in [*The Cannabis-Infused Products Report Series: U.S. Consumer Experience & Demand*](#), edibles represent a category poised for dramatic growth as technological innovation enables cheaper production, increased consistency, more rapid onset (i.e., reducing time of effects to be felt from 60 or more minutes, to under 10), and a more consistent consumer experience. Further, based on sales performance of well-developed products, consumers are clearly open to, and will positively respond to, receiving products which deliver more effective and more refined experiences. Continued innovation will expectedly transform the product landscape throughout increased adoption of value-added products.

While Colorado's adult use experiment has not been devoid of challenges, it has broadly served as a compelling illustration of the potential for increased revenue, job creation, and socioeconomic reform that can follow adult-use cannabis legalization. As the world braces for the impacts from a COVID-19-triggered recession, many more nations and local jurisdictions will be motivated to consider and understand how legalized cannabis markets may serve as catalysts for much needed capital investment, tax revenues, and economic growth.



California's Revised Cannabis Sales Tax Revenues Lift Gloom of Market's Early Performance

California recently released revised cannabis tax revenues showed significantly higher revenues earned by the state's legal cannabis industry than were originally reported. The revised numbers indicate that the market performed much better than expected, especially in 2018 – the first year of operation – when the consensus had deemed the market's performance to be far below expectations.

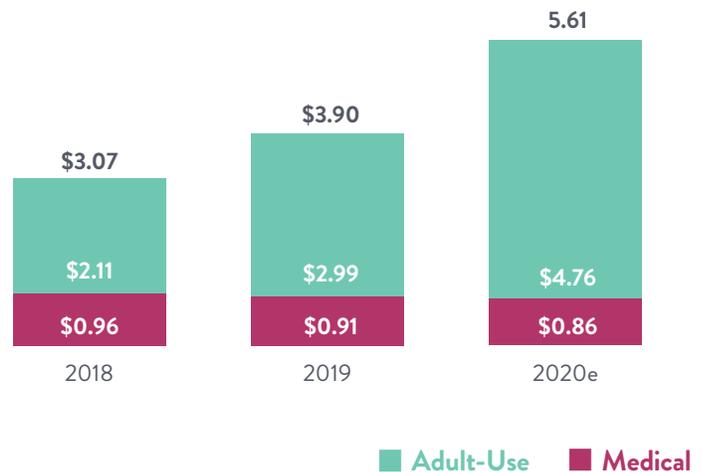
The revised figures saw 2018's sales tax revenues up 36% (from \$125 million to \$169 million); 2019's revised numbers were up 14% (from \$209 million to \$239 million), and the first two quarters of 2020 increased by 24% (from \$134 million to \$166 million).

Over the two-and-a-half-year period, the state now reports sales tax revenues of \$574 million, up 23% from the initially reported \$468 million. The revisions are welcome news to an industry that has faced major challenges while becoming operational. The state and local governments' licensing approval process was complex and under-resourced, leaving many applicants waiting months for approvals, while the nation's-highest cannabis sales tax rate (at nearly 50%) kept many consumers from transitioning away from illicit sources to patronize the newly legal market.

While the revised numbers do not completely eliminate concerns that the regulatory environment is acting as a drag to market growth, the fact that the cannabis businesses earned approximately \$9.2 billion in adult-

California Revised Legal Cannabis Sales Estimates

(2018-2020, \$USD in billions)



Source: New Frontier Data

use sales during the first 2.5 years of operations suggests that a burgeoning market is underway for those allowed to get licensed and operational. By 2025, New Frontier Data projects the legal cannabis market in California to reach \$8.2 billion.

The stronger-than-expected sales performance may complicate current debate about potential changes to cannabis policy. Industry advocates continue to champion lower taxes to spur demand. New Frontier Data's analysis has shown that higher taxes deter price-sensitive consumers, and that with a large, well-established illicit market in the state, there remains less incentive for consumers to pay the premium for legal cannabis when high-quality, unregulated options abound. State lawmakers – already facing an acute budget crunch even before the economic shock of COVID-19 decimated local government revenues – have been resistant to making adjustments. And with COVID-19 stimulating a dramatic increase in legal cannabis demand (nationally, revenue increases of up to 30%



over baseline figures are being seen since the pandemic began), there may be less incentive to lower taxes on the industry during such surging growth.

Lawmakers should bear in mind, however, that the longer the state maintains the country's highest cannabis sales tax rate, the more entrenched the illicit cannabis market will become. While the state has become more aggressive in pursuing and prosecuting unregulated operators, a competitively priced, easily accessible legal market remains the most efficient way to disrupt illicit markets.

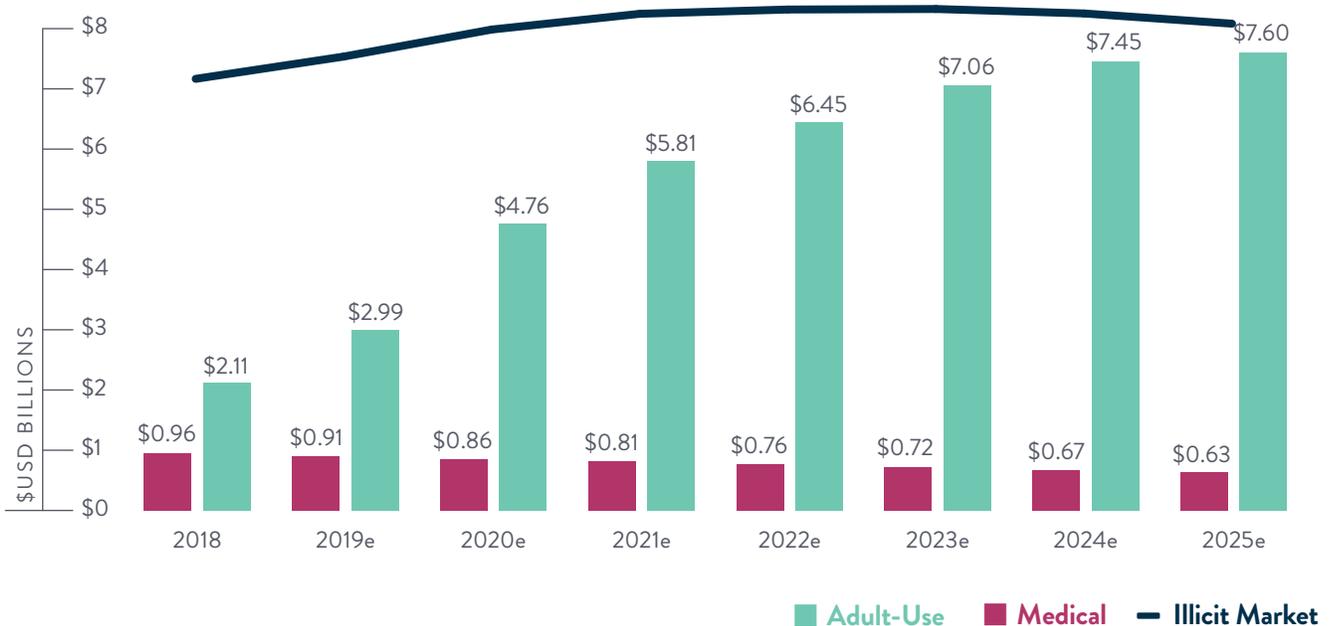
With local autonomy allowing counties the authority to regulate which cannabis businesses operate in their jurisdictions, more than two

dozen California counties have opted to ban legal retail operations. The inability for consumers in large swaths of the state to buy from the legal market is as important a factor in the entrenchment of California's illicit market as the state's high taxes, since it provides a strong incentive for unlicensed operators to serve those lacking legal options.

With a total addressable market (legal + illicit) of \$13.6 billion in 2020, California's expected legal sales of \$5.6 billion for 2020 reminds that there remains a long way to go before the legal market fully cannibalizes the state's illicit ones. However, the revised sales tax revenues show that the market's start was not as slow as had been feared, and the COVID-19 pandemic has served as a timely boost to legal sales as shelter-in-place orders have driven higher-than-normal demand. But even amidst those positive developments, the impacts of the state's high cannabis tax rate and the widespread bans on legal retail dispensaries will likely continue to constrain growth in the country's largest cannabis economy.

California Revised Forecast for Legal Cannabis Revenues

2018-2025



Source: New Frontier Data



industry TRENDS

Regulatory Trends

In states that have legalized cannabis for either medical or adult use, the key drivers of total program size and growth are in the details of the chosen regulatory structure for each market. Some of the key distinctions that have the greatest impacts on legal market sales are:

The chosen integration approach of adult-use sales in states with existing medical cannabis programs (including an assessment of the effective tax differences between medical and adult-use and ease of medical market entry by new participants);

The number and types of approved qualifying conditions in medical markets;

Availability and accessibility of retail outlets;

Product type restrictions; and

Home cultivation/caregiver laws.

Nuances in States Operating Dual Medical and Adult-Use Programs

From a regulatory perspective, states legalize cannabis for either medical use to treat a specified list of medical conditions, or for "recreational" (i.e., adult use). However, the classification of a medical vs. a recreational consumer is not black-and-white - there is extensive cross-pollination of consumer types across both markets, and where those consumers are making their purchases depends heavily on the regulated environment of their home states, and their geographic proximity to any fully legal state.

Medical-only markets with expansive lists of qualifying conditions are most likely to have nonmedical or "recreational" consumers register for their programs using conditions that can be relatively difficult to verify (e.g., chronic pain or anxiety). Conversely, patients in states that have legalized both medical and adult-use cannabis sales may also purchase from adult-use dispensaries, either due to restrictive qualifying conditions in the medical program, or more convenient access to adult-use dispensaries than medical ones. Such market-crossing behavior was particularly heightened in the months following coronavirus as consumers flocked from illicit markets to legal ones.

Implications of State-Approved Qualifying Conditions on Patient Growth and Sales

The number of registered medical cannabis patients in the United States has surpassed 3 million, and is projected to rise to nearly 5 million by 2025 (among currently legal medical markets.). Medical cannabis sales are projected to nearly double over the next five years, from \$8.6 billion in 2020, to surpass \$16 billion by 2025.



The expansiveness of state-qualifying condition lists is one of the key determinants of patient participation in legal medical markets. States that permit broader lists of conditions generally attract a far greater potential population pool than do those states which limit medical cannabis accessibility (e.g., markets which are restricted to only cancer patients and the terminally ill). In fact, there has been a distinct trend of initially restrictive medical programs expanding the allowable conditions in an effort to boost rates of patient registration and program sales. The most common way to broaden the potential patient pool and boost program sales has been to add key ailments associated with higher rates of patient registration (such as chronic pain) to the list of accepted qualifying conditions.

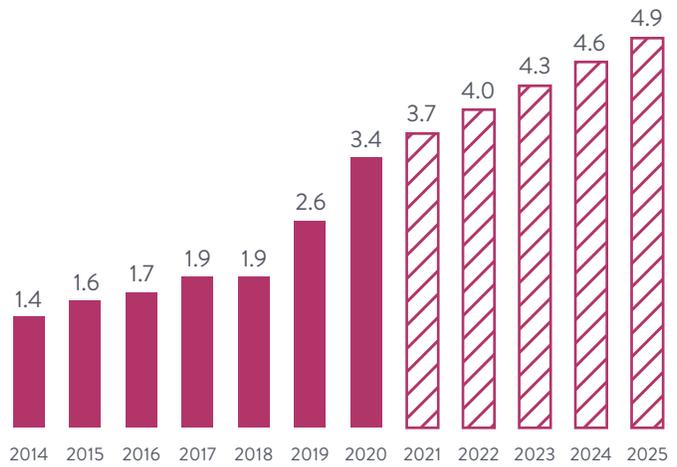
PATIENT PARTICIPATION PROPELLED BY CHRONIC PAIN

While it is not a permitted qualifying condition in all states, chronic pain is the most frequently cited condition, accounting for two-thirds or more of registered patients in states where permitted.

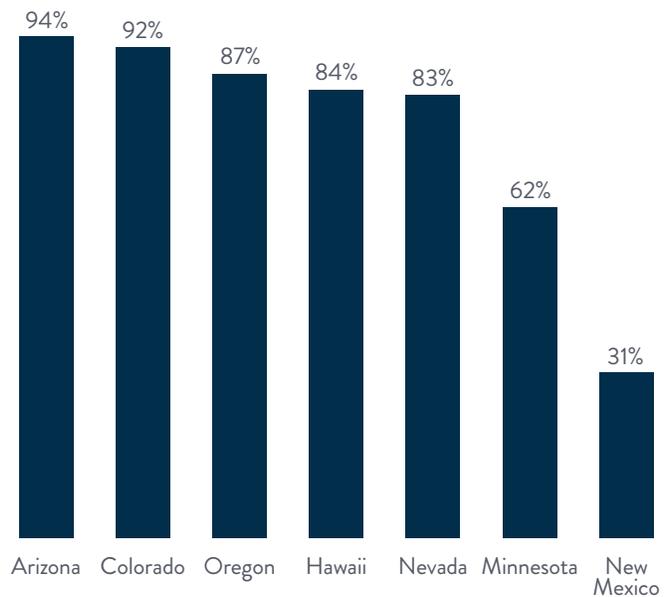
Across five mature medical markets that all accept chronic pain as a qualifying condition (e.g., Arizona, Colorado, Oregon, Hawaii, and Nevada), nearly 90% of registered medical cannabis patients report either chronic or severe pain as the primary illness being treated. Overall, pain, post-traumatic stress disorder (PTSD), and muscle spasticity, respectively, are the top three most-commonly cited conditions reported by patients seeking medical cannabis in states that include them as qualifying conditions for use.

Number of Registered U.S. Medical Cannabis Patients

2014-2025, in millions, est.



Percentage of Patients Reporting Condition of Chronic Pain



449,866

Total number of pain patients in AZ, CO, OR, HI, NV, MN and NM, combined.

Note: Data is as of November 2020
All charts, source: New Frontier Data



IMPROVING MEDICAL CANNABIS ACCESS: EVOLUTION OF PRESET QUALIFYING CONDITION LISTS

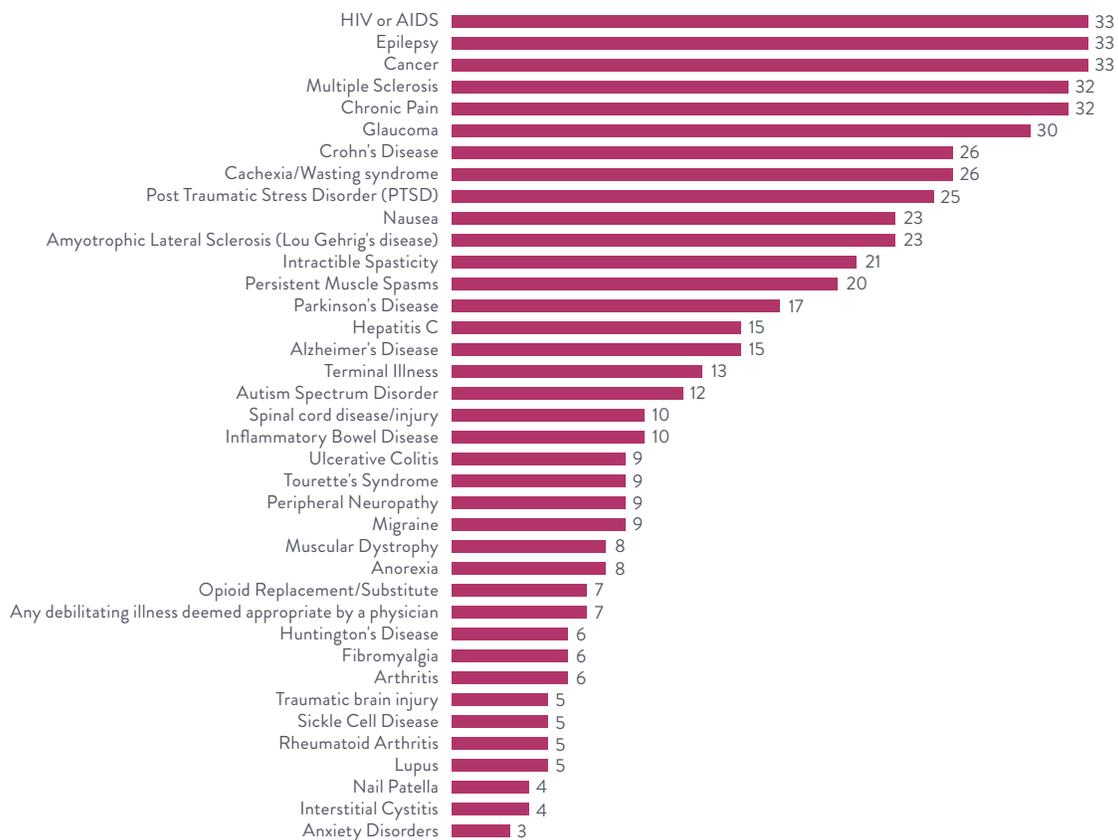
In the first states to legalize medical use, the most common qualifying conditions specified included epilepsy, cancer, HIV/AIDS, and glaucoma. They still rank as the most commonly specified conditions, however, the list of qualifying conditions in newer markets during recent years has expanded as cannabis has been found therapeutic for an increasing range of conditions.

Some of the more recent conditions to be considered in state programs include: PTSD, anxiety disorders, Alzheimer's, and autism spectrum disorders. Additionally, with a growing body of research suggesting that cannabis may hold some promise in helping mitigate the rates of dependence and overdoses, there is growing parallel support for expanding access to those most vulnerable to opioid abuse and dependence. Many states have already turned to cannabis to mitigate the crippling opioid crisis:

- In Pennsylvania, the list of qualifying conditions has been expanded to include approved uses for those in opioid addiction therapy or cancer remission, and in Missouri the medical cannabis program list of qualifying conditions includes "opioid substitute"

Qualifying Conditions Most Commonly Specified in State Medical Cannabis Programs

■ Count of States Accepting Condition

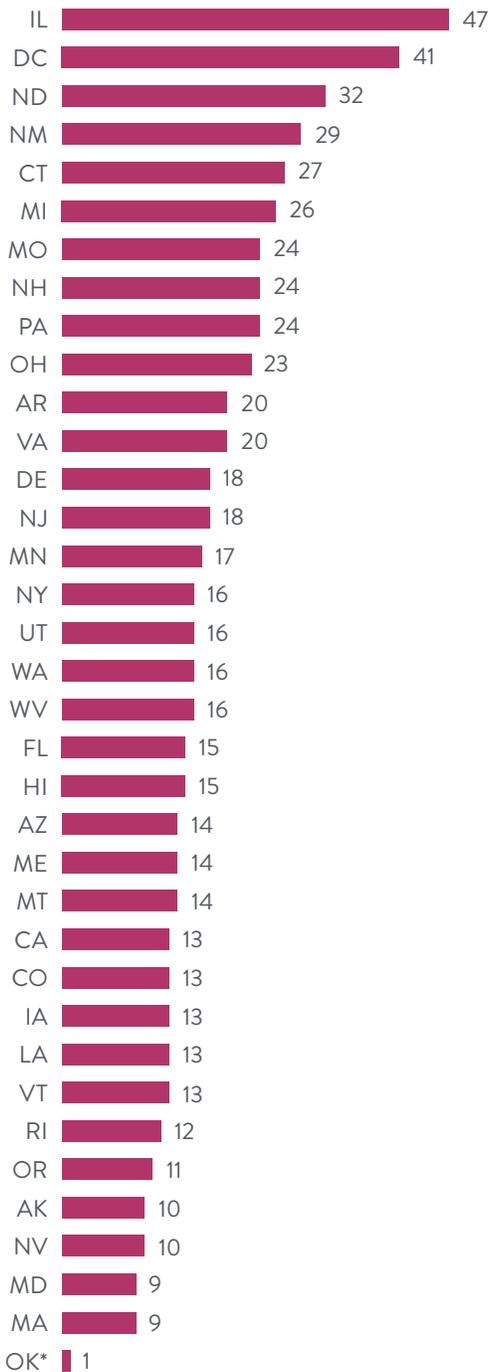


Source: New Frontier Data



Number of Specified Qualifying Conditions for Medical Cannabis Use

Condition Count



*Physicians in OK can recommend for any reason

Source: New Frontier Data

- In 2018 the governor of the state of New York signed legislation allowing medical cannabis to be used as an alternative to opioids, and the program saw an immediate boost in patient registrations.
- In 2019, four additional states have followed New York’s lead and amended their laws to allow patients to access medical cannabis as an opioid alternative: New Jersey, Illinois, Colorado, New Mexico.

While some states have allowed the public to petition for new conditions, the fastest way to grow a program is to allow physicians the discretion to recommend cannabis for any condition they deem appropriate. Oklahoma permits doctors to prescribe cannabis for any condition they deem appropriate, without needing to specify the condition in the recommendation, and the flexibility has resulted in the highest patient participation across any medical market by a wide margin. While the level of participation in Oklahoma’s medical market is also fueled by other, low barriers to entry in their regulations (such as the absence of license caps/ease of retail dispensary access), the latitude granted to physicians has been key to the market’s explosive growth.

Importance of Retail Dispensary Access

In both medical and adult-use markets, the level of potential participation relies heavily on the consumer’s access to retail dispensaries. Legal market access is generally limited by local autonomy rules, which permit counties or municipalities to determine whether to allow cannabis dispensaries in their borders, or by highly restrictive licensing structures that permit too few operators to sufficiently meet state demand. States that pass legalization measures and adopt regulations to prevent local bans, as well as those with generous limits on license caps – or even more so, states that have no caps on licenses at all – are best positioned to ensure adequate means of access for patients and consumers.



Oklahoma Medical Market: A Case Study in Market Access

Business Licenses – Quick and Accessible

Oklahomans legalized medical cannabis in June 2018 by approving State Question 788 with 57% of the vote. Sales began 95 days later. The ballot initiative specified time frames with which the state would need to comply with, which influenced the market's expeditious launch. The text specified that business license applications needed to be available within 30 days of the initiative's passage, that a regulatory office be open to receive applications within 60 days, and that the state review and rule on applications within 14 days of their receipt. By comparison, most legalized state markets have required their implementation of a cannabis board or committee within a year (or two) to begin drafting initial regulations and determine application criteria, etc. Thus, while the average period for implementation across other state medical markets exceeded three years, Oklahoma's was operational within three months.

Oklahoma currently has more licensed cannabis retailers per resident than any other state, including those with both active medical and adult-use markets. While Oklahoma has 5.35 licensed cannabis retailers per 10,000 residents, Montana follows it with 3.54 – less than two-thirds of those in the Sooner State. The state's surging number of cannabis business licenses is a function both of having no statewide cap, and the relatively low cost of a license; compared to \$2,500 in Oklahoma,

cultivation licensure costs 50x more in Maryland (\$125,000), and 80x more in New York and Pennsylvania (\$200,000).

Additionally, in Oklahoma, participating businesses are not required to be vertically integrated (thus significantly lowering the barriers to entry), and municipalities are prohibited from revising zoning laws which would "prevent the opening of a retail marijuana establishment", both of which have helped create a competitive state market that is quickly becoming saturated.

By Oklahoma's requirements, at least 75% of members, managers, board members, and owners must be state residents. An August 2019 law (HB 2612, or the Unity Bill) clarified that residency be defined as one's having lived in Oklahoma for at least two years immediately preceding application, or at least five continuous years during the previous 25. However, as of July 22, the Oklahoma Medical Marijuana Authority (OMMA) suspended its enforcement of the residency requirement (pending a lawsuit which would remove the provision requiring anything more than current residency). If the two-year clause is lifted, Oklahoma's market may see an influx of businesspeople and investors (including those anticipating adult-use legalization). An adult-use market in Oklahoma would attract additional demand from nearby states where cannabis remains illegal, with Texas likely being a key driver of demand from the region.

License Cost Comparison

STATE	Cultivation	Processor	Dispensary
OK	\$2,500	\$2,500	\$2,500
MD	\$125,000	\$40,000	\$40,000
PA	\$200,000	\$200,000	\$30,000
NY	\$200,000	\$200,000	\$200,000

Note: License cost comparison does not include application fees.



Patient Participation Made Easy

Oklahoma’s medical cannabis market has the highest patient saturation of any state in the U.S., with over 8% of residents registered. That rate is more than 2x that of other markets with relatively high saturation (e.g., Arizona, with 4.0%). Oklahoma has achieved its remarkable participation rate within two years, whereas Arizona’s saturation rate grew over more than nine years.

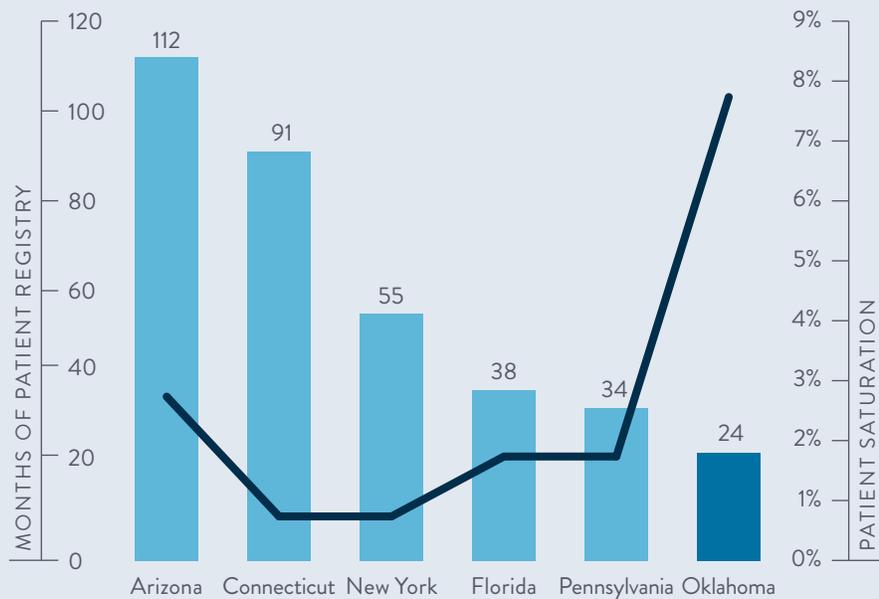
The speed and flexibility with which State Question 788 allowed both for patients to access the market, and for participating doctors to recommend cannabis, likewise contributed to the state’s explosive growth in legal demand.

Cannabis License Density*

Dispensary Business Licenses per 10k Residents



OK: High Patient Saturation in Fewest Months of Open Registry



95 days
BETWEEN LEGALIZATION AND FIRST DAY OF SALES

■ Months of Patient Registry — Current Patient Saturation

* In Colorado, Alaska, Oregon, and Washington, business licenses include both medical and adult-use type dispensary retail licenses.

All charts, source: New Frontier Data



Oklahoma does not require qualifying conditions for medical recommendations, which effectively permits any board-certified physician in good standing to recommend cannabis to a patient for any reason according to "accepted standards a reasonable and prudent physician would follow when recommending or approving any medication." Given the broad range of conditions for which cannabis has reportedly been therapeutic, the provision allows for high rates of participation among nearly 4 million Oklahomans.

Another contributing catalyst for Oklahoma's medical market development came from cannabis businesses' proactive work increasing patients' awareness and participation. Since late 2018, registration drives have been organized to register patients having a need for medical cannabis but perhaps unable to afford a full-price doctor's visit, or others who were unaware how to apply with the state. The events bring in doctors to meet with prospective patients and write low- or no-cost recommendations for those who qualify. Often, volunteers also help prospective patients apply on the OMMA's online patient application portal. Offering such assistance effectively increases public awareness while lowering barriers to participate, and doubtless has contributed to Oklahoma's historic rate of patient participation.

While licensed out-of-state medical cannabis patients are not granted full reciprocity in Oklahoma, each may apply for a temporary (30-day) license. Last May, Oklahoma's HB 3228 would have allowed any out-of-state resident to apply for a 90-day license, but that was vetoed.

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In its geographically central location among the lower 48 states, Oklahoma might represent a canna-tourism destination for millions of Americans from neighboring markets.

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Any further loosening of restrictions for out-of-state residents could have massive implications for the market. In its geographically central location among the lower 48 states, Oklahoma might represent a canna-tourism destination for millions of Americans from neighboring markets. With the northern Texas cities of Dallas and Fort Worth each less than a 90-minute drive from its border, Oklahoma could cater to a combined population of more than 2 million — more than 50% that of the state itself (Dallas and Fort Worth are among the 15 largest cities in the U.S.)

Implications of the Patient Participation in Oklahoma:

MARKET SIZING & UNDERREPORTING OF CANNABIS USAGE

Marking unparalleled growth of the state's program, Oklahoma had registered over 335,000 medical cannabis patients as of October 2020. Even so, there is no sign of participation slowing down: Registered patients now account for about 11% of the Sooner State's adult (i.e., age 18+) population, meaning that its medical program participants nearly match the state's total cannabis consumer population. They had already exceeded Oklahoma's estimated number of heavy cannabis consumers (i.e., cannabis consumers who consume cannabis at least once monthly).



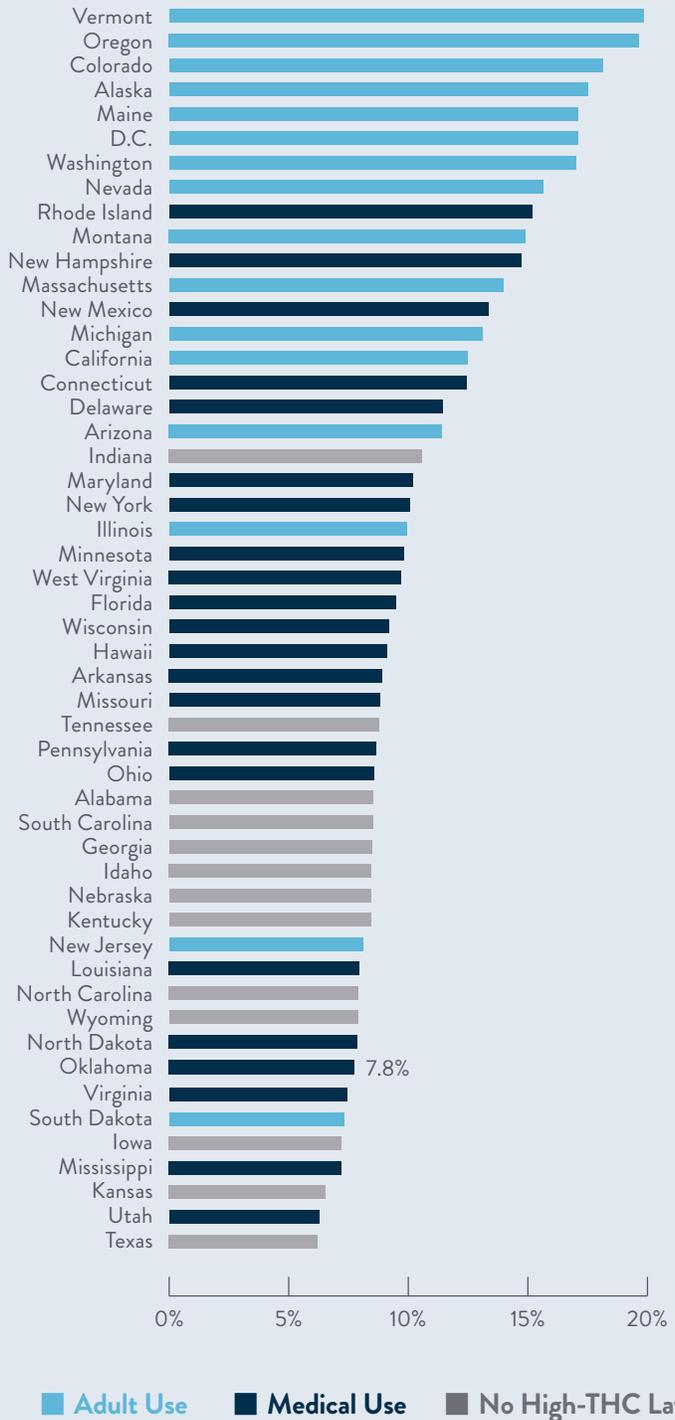
What is being seen in Oklahoma illustrates complications that can arise from trying to measure cannabis use through self-reported surveys (e.g., SAMHSA’s National Survey on Drug Use and Health). A host of factors lend themselves to underreporting when measuring drug use with surveys, the most significant for U.S. respondents being the onus of federal prohibition.

With past-month usage rates at 7.8%, Oklahoma had the nation’s 8th-lowest reported rate of cannabis use. Nearly a dozen states (e.g., Vermont, Oregon, Maine, Colorado, etc.) report usage rates at twice the levels seen in Oklahoma. Given the rapid expansion of public acceptance toward cannabis nationally (with a dramatic rise in aggregate usage rates seen nationwide), low reported numbers in Oklahoma and other historically deeply conservative states raises the question of possible self-censoring that could be artificially suppressing reported usage rates.

While current demand prevalence data may be prone to underreporting errors in the near term, New Frontier Data anticipates that growing acceptance and normalization of cannabis use will lead to more precise estimates, and more complete, comprehensive, and accurate consumer reporting in coming years.

Reported Past-Month Cannabis Usage Rate

2018, Ages 18+



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 18+ population, Released Dec 2019



Social and Economic Trends

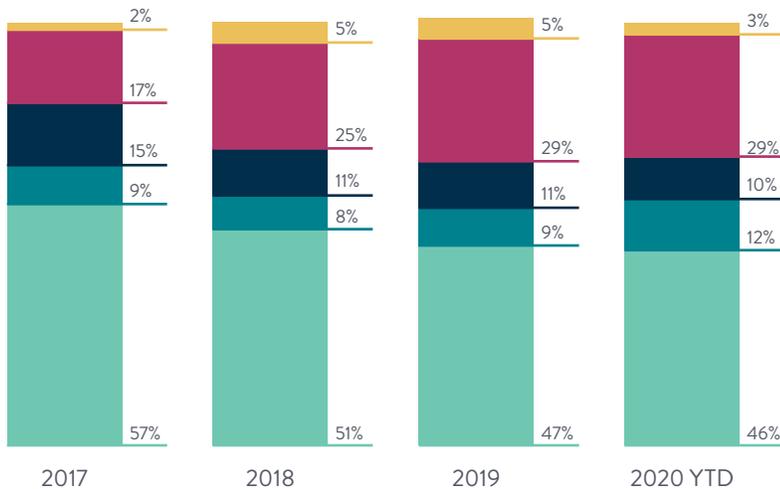
Evolution of Consumer Product Preferences

Product preferences and consumption habits have changed significantly since the first adult-use markets began cannabis sales six years ago. Not only have manufacturing advancements created novel infused products and more potent concentrates, but also product innovation has increasingly allowed consumers to incorporate cannabis into their lives in new and

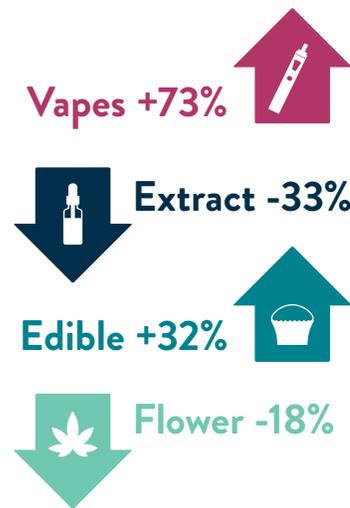
novel ways. For example, the discretion afforded by vapes and edibles have made it possible for one to consume cannabis in a much broader range of contexts than would be possible with smoked cannabis products.

When comparing changes in share of total legal sales, vapes (including portable vape pens and oil cartridges) have seen the greatest growth in market share over the last three years — growing from 17% of all legal U.S. cannabis sales in 2017, to nearly 30% of legal sales in 2020 — while edibles’ market share has increased by 32% to account for 12% of sales in 2020.

Share of Total U.S. Legal Cannabis Sales by Product Category
2017-2020 YTD*



Growth in Market Share by Product Category (2017-2020 YTD)



- Flower+Pre-roll
- Edible
- Extract
- Vape
- Other

*YTD includes sales through 08/31/20.

Note: Flower includes all pre-roll products

Note: Based on data from AK, AZ, CA, CO, CT, FL, IL, NV, ME, MD, MA, MI, MT, NM, OH, OK, OR, PA, PR, & WA

Note: Some markets carry restrictions within a product category that artificially suppress what might be higher demand within that category. (EX: limiting edibles to forms in capsule or tincture only results in lower shares of sales from edibles than would otherwise be under no form restrictions)

Note: 2020 YTD includes data for 2020 through August. CAGR calculated assuming remainder of 2020 legal sales maintain same share of sales as first eight months.

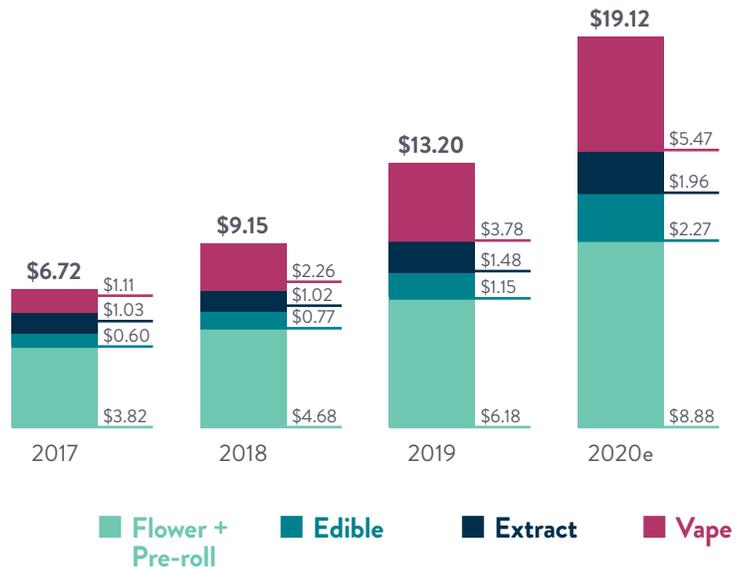
Source: New Frontier Data



Despite losing 18% of its market share over the last three years, flower still remains the largest product category, accounting for 46% of total retail sales across the U.S. in the first eight months of 2020. The continued strong demand for flower (particularly in more mature markets with dual operating medical and adult-use programs) is tempering expectations of how quickly value-added products (including concentrates, vapes, and edibles) will become dominant products on the market. In Colorado, Oregon, and Washington, the three oldest dual medical/adult-use states, market share of flower saw an average uptick of 19% in Q2 '20 over Q2 '19, plateauing to an average of 57% market share for Q2.

U.S. Legal Cannabis Sales by Product Category

Medical & Adult-Use Markets Combined

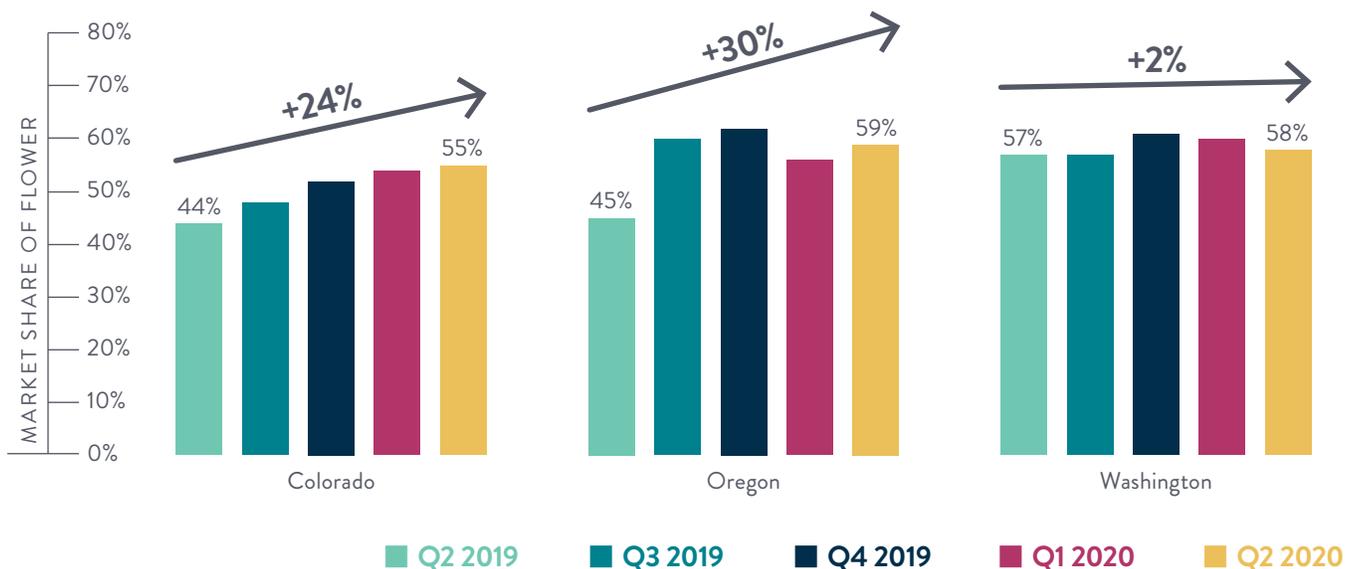


Note: Flower includes all pre-roll products

Note: Based on data from AK, AZ, CA, CO, CT, FL, IL, NV, ME, MD, MA, MI, MT, NM, OH, OK, OR, PA, PR, & WA

Note: 2020 Estimated sales by product type calculated under the assumption that the remainder of 2020 legal sales maintain same share of sales as first eight months.

Flower Holding 50%+ Market Share in Most Mature Legal Cannabis Markets



All charts, source: New Frontier Data



THE NEW NORMAL

The first pandemic lockdowns, which began in March of 2020, coincided with significant changes to consumer behavior. Average spending per user has skyrocketed – Q2 '20 and Q3 '20 saw per capita spending increase 1.3x and 1.4x, respectively, from those respective periods in 2019. Edibles saw the largest increase in market share between the six months preceding the start of lockdowns and the six months following. Flower (which had been seen progressive declines as a percentage of total revenue) stabilized beginning in March, and the category saw a slight increase in market share compared to its pre-COVID-19 average, while vape products experienced the opposite, declining 5% in market share since a peak right before the pandemic.

Market share of pre-rolls also declined, likely amid safety concerns from the pandemic and the fact that buying flower unrolled is more economical. Pre-rolls are also a popular item for social consumption outside the home, where rolling joints may not be practical, and both social consumption and social activities have dropped off due to COVID-19. Additionally, pre-rolls are popular with tourists in adult-use markets, and tourism slowed substantially during the height of the pandemic. The decline in share of sales attributed to vapes can likely be attributed to a convergence of factors:

- Surging demand for flower and edibles in Q2 and Q3 reduced market share attributable to all other categories, including vapes.

- Latent public concern about vape safety following the 2019 vape (i.e., EVALI) crisis. While most of the vape-related lung injuries were attributed to illicit products, public concern may be heightened due to COVID-19 notably affecting lung functioning, thereby depressing demand among some consumers.
- Shelter-in-place orders during the pandemic have reduced demand among consumers who use vapes as a discreet alternative to smoking flower when consuming outside their homes. With the shutdowns to economic and social activity, fewer people were active outside their homes, driving increasing demand for flower – the preferred product for the majority of consumers – thus lowering demand for vapes.

Despite industry fears to the contrary, people are shopping from dispensaries more frequently since the beginning of the pandemic, averaging 3 trips per user in Q3-'20 compared to 2 visits in Q3'19. The additional convenience in allowances from dispensaries offering curbside pickup, online ordering, and delivery services as a result of the pandemic, could also be contributed to increased sales traffic. The fact that dispensary trips are becoming more frequent but average cart size per transaction has remained stable speaks to the normalization and social acceptance of cannabis use in established markets.

IMPACT OF COVID19 ON CANNABIS PRODUCT PREFERENCES

	PRE-COVID (6 month trailing avg. share of sales preceding March '20)	POST COVID (6 month avg. share of sales following March '20)	COVID Differential (Percentage change)
Edible	9.66%	11.88%	23%
Flower	40.13%	42.08%	5%
Extract	10.82%	10.42%	-4%
Vape	28.89%	27.43%	-5%
Pre-Roll	6.89%	5.32%	-23%

Source: New Frontier Data



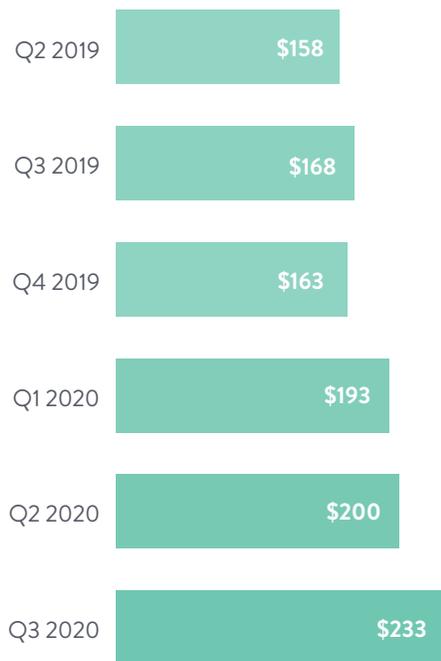
Whether the growth in consumer demand and spending sparked by the pandemic will be sustained remains to be seen. However, in the near term, the spike in cannabis sales seems poised to continue, as the pandemic is forecast to continue to cause widespread social and economic disruptions into 2021 and potentially beyond. Even after most state-level

lockdowns were lifted, per user monthly expenditures continued to increase, growing an additional 17% from \$200 per month per customer in Q2, to \$233 per customer in Q3.

IMPACT OF COVID-19 ON CANNABIS LEGALIZATION

As a result of the surge in consumer spending, states have seen spikes in cannabis tax revenues. In 2020, in an otherwise bleak economy, Colorado is on track to exceed \$300 million in annual revenue derived from cannabis taxes, licenses, and fees – over \$244 million had been collected by August. With five states (i.e., AZ, SD, MT, NJ, and MS) set to vote on cannabis legislation in 2020, the role of cannabis as a source of tax revenue and employment opportunities could help drive legalization support as states scramble for alternative methods to revitalize their economies in the aftermath of COVID-19.

Average Monthly Cannabis Expenditures per Customer



+40%

INCREASE IN MONTHLY SPENDING SINCE Q2 2019

Note: Average Cannabis Spending Per Consumer shown is average monthly spending for the respective quarter, across all legal markets (both legal medical and adult-use).

Source: New Frontier Data

Social Consumption and Canna-tourism

Consuming cannabis has long been a social activity. That aspect of cannabis consumption is limited by most current cannabis legal market regulations that prevent consumption of cannabis either in public or social places. In adult-use markets where a large portion of total revenues comes from tourism purchases, the absence of a legal place to consume legally purchased products has been a constraint on the potential canna-tourism opportunity. Aside from the very few number of states that have approved narrowly restricted rules for consumption of cannabis in social spaces, in most markets consumption is limited to private residences.

In general, there is high social acceptance of such businesses. A New Frontier Data survey found that 70% of cannabis consumers believed that public spaces should be established where cannabis smoking is permitted. However, licensing and local jurisdiction challenges have held back progress on the evolution of that facet of the industry. Only one state's voter-approved legalization measure (California's Proposition 64) permitted



municipalities to allow cannabis lounges from the outset, although that has been largely due to the fact that lounges have effectively been running across the state since 1999, regulated under local medical cannabis regulations. Despite the allowance, just 13 of the 482 municipalities in California have laws regulating cannabis lounges.

“Although the state-level regulatory progress on social-use spaces might be incremental, the integration of cannabis into public spaces like restaurants, clubs, and hotels...represent a major new chapter in the evolution of America’s legal cannabis industry.”

Alaska and Colorado both modified their state laws to allow consumption onsite regulated businesses, and in May 2019 Las Vegas created city regulations to allow consumption at a limited number of qualified dispensaries, potentially setting the stage for a Nevada state law change, too. However in all markets, social spaces have made little headway, with rules in Colorado prohibiting establishments from conducting any sales on the premises.

DESPITE SLOW PROGRESS, HUGE POTENTIAL REMAINS

Social-use spaces have the potential to draw a broad base of cannabis consumers, ranging from solitary consumers seeking to connect with the community, to those whose living arrangements preclude them from consuming at home. In adult-use markets, the allowance for those spaces presents intriguing opportunities for the innovative use of space to reflect the different ways in consumers might experience cannabis, and (particularly if combined with a hospitality experience) can serve canna-tourists in a very unique way. Social-use spaces also have the potential to draw consumers out of the illicit market by providing social elements to give those consumers reason to purchase outside of their normal unregulated channels.

The Original Cannabis Café (formerly Lowell’s cannabis café) broke ground in West Hollywood at the end of 2019 as the first social-use restaurant space in the U.S., and there are plans for two cannabis hotels to open in California over the next year. A wellness-focused Coachill Inn Resort in Desert Hot Springs is slated to open in December 2020, while The Grape House luxe smoking lounge-dispensary-boutique hotel in Palm Springs is set to do so in 2021.

Although the state-level regulatory progress on social-use spaces might be incremental, the integration of cannabis into public spaces like restaurants, clubs, and hotels — and the evolution of businesses that capitalize on providing a cannabis-consumer based experience — represent a major new chapter in the evolution of America’s legal cannabis industry.



Hemp, CBD, & Minor Cannabinoids

The cultivation of hemp (which refers to *Cannabis sativa* L. plants with THC concentrations of less than 0.3%) was made federally legal by the 2018 U.S. Farm Bill. That legislation replaced the 2014 Farm Bill, which allowed states to grow hemp in pilot programs under the jurisdiction of state agriculture departments without legalizing the plant on a federal level. The legalization of hemp cultivation led to a massive increase in hemp acreage, increasing from 78,176 acres grown in 2018 to more than 115,000 acres grown in 2019. Of that acreage, more than 90% was dedicated to cannabidiol (CBD) production.

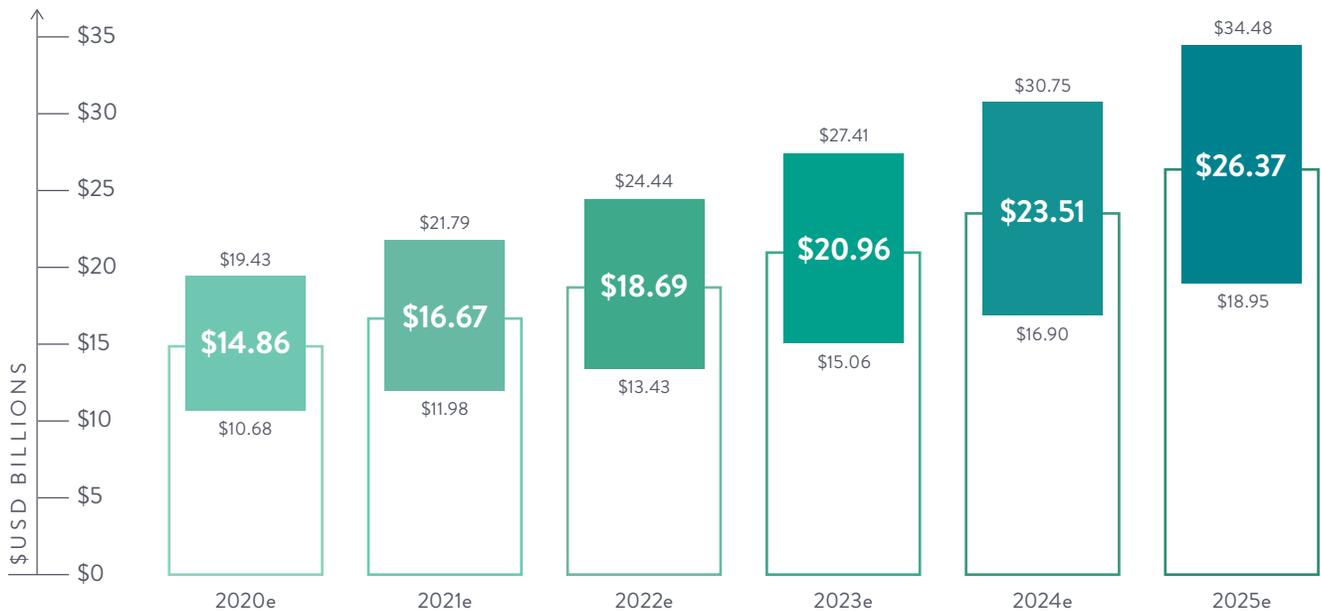
U.S. CBD ANNUAL SPENDING FORECAST PROJECTED RANGE

Annual spending on CBD in the U.S. is expected to total an estimated \$14.9 billion (mid-range estimate) for 2020, and is projected to grow at a CAGR of 12.2% to reach \$26.4 billion by 2025. Per capita annual spending on CBD among U.S. consumers in 2020 is estimated at \$318.88. The total cumulative spending represents a potential \$121 billion opportunity over six years.

Despite the fact that CBD derived from hemp is chemically identical to CBD derived from high-THC cannabis, the latter remains illegal under federal law. Because of the lower legal risks associated with growing hemp versus high-THC cannabis, and the lower cost of producing hemp at scale, hemp has become the dominant source of supply for the burgeoning U.S. CBD industry.

U.S. Projected Annual CBD Spending (2020-2025)

Low/Mid/High Estimates in \$USD billions



Note: Current market size estimates were built using both reported rates of CBD spending, and expectations regarding future purchasing from New Frontier Data's U.S. CBD Consumer survey from March 2020, which recorded more than 4,000 responses.

Source: New Frontier Data



U.S. CBD CONSUMERS

Awareness of and demand for CBD in the U.S. has grown significantly since the 2018 Farm Bill. A 2020 New Frontier Data survey found that nearly 9 in 10 Americans (86%) have heard of CBD, with 18% having used it.

Two in five (40%) of CBD consumers use it at least once a week, indicating that for a plurality of those who try it, CBD use quickly becomes regimented. Conversely, one-quarter (25%) of people who have tried CBD did so only once or twice before they stopped consuming it. But use patterns vary significantly among different age groups: Consumers under 35 were less likely than older consumers to consume CBD once or more per week, while more than one-quarter (27%) of those 55 and older having ever tried CBD now consume it daily.

Oil is the dominant form of CBD, but topicals and infused foods are also relatively popular. Younger groups have used a wider variety of forms than have older groups; the former were particularly more likely to have consumed CBD in vape pens, foods, and drinks.

Forms	Have Ever Used This Form	Favorite Form
Oil/Tincture	63%	38%
Topical/ External Products	36%	19%
Food	31%	15%
Vape Pen	16%	7%
Pills/Capsules	15%	7%
Flower	13%	8%
Drinks	10%	3%

Among those who have ever used CBD; sums total more than 100% when respondents could select more than one option.

CBD Use Frequency by Age



Among those who have ever used CBD. All charts, source: New Frontier Data 2020 U.S. CBD Survey



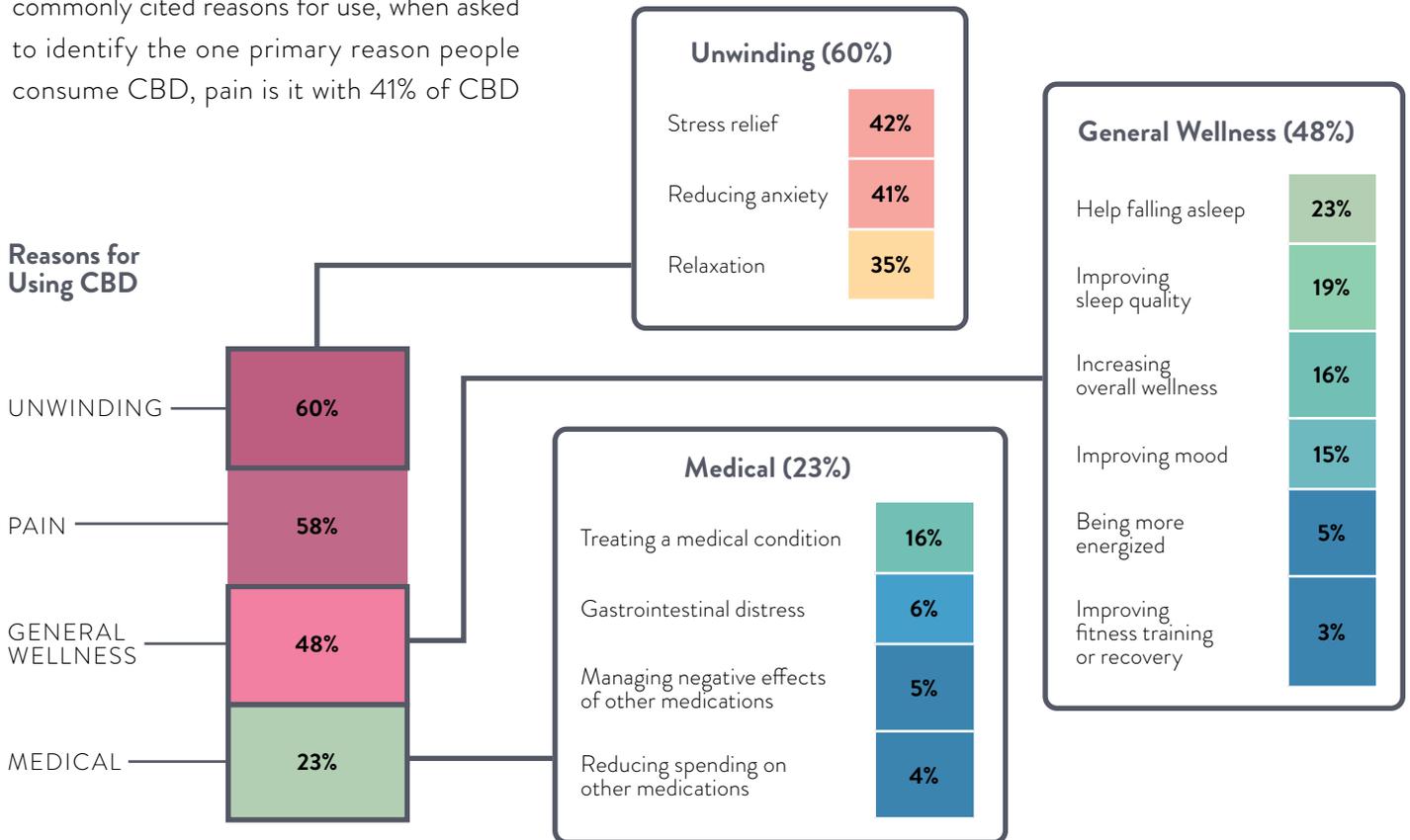
Most consumers use CBD for more than one reason. The most common use (among 60% of consumers) is for some form of unwinding (i.e., ranging from relaxation, to relieving stress, or anxiety reduction), with about two in five consumers reporting each). Pain management is a close second (58%).

Nearly half of consumers (48%) use CBD to promote general wellness, including aiding sleep and boosting mood. About one-quarter (23%) of consumers use CBD for a medical reason—either directly treating a condition or something nonspecific—to manage side effects or mitigate costs of other medications.

While unwinding-related reasons are the most commonly cited reasons for use, when asked to identify the one primary reason people consume CBD, pain is it with 41% of CBD

65%
of CBD consumers say that it has **positively affected their quality of life**, while 2% report a negative effect.

Reasons for Using CBD



Among those who have ever used CBD; sums total more than 100% when respondents could select more than one option.

Source: New Frontier Data 2020 U.S. CBD Survey

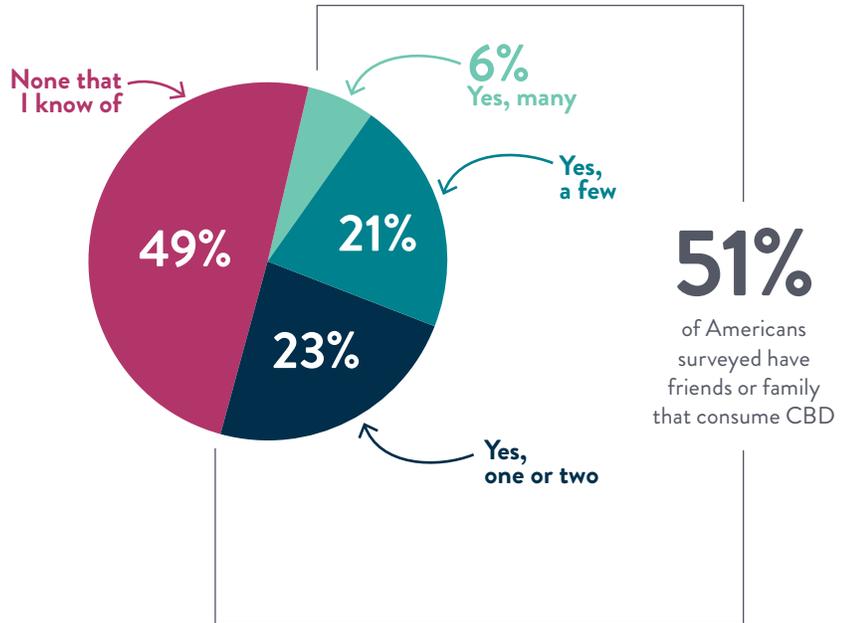


consumers citing it as their leading reason for consumption. Unwinding is second, followed by general wellness, followed by respective medical reasons.

Personal connections are important in driving attitudes, knowledge, and ultimately use of CBD. Half of Americans know about the CBD consumption of someone close to them, and 73% of Americans have had a conversation about CBD, including two-thirds (67%) of those who have not tried CBD themselves.

Online sources and personal connections, especially friends, are the most commonly cited sources for CBD, with about 4 in 10 consumers having ever sourced from them; about 3 in 10 name either as their primary source.

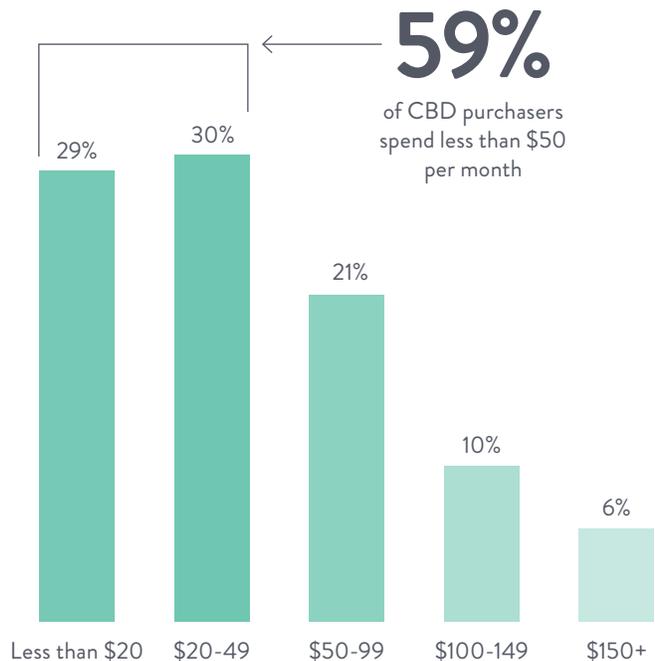
Do You Have Friends or Family Who Consume CBD?



CBD Sources	Ever Sourced From	Primary Source
Personal connection	39%	27%
Online	38%	28%
Smoke shop/ Cannabis store	29%	19%
Drugstore/ Pharmacy	13%	6%
Grocery store	8%	3%
Beauty shop, spa, salon	6%	2%

Among those who have ever used CBD; sums total more than 100% when respondents could select more than one option.

Monthly Spending on CBD



Among those who have ever purchased CBD. All charts, source: New Frontier Data 2020 U.S. CBD Survey



In total, about **3 in 10 (29%)** of Americans reported being likely to purchase CBD in the following six months.

More than **7 in 10 (72%)** of those who had purchased CBD reported being likely to purchase it again in the following six months.

More than **one-fifth (21%)** of people who had not already purchased CBD said they were likely to do so in the following six months.

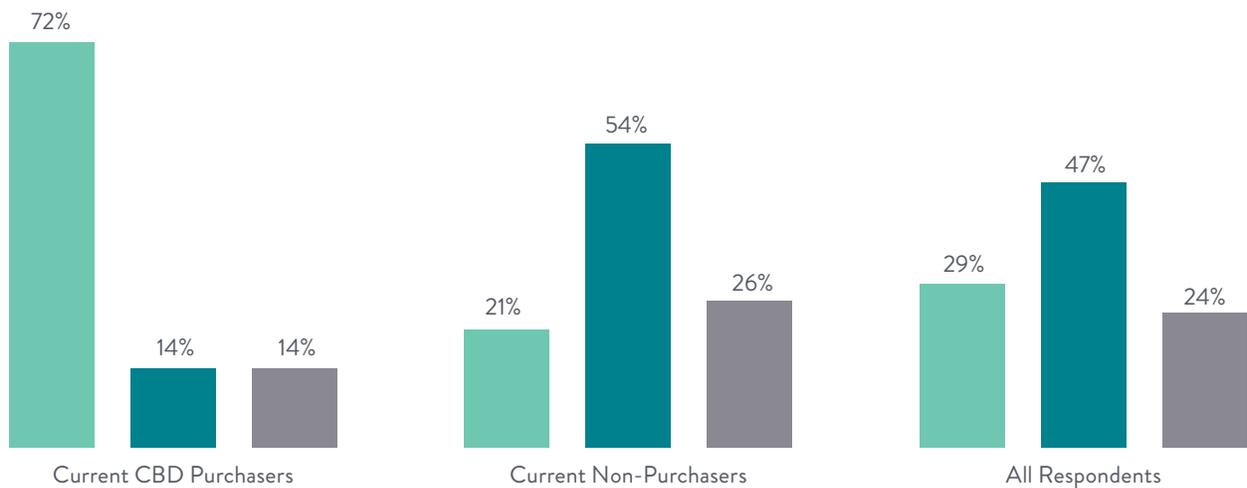
Minor Cannabinoids

Awareness of minor cannabinoids among consumers is currently low, but (regulations permitting) the market will grow rapidly, building on the framework that consumers have for CBD. THC and CBD will remain the most well-known and widely used cannabinoids, but a handful of minor cannabinoids are already reaching cannabis-informed consumers.

With overproduction and an associated drop in prices of CBD, some producers have turned to other minor cannabinoids, such as cannabiol (CBN), which has sedative properties and may improve immune health, or cannabigerol (CBG), which shows strong potential in fighting inflammation, pain, and nausea. Among additional minor cannabinoids currently available are cannabichromene (CBC), cannabidivarin (CBDV), cannabichrovarin (CBCV), and cannabigerovarin (CBGV) in hemp, along with tetrahydrocannabivarin (THCV) and delta-8 THC on the high-THC side of the market.

Many industry operators find minor cannabinoids particularly compelling, as they represent an untapped medical arsenal with early research suggesting minor cannabinoids to have as much or more

Likelihood of Purchasing CBD in the Following Six Months



Legend: ■ Likely ■ Unlikely ■ Neither likely nor unlikely

Source: New Frontier Data 2020 U.S. CBD Survey



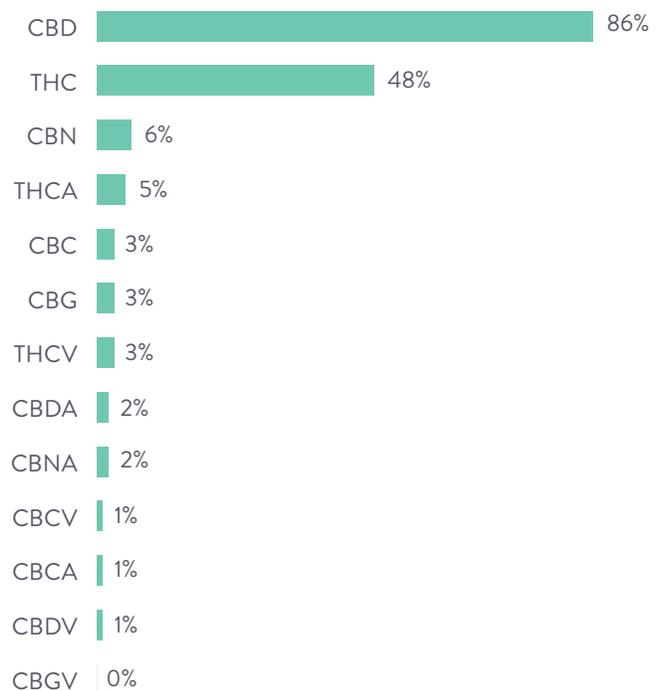
potential in nutrition and wellness as THC and CBD offer. Recent scientific research has indicated that both cannabinoids and terpenes may be able to be used as antiviral drugs.

CBC, reportedly nonpsychoactive, may play roles in neurogenesis, and seems to have many of the same properties as CBD in regard to reducing or controlling inflammation, or potentially battling cancer. Though CBDV (discovered in 1969) was among the first identified cannabinoids, its commercialization has been slow. CBDV has been anecdotally linked to alleviating many conditions, including epilepsy and muscular dystrophy. THCV has been nicknamed the "diet cannabinoid". Beyond potentially curbing one's appetite (with important applications in the weight-loss market), THCV has been linked with promise in treating both Alzheimer's and Parkinson's diseases.

With increased production, consumer interest will broaden and demand will increase. Any cannabinoids other than delta-9 THC that are derived from hemp are legally considered hemp, and therefore are permitted under federal law. That legal definition has led to the rise of delta-8 THC—a cannabinoid with similar—if slightly weaker—effects to the better-known delta-9 THC.

Delta-8 THC, has gained popularity as a 'legal' high in markets with no or limited legal access to cannabis with delta-9 THC. Although delta-8 THC is not technically a controlled substance and was initially considered legal under the 2018 Farm Bill, a legal battle has emerged in the wake of the DEA's Interim Final Rules, with the DEA arguing that "all synthetically derived tetrahydrocannabinols remain schedule I controlled

Cannabinoid Awareness in the General Population



Source: New Frontier Data 2020 U.S. CBD Survey

substances", including delta-8 THC. At the time of this report, legal challenges to the DEA IFR are ongoing.

Many minor cannabinoids, because of their low concentrations in cannabis plants, will likely be synthesized (such as from yeast or from the more abundant CBD), rather than plant-derived. Dr. Raphael Mechoulam, who discovered the endocannabinoid system, recently announced the development of CBDA methyl ester, a stable, synthetic cannabinoid with reportedly higher efficacy than plant-derived cannabinoids. The ester may compete with pharmaceutical treatments, as (like other synthetics) it does not come with the same attendant legal challenges of plant-derived cannabinoids.

Given the size of the market opportunity, there should be room for both synthetic and naturally derived cannabinoids in the market to coexist. The opportunity for each will hinge on the intended application, with marketing focused around a product's provenance (e.g., plant-derived, organic, etc.).



Spotlight on Cannabis Prohibition Enforcement and Criminal Justice Reform:

DISPARITIES IN POLICING, CIVIL ASSET FORFEITURE, AND CANNABIS SOCIAL EQUITY PROGRAMS

America's War on Drugs

It is estimated that the U.S. federal government spends roughly \$33 billion annually prosecuting the war on drugs; state and local governments spend nearly \$30 billion to the same end. Though the expenditures are often described as a cost to taxpayers, they could just as easily be understood as allocations to federal, state, and local law enforcement budgets. In a competitive budgetary environment, law enforcement demonstrates its efficacy through arrests, seizures of cash and assets, and drug interdictions – all of which both justify and perpetuate the continuing war on drugs. Such actions also serve as a foundation for sustaining or increasing budgets.

The U.S.'s continued prosecution of the drug war also brings the revenue streams of law enforcement full circle: Some portion of the \$63 billion allocated to law enforcement across the U.S. comes from the tax revenue generated by regulated cannabis businesses; a further portion comes from the additional taxes generated by §280E. Some law enforcement budgets are supplemented by funds locally generated from civil asset forfeiture, as well as monies from participating in the federal Equitable Sharing Program. Whatever the totality of the operating budgets, law enforcement agencies have positioned themselves to profit from every aspect of the cannabis industry, from legal businesses to unregulated operators.

Civil-Asset Forfeiture v. Cannabis

Civil forfeiture laws allow police to seize property—e.g., cash, cars, guns, houses, and other assets—suspected of being connected to criminal activity **independently of whether criminal charges are ever filed.**

While the original intent of civil asset forfeiture was to disrupt large-scale organized drug trafficking and fight the "War on Drugs," overwhelming evidence has demonstrated that the programs exercised at the state and local levels offer too few protections for innocent property owners while simultaneously offering perverse profit incentives for police and prosecutors. Additionally, many states do not require reporting on key details, such as whether any criminal charges were ever filed in relation to the seizure of cash or property, or what type of criminal activity was alleged (e.g., cannabis), and if a state has no requirements to aggregate those reports or publish them online, there is little incentive to be honest and transparent about either the circumstances under which the money and property were seized, or the ways by which assets were allocated and spent.

BURDEN OF PROOF

People having the financial means to go to court to fight for forfeited assets often face another major obstacle: a low standard of proof required to seize property under most civil forfeiture laws. Under civil asset forfeiture, the property itself (rather than a suspect) is charged with a crime, and unlike when a person is



prosecuted, the property is effectively seen as guilty until proven innocent, with the burden of proof falling on the property owner.

Thirty-one states and the federal government have set "preponderance of the evidence" as the standard of proof for all civil forfeitures, making it the most common standard nationally. That standard means that property is much likelier to be connected to a crime. It is often thought of as a 51% standard, meaning that the evidence must be a bit greater than 50–50 (i.e., slightly better than a coin flip) in favor of the government, a much lower hurdle than proof beyond a reasonable doubt.

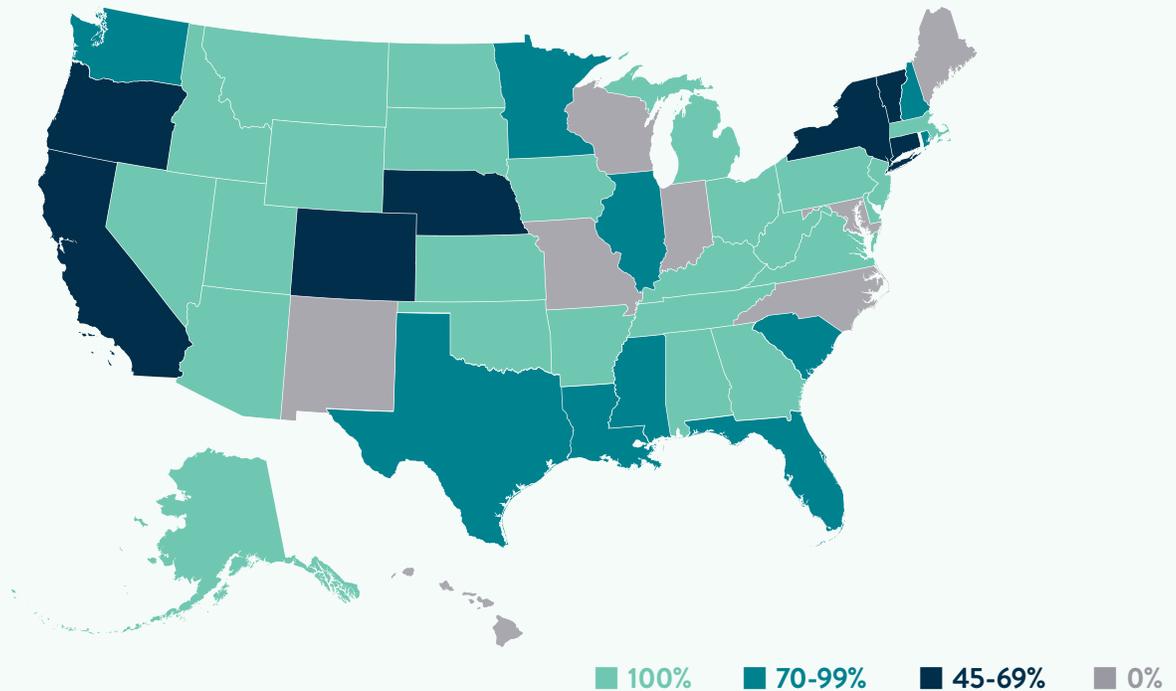
Massachusetts and North Dakota set a lower standard yet, requiring only probable cause for civil forfeiture. Probable cause is the same low evidentiary standard that police must meet in order to make an arrest, carry out a search, or seize the property or cash in question in the first place.

PERVERSE INCENTIVES

One of the incentives for program abuse lies in the absence of restrictions on spending of seized funds, with 35 states allowing law enforcement to keep over 75% of total forfeited proceeds (26 states allow law enforcement to keep 100% of the cash and property they seize). Only seven states and the District of Columbia block law enforcement from access to forfeited proceeds.

Financial Incentive for Seizure: Percentage of Forfeiture Funds Law Enforcement Agencies are Permitted to Keep

By State



Note: Despite the state level restrictions in place on asset forfeiture spending, the federal Equitable Sharing Program allows for local and state agencies to bypass these restrictions by forfeiting their seizures of cash and property to the federal Asset Forfeiture Fund, wherein 80% of forfeited amounts can be returned back to those local and state law enforcement agencies. Agencies may keep or be awarded up to the stated percentages by a court, but a lesser amount may instead be awarded.

Source: New Frontier Data

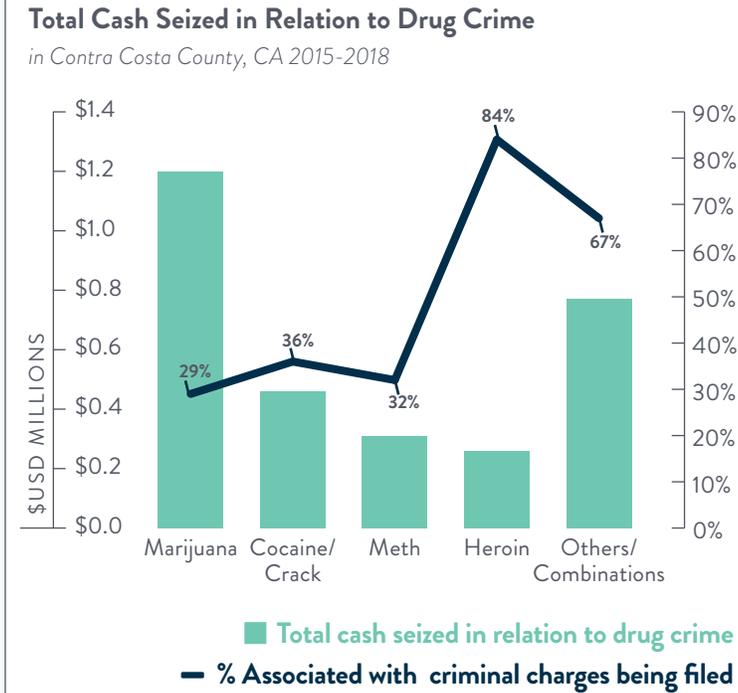


Drug-related crimes make up most crimes cited for seizures, and marijuana is the most commonly cited individual drug.

Despite the overwhelming lack of transparency about details of civil asset forfeiture programs across many states, there have been some small pockets of visibility (though public records requests) in states which are required to keep information about the cash and assets that they seize. For example, in Contra Costa County, Calif., a series of public records requests to the district attorney’s office revealed cash seizures totaling \$1.3 million in cases where drug-related criminal charges were filed, and \$529,000 in cases where a charging decision had not been made. About \$1.1 million of the seizures came from cases where the district attorney’s office decided not to file criminal charges, yet still took action to keep the cash – of that \$1.1 million, nearly half came from marijuana alone. Despite marijuana being the singular drug for which the largest amount of cash was seized, just 29% of the money was tied to actual charges having been filed.

FEDERAL EQUITABLE SHARING PROGRAM AS LOOPHOLE FOR SEIZING CANNABIS ASSETS

State civil forfeiture laws vary in terms of their incentives, but state and local law enforcement agencies typically have loopholes for receiving assets through the federal government’s Equitable Sharing Program, under which state and local police agencies can collaborate with federal agencies to seize assets from individuals and transfer those seizures to federal control. In doing so, local agencies bypass some



29%

Despite marijuana being the singular drug for which the largest amount of cash was seized, **only 29% of the money was tied to actual charges being filed.**

Source: Contra Costa County District Attorney's Office

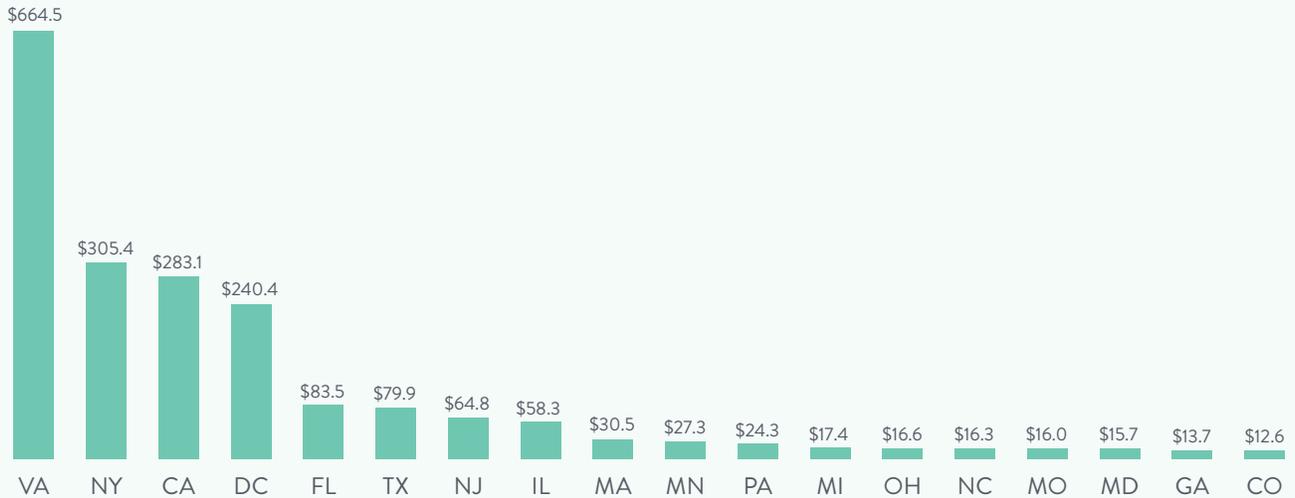
state-level regulations limiting forfeitures, and still receive 80% from the federal program. The method has been sharply criticized for circumventing state laws, specifically those requiring seized assets to go to a state’s general fund.

The federal Equitable Sharing Program is a tool specifically used to seize assets related to cannabis both in states where it is illegal and in states which have legalized and regulated its use and sale. Once that cash or property is taken under the program, federal (and not state) forfeiture law applies—even if state law prohibits or limits law enforcement access to forfeiture funds. Such an instance occurred in California, where cannabis is legal. Not only does federal law allow forfeiture proceeds to be spent by law en-



Federal Asset Forfeiture Fund Deposits by State

FY 2019, \$USD millions



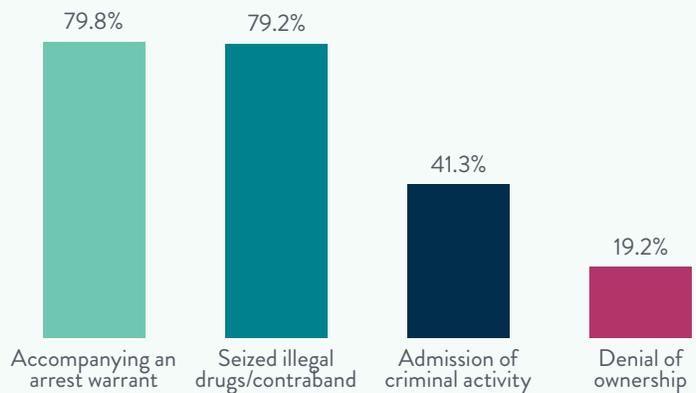
Note: The Department of Justice Asset Forfeiture Program encompasses the seizure and forfeiture of assets representing either the proceeds from, or which were used to facilitate, federal crimes. The program's primary sources of revenue are from cash, financial instruments, and proceeds from the sale of property forfeited by criminals and criminal organizations; the DOJ AFF's share of forfeitures deposited into the Treasury Forfeiture Fund; and interest earned on the investment of the balances of the AFF and the Seized Asset Deposit Fund.

forcement, but equitable-sharing rules indeed mandate that funds go to law enforcement. It is for that reason that agencies in states with stricter or less generous civil forfeiture laws participate more heavily in equitable sharing. Given relatively restrictive civil forfeiture laws in places like D.C. and California, the high dollar amounts flowing through the federal sharing program help underscore the circumvention risks which the entire practice poses, specifically to the evolving cannabis industry.

In D.C. (where law enforcement cannot keep any funds or property seized) over \$240 million in assets were seized and forfeited to the federal program in 2019, which under the equitable sharing program allows for up to 80% to be sent back to law enforcement agencies.

Circumstances of Seizure

For Federally Adopted Cash/Vehicle Assets Since July 2017



just under

80%

was seized in relation to illegal drugs/contraband

All charts, source: The United States DOJ Asset Forfeiture Management Staff



2019 Fiscal Year

\$2.1 billion

TOTAL DEPOSITS FEDERAL ASSET FORFEITURE FUND

\$1.6 billion

TOTAL EST. FROM ILLEGAL DRUGS & CONTRABAND

According to DOJ Asset Forfeiture Management Staff, of cash and vehicle assets adopted since July 2017, nearly 80% was seized in relation to illegal drugs/contraband.

If the ratios of drug types seen in counties like Contra Costa hold true at the level of the federal asset forfeiture deposits, it means that roughly \$661 million would have been collected by the federal government’s asset forfeiture program from seizures related to marijuana in FY 2019.

NEEDS REMAIN FOR MAJOR REFORM

Amidst the robust national debate currently being had about reforms to policing in the aftermath of the killing of George Floyd while in Minneapolis police custody last month, state and federal lawmakers have been weighing a range of options to make policing more equitable, including eliminating incentives for police malpractice.

Estimated Values of Federal Asset Forfeiture Fund Deposits

By Associated Drug Crime

DRUG	% of Seizures	Est. Value (\$USD in millions)
Marijuana	40%	\$661
Cocaine/Crack	15%	\$244
Meth	10%	\$169
Heroin	9%	\$148
Others/Combinations	25%	\$418

Note: these figures do not represent the total value of cash and property seized in the U.S., as most law enforcement agencies can keep what they seize, and do not conduct all activity in conjunction with federal agencies in order to take part in the Equitable Sharing Program. These values represent only what was forfeited at the federal level.

Given the significant number of people whose property is being seized under civil asset forfeiture programs despite their never being charged with a crime — and particularly since cannabis has been a major driver for the forfeitures at a time when public support for legalization is at an all-time high — reforming civil asset forfeiture laws and ensuring that those whose property has been seized have proper recourse to recover their assets should be key components. Further, having police department budgets funded by property seized from the public creates perverse incentives for law enforcement agencies in budget-constrained communities to be more aggressive in the practice in order to offset any budget cuts. At a minimum, having any seized assets allocated toward community programs (or other general fund allocations outside of law enforcement) can eliminate the expectation that police pay hinges on how many assets officers seize. Additionally, the federal Equitable Sharing Program should be reformed to eliminate the bypassing of such state level restrictions on spending. Barring such changes, the civil asset forfeiture will continue to present significant opportunities for abuses of police power.



Cannabis Prohibition Enforcement is Inextricably Linked to U.S. Racial Disparities in Policing

Racial disparities in law enforcement extend throughout the judicial system. Black Americans make up 12% of the population, yet account for 33% of the nation’s prison population. Conversely, White Americans account for 63% of the population, though 30% of inmates. In raw numbers, despite the White population’s being 5x larger, nearly equal numbers of Whites and Blacks are incarcerated in U.S. prisons.

It is impossible to decouple the disproportionately higher rates of nationwide arrests and incarcerations of Black Americans from the enforcement of drug laws, and specifically marijuana laws. Despite seismic shifts in social attitudes toward cannabis in the past quarter-century, the laws in most states have been much slower to keep pace, resulting in a striking dichotomy between broad public acceptance of cannabis (two-thirds of adults support full national legalization) and continued punitive enforcement of marijuana laws.

Despite surging usage rates, prohibition enforcement continues apace. In 2018, someone in the U.S. was arrested every 48 seconds on average for a cannabis offense — more than 660,000 times that single year. While arrests rates have fallen from a peak of more than 870,000 in 2007, marijuana continues to make up the largest category of U.S. drug arrests, accounting for upwards of half (45%) of all drug-related charges. Meanwhile, since 1996, nearly 17 million people have been arrested on marijuana offenses, a number equivalent to 5% of the overall U.S. population.

16.8 million

TOTAL CANNABIS ARRESTS (1996-2018)

45%

OF ALL DRUG-RELATED ARRESTS ARE FOR CANNABIS

U.S. Arrests for Cannabis-Related Offenses Nationally
1996-2018

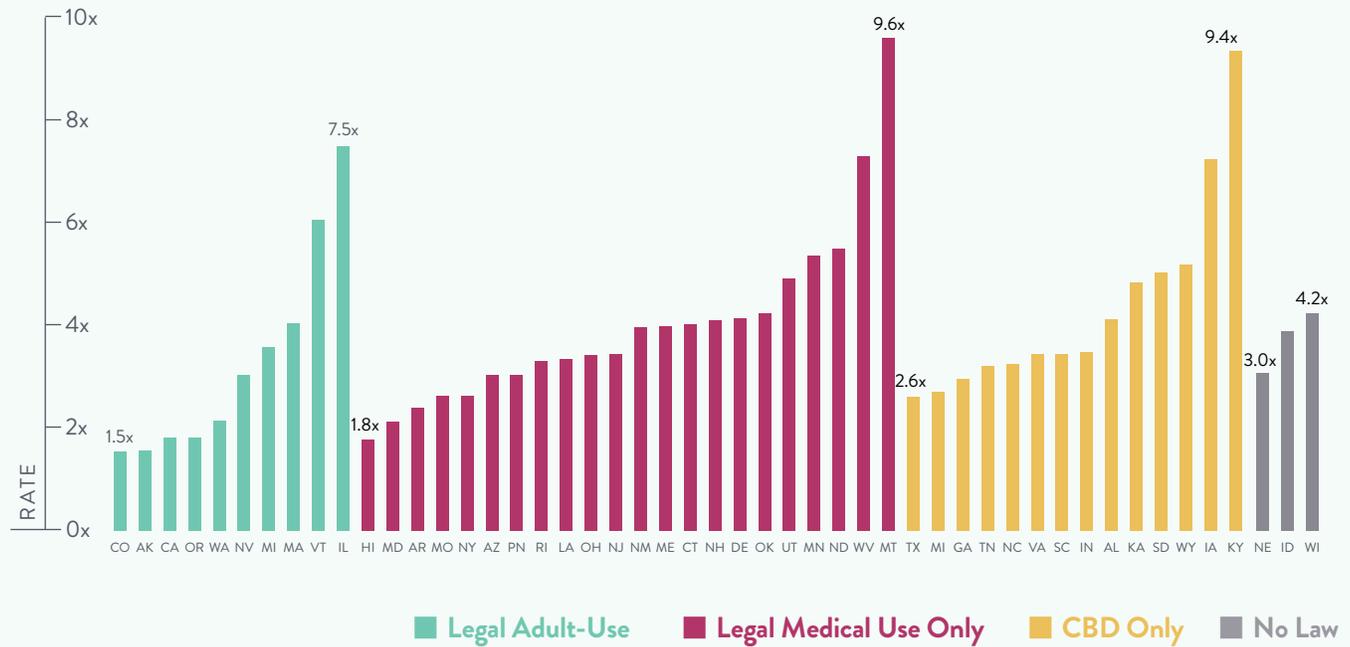


Source: New Frontier Data



Black-to-White Cannabis Arrest Ratio by State & Market Type (2018)

Rates at Which Blacks Were More Likely to be Arrested than Whites



Source: New Frontier Data

More detailed analysis of the arrest data underscores striking racial disparities in how marijuana laws are enforced. Despite Black and White Americans using cannabis at nearly equal rates, a 2020 report by the American Civil Liberties Union found that Blacks nationally were more than 3.5x likelier to be arrested on marijuana charges than were White Americans. In states demonstrating the most marked disparities — namely Montana and West Virginia — Blacks were nearly 10x times likelier to be arrested.

In fact, there is no state in the nation where Blacks have been less or equally likely to be arrested than are Whites. In every one of the United States, there is a demonstrable, disproportionately higher likelihood of being arrested if one is Black.

Legalization logically plays a role in reducing the total number of arrests. As New Frontier Data recently reported, marijuana arrests in Colorado declined 92% between 2008 and 2017. Yet, even so, disparities persist, with Blacks being more than 1.5x likelier than Whites to be arrested in the Centennial State.

Given the negative, long-term impacts that a marijuana-arrest record can have for lifelong economic and health indicators, legalization would afford obvious opportunities not only in reducing police interactions, but for eliminating the cascading social impacts which arrests disproportionately inflict upon the Black community.

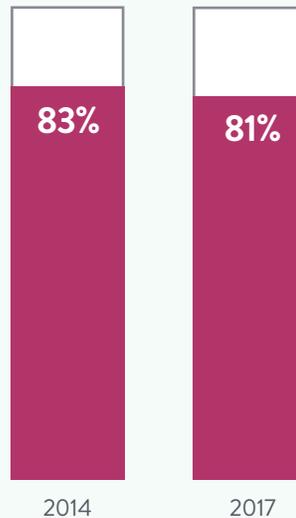
Certainly, marijuana legalization offers no panacea for deeply entrenched racial inequities in American society. However, legalization would provide an important mechanism toward dramatically reducing the disproportionately more common criminalization of Black people for marijuana possession and use, especially amidst the sea change in public opinion as most Amer-



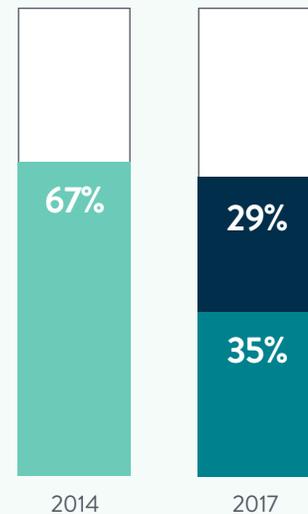
icans now live in jurisdictions where cannabis is legal in some form, and a combined one-tenth of the populace are now regularly consuming it.

Even before the COVID-19 pandemic and Black Lives Matter protests, 2020 was poised to be an important year for cannabis legalization, with states from New Jersey to Mississippi vying to pass legalization ballot initiatives, and the Democratic Party’s coalescing around reforms to federal cannabis policy in its presidential campaign platform. The national debate currently roiling over policing practices and equitable law enforcement are likely to only add further urgency to calls for legalization as a contributing pillar to national policing reforms.

Black Men as Percent of Arrests in Washington, D.C.



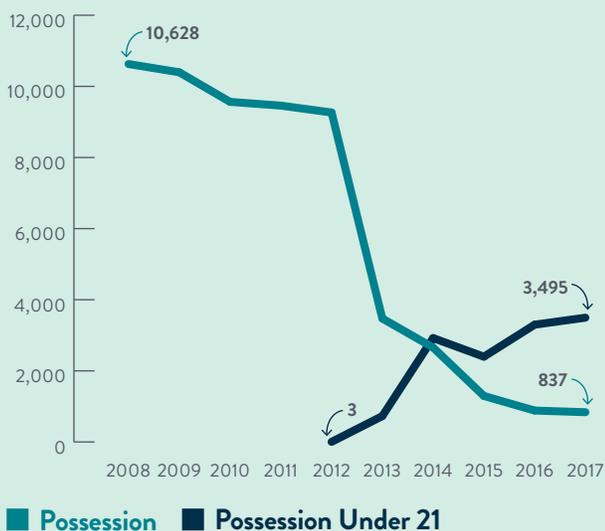
Top Reasons for Marijuana Arrests in Washington, D.C.



- Possession of Marijuana
- Misdemeanor Distribution
- Public Consumption

Above charts, source: New Frontier Data

Marijuana Court Filings in Colorado



-92%
Decline in Possession Arrests (2008-2017)

+380%
Increase in Possession Arrests for Under 21 (2013-2017)



5X more

Alcohol DUI's than Marijuana-Related DUI's in 2017*^

*Latest data available.

^Court filings occur when an arrestee is officially charged with a crime in court. These data include filings from county court (Except Denver) and District Court (including Denver) across the state.

These data do not include offenses filed in Municipal Courts of which there are over 60 in Colorado.

Source: New Frontier Data, Colorado Marijuana Enforcement Division, Colorado Department of Revenue, Colorado Department of Public Safety, Colorado State Patrol, Colorado State Judicial Department



Social Equity Programs in Cannabis

In 2019, a reported 80.8% of Denver’s population identified as White or mostly White, 29.7% as Latino, 9.8% as Black, and 4.4% as Asian (multiple options could be selected). Yet, a recent study from the Denver Department of Excise and Licenses noted that minority ownership and employment of cannabis businesses fall quite short, as three-quarters of all local marijuana business owners, and 68% of all employees, identified as White.

EQUALITY BY DESIGN

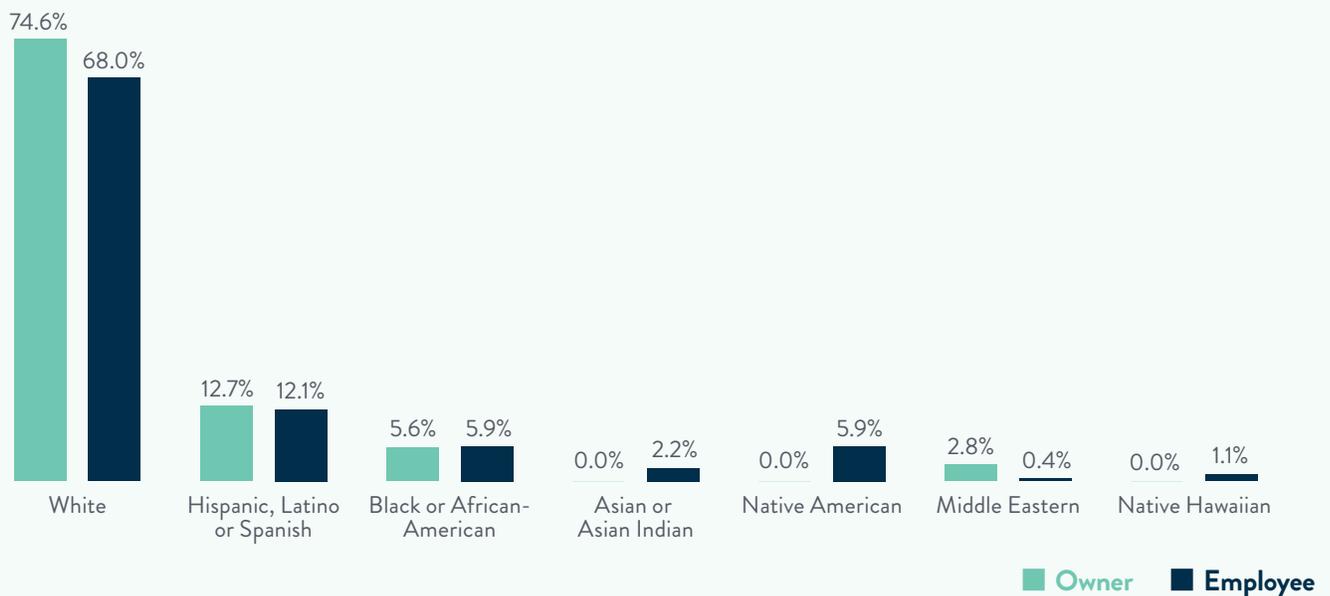
Some states have attempted to remedy the industry’s minority participation gap with social equity programs (SEPs), which are designed to

ensure and encourage minority participation through education and mentorship programs, licensing set-asides, and regulatory concessions intended to lower start-up costs for minority-owned businesses. SEPs are intended to address injustices both historic and contemporary while tackling a range of social and economic issues. Models for recompense can take many forms as individual states or cities design and enact their own initiatives.

The City of Los Angeles, for example, notes that its SEP is intended to "promote equitable ownership and employment opportunities in the cannabis industry in order to decrease disparities in life outcomes for marginalized communities, and to address the disproportionate impacts of the War on Drugs in those communities." L.A. offers both priority application processing and business support to individuals who have been disproportionately impacted by the previous criminalization of cannabis activities. Applicants eligible for the program can have their applications and renewals processed on a priority basis. The program has three tiers:

Cannabis Industry Business Ownership & Employment in Denver, CO

Racial and Ethnic Differences



Source: Denver Department of Excise and Licenses



Los Angeles Social Equity Program Application Tiers

A Tier 1 applicant must be a low-income individual living in an officially designated disproportionately impacted area (DIA), or have a California criminal record predating November 2016. Applicants must also own at least 51% of the business. Those qualified are granted expedited applications, with renewal processing, assistance with compliance and licensing, fee deferrals, and potential access to investment opportunities.

Tier 2 applicants must be low-income, living in a DIA for at least 5 years (or for 10 if they are not low-income) and own at least 33% of the business. Qualifying individuals are granted express licensing and compliance support.

Tier 3 is designed for businesses which will support the permitting process for tiers 1 and 2. Businesses qualifying for Tier 3 must each provide a Tier 1 applicant with access to property, but are rewarded with expedited applications and renewal process permitting.

Massachusetts' Cannabis Control Commission has its own SEP. Like California, the Massachusetts SEP focuses on communities living in an area of disproportionate impact (DIA). The program's self-stated goal is to improve the quality of life in such areas by "reducing barriers to entry in the commercial cannabis industry, providing professional training, tech-

nical services, and mentoring for those facing systemic barriers, and to promoting sustainable, socially, and economically reparative practices in the commercial adult-use marijuana industry." In order to qualify, an individual must have resided in a DIA for at least 5 of the previous 10 years, been convicted of a drug offense in the last 12 months, or either been married to, or the child of, a person with a drug conviction in the previous year. No individual whose income exceeds 400% of the federal poverty level may qualify.

Colorado recently approved new social equity legislation empowering Governor Jared Polis to pardon people convicted of marijuana possession. Nevada has likewise introduced a resolution making tens of thousands of residents previously convicted of low-level marijuana possession eligible for blanket pardons.

Some initiatives have encountered difficulty. In Ohio, after H.B. 523 required the Department of Commerce and the Board of Pharmacy to issue no less than 15% of all licenses to members of economically disadvantaged groups, a central Ohio court subsequently ruled it unconstitutional.

Some states have attempted to remedy the industry's minority participation gap with social equity programs (SEPs), which are designed to ensure and encourage minority participation.



Los Angeles is contending with potential fall-out from proposed overhauls of its SEP. Its Department of Cannabis Regulation recommended granting temporary approval for all social equity license applicants, allowing applicants and businesses to relocate within the city, while limiting new storefront retail licenses and delivery licenses to social equity applicants until 2025, and improving processes to minimize predatory practices in its SEP. While many support those recommendations, others have argued that they unduly limit the ability of other applicants to enter the market via legal channels.

THE BEST OF INTENTIONS

Rising compliance costs and access to capital remain among the most significant challenges faced by those interested in entering the cannabis industry. While the early stages of the industry may have been less capital-intensive, current regulatory, legal, and compliance costs have risen significantly.

SEP participants are simultaneously tasked with learning the nuances of the process along with juggling myriad considerations required in identifying one's niche in the market while building a business. In such a fast-moving, dynamic space, potential entrepreneurs are often left a step behind their more privileged peers.

If the ultimate aim of the programs is equity, additional consideration may be required to ensure that all applicants, regardless of status, are able to enter the market with equal opportunity. For those issues to be addressed long-term, a regulatory foundation needs to prioritize inclusivity and equity, with execution to deliver on those best of intentions.



Investment Trends

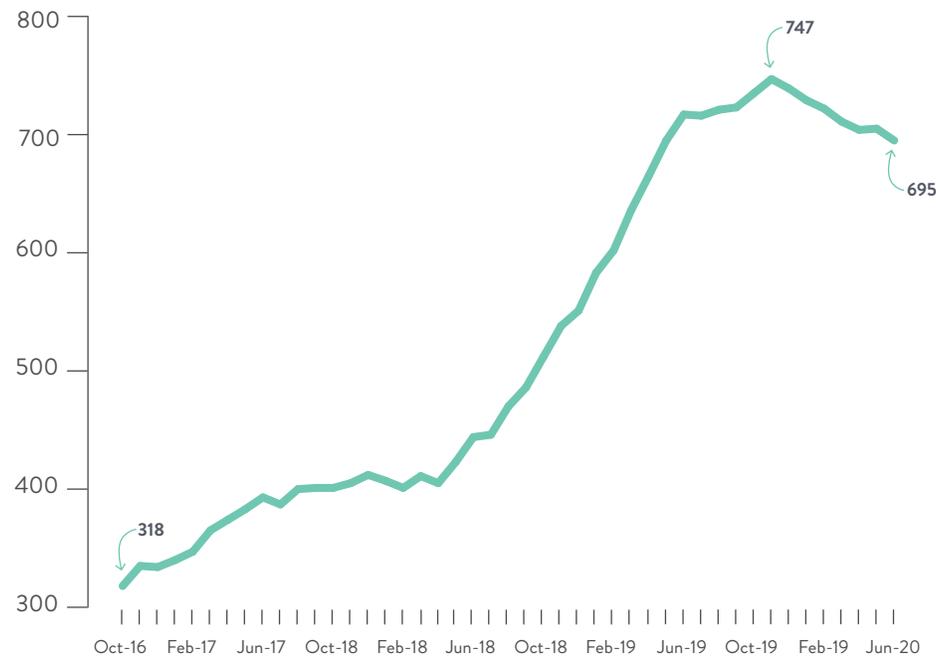
The explosive growth of the legal cannabis industry has drawn increasing attention from investors and companies in a range of industries who are interested in capitalizing on opportunities in the sector. The growing interest from corporations and individuals outside the industry will be vitally important for increasing the legitimacy and professionalism of the industry, funding sector-wide innovation, and increasing corporate and industry efficiency to reflect mainstream business practices.

The sectors focusing the most attention on cannabis include banking and finance, pharmaceuticals, agriculture, alcohol, and professional services. Since some of those sectors are also highly regulated, there has been hesitancy to get involved in the industry due to concerns about the plant's continued illegality under federal law.

However, over the past decade, as legal state markets have begun to mature and momentum builds for national cannabis reform, investors have shown increasing willingness to take on risks in order to capture an early-mover advantage in a high-growth opportunity industry still fragmented with relatively few large players.

Number of Depository Institutions Working with Cannabis Business in the U.S.

Oct 2016 - Jun 2020



BANKS
510

CREDIT UNIONS
185

142,120

Total Number of Suspicious Activity Reports (SARs) Filed

32,530

Number of Cannabis Business Accounts Terminated

Note: These are institutions reporting SARs, most of which are not necessarily formally serving the sector.

Source: New Frontier Data



Federal Regulators Slow M&A Deals

Compared to 2018, M&A activity fell significantly in 2019 and has been suppressed through 2020. The rise in federal scrutiny of M&A deals in the cannabis industry has been driven by the rapid pace of consolidation among the sector's largest companies; however, the Department of Justice's aggressive scrutiny of the MedMen/PharmaCann deal confirmed suspicions that the DOJ would adopt an overly aggressive stance against the deal because of the industry to which it belonged, and heightened concerns that similar deals would be jeopardized if they faced similar federal scrutiny.

Viridian Advisors tracked 54 M&A transactions in the first eight months of 2020, down 85% versus the comparable period of 2019. Cultivation & retail, consistently the largest M&A sector, recorded 25 M&A transactions in the first half of 2020, down 79% from the 117 recorded in the first half of 2019, and down 61% from the 64 recorded transactions in the second half of 2019. Significant declines in activity also occurred in hemp, and in infused products and extracts. The drop in overall M&A activity has been driven by the dramatic decline in cannabis stock prices as most industry transactions are predominantly stock-based. The biotech/pharma sector, on the other hand, saw the largest increase in M&A activity, a reflection of both positive performance of cannabis-based pharma products, as well as a flight to safety perceived among companies with revenues outside of cannabis.

Cannabis Sector Consolidation

2019-2020 YTD* Highlights

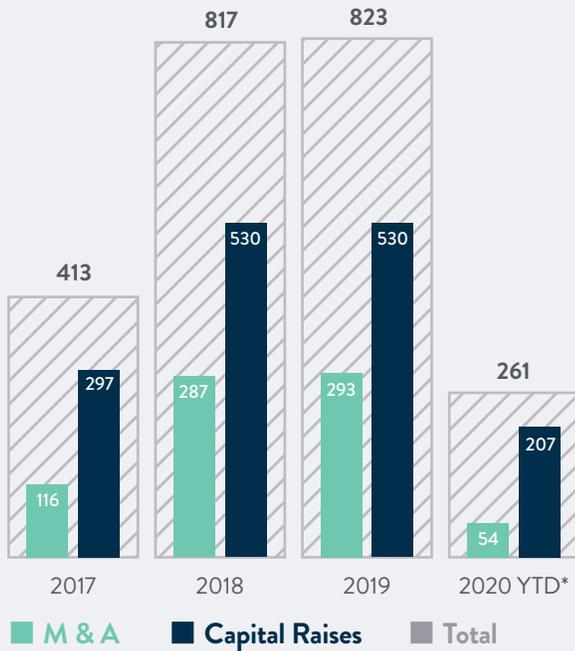
Deal Month	Buyer	Target Company	Deal Type	Total Valuation of Transaction (\$M, USD)
19-Jan	Acreage Holdings	Nature's Way Nursery	Acquisition	\$67
19-Feb	iAnthus Capital Holdings	MPX Bioceuticals	Acquisition	\$625
19-Feb	MedMen	Level Up	Acquisition	\$33
19-Feb	GNCC Capital	BioCann Pharma	Acquisition	\$120
19-Mar	Tilray	Manitoba Harvest	Acquisition	\$419
19-Mar	Aurora Cannabis	Whistler Medical Marijuana Corp.	Acquisition	\$130
19-Apr	Curaleaf	Eureka Holdings	Acquisition	\$30.50
19-Apr	Acreage Holdings	Form Factory	Acquisition	\$160
19-May	Canopy Growth Corp.	C3 Group	Acquisition	\$253
19-Jun	TerrAscend	The Apothecarium	Acquisition	\$118
19-Jun	Ionic Brands	Vegas Valley Growers North	Acquisition	\$9
19-Jul	Jushi Holdings	Franklin Bioscience	Acquisition	\$63
19-Aug	Green Growth Brands	Oaks Greenhouse	Acquisition	\$54.65
19-Aug	Cannex Capital Holdings	4Front Holdings	Merger	>\$500
20-Jan	Alcanna	Ace Liquor Corporation	Acquisition	\$13
20-Jan	Cresco Labs	Origin House	Acquisition	\$396.20
20-Feb	Curaleaf	Select	Acquisition	\$948.80
20-Feb	Gibraltar Industries	Delta Separations	Acquisition	\$50
20-Feb	Abacus Health Products	Harmony Hemp	Acquisition	\$6
20-Feb	Newlake Capital Partners	Grassroots Cannabis	Sale-Leaseback	\$19.70
20-Mar	Harvest Health & Recreation	Franklin Labs LLC	Acquisition	\$25.50
20-Mar	Harvest Health & Recreation	Interuban Capital Group	Acquisition	\$85.80
20-May	Aurora Cannabis	Reliva	Acquisition	\$40
20-Jun	Acreage Holdings	Compassionate Care Foundation	Acquisition	\$10.00
20-Jun	SOL Global Investment Corp.	Bulma Wellness	Reverse Takeover	\$8.70
20-Jun	Charlotte's Web Holdings	Abacus Health Products	Acquisition	\$76.70
20-Jul	Innovative Industrial Properties	Cresco Labs	Sales/Leaseback	\$28.80
20-Jul	Curaleaf Holdings	Grassroots	Acquisition	\$700
20-Jul	Columbia Care	Innovative Industrial Properties	Sales/Leaseback	\$14
20-Aug	MYM Nutraceuticals	Highland Grow	Acquisition	\$11.65
20-Aug	Jushi Holdings	Pennsylvania Medical Solutions	Acquisition	\$37

*YTD is through 08/20

Source: Viridian Capital Advisors



Annual Number of Deals



Cannabis Investment 2015-2020 YTD*

\$USD billions



*YTD is through 08/30/20

All charts, source: Viridian Capital Advisors

Viridian noted anecdotal evidence that the M&A climate is improving from the increased numbers of letters of intent and increased due diligence activity. Additionally, the types of companies conducting in M&A activity have shifted from being mostly private companies: 91% of M&A transactions closed in 2020 have been made by public companies (up from 70% in 2019).

Capital Raises YTD have totaled just over \$3 billion, with infused products and extracts becoming a strong focus for investment due to the high growth in popularity and revenue share in legal markets where concentrates and extracts are approved product forms.

SPACs (Special Purpose Acquisition Corporations) are becoming big players in the market, with more than \$2.6 billion raised by 11 cannabis- and hemp-focused SPAC IPOs between March 2019 and May 2020, more than all of the cannabis/hemp IPO activity in 2018 and 2019 combined.

Emergence of MSOs and Their Impact on U.S. Domestic Market

Companies that benefit from the growth of the cannabis industry but do not carry the inherent risks of touching the plant have been the earliest targets of cautious cannabis market entry by investors. Such companies receiving benefits from ancillary growth in the cannabis industry include Scotts Miracle-Gro (NYSE:SMG) and Grow Generation (NASDAQ: GRWG), which benefit through their sales of hydroponic grow systems, and In-



novative Industrial Properties (NYSE:IIPR), a REIT that extends itself to real estate deals in the cannabis industry.

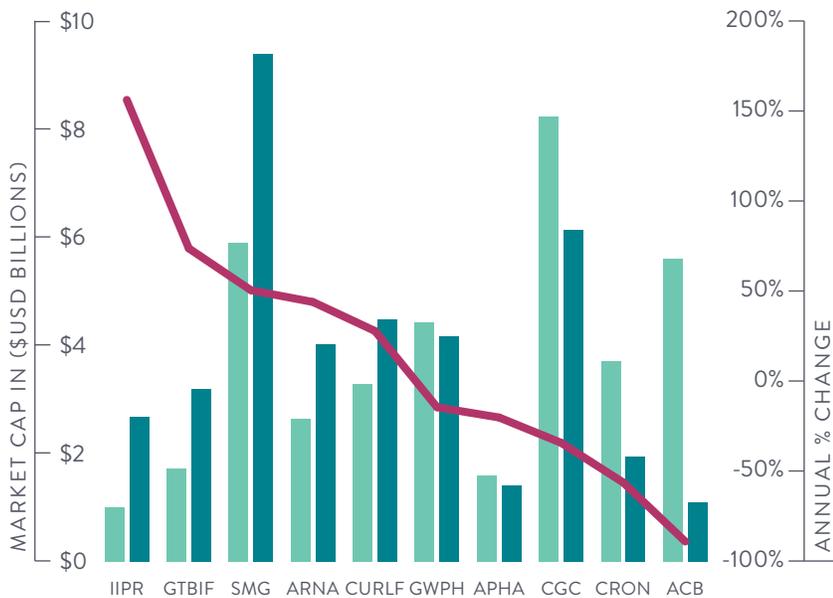
While 2019-2020 hammered several of the largest publicly traded Canadian cannabis companies (Aurora, Cronos, Canopy Growth) the market cap for the Top 10 largest cannabis collectively grew 2.2% between August 2019 and August 2020, as investors transitioned towards prioritizing shorter-term, less volatile paths to profitability (i.e., less reliant on the evolution of a global export market) through companies operating with a strong U.S. footprint (IIPR, GTBIF, CURLF); and in ancillary industries with revenues outside of cannabis (SMG, ARNA).

Nevertheless, growing revenues of multistate operators that are plant-touching (i.e., deriving the largest portion of their revenues from the cultivation, production, and retail sales of medical and/or adult-use cannabis) — such as Green Thumb Industries and Curaleaf — are hard to ignore, and the increasing flows of capital through the public equity market reflect growing confidence by the public in the long-term growth prospect of demand for legal cannabis in the U.S.

One reason for the strong rebound in cannabis equities has been the sector’s resilience during the COVID-19 pandemic. With almost all legal states declaring cannabis as essential, and consumers driving record-shattering retail sales, investor enthusiasm has been buoyed by the belief that the industry is recession-proof. Some of the cannabis companies with the highest growth in sales include Jushi and Cresco Labs— two MSOs actively working to expand their operating footprints across the U.S.

Growth in Market Capitalization of Top Public Cannabis Companies

(8/30/19 - 8/30/20)



+2.2%

CHANGE IN MARKET
CAP OF TOP 10
(AUG 2019 - AUG 2020)

■ Market Cap (8/30/2019) ■ Market Cap (8/30/2020) — Percent Change

Source: Yahoo Finance, Bloomberg



U.S. Public Cannabis Companies

Highest Revenues in Q2 2020

Company Name	Sales for Quarter Ended 6/30/20 (\$USD millions)
Scotts Miracle-Gro	\$302.90
GW Pharma	\$121.30
Trulieve	\$120.80
Green Thumb Industries	\$119.60
Curaleaf	\$117.50
Cresco Labs	\$94.30
Harvest Health & Recreation	\$55.70
MedMen Enterprises	\$44.1
GrowGeneration	\$43.50
TILT Holdings	\$38.60

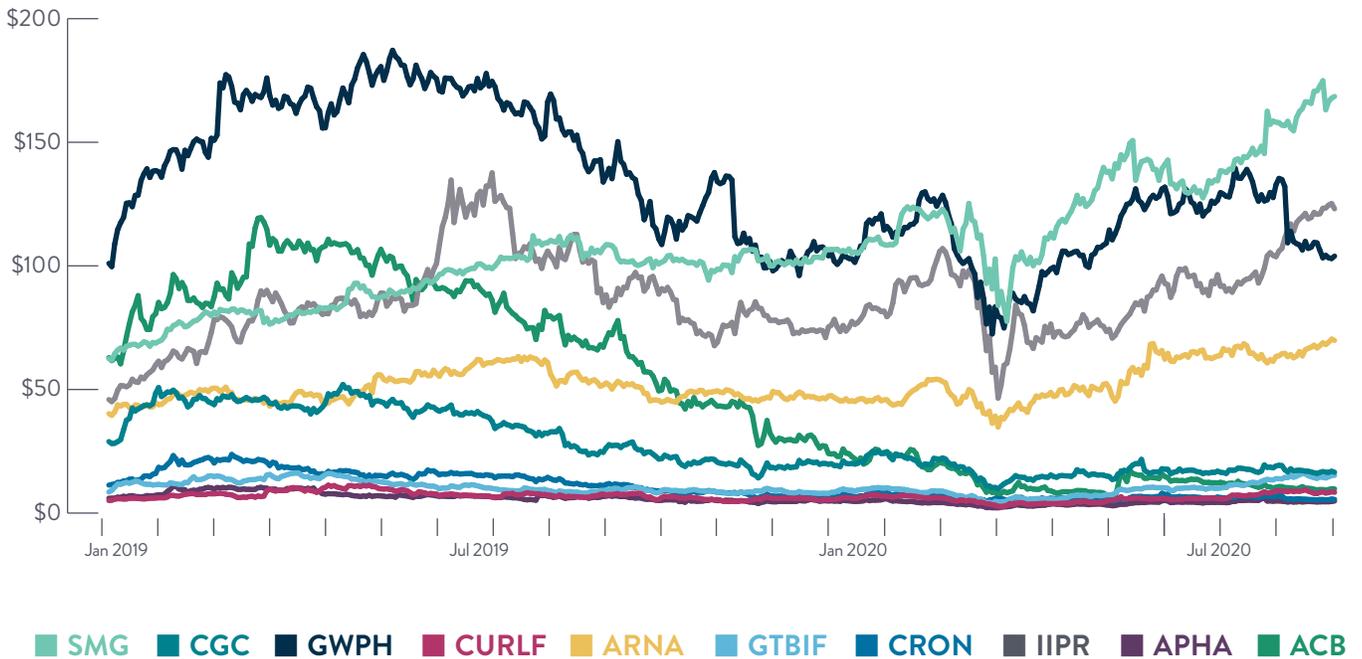
U.S. Public Cannabis Companies

Largest Quarterly Sales Growth

Company Name	Quarterly Sales Growth (Q2 2020)
Jushi Holdings	73%
Cresco Labs	42%
Scotts Miracle-Gro	32%
GrowGeneration	32%
Cansortium	30%
Trulieve	26%
Harvest Health & Recreation	26%
Curaleaf	22%
Green Thumb Industries	17%
Innovative Industrial Properties	15%

Cannabis Stocks Rebounding in 2020

January 2, 2019 - August 31, 2020



Source: Yahoo Finance



key

TAKEAWAYS

As public support continues to grow, the mainstreaming of cannabis in the U.S. has crossed a new threshold.

Nearly two-thirds of adults now support full legalization, five new states passed new cannabis legalization initiatives in 2020, and, amid a global pandemic that brought the U.S. economy to a standstill, medical and adult-use cannabis businesses across the country were deemed "essential businesses". Despite slow progress in Congress to advance banking and tax reform, and federal action that is at odds with the growing support for legalization, surging consumer demand has driven record sales across legal markets.

Cannabis tax policies can make or break the launch of a new adult-use program.

When launched, legal markets are competing against well-entrenched and generally efficient illicit markets. Presented with the choice, the rate at which cannabis is taxed can play a critical role in how quickly consumers transition from the illicit market to the legal one. As lawmakers in prospective legal markets consider their tax rates, they would be wise to carefully weigh the tradeoffs of setting high taxes to maximize near-term revenues, versus what could be collected at a lower threshold where revenues would be drawn from a larger pool of consumers abandoning the illicit market. Furthermore, lower cannabis tax rates also help accelerate the cannibalization of the illicit market by the legal one, which is a key objective of legalization.

Adult-use markets continue to outperform expectations, affirming deeply entrenched consumer demand.

The onset of adult-use legalization and sales growth that continuously beats estimates has affirmed that existing demand for cannabis is deeply entrenched, but with most of the country still living in unregulated or medical-only states, illicit markets across the country continue to serve the majority of that demand. With an estimated 45 million cannabis consumers nationwide spending nearly \$65 billion on illicit market cannabis products in 2019, not only has prohibition been ineffective in eliminating cannabis use, but governments stand to see significant revenues from effective taxation and regulation for legal markets - markets which could also stimulate significant economic opportunities in ancillary markets.



Consumer behavior is rapidly changing, driven by growing public acceptance, affirming research into the medical and wellness uses of cannabis, and the expanding product environment in legal markets.

Changes in consumer preferences are having major impacts on the supply chain, from a dramatic swing in demand from flower to extract-based products over the past few years, to increasingly nuanced ways in which consumers are integrating cannabis into their lives. It is therefore vital that the companies closely monitor and adapt to the emerging and evolving consumer preferences, and continue to innovate with cannabis products and user experiences aligned with the market's evolving demand.

- In particular, development of fast-acting ingestible formulations that can produce an effect within 10-15 minutes of ingestion will be highly appealing to consumers who want the rapid onset of flower or concentrate combustion, but do not want to smoke, either due to health concerns or an inability to mask the odor of combusting flower. Fast-acting infused beverages, in particular, represent a promising area of growth.

Much more research is needed to understand the impacts of different cannabis compounds on consumer experiences.

Considering that even identical clones grown in different conditions will yield flower with varied chemical profiles, it is critical to understand how minor variances in a plant's chemical profile can influence the effects experienced by the consumer. Further research will not only unlock considerable new opportunities in the effect-based consumer product environment, but it will enable greater customization of the formulations to individualize consumers' unique endocannabinoid profiles.

Social-use spaces are poised to draw a broad base of cannabis consumers into the open.

Beyond the volume of cannabis products consumed, the appropriate setting for cannabis consumption in American society is fundamentally evolving. The advent of public cannabis spaces for permissible onsite consumption is a key influence in the public emergence of legal cannabis consumers. To date, few places in legal markets exist where cannabis can be publicly consumed, meaning that most cannabis remains consumed in private. As such, the expansion of public use spaces will likely attract a diversity of consumers, ranging from solitary consumers seeking to connect with a community, to those whose living arrangements preclude them from consuming at home. Social-use spaces will draw consumers out of the shadows and invite a broad diversity of new cannabis consumers.

- New venues also present intriguing opportunities to reflect the different ways in which consumers might experience cannabis. The Original Cannabis Café in West Hollywood (formerly the Lowell Café), along with plans for the Coachill Inn Resort, are some of the latest examples of companies going beyond the cannabis product itself to curate consumers' entire experiences. From food and art to music and wellness, the integration of cannabis into public experiences offers a next major chapter in the evolution of America's legal cannabis industry.



Following acute turbulence in 2019, cannabis stocks are poised for a comeback. While 2019 hammered several of the largest publicly traded Canadian cannabis companies, the combined market cap for the Top 10 largest cannabis companies grew slightly over the last year, reflecting shifting preferences for companies operating with strong U.S. footprints, and to ancillary industries with revenues outside of cannabis. Growing revenues of multistate operators that are plant-touching (i.e., deriving the largest portion of their revenues from the cultivation, production, and retail sales of medical and/or adult-use cannabis) are hard to ignore, and the increasing flows of capital through the public equity market reflect growing confidence by the public for the long-term growth prospect of demand for legal cannabis in the U.S. With consequential new markets positioned to launch adult-use sales for the first time between 2020 and 2022 (e.g., New Jersey, Arizona), the addition of major new adult-use markets will further drive market opportunity for the industry's largest operators, fueling further growth in their valuations.

The industry has raised large sums for investment throughout the past five years. Over \$34 billion of tracked investment deals have been struck since 2015, with infused products and extracts becoming strong focuses for investment due to high growth in popularity and revenue share in legal markets where concentrates and extracts are approved product forms. SPACs (Special Purpose Acquisition Corporations) are becoming bigger players in the market, with more than \$2.6 billion raised by 11 cannabis- and hemp-focused SPAC IPOs between March 2019 and May 2020, more than all of the cannabis/hemp IPO activity in 2018 and 2019 combined.

The national debate on criminal justice reform has cast renewed light on cannabis prohibition. It is impossible to decouple the disproportionately higher rates of nationwide arrests and incarcerations of Black Americans from the enforcement of drug laws, and specifically marijuana laws. Despite seismic shifts in social attitudes toward cannabis in the past quarter-century, the laws in most states have been much slower to keep pace, resulting in a striking dichotomy between broad public acceptance of cannabis (with two-thirds of adults supporting full national legalization) abutting continued punitive enforcement of marijuana laws. While cannabis legalization offers no panacea for deeply entrenched racial inequities in American society, legalization can provide an important mechanism toward dramatically reducing the disproportionately more common criminalization of Black people for marijuana possession and use. Many states have taken steps to do so in the form of social equity programs, albeit many have been faced with hurdles and an execution that fails to meet intention.



States seeking to engage in interstate cannabis commerce will present more cases for reform of federal laws.

While it may be some time before federal legalization of cannabis or federal action that permits interstate commerce to occur, the discussion serves to shine light on a potential future landscape for production. Under the current model, cannabis cannot legally cross state borders. But under a national model, production could be centered in the regions with optimal growing conditions and lowest production costs. A fully legal national market could give a strong advantage to areas of Northern California and Southern Oregon, which have ideal conditions for outdoor and greenhouse cultivation as well as the country's highest density of cannabis industry professionals.

Advancement of legal cannabis globally promises to be one of the most consequential social changes of our time, but America's place in the emerging cannabis economy remains uncertain.

While companies in Canada and Uruguay to Thailand and Australia invest heavily in building capacity to serve the emerging global market, U.S. companies remain restricted by federal law from exporting products beyond their state boundaries. So, while the U.S. will unquestionably remain the leading influencer of cannabis culture, with various states serving as laboratories of innovation, the country's leadership in scientific research, production, global distribution, and foreign direct investment will be determined by the plant's status under federal law.

It remains to be seen whether a national policy will cohere to promote investment in clinical and industrial research, address the broad and systemic impacts of social inequity in cannabis prohibition enforcement, and facilitate a regulatory environment that increases business efficiency, including interstate and international expansion. However, the national decisions made in the next few years will be enormously consequential in defining the future of America's cannabis industry, and its place in the emerging global cannabis economy.





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