TEXAS

COMPASSIONATE USE PROGRAM

PROGRAM EVALUATION & RECOMMENDATIONS FOR SUSTAINABILITY

ABOUT THIS REPORT.

In 2023, Weeds LLC of Albuquerque, New Mexico was awarded a contract to serve as a subject matter expert to assist the Texas Department of Public Safety in an evaluation of the Compassionate Use Program.

The analysis presented here is based on data provided by the Compassionate Use Program (CUP), the Texas Dept. of State Health Services (DSHS), the Texas Medical Board (TMB), the Texas State Legislature, surveys of physicians and participating patients, and public sources, as cited, as well as input from stakeholders through the CUP Working Group.

About Weeds. Weeds LLC is a public policy and compliance firm specializing in THC and hemp cannabis regulatory policy. Individually, our team members have been an elected legislator, a law enforcement leader, a state policy manager, a cannabis program regulator and industry operators. Working together, we work to navigate the ever-changing landscape of federal, state and local industry policy and compliance.

Learn more at weeds.team

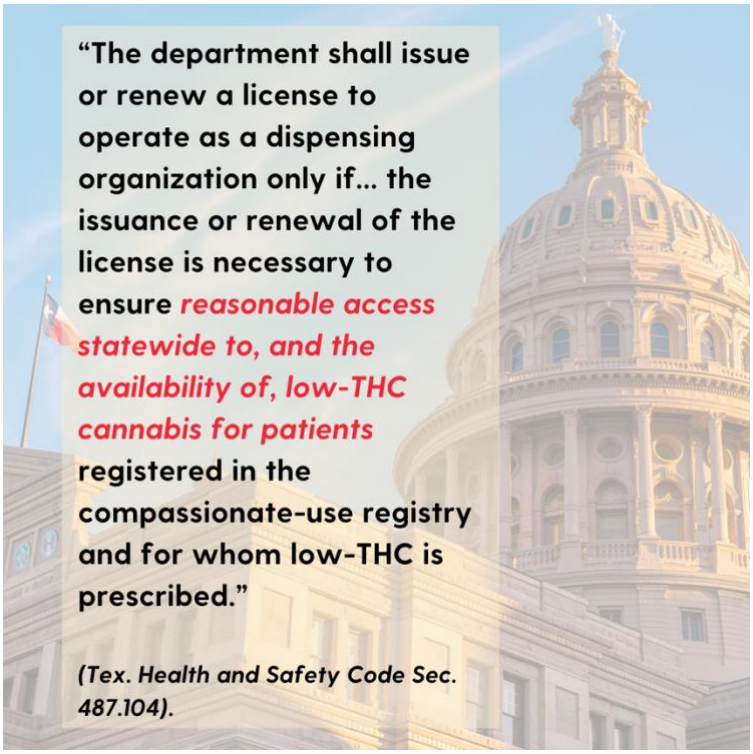
Table of Contents

INTRODUCTION

Background

In 2015, the Texas Legislature passed Senate Bill 339 requiring the Department of Public Safety to create a program "to ensure *reasonable access statewide to, and the availability of, low-THC cannabis for patients* registered in the compassionate-use registry and for whom low-THC is prescribed" (Tex. Health and Safety Code Sec. 487.104).

To fulfill its obligation the Public Safety Commission established the Compassionate Use Program under the Regulatory Services Division which under administers the program under the authority of the Texas Health and Safety Code, Chapter 487, Texas Occupation Code, Chapter 169, and the related administrative rules (37 TAC Part 1, Chapter 12, and 25 TAC Part 1; Chapter 1, Rule §161). The CUP program administers three main components: a patient registry, a physician/prescriber registry, and licensed dispensing organizations (DOs).



The initial CUP enabling legislation required DPS to authorize at least three dispensing organizations and then no more than would be required to meet the "reasonable statewide access… for patients" standard.

Based on the department's evaluation of patient needs and the limited number of eligible conditions, the department initially licensed three dispensing organizations and opened the program to patients in late-2017 (by the end of 2017 the program had enrolled 16 prescribing physicians and served just 12

patients). In the 6 years since, 756 qualified physicians have enrolled 66,205 patients under an expanding list of conditions authorized by the legislature in 2019 and 2021[1].

While the number of eligible conditions and patients continued to grow, no additional dispensing organization licenses have been issued.

To administer the program, CUP created and maintains an internally built database, the Compassionate Use Registry of Texas (CURT), to track patients, physicians, products, and associated data points. The program produces monthly reports with top-level data extracted from CURT including the total number of enrolled patients and physicians.

This Evaluation

In response to questions from the legislature and Public Safety Commission relating to the status and sustainability of the CUP program, the agency in 2023 determined that it needed to provide a more nuanced dashboard of metrics to determine and monitor the program's health and sustainability. At the same time, legislation was introduced that would have expanded eligible conditions and allowable THC limits. Although that legislation did not pass, the experience of stakeholders in that process encouraged the Department to conduct a more in-depth analysis of the program's current status and map out potential adjustments to be considered to support future growth.

To assist the department in that evaluation, the program issued a solicitation for a subject matter expert. The solicitation award was issued to Weeds LLC, a New Mexico-based regulatory and public policy firm with experience in this area.

Pursuant to that scope of work, CUP program staff provided the SME with CURT program data relating to prescriptions issued and fulfilled and enrolled physicians. The SME firm gathered additional data by attending a meeting of the CUP Working Group at DPS Headquarters in Austin, reviewing data and reports from DPS and other state agencies and public policy groups, including DSHS, the US Cannabis Regulators Association, and economic and market data from publicly sourced data made available by Whitney Economics whose founder serves as the chief economist for the National Industrial Hemp Council and National Cannabis Industry Association. SME staff also conducted

[1] Texas DPS, CUP Reports and Statistics, https://www.dps.texas.gov/section/compassionate-use-program/reports-statistics

personal interviews with members of the working group and received unsolicited comments from patient advocacy organizations, patients, and the industry through the SME's website.

In the spring of 2024, the program solicited feedback from physicians and patients to identify, among other things, awareness of the state's medical cannabis program and to challenge assumptions related to program access. Those results are included here as appendices.

This report is limited to an evaluation of existing data as provided by CUP and those sources mentioned.

Our charge is to provide decision makers with a framework through which they can evaluate the current status of the program, and specifically as it relates to the statutory requirement to ensure "reasonable statewide access" for patients.

In addition, the SME was charged with evaluating options for program expansion or modification, if policy makers determine that program sustainability requires it now or in the future. The SME takes no position on past or potential future legislation regarding the program.

In consultation with CUP program officials, the program evaluation is designed in two parts:

1. **Determine whether the current program provides for reasonable statewide access as required by statute.**
    - *If not, recommend strategies for addressing gaps and planning for future growth; and recommend a framework for decision making to achieve program goals*

2. **Evaluate the CUP against best practices in other states' low-THC and medical cannabis programs to maintain a high-quality program.**

This evaluation is based on our analysis of the data received from the program, patients and medical professionals who contributed input through the CUP working group and public surveys.

EXECUTIVE SUMMARY

The initial scope of this project evaluated whether the current Compassionate Use Program (CUP) meets the requirements to evaluate licenses on the need to provide “reasonable access statewide, and the availability of low-THC products, for patients…”.

In general, Texas’ huge geographic spread creates unique problems for both patients and dispensing organizations trying to provide statewide access. The legislature’s expansion of qualifying conditions and increasing patient enrollment have not been matched by comparable increases in enrolled prescribing physicians or dispensary locations.

We conclude that while telemedicine and physician education can reduce access gaps between medical cannabis patients and qualified medical specialists, the lack of dispensing organizations outside of the Central Texas region makes access to products to meet those medical needs in accessible.

We recommend a three-part approach to meeting patient needs: Recruiting additional qualified physicians through continuing education programs for medical professionals, allowing existing dispensing organizations to open a limited number of additional physical locations outside of the Central Texas region, and expanding the number of dispensing organizations to serve other regions outside of Central Texas.

This report provides baseline data and a framework for policymakers to evaluate these recommendations for the current program and future growth.

Access to Physicians

Texas' program is unique in that it limits physician participation in the medical cannabis program to those with enumerated specialties correlating to legislature-authorized conditions for medical cannabis use.

The CUP working group identified two major challenges to access relating to physicians: The long distances prospective patients outside of central Texas must travel to access required medical specialists, and the relatively small number of qualified specialists enrolled in the program to evaluate and treat medical cannabis patients.

Data from the Compassionate Use Registry of Texas (CURT) and the Texas Medical Board (TMB) show that just 63 of 254 counties have at least one prescribing physician with a primary practice location identified with the Texas Medical Board many counties (and entire DPS and DSHS regions) lack access to locally practicing CUP-enrolled specialists. However, the popularity of telemedicine and phone consultations with both physicians and patients may minimize the importance of physical proximity in determining reasonable patient access to qualified and enrolled physicians. 80% of physicians with required specialties and 81% of patients seeking an evaluation for CUP reported using telemedicine or phones for medical consultation. DSHS data shows that medical access in general is a challenge for many Texas residents. Medical access to CUP – when including telemedicine options – appears to be on par with medical specialist access in general.

Conversely, the limited number of certified specialists enrolled in CURT to serve patients appears to be a program challenge. The number of enrolled physicians has not kept up with annual increases in the number of patients and expanded conditions authorized by the legislature. For example, there are just 30 specialists registered in the CURT system to treat 12,000 PTSD patients.

The CUP physician survey found that 32% of physicians with qualifying specialties were not aware of the state’s medical cannabis program. When asked about their interest in learning more, 65% of specialties who are not already enrolled prescribers are interested in and would participate in continuing education on CUP if offered. Others simply requested written training materials. This points to the use of physician education as an accessible and high-impact tactic to expand the number of participating physicians available for patients.

Among physicians enrolled in CUP, the overwhelming majority (72%) rated the process to enroll as "easy," and 62.5% chose to list themselves publicly in the CUP prescriber directory.

When these responses are considered alongside the interest in education about medical cannabis and the CUP from certified specialists, it appears that public education to physicians will increase prescriber participation.

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Access to Dispensing Locations

It is well known that the state's three licensed dispensing organizations ("DO"s)are all located in central Texas (and only two are actively serving a significant number of patients). Those dispensing organizations in this region are open daily for walk-in service to patients with registered or new prescriptions and those prescriptions are being fulfilled without delay.

Patient survey data (which generated responses mostly from areas served by an existing DO or remote pickup program from a DO), found that accessing specialists is "easy" and they majority are satisfied with their experience with dispensing organizations. Prescription and dispensing data confirms that physicians are actively providing prescriptions and patients are filling those regularly from nearby dispensing organizations (or through approved remote pickup options).

Based on the data and patient feedback, it is reasonable to conclude that patients in the Central Texas region have reasonable access to products.

Notably, the patient survey which was distributed primarily through licensed dispensing organizations, the working group and patient advocacy groups generated few responses outside of the major metro areas of Austin, Houston, Dallas and Fort Worth.

The limited CURT prescriber and patient data available also confirms that very little CUP activity occurs outside of those areas.

While DOs do provide "remote" delivery to locations outside of central Texas, our review found that except for one location in the Dallas metro area, remote pickup options are open just a few hours weekly or bi-weekly. They are also not distributed evenly to provide statewide access. Even if these options were more robust, patients using these pickups face additional hurdles including limited hours,

additional costs imposed as delivery fees, and a requirement for pre-ordering that is not compatible with all patients and financial situations.

Based on program participation data and modeling of the number of potential patients that should be enrolled statewide, it is reasonable to conclude that a lack of dispensing organizations outside of the Central Texas DPS region is a barrier to program access statewide.

To provide equitable access to a DO for all Texas residents, DPS should consider expanding the number of licensed DO locations to the 5 unserved DPS regions. This program analysis, confirmed by patient and physician survey data, concludes that three dispensing retail locations can provide product access to patients in the Central Texas DPS region. **Providing similar access to the other 5 regions would require 10-15 additional dispensary retail locations statewide.** This can be accomplished by offering existing DOs additional locations, or by opening the program to new licensing.

We recommend a two-phase hybrid model for expanding DO access: allowing existing DOs to open additional retail dispensary locations where overnight storage of products is allowed, and licensing new operators who commit to serve DPS regions not currently served by a DO location. Additional analysis and a framework for evaluating these options is included in the report below.

Additionally, the program is highly dependent on one operator who could close at any time without notice, including for unforeseen reasons such as natural disasters, crop failure incidents, or changes to their business model. The loss of either one of the two largest DOs would significantly harm patient access statewide. Replacing a lost operator would take two years or more from licensing to construction to operation.

As recommended by the working group, we also conducted a cursory analysis of the impact of non-CUP cannabis products (hemp-derived and illicit cannabis) on program participation. That analysis and some initial conclusions are included below.

The amount of data available from CURT, the Texas Medical Board, hemp program and industry analysis and other data sources referenced here provides many more opportunities for analysis than was required to answer basic program status questions.

The summary below and sections that follow provide high-level overviews of the key questions in the analysis. Supplemental data analysis is provided in the data appendix to help guide future opportunities for analysis.

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How Many Patients and Physicians are Active in the Program?

When the CUP program first launched in 2017, it served patients for just one condition. Within 12 months, the program was serving 646 enrolled patients from three licensed dispensing organizations.

Following the expansion of eligible conditions for enrollment authorized by the legislature in 2019 in 2021, the number of unique patients served had ballooned to 66,205 (Sept. 2023). The CUP program has traditionally used this “total patients enrolled/listed” number to measure the size of the program.

Our analysis finds that 24,554 unique patients fulfilled at least one prescription in calendar year 2022 and 29,057 did so over the most recent 12-month data period ending in August 2023. We believe these are the current “active” patient counts, depending on how CUP chooses to track data. For reasons discussed further in the Patients section below, we believe the number of new patient enrollments and number of patients fulfilling prescriptions provide the best metrics for measuring patient participation.

The program continues to attract new eligible patients. 25,106 new patients enrolled in 2022 based on unique patient IDs issued. There was insufficient data at the time of the patient analysis to determine how many newly-enrolled patients had remained active in the program for one year or more.

Evaluating active physician participation, we found 495 physicians identified in CURT as “active” but only 390 issued subscriptions in 2022. Notably, 11 physicians (2.3% of all enrolled) accounted for 53% of prescriptions issued (one issued more than 10,000 in 12 months). DSHS physician shortage forecasts indicate that the current physician shortages in dispersed health regions will continue to expand, especially in specialties required for the CUP program.

An analysis of the total units of THC fulfilled by patients shows a similar trend. Fulfillment increased exponentially until 2022 (up 445% in 2020, 353% in 2021, and 276% in 2022) but the number of units fulfilled is on track to increase just 21% in 2023 over last year.

At the time of the data analysis in August 2023, 2023 was on track to exceed 2022's numbers in both the number of new patients enrolled and number of patients fulfilling a prescription, but the rate of growth is significantly lower than in any prior year (including years where no new conditions were added).

Conclusions

As noted above, we conclude that the current program does not meet either the access or availability standard statewide.

Under the current statute, the program is required to evaluate new Dispensing Organization license applications according to their ability to meet those standards. DPS would be justified in considering program expansion either by expanding the licensed footprint of existing DOs or expanding the number of DO licenses to serve areas outside of central Texas. We recommend a hybrid approach detailed later in this report.

We also identified two high-risk factors that could impact future program success and continuity.

First, stakeholders' concerns that patients are leaving the low-THC program to seek alternatives in the unregulated or less-regulated hemp-derived market cannot be validated to an individual patient level. But overall trends in patient enrollment and prescription fulfillment, correlating with explosive growth in that competing market, indicate that the rate of program growth across all metrics has slowed significantly since hemp-derived products became more available publicly.

Our evaluation also identified what we believe to be a significant risk to the future of the program: the high number of patients served by one licensed dispensing organization. 73% of patients and 78% of fulfilled prescriptions were serviced by just one DO in 2022. While that DO (and the other 2) have expressed concerns about the program's future, they have not expressed any intent to close or alter operations in a way that would significantly impact the program today. Nonetheless, from a program continuity perspective, the program is highly dependent on one operator who could close at any time

without notice, including for unforeseen reasons such as natural disasters, crop failure incidents, or changes to their business model. The loss of either one of the two largest DOs would significantly harm patient access statewide. Replacing a lost operator would take two years or more from licensing to construction to operation. As policy makers consider whether to expand the allowable operating footprint for current licensees or whether to consider adding additional licenses to the program, program continuity should weigh heavily on that decision.

We conclude our report with recommendations for a framework to evaluate a potential expansion of DO locations in underserved areas outside of the central Texas corridor.

PATIENTS

Introduction

The CUP program was established by the legislature to provide patients with qualifying conditions access to low-THC medical products pursuant to a treatment plan overseen by a physician with expertise in the patients' specific condition.

Since launching with just 12 patients in 2017, the program has enrolled a total of 66,205 patients over the lifetime of the program. This is the most cited figure when speaking of the size of the program.

However, the CUP program recognizes that not enrolled patients are actively "participating" in the program. Nonetheless, CUP and CURT data does provide voluminous data down to the individual prescription level that can be used to measure program activity at a point of time or longitudinally.

Our analysis is based on a review of more than 322,000 individual prescription records to weigh different metrics for their value as longitudinal measures of activity by enrolled patients.

Question: How many patients are “active” in the CUP program

There is no national standard for determining an “active” patient count in medical cannabis programs.

To further complicate analysis, treatment plans for different conditions and patient-specific requirements vary widely across specialty and patients (a seizure patient may require intermittent medical consultation and access to lifelong treatment while patients seeking treatment for cancer or PTSD are often engaged in acute treatment and hope to enjoy an end to their treated condition).

Existing Dispensing Organizations (DOs) and physicians have raised concerns in public and with CUP administrators about the appearance of declining patient participation over the past 12 months. DOs specifically stated that patients are leaving the program and not being replaced, but CURT program data provides a more nuanced analysis on this question.

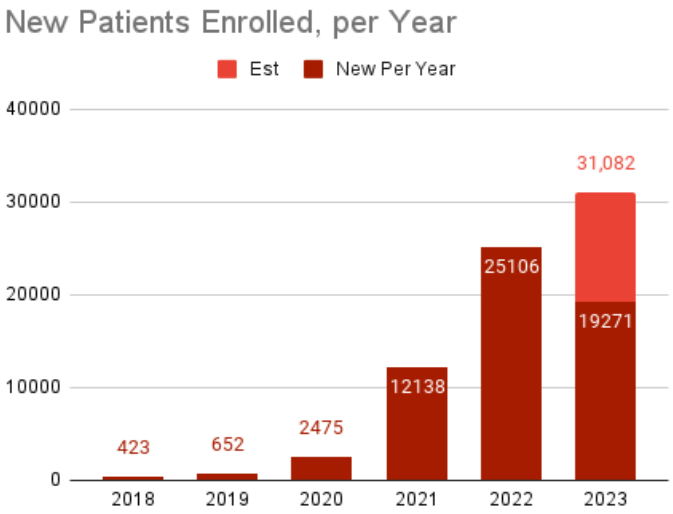
To determine the program’s rate of growth or decline we examined three different data points from CUP data.

Our analysis examines three common ways to measure activity, and thus participation, at key interaction points in the patient journey from program enrollment to fulfillment of a prescription. Using CURT data, we studied:

1. **The number of new patients enrolled in the program each year;**
2. **The number of enrolled patients receiving at least one prescription per year; and**
3. **The number of enrolled patients fulfilling at least one prescription per year.**

CURT data shows that new patient enrollment continues to increase each year, but the rate of growth decreased significantly in 2023.

This slower rate for new patient enrollment tracks with physician and DO anecdotal statements that they are seeing fewer new patients than in prior years. When evaluating the number of new patient enrollment, it is important to note that patient enrollment increased exponentially in years where new conditions were authorized by the legislature. Our analysis shows that without the new patients enrolled for PTSD in 2022, new patient enrollment in 2022 would have been just 5% greater than 2021.



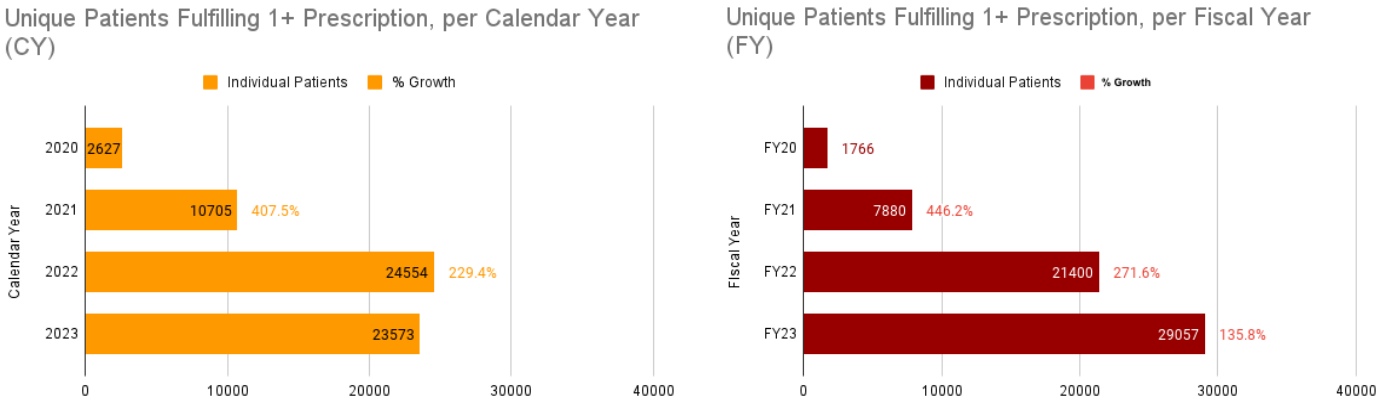
Total new patient enrollment in 2022 was 25,106 and 2023 is on track to exceed that number, though new patient growth continues to slow.

Measuring patient activity at the next stage of the process (receiving a prescription), tells a similar story. **The number of enrolled patients receiving at least one prescription in 2022 was 25,584.** This is only slightly more than the number of new patients enrolled which seems to indicate that current patients may be receiving prescriptions for longer than 1 year and/or that new patients are enrolling but not receiving prescriptions. Additional analysis of patient-level data is required to better identify patient drop-off points. In either case, this proved to be the least informative metric in our analysis of patient activity.

The first two patient metrics track patients at the first two stages of the patient's path, but data indicates that many prescriptions remain unfilled after issuance (more on this below).

Because the third metric captures the number of patients completing the entire CUP progress from enrollment through prescription to fulfillment, we believe this is the best longitudinal metric for measuring "active patients." After comparing individual patient fulfillment data (metric #3) by calendar year and fiscal year, we determined that a fiscal year analysis provided the most relevant and complete data. It also aligns with program budgets and department goal timelines.

Exhibit: Patients Fulfilling 1+ Prescription, per Calendar and Fiscal Year (Comparison)



A full data analysis is included in the supplemental "Patient Participation" data summary at the end of this report.

We conclude that a measurement of enrolled patients fulfilling at least one prescription per fiscal year provides the best longitudinal metric for measuring the number of active patients in the program.

This analysis finds that 24,554 unique patients fulfilled at least one prescription in calendar year 2022 and 29,057 did so over the most recent 12-months. We believe these are the current "active" patient counts, depending on how CUP chooses to track data. (DPS has traditionally reported data on a calendar year basis, so we conducted our analysis using a CY standard for most metrics).

Metrics one and 2 also provide important data to measure the impact of program changes on enrollment and, importantly, drop off by eligible patients between stages of the program.

Unused or Abandoned Prescriptions

Of the more than 143,000 prescriptions issued through the CUP program since 2018, 4,736 were unused by patients as of August 2023. While some were canceled (and usually replaced with supplemental prescriptions), the majority of those, 3,905, remain active in the system and available for fulfillment. Of those active and unfilled prescriptions, just 1% are from 2021. The remaining are from 2022 and 2023.

Of the active prescriptions still pending fulfillment from 2021-2023, 910 (23.3%) are from one prescribing physician.

While more analysis, likely including patient interviews, are required to determine the causes for the large number of unfulfilled prescriptions, patients have suggested several causes: physicians providing multiple prescriptions at once, the inaccessibility of a DO to fulfill the prescription at the time it is issued, and the availability of cheaper help-derived products available for “self-serve” use from CBD stores and traditional retail shops.

Because of the large numbers of unfilled prescriptions and variances in fulfilled quantity levels, we do not believe quantitative measurements of prescriptions issued or fulfilled is a best metric for measuring program performance or stability.

Defining the Doctor-Patient Relationship

As previously noted, CURT data tracks more than 66,000 total patients who have been enrolled in the program since its inception. Patients who are treated must have a treatment plan to govern a prescription with an expiration date; but there is no set term for an expiration of a prescription, nor is there a requirement for a physician and patient to have regular consultation to review the treatment plan. The CURT system currently requires patients to be enrolled and under care of an enrolled physician to participate in the CUP program. Physicians are not required to update these patient enrollment records when a patient completes a treatment plan or becomes otherwise ineligible.

Efforts to monitor “active” patient counts in the future are hampered by the large number of patients with unused or abandoned prescriptions coupled with the cohort of patients who have not received or filled a new prescription in more than a year.

We recommend the program consider issuing administrative guidance to prescribing physicians helping them define the current physician-patient relationship relating to medical cannabis and appropriate status for patients no longer under their care.

Florida’s low-THC program, for example, requires physicians to “update the registry within seven days after any change is made to the original [treatment plan] to reflect the change. The physician must

deactivate the registration of the patient and the patient's legal representative when treatment is discontinued"[2].

Question: Which conditions are driving program growth?

An analysis of patient-level data provided insight into the impact additional conditions have had on program growth over the years.

Not surprisingly, the addition of new conditions which impact proportionally larger populations have driven larger participation growth in years following legislative action to authorize them.

In 2022, PTSD was a large driver of new patient growth. CURT data shows that 48.8% of patients receiving at least 1 prescription in 2022 are enrolled with PTSD as their only or first qualifying condition. These data points indicate that without the legislature's PTSD expansion, the program's active patient participation growth rate would have remained relatively stagnant in 2022, though the program would have grown by 12,500 patients seeking treatment for other conditions.

	2019	2020	2021	2022
ALS	**2**	**117**	**74**	**76**
Autism	**163**	**428**	**623**	**734**
Cancer	**16**		**1,298**	**2,795**
- Includes terminal cancer				
Epilepsy & Seizure Disorders	**180**	**390**	**791**	**995**
· Epilepsy	166	295	408	517
· Seizure Disorders	14	95	383	478
Multiple Sclerosis	**46**	**353**	**586**	**573**
Neurodegenerative Disease	**12**	**566**	**2,683**	**5,358**
PTSD		**424**	**4,230**	**12,507**
Seizure Disorders	**14**	**95**	**383**	**478**
Spasticity	**59**	**191**	**1,853**	**2,068**
Total**	**492**	**2,564**	**12,521**	**25,584**

	2019-2020	2020-2021	2021-2022
ALS	**5750.0%**	**-36.8%**	**2.7%**
Autism	**162.6%**	**45.6%**	**17.8%**
Cancer	**-100.0%**	**-**	**115.3%**
- Includes terminal cancer			
Epilepsy & Seizure Disorders	**116.7%**	**102.8%**	**25.8%**
· Epilepsy	**77.7%**	**38.3%**	**26.7%**
· Seizure Disorders	**578.6%**	**303.2%**	**24.8%**
Multiple Sclerosis	**667.4%**	**66.0%**	**-2.2%**
Neurodegenerative Disease	**4616.7%**	**374.0%**	**99.7%**
PTSD	**-%**	**-**	**195.7%**
Seizure Disorders	**578.6%**	**303.2%**	**24.8%**
Spasticity	**223.7%**	**870.2%**	**11.6%**
	421.1%	**388.3%**	**26.8%**

Data Note: The total number of patients receiving new prescriptions by condition deviates slightly from the total unique patients receiving a prescription overall. This is due to a few patients who receive new prescriptions for multiple conditions each year. The variance is negligible.

[2] Physician's Information, Fl. Dept of Health, Office of Compassionate Use, https://flboardofmedicine.gov/pdfs/OCUphysicians.pdf

This data provides important insight into the impact of new conditions on patient participation. When considered with DSHS data on physician scarcity across the state, CUP staff, DOs and program advocates can use this data to determine where to focus new prescriber recruitment efforts, if they choose to do so at a future date.

More analysis on this topic is included in the supplemental data review at the end of this report.

Texas Program Participation vs Other States

Stakeholders have long argued that Texas' approach to low-THC is more limiting than other low-THC and medical cannabis programs in other states. The legislature recently considered changes to the program that would have potentially expanded the allowable conditions and removed or reduced some barriers to participation. Because those changes did not pass the legislative session, we did not consider them in our current program analysis. We did, however, include a high-level comparison between Texas and other states, including low-THC Florida and high-THC medical New Mexico, to provide some comparisons between Texas' program and other more mature programs nationally. That analysis is included in the supplemental data summary on patients at the end of this report.

Data references

For an in-depth analysis of data discussed in this section see these Data Analysis sections in the Appendix.

- See **DATA SUMMARY: PATIENT PARTICIPATION**
- See **DATA SUMMARY: PATIENT PARTICIPATION IN TEXAS VS OTHER STATES**

DISPENSING ORGANIZATIONS

Introduction

Pursuant to their statutory charge, DPS initially determined that three dispensing organizations (DOs) would be required to meet the "reasonable access statewide" requirement under the law when the program was first authorized in 2015. Two of those DOs have actively served a significant number of patients. The third ceased operations in 2019 until 2022 when it resumed service, though to a very limited patient cohort.

Each of those licensees is authorized to cultivate low-THC plants and manufacture and sell a limited number of low-THC products from their own dispensary.

All 3 DOs have argued in legislative hearings and to the CUP program that they are failing to provide equitable statewide access for all patients because of limits of the program and the licensees themselves.

Of the 3 DOs, one served 73% of all patients receiving prescriptions in 2022. A second served the remainder. The third licensee has been effectively inoperable, serving less than 100 patients in each of its first two years, then none since 2020[3].

In meetings of the CUP Working Group, patient organizations have identified several barriers limiting access and/or participation in the program, including:

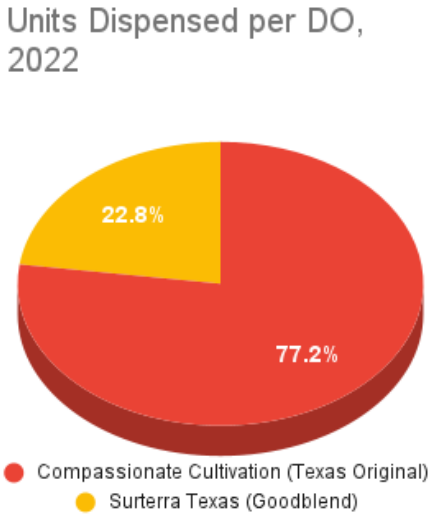
- Limited product options, specifically a lack of quick-onset products for acute medical needs. By law, the CUP program may only permit the use of low-THC by means "other than by smoking" which is further defined as "burning or igniting a substance and inhaling the smoke." (See Tex. Occ. Code Ann. 169.001 (4) & (5). In practice, the most common products manufactured by DOs are edibles such as chocolates, gummies, tinctures, and beverages)

[3] In 2023, CUP required the third DO to reinitiate operations. As of August, CUP data shows that they had served just 23 patients. This demonstrates the challenges of the market and the long lead time to build up a vertically integrated low-TCH operation and grow a customer base.

- Long travel times to their DO for patients outside of central Texas.
- Inconsistent schedules or inaccessible schedules for remote pickup and partner pickup locations.
- The inability to travel independently to a DO because of a medical condition.

Dispensing Organizations (DO) Fulfillment, by Year

CURT data shows that 73% of patients receiving a prescription in 2022 were customers of just one licensed Dispensing Organization: Compassionate Cultivation dba Texas Original.



Except for 32 patients served by Cannasortium dba Fluent TX, the remainder (27%) were served by Surterra Texas dba Goodblend. All three DOs are in central Texas within about an hour of downtown Austin.

That same leading DO served 77% of "units" fulfilled in 2022.

Exhibit: Unique Patients and Units Fulfilled by DO, per Year

Based on CURT data through August 2023

		2018	2019	2020	2021	2022	2023 (est.)	2023 YTD*
Cannasortium TX (Fluent TX)	**Unique Patients**	**31**	**5**		**1**		**32****	**23**
	Units Fulfilled	71,100	18,900		600		7,916**	5,700
Compassionate Cultivation (TX Original)	**Unique Patients**	**323**	**720**	**2,398**	**8,137**	**19,022**	**21,875**	**17,568**
	Units Fulfilled	3,283,500	9,537,975	12,341,550	16,905,581	35,797,098	43,314,488	29,475,515
Surterra Texas (Goodblend)	**Unique Patients**		**58**	**268**	**3,235**	**6,981**	**8,028**	**7,147**
	Units Fulfilled		242,550	1,081,398	3,827,171	10,587,571	12,810,960	9,308,234
ESTIMATED 2023 YEAR-END UNITS FULFILLED							**56,133,094**	

**YTD as of August 24, 2023 **Since this DO has no 2022 data, 2023 projections are estimated based on consistent growth throughout the year. Data for patients served per DO varies slightly from unique patients served in other data sections because patients can access prescriptions from multiple DOs.*

Data note: Program staff noted that the use of "units dispensed" data prior to February 2022 may not be consistent across all DOs. The formulation of different products and changes in law to the percent of THC by weight for products over time created inconsistent methods of entry for "units" across all three DOs. The program issued guidance in February to track units by THC milligrams dispensed. For this reason, we believe 2022 data is the most accurate for determining program activity by THC dispensed.

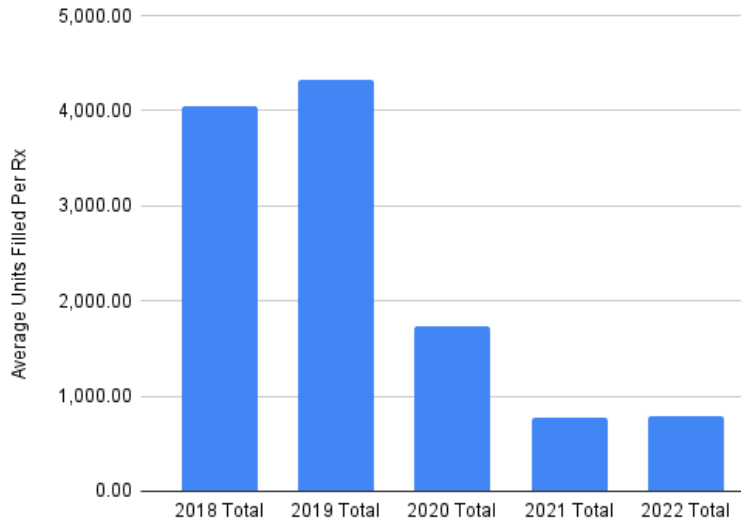
Declining Rates of Prescription Fulfillment

In Texas, licensed DOs have specifically correlated the growth of unregulated hemp-derived products, now available at gas stations and hemp shops around the state, to the decline in participation in the CUP program. During a September meeting of the CUP Working Group, representatives from all 3 Dispensing Organizations expressed concern that patients were seeking low-THC alternatives and decreasing participation in the CUP program. Those DOs specifically cited competition from the mostly unregulated hemp-derived THC market. We explore the impact of that market more fully in the supplemental analysis later in this report.

Prescription-level from the CURT program supports the observations of DOs that patients are obtaining fewer units through CUP. The chart above shows that the rate of growth for prescription units issued increased exponentially in previous years (445% in 2020, 353% in 2021) and then slowed to 276%, or 10.5 million units, in 2022. At the current rate, patients are expected to require just 12.8 million units dispensed in 2023 – a modest 21% increase compared to prior years.

However, the average prescription fulfillment quantity has decreased dramatically from more than 3,000 units when the program first began to just under 800 by the end of 2022.

Exhibit: Average Prescription Fulfillment Size, by Year



Taken together, CURT prescription data shows that the number of prescribed units have increased alongside the increase in prescriptions issued, but the average prescription fulfillment size has decreased steadily. This validates the DO concerns about declining sales and slower program growth.

Combined with data showing a declining rate of growth for both new patients enrolling in the program, high numbers of abandoned or unfulfilled prescriptions, and significantly lower demand at the point of fulfillment for low-THC products it is reasonable to conclude that factors outside the program are impacting patient participation.

Taken together, these data points and the concerns expressed by the DOs should raise concerns. From a business perspective, DOs must project multiple crops ahead to ensure an adequate product supply for patients. They do this based on past performance in the program. Under planning risks failing to meet patient needs and over planning risks stranded capital. As is discussed more fully in the supplemental section on competition from the hemp-derived market, all three DOs have indicated that they are experiencing challenges relating to these factors.

Distance from Dispensing Organizations

The Texas CUP program currently operates with just three licensed dispensing organizations (DOs). Each DO is required by rule to operate from a single location where products are cultivated, manufactured, and dispensed from a single address.

The program also allows DOs to provide remote dispensing locations, similar to remote pharmacy delivery locations, where patients can receive prescriptions, they had previously ordered from the DO's primary dispensary. Under this option, patients order their prescription and schedule it for delivery to the pickup location at a scheduled date and time. The DO must fill the prescription at the dispensary then drive it to the scheduled remote location on the scheduled date where the patient meets them to pick up the scheduled product. This opportunity greatly expanded the ability of DOs to provide expanded access to patients located outside of central Texas where all 3 DOs are currently headquartered.

Off-Site Pick Up Locations Expand DO Access in a Limited Way

As of September 2023, licensed DOs have expanded service to 26 additional remote and partner pickup locations in 14 counties. Still, just 5.5% of all Texas counties now have access to a dispensary or off-site pickup location.

While undoubtedly helpful for many patients, the process for administering these remote pickup locations has nonetheless proven logistically challenging for both DOs and patients. For example, under the current requirements set by CUP:

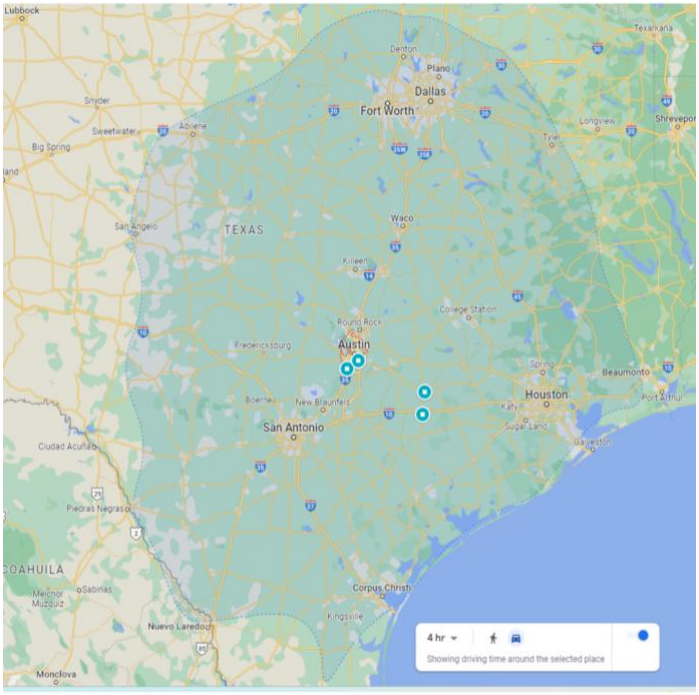
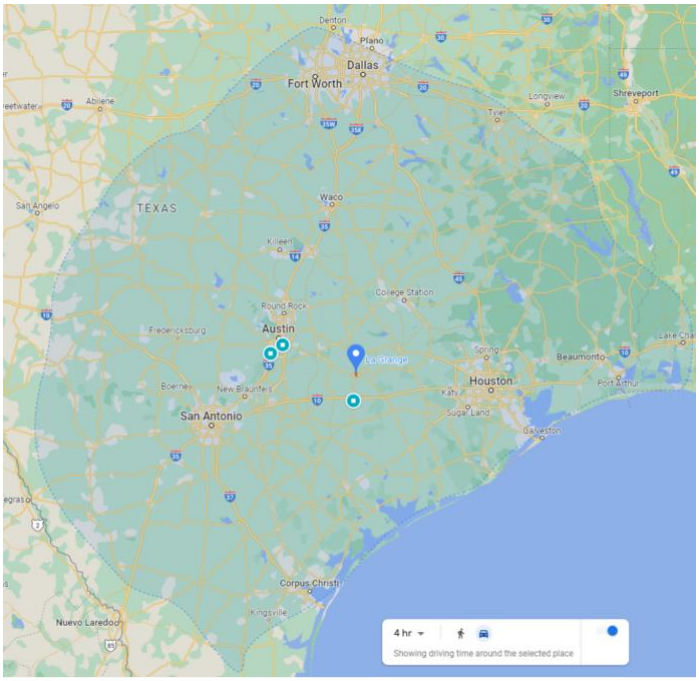
1. Prescribed products must originate from and return to the DO's primary dispensary in the same day (no overnight storage at a remote location). This limits the use of remote pickup locations to only those locations that are no more than a half day's driving distance from the dispensary (see more below).
2. Each prescription that leaves the primary dispensary must be assigned to a specific patient and prescription prior to leaving the location. This requires patients to plan their medical needs, prescription pickup and payment around the DO's schedule which, when accounting for drive time, often includes a very short window for pickup appointments. Patients who are medically unable or otherwise obligated during those limited times may miss their appointment and their prescription is returned to the DO location hours away.

Two notable exceptions do exist, though they have limited access. Goodblend has extended their off-site pickup outside of the 4-hour buffer to Wichita Falls (5 hours), but only for limited midday hours, 3 days per week. Texas Original makes an off-site pickup available 6-hours from Austin in Lubbock, but only for 4 hours every other Saturday.

The prohibition on overnight storage of product off-site effectively prohibits direct patient-dispensary service to all patients more than a half-day's drive from one of the 3 licensed DO dispensing headquarters locations.

To determine the effective reach of the current licensees, we mapped a 4-hour one-way commuting zone over each DO's primary dispensing location.

Exhibit: Effective remote-delivery reach for existing Dispensing Organizations

Austin-based Dispensaries	Schulenburg-based Dispensaries
	
Source: Google Maps, driving distance buffer (4 hours) from South Austin	Source: Google Maps, driving distance buffer (4 hours) from Schulenburg

While this 4-hour zone is a theoretical access area for DOs and covers all major metropolitan areas except El Paso, in practice patient access varies widely inside the zone. Corpus Christi, for example, is inside the 4-hour zone for each of the 3 dispensaries but none provide regular access to prescriptions in this area.

In the current form, the remote pickup and partner pickup options for DOs are mostly ineffective for patients outside of central Texas. While a few locations allow for patients to schedule next day pickup

options, most remote options are limited to a few hours per day, a few days per week, or every other week. Under the current provision, patients in north and west Texas, including population centers such as El Paso and border communities are essentially locked out of the CUP program because they lack prescribing physicians or local access to DOs, or both.

Importantly, CURT data provided by DPS found that less than 100 patients out of more than 60,000 registered use this option regularly.

Our analysis concludes that remote pickup is an important tool for expanding access beyond the primary dispensing location but the logistics and regulatory requirements to provide equitable access to remote patients would require large infrastructure investments by DOs in logistics planning and structural changes to regulation to allow for overnight storage, remote fulfillment and payment and additional considerations for addressing the Border Patrol seizure zones. These changes are not reasonable for administrators or DOs, so we conclude that remote pickup and delivery is likely not a viable option for providing reasonable statewide access.

The Border Patrol Enforcement Zone is an Artificial Barrier to Access

The Immigration and Nationality Act 287(a)(3) and subsequent federal regulations established an enhanced enforcement zone administered by the US Border Patrol. In the zone, USBP agents enjoy greater liberty to search persons and vehicles traveling through the zone if agents develop probable cause to believe violations of federal law are occurring.

Cannabis remains illegal under federal law, transporting cannabis across and into the enhanced border area creates special risks for DO deliveries and patients. DO couriers and patients traveling through USBP permanent and temporary checkpoints are subject to additional enforcement and seizure of CUP medicine and/or CUP prescriptions and patient payments from licensed DOs.

In practice, existing DOs regularly transport prescriptions from “inland” across the buffer zone for delivery to patients at remote dispensary locations inside the 100-mile zone. But if a patient fails to pick up the prescription, the DO’s driver is required to return to the DO. This may require the driver to encounter a checkpoint or be subject to a regular traffic stop where the medicine and vehicle may be seized, and the employee may be subject to detention or prosecution. While these instances are

rare, the risks themselves may serve as a deterrent for DOs headquartered outside the 100-mile border to extend access to patients inside the zone.

Small Number of Licenses Presents High risk to Program Continuity

The CUP program is dependent on a very small number of licensees (3) to meet its statutory requirements to provide “statewide access” for patients with eligible conditions. The loss of just one of these licensees (as happened before when Cannasortium TX withdrew from the market) could significantly impact patient access. If either one of the two largest licensed DOs withdrew from the market today, between 28-68% of active patients would lose access to their current dispensary.

Like any business, these 3 licensees face standard risks including closure for emergencies such as fire or natural disasters. But Marijuana-Related Businesses (MRBs) also face extraordinary pressures imposed by a lack of access to conventional business capital required to adapt to changing market conditions.

During one recent convening of the CUP Working Group, one licensed DO expressed that his company had taken on more than $1 million in new investment to meet growth projections from 2022 that had slowed in 2023. Nationally, access to private capital for MRBs is currently frozen or minimal at best as global economic changes limit access to cash for traditional high-risk business investors. One national MRB investment fund recently noted, “Federal regulatory momentum came to a standstill, earnings slowed down to single-digit growth as inflation eroded margins and squeezed consumer wallets, and financing continued to dry up with regional banks and credit unions tightening their credits in the face of a banking crisis in the US,” (Purpose Marijuana Opportunities Fund (CBOE:MJJ), May 20, 2023)[4].

If a current licensee exited the market for any of these reasons it would take between 18-24 months for a new operator to design, license and stand up a vertically integrated operation to begin serving patients.

It is our assessment that the limited number of active licenses presents a high risk to the continuity of the program.

[4]It is important to note that no current licensed DOs have indicated plans to reduce services, but they have expressed concerns about declining patient participation which could impact future revenue, access and service. In fact, all 3 current DOs are advocating for expansion of the program.

RECOMMENDATIONS FOR EXPANDING ACCESS

Introduction

As already noted, our analysis concluded that the current system does not provide for statewide access for patients to the program or low-THC products.

If DPS agrees with this conclusion, it may then consider whether additional licenses are required to achieve this statutory requirement.

Recruiting Additional Physicians

Identifying and accessing a qualified, enrolled physician to evaluate a new patient is the first step towards program participation for a new patient. This analysis shows that for most Texans, this is a significant hurdle because of the low enrollment rate of qualified specialist and the long distances required to travel to access care outside of central Texas for patients or physicians not using telemedicine options.

Insights from DSHS physician scarcity data reports show that the access gap is likely to increase in future years.

The CUP physician survey found that 86% of all physicians – including 65% of physicians with required specialties - who are not already enrolled prescribers are interested in and would participate in continuing education on CUP if offered. This points to an accessible and high-impact tactic to expand the number of participating physicians available for patients.

Among physicians enrolled in CUP, the overwhelming majority (73%) rated the process "easy," and 60% chose to list themselves publicly in the CUP prescriber directory. When these factors are

considered alongside the interest in education about medical cannabis and the CUP from certified specialists, a strategy for increasing patient access to specialists emerges.

To address this gap, CUP staff have already begun outreach through the state medical board and medical organizations to increase awareness of the program.

Expanding Product Diversity for Patient Needs

By law, the CUP program may only permit the use of low-THC by means “other than by smoking” which is further defined as “burning or igniting a substance and inhaling the smoke.” (See Tex. Occ. Code Ann. 169.001 (4) & (5).

Consequently, the most common products manufactured by DOs are edibles such as chocolates, gummies, tinctures, and beverages which may take 30-90 minutes to take effect, whereas consumption by vaping (a non-combustible aerosol inhalant) takes effect almost immediately[5]. In addition, the science of cannabis product manufacturing has advanced to allow for “fast-acting” edibles using water-soluble delivery methods to provide onset in 5-15 minutes[6].

Expanding product lines into new categories requires new research and development investment from DOs. As discussed elsewhere, current DOs have expressed concern about their ability to maintain operations at the current status quo and, therefore, are reluctant to invest in R&D.

Nonetheless, earlier this year CUP program managers indicated that they may be open to authorizing new products, including vapable (non-combustible) products. In response, DOs have initiated new product reviews with CUP staff.

Patient survey data found that of patients who supplement their medical cannabis with products from a source not including a DO, 59% prefer smoking or vaping as a consumption method. It will be useful to track patient participation data and product sales data for new vaping products, if approved

[5] Grotenhermen F. Pharmacokinetics and pharmacodynamics of cannabinoids. Clinical Pharmacokinetics. 2003;42(4):327–360. http://dx.doi.org/10.2165/00003088-200342040-00003.
[6] https://azuca.co/traditional-vs-quick-onset-edibles/

for use in CUP, to determine if patients who seek out non-program vapes will purchase CUP-approved vapes instead.

Overcoming geographic barriers to access

The disparity between physician and DO participation in central Texas versus all other parts of the state indicates a need to consider adding additional DOs in other regions of the state.

DPS divides the state of Texas into six major service regions (and a 7th for the State Capitol complex. We excluded that region for this evaluation). When DOs are layered over DPS regions, we see that all 3 DOs are currently licensed from locations in the Central Texas region.

1: Texas DPS Regions

To provide equitable access to a DO for all Texas residents, DPS should consider expanding the number of licensed DO locations to the 5 unserved regions. This program analysis, confirmed by patient and physician survey data, concludes that three dispensing retail locations can provide product access to patients in the Central Texas DPS region. **Providing similar access to the other 5 regions would require 10-15 additional dispensary retail locations statewide.** This can be accomplished by offering existing DOs additional locations, or by opening the program to new licensing.

We recommend a two-phase hybrid model for expanding DO access.

First, we recommend allowing existing DOs to add additional dispensary (retail) locations off-site from their currently vertically integrated location. This is commonly referred to as allowing “overnight storage” of low-THC products. As existing DOs have infrastructure in place, they are best positioned to expand product access more quickly than a new startup operation.

Second, we recommend licensing additional new dispensing organizations with vertically integrated and secondary overnight-storage retail locations, with new licenses prioritized to those applicants willing to serve DPS regions currently underserved by the existing DOs.

In sections below, we explore the framework for policy makers to evaluate these options.

In evaluating those options, DPS should consider:

- The number of unique licenses required to service an area, while ensuring that if any license fails to perform or exits the market sufficient DO infrastructure exists to continue serving patients[7].
- Are there sufficient qualified applicants available in each region to meet patient access and ensure program continuity.

Considerations for Expansion

In early 2023, DPS opened applications for new Dispensing Organizations and received more than 130 responses. While this demonstrates the high level of interest in providing expanded access through additional licensure, DPS is not obligated to act on any of these licenses and has not qualified or evaluated those applications against any standard for likely success.

Existing Dispensing Organizations have advocated for allowing them to expand their footprint by allowing for overnight storage at remote dispensary or partner pickup locations as a way of expanding access with lower capital requirements and more quickly than a new licensee could stand up operations. This is a policy call for DPS, but our analysis leads us to encourage DPS to consider expanding the total number of licenses or implementing a hybrid approach for the reasons discussed previously and below.

If DPS determines that statewide access for patients and products is not currently achieved by the current system, the program has two options to expand access:

1. Allow existing Dispensing Organizations to expand their footprint with additional locations; or
2. Open new licenses to serve patients outside of the central Texas area (DPS Region 6).

[7] If each region was open to 3 new licensees, similar to the current status in Region 6, the program would be able to operate if any licensee failed to launch and/or was unable to serve patient needs.

DEVELOPING A FRAMEWORK FOR EXPANSION

If DPS determines that additional licenses are required, the next analysis centers on the number and dispersement of each.

A decision process for considering expansion likely includes an evaluation of:

1. **Does the current system meet statewide patient and product access requirements of law?**
2. **What regions or areas of Texas are underserved for one of those requirements?**
3. **Could additional locations (either as new licensees or expanded locations for existing DOs) meet the requirements?**
4. **If so, what qualifications are needed to determine success in those areas?**

Because the program is heavily dependent on two existing DOs who have no requirement to remain in operation, we recommend expanding the total number of licensed organizations to provide continuity in the program and prevent an overreliance on a single provider. This can be achieved by only opening new licenses or through a hybrid approach to allow existing DOs to compete for new locations alongside other applicants.

If DPS determines that additional licenses are required, the next analysis centers on the number and dispersement of each.

Other states have engaged in different strategies which we analyze here:

New Mexico: New Mexico's medical program was initially limited to five dispensaries statewide in 2009 but the state did not require operators to diversify locations or limit "clustering" of licenses. As such, all dispensaries were located in Albuquerque which created access challenges for more dispersed patients. The state initially limited each operator's plant count and opened additional licenses when those licensed plants were no longer sufficient to meet patient demand (plant counts for existing operators were also expanded to allow for program continuity as new licensees were onboarded). The state never limited licensees by region. Larger dispensaries naturally located in urban areas and smaller operators emerged in some smaller markets with limited products. New Mexico transitioned to an open license (unrestricted locations) hybrid medical/adult-use market in 2021.

Maine: Following voter approval of a medical cannabis law in 2009, the legislature authorized the licensing of dispensaries spread across each of the state's 8 public health regions. The

state received applications in only 6 of those regions. (Because of the large number of responses to the Texas license solicitation, we do not anticipate this to be the case in Texas).

Illinois: Following the passage of adult-use legislation in 2021, Illinois implemented a hybrid regional and lottery system for awarding licenses. Applicants who received at least 85% of 250 available points were entered into a lottery for 110 total licenses distributed across each of the state's public health districts.

Maryland: In 2023, Maryland qualified applicants and awarded each a conditional license. Each conditional licensee was entered into a lottery for final awards. Lottery winners will be given a limited to begin operations or other conditional operators will be selected.

Florida: In February 2023, Gov. Ron DeSantis announced that Florida would open new dispensary applications to allow for 22 new locations based on a data-driven analysis to determine the number of dispensaries per active patient. There was no regional or location restriction on new dispensaries (though dispensary locations were considered in scoring).

The process for evaluating and licensing additional locations can be informed by the processes in other states but will ultimately be a decision of DPS considering requirements of local law and procedure.

To overcome geographic barriers to access, we recommend DPS designate each of the underserved DPS Regions (1-5) for new DO locations. A more detailed analysis of patient and prescriber data by region is recommended to determine the number of licenses required and areas currently served or inaccessible for patients. At a minimum, we recommend that each region be designated for at least two separate licensees to avoid creating an overreliance on one operator in each region.

This would require a minimum of 10 new DO locations – either as new locations, existing DO expansions or a hybrid of both.

Once the number of new locations per region is determined, DPS can open applications to qualified applicants wishing to operate in those locations.

Considerations for scoring applicants should include:

1. An applicant's ability to assist in recruiting qualified specialists to meet patient access requirements, by region;
2. Whether an applicant has verifiable and sufficient access to capital to complete the planning, construction and operation of a vertically integrated operation to begin serving patients at scale by a prescribed date;
3. A mandate that new operators serve a minimum number or minimum percentage of active patients in the region (to avoid "license sitting" where an operator obtains a license but fails to serve a substantial portion of patients)[8].
4. The ability to pay sufficient licensing fees to cover the costs of expanded licensing, compliance and program support for IT (CURT), patient and physician education and program administration.

Once a qualified list of applicants by region is available, DPS could award new licenses according to a scoring system of their preference. Other states have used a lottery of qualified applicants, or simply relied on a scoring matrix to award licenses. Other industries, especially oil and gas, engage in an auction for licenses for qualified applicants.

> ***Is the number of patients per region predictive of the number of DOs required?*** *Because patients in more remote parts of Texas do not enjoy the same access to physicians and DOs as their fellow Texans in central Texas, we believe the number of active patients per region is an undercount of the potential number of patients who would participate were access achieved. For this reason, we recommend establishing a minimum number of new DOs per region and monitoring program activity for growth.*

Expanding Additional Dispensing Locations for Existing Licensees

By policy and practice, the CUP program currently only allows existing Dispensing Organizations one license where all licensed activity (cultivation, manufacturing and retail) must occur. But the Compassionate Use Law does not impose this limitation.

DOs have advocated for a modification of policy to allow for the existing organizations to add a second or more fully integrated facility, a standalone retail facility with overnight storage., or in the alternative, allow for overnight storage at secure remote pickup locations. We conclude that these options may be a part of a larger strategy to increase access, but we caution against relying solely on existing DO operations to meet statewide access requirements for the reasons discussed previously.

[8] This mandate may require legislative action since minimum activity is not contemplated in the law, but DPS may consider imposing regulatory requirements on licensees to achieve this goal.

A NEW PROGRAM THREAT: HEMP-DERIVED MARKET

Introduction

While state-regulated cannabis programs have been the sole legal source for consumers to access THC products outside of the illicit market since 2017, that is no longer the case. A broad definition of hemp included in the 2018 federal Farm Bill opened the door for the legal production, manufacturing and sale of hemp-derived cannabinoids, including those that induce the same effects as delta-9 THC (the active cannabinoid in the *Cannabis sativa L*. plant that is regulated by federal and state controlled substances acts). [9]

"The overly broad federal definition of "hemp" in the farm bill has led to the exploitation of a seemingly endless permutation of loopholes. The resulting intoxicating so-called "hemp" products can be naturally occurring, partially synthetic, or totally synthetic and are produced under the guise of federal legality, making it extremely difficult for states to protect public health and maintain safe, well-regulated medical and adult-use marijuana markets."[10]

> ***Hemp-derived products on the market today often contain THC levels that meet or exceed the levels permitted in state marijuana or cannabis marketplaces,*** *including products with high levels of delta-9 THC – the primary component in the cannabis plant that gets you high, and THCA – which readily converts to delta-9 THC when heated or combusted. Other intoxicating cannabinoids - like delta-8 THC, THC-O-Acetate, H4-CBD, THCP, and HHC, which are often prohibited in state-regulated marijuana markets due to safety, are also widely available in the hemp marketplace.* (US Cannabis Regulators Association, July 27, 2023)

Those products are prevalent on the shelves of hemp dispensaries, gas stations and retail stores across Texas. While many products are produced under the legal hemp program, federal legalization of these products allows for their interstate transport which expands the market even further.

The Intersection of Hemp-derived and Illicit THC

Unlike the highly regulated low-THC program, the hemp-derived market provides an open invitation for exploitation by illicit operators illegally importing these products from other markets or comingling high-THC products with legal hemp-derived products on retail shelves.

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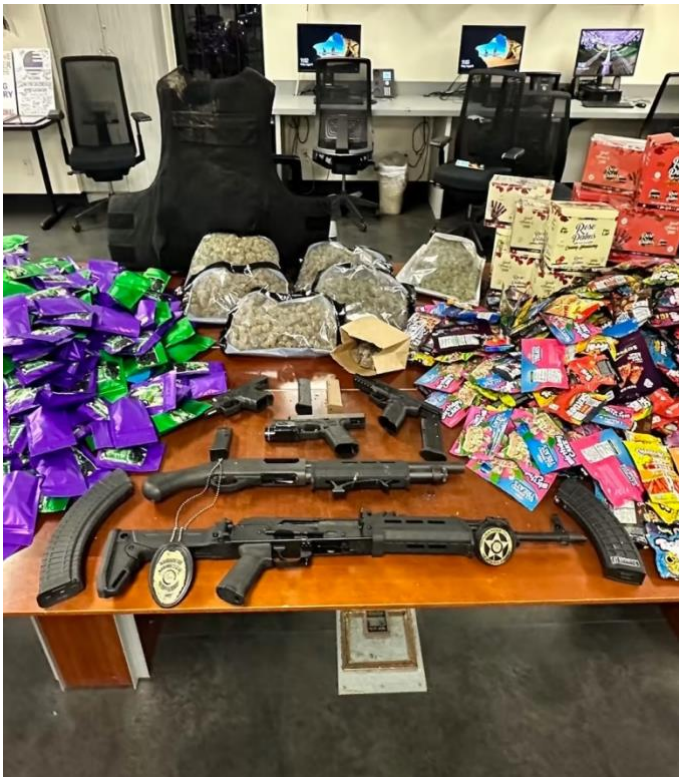
[9] TAC Title 1, Part 1, Chap. 24, Subchapter A (17) "Delta-9 tetrahydrocannabinol or THC or Delta-9-THC" means the primary psychoactive component of cannabis.

[10] Gillian L. Schauer, PhD, MPH, Executive Director of the US Cannabis Regulators Association, written testimony to Congress July 27, 2023, available at https://oversight.house.gov/wp-content/uploads/2023/07/CANNRA-Written-Testimony_07-2023_Final59.pdf

In August 2023, Harris County officials seized 60 pounds of illicit THC cannabis and 57 pounds of illegal THC products, as well as firearms, from an unregulated dispensary in Houston[11]. In addition to the obvious public safety dangers from operators like these, illicit operators hiding in the unregulated hemp market are also competition for Texas' legitimate hemp and low-THC operators.



2More than 100 pounds of THC marijuana, THC edibles confiscated at illegal dispensary in SW Houston (Ted Heap, Harris County Constable Precinct 5)

In Texas, licensed DOs have specifically correlated the growth of unregulated hemp-derived products, now available at gas stations and hemp shops around the state, to the decline in the rate of growth of the low-THC market.

During a September meeting of the CUP Working Group, existing DO operators expressed specific concerns about the impact of hemp-derived products on licensed low-THC businesses and patient access. For example:

- *"We had to scale to support the [CUP] system [for future patient growth], but now the program is slowing because of unregulated competition"* - Current CUP licensed dispensing organization manager.
- *"Patients with a need for faster-acting options - options not available from the delayed onset from gummies [currently in the CUP program] are seeking options from the hemp program, especially THC-A which can be converted to THC when burned",* Dr. Robert Marks, M.D., medical member, CUP Working Group

Those concerns are not unfounded. Data from the CUP program shows that the program was expanding exponentially, as measured by the number of prescriptions issued, from 2019-2021 (See "Patient Participation Growth, Per Year" below). The number of prescriptions issued in the program showed year-over-year growth of 232% and 249% respectively in 2020 and 2021. That rate of growth slowed to 118% in 2022 and is on track to grow just 22% in 2023.

[11] https://www.click2houston.com/news/local/2023/08/15/more-than-100-pounds-of-marijuana-thc-edibles-confiscated-at-illegal-dispensary-in-sw-houston/, August 2023

In 2021, the number of businesses licensed by the Texas Department of State Health Services (DSHS) to manufacture or wholesale CBD and hemp-derived products for smoking exponentially increased from just 24 to 381. Closely correlated with that growth were the number of retailers licensed to sell those products. By 2022, the number of retailers registered to sell smokable hemp products had increased 247% since 2020, tracking with a decline in growth of the low-THC program over those same years.

	Licensed CUP Dispensaries (Active)	Retail Hemp Registrations	% Inc. Yr./Yr.	New Licensed Consumable Hemp Product Licenses	% Inc. Yr./Yr.
2020	2	710	-	24	-
2021	2	2110	197%	381	1487%
2022	2	2469	17%	485	27%
2023**	3	4468	81%	565	16%

**Hemp registration and licensing data is sourced from Whitney Economics, August 2023, as sourced from Texas State Health Services*

***Year to date, as of July 2023.*

As anyone who has been into a Texas gas station, bodega or corner store can tell you, the true number of hemp-derived retailers is likely far greater.

A 2023 industry report noted that, “there are 4,468 hemp retail permits issued in Texas. There are also many more retailers in operation that do not realize they need a permit to sell hemp derived products. For example, it is assumed that roughly two thirds of the 11,200 gas stations in Texas also sell hemp cannabinoid products.”[12] That same report surveyed licensed Texas hemp retailers and found that 89.5% of hemp sales were from hemp-converted THC alternatives and those “cannabinoids generate total sales for all products of nearly $513,000 per store each year in Texas.”

While those products are targeted at adult recreational consumers, there is evidence that at least some consumers who are eligible for the low-THC market are seeking alternatives in the illicit market to meet their needs. A 2021 survey of medical cannabis users in Texas found that 18% admitted to using illicit (non-CUP) products, even though their diagnosis made them eligible for CUP

[12] Whitney Economics report, see full citation in previous footnote.

prescriptions[13]. Anecdotally, more patients have moved to the hemp market as the number of hemp licensed businesses has expanded since 2021. In our own patient survey conducted in 2024, 27.4% of active CUP patients admitted to using hemp-derived Delta-8 THC and 25.3% admitted to using hemp-derived Delta-9 THC in addition to or as an alternative to prescribed low-THC products.

Put simply, patients, physicians and low-THC dispensaries have collectively raised concerns that the hemp-derived market provides a desirable alternative to the low-THC program for many patients seeking convenient access and product diversity. Data from the CUP and DSHS programs show a correlation between the increase in the number of licensed and registered hemp program businesses and the decline in growth of the CUP program.

Lax Regulation in the Hemp-Derived Market Creates a High-Risk to the CUP Program

Because Congress created this problem with the passage of a broad farm bill in 2018, many states have chosen to wait for Congress to take action to address concerns. But industry analysts warn that "the horse is out of the barn" with billions of dollars of legal hemp businesses having been established and growing. In Texas alone, the hemp industry boasts that it employs more than 50,000 Texans and total sales from hemp products exceeded $8 billion in 2022. Of those, an estimated $3.3 billion came from CBD and hemp-derived "THC-like" products[14],[15].

In response, 29 states have enacted some form of state regulation of these products. Other states, including New Mexico, have pointed to the explosion of these "non-THC, THC products" in arguments for expanding their regulated cannabis programs to include traditional THC products for adult consumers[16].

Hemp-derived businesses enjoy many advantages when competing with low-THC licensed operators. Primary among these is requirements that low-THC businesses must design, build, license and operate their entire seed-to-sale supply chain from a single location and are then limited to a

[13] *How Texans Stop Pain with a Plant: Findings from a Survey of Medical Cannabis Users,* Baker Institute of Public Policy (Rice University), March 2021, https://www.bakerinstitute.org/research/findings-survey-medical-cannabis-users-highlights-and-recommendations

[14] Whitney Economics, *Hemp Derived Cannabinoids in the Lone Star State*, July 2023, at whitneyeconomics.com

[15] Whitney Economics is led by Beau Whitney. He currently serves as the chief economist for the National Industrial Hemp Council and National Cannabis Industry Association.

[16] New Mexico passed legislation expanding its regulated medical cannabis program to allow for adult-use cannabis in 2021, in part from pressure from existing medical cannabis companies seeking to blunt the impact of unregulated competition from hemp-derived products. New Mexico currently regulates traditional THC but does not regulate hemp-derived products.

small customer base which is dependent on legislative and medical restrictions outside of their control. By comparison, hemp businesses may open a single retail, manufacturing or cultivation facility and engage in traditional commerce with other businesses. The hemp market is also unrestricted and open to any adult in Texas (and other states if they sell their products across state lines).

In the 2023 legislative session, Texas legislators introduced SB264 and HB4238 to restrict the sale of CBD and hemp-derived products. Both bills died in committee without action.

The hemp-derived market is driven by consumer demand from the general public market which is currently rewarding innovation and expansion at record levels. As more consumer-friendly products are introduced to the market through more accessible retail outlets, the competition from the hemp-derived market is likely to increase.

CUP's licensees are required to help the program meet its statutory requirement for "statewide access" to low-THC products. Because of the long lead time required to expand the cultivation, manufacturing and logistics systems for new patients, licensees relied on prior year program growth to project future needs and they raised capital and invested accordingly to be able to meet expanding patient access needs.

The introduction of the hemp-derived market interrupted that growth and diverted some patients from the low-THC program to the "self-serve" hemp market. At least one DO publicly reported that they are concerned about the future of their business if current trends continue.

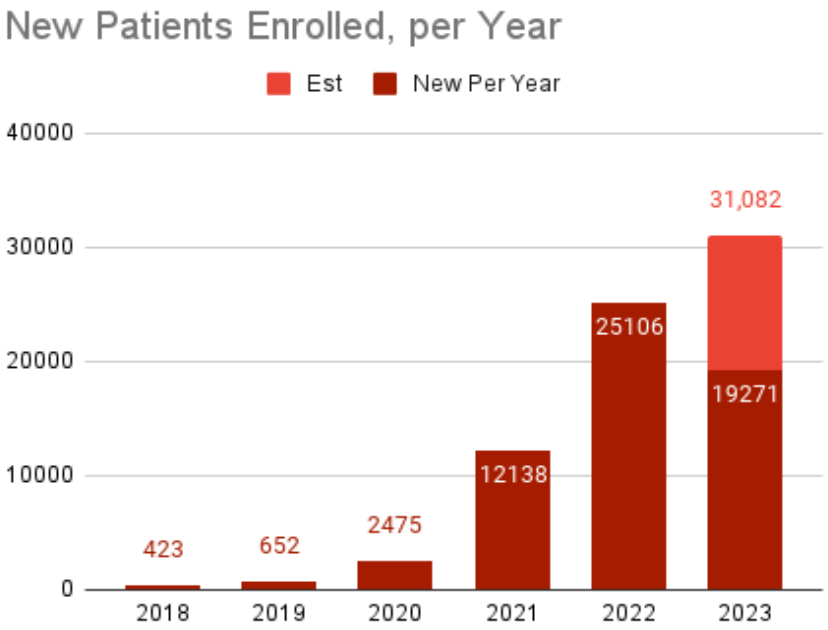
Based on current data and market trends, it is our assessment that the continued and mostly unregulated growth of the hemp-derived market creates a **high risk** to the sustainability of the CUP program.

DATA SUMMARY: PATIENT PARTICIPATION

Our analysis examines three common ways to measure activity, and thus participation, at key interaction points in the patient journey from program enrollment to fulfillment of a prescription.

Patient Participation Measured by New Patient Enrollment

First, we analyzed the number of new patients enrolled in the program each year, as determined by the date a new patient ID number was issued for a new enrolled patient in CURT.



As measured by the rate of growth, the program's patient participation increased significantly in 2020 and 2021 following the legislature's expansion of conditions in 2019, and again in 2022 following the addition of PTSD as an eligible condition in the 2021 legislative session.

The program enrolled 12,138 new patients in 2021 and 25,106 new patients in 2022 (an increase of 216% year-over-year).

As of mid-August 2023, the program had enrolled 19,271. At that rate, we expect the program to enroll 31,082 new patients in calendar year 2023 (a 24% increase over 2022)[17].

Put another way, the program enrolled just under 13,000 new patients in 2022 following the addition of PTSD as a qualifying condition.

The rate of new patient growth into the program is significantly less in 2023 than in previous years. This matches the antidotal experience of physicians and DOs provided through the CUP Working Group who all expressed concern that the rate of new patient enrollment was less than in previous years.

DATA NOTES: New Patient Enrollment Would Have Been Flat in 2022 Without the Addition of PTSD

CURT data shows that 48.8% of patients receiving at least 1 prescription in 2022 are enrolled with PTSD as their only or first qualifying condition. Taken together, these data points indicate that without the legislature's expansion, the program's active patient participation rate would have remained relatively stagnant in 2022.

Our finding show that new patients are continuing to enroll in the program, but not at the exponential rate that has followed the addition of new conditions in previous years.

Dispensing Organizations and some patient advocates have argued that competition from the mostly unregulated hemp-derived products market has slowed the rate of program growth over the past year. The impact is explored more fully in other sections.

Other factors, such as access to prescribing physicians for a qualifying condition and access to dispensing organizations for fulfillment, also have an impact on patient participation.

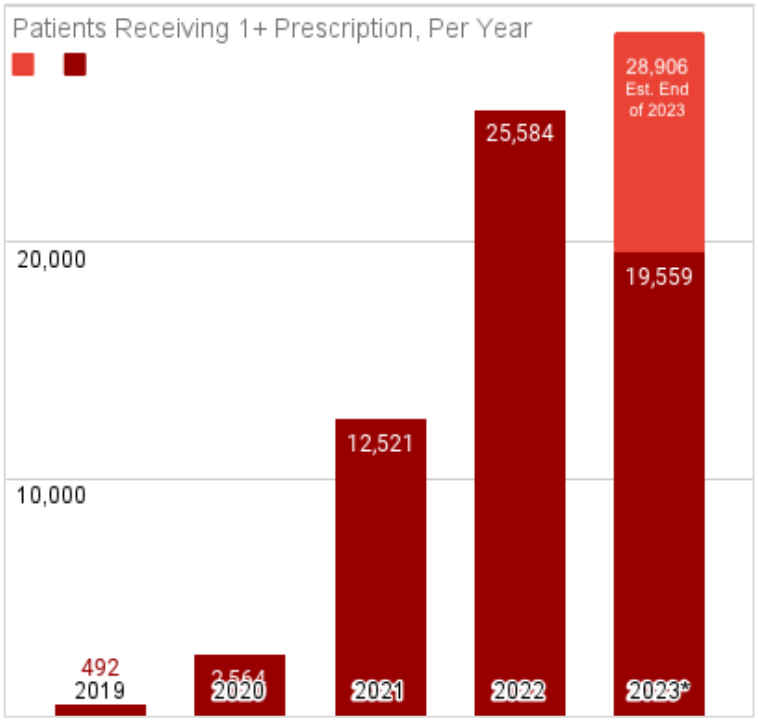
Because multiple outside factors have an influence on the enrollment of new patients, we believe this metric is most useful for planning purposes (i.e., predicting new patient counts per year) but it is a poor measure of program health or access overall.

Patient Participation Measured by Prescriptions Issued

Next, we examined the number of enrolled patients who received one or more new prescriptions in a calendar year.

[17] Available CURT data available as of 8/14/23 shows the most recent patient ID number is 63,315; however, not every patient ID from 1-63,315 contains patient information so a raw count of patients by year will be inaccurate.

For this analysis we filtered CURT prescription data for unique prescription ID numbers issued per year, then removed duplicate patient IDs in each annual data set (some patients receive more than one prescription per year which we evaluate in another section. This analysis is designed to test one measure of the number of active patients in a calendar year). It should be noted that many patients are enrolled in CUP for multiple conditions. Where multiple conditions are indicated we used the primary or first condition listed.



* Data note: 2023 data is available year-to-date as of August 24, 2023.
** 182 patients enrolled in 2019 and 2020 were not associated with a condition in the CURT database. TCUP officials confirm that during this period only one qualifying condition was allowed and, therefore, condition selection was not required.

By this count, 25,106 unique patients actively received a new prescription in 2022. At the current rate of new prescription issuance for individual patients, the CUP program can anticipate that 28,906 patients will receive a new prescription during the 2023 calendar year.

This measurement is a better tool for measuring patient participation across various conditions as engaged patients often seek a new prescription once or more per year. Program staff may find this metric helpful in evaluating which physicians to recruit for specific underserved conditions. (For example, PTSD enrollments grew by 195% last year, indicating a need to create infrastructure for those

patients which would include expanding the number of enrolled prescribers and consulting with DOs and physicians to ensure that products appropriate for PTSD treatments are available through DOs).

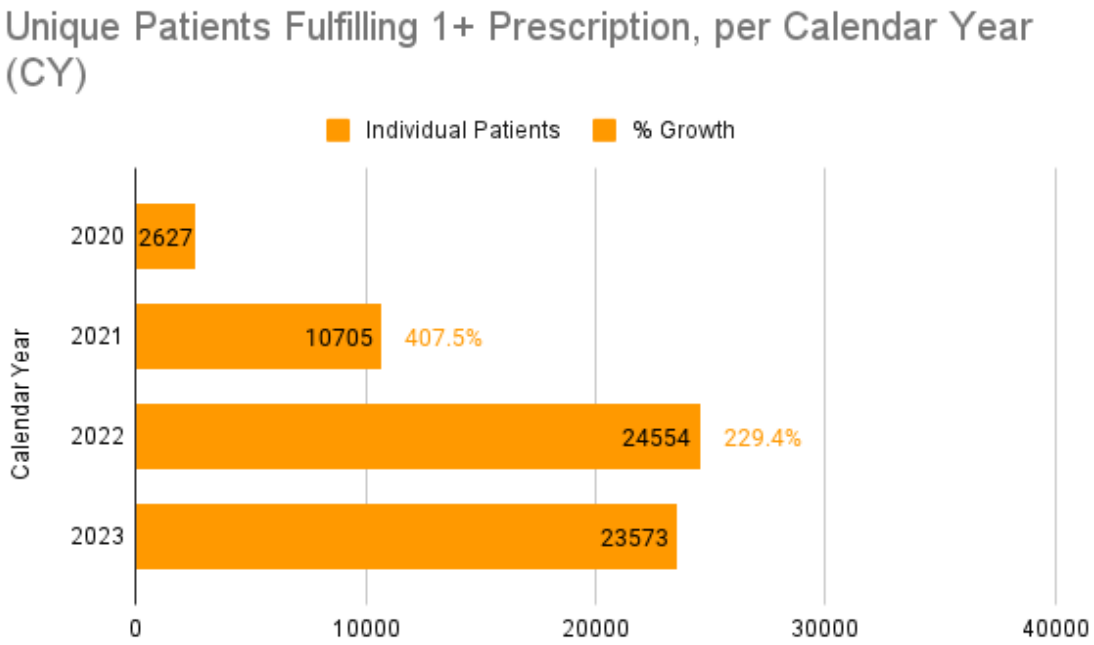
Patient Participation Measured by Unique Patients Fulfilling a Prescription, Per Year

Another approach to determining “active” status for patients is discernible by counting the number of patients fulfilling prescriptions during a given 12-month term. We believe this is the best metric for measuring the number of active patients because it shows the number of patients who have completed the entire program process (enrollment with a physician, prescribed a prescription, fulfilled a prescription with a DO).

As a determiner of program participation, the measure for number of unique patients fulfilling at least one prescription in a set 12-month fiscal year can be aligned to program budgets, staffing and annual goals. For these reasons, we also evaluated the number of patients fulfilling at least 1 prescription per fiscal year (September to August).

Because the FY23 fiscal year concluded at end of August 2023, this metric provides the most recent and complete picture of available data.

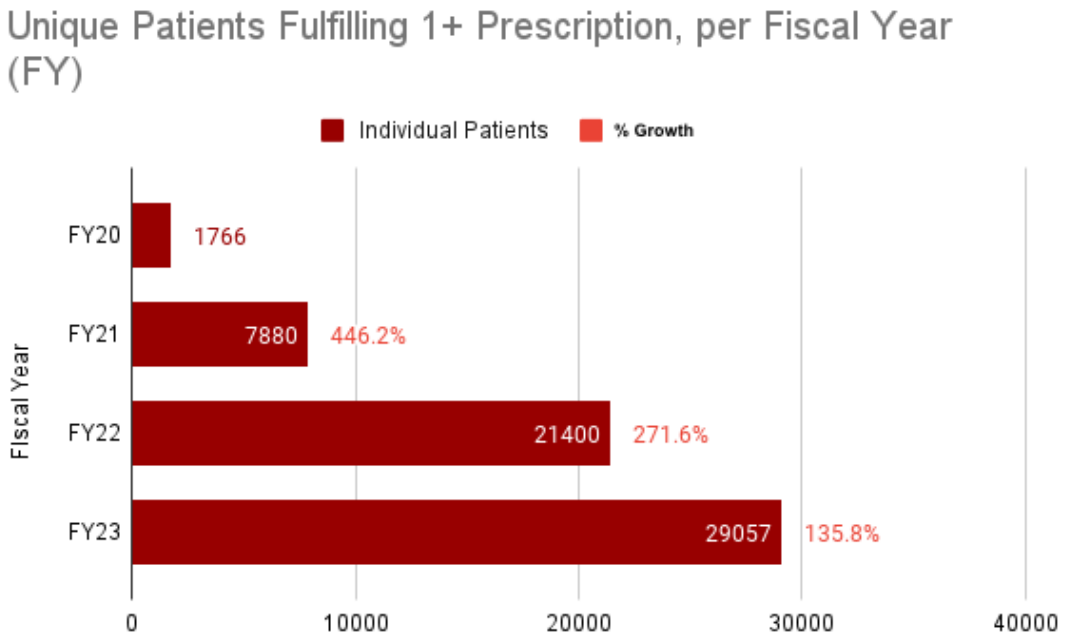
The CUP program has used calendar year data since inception. Here we present both options.



Calendar Year: Patients Fulfilling 1+ Prescription

	CY20	CY21	CY22	CY23*
Patients Fulfilling 1+	2627	10,705	24,554	23,573*
% Change YTY	--	+407.5%	+229.4%	---

*YTD as of Aug. 24, 2023. At the current CY rate, the program may expect 36,832 unique patients to fulfill a prescription in 2023. However, other data indicates that the rate of patient fulfillment and new patient growth is slowing in 2023 which would shortcut this projection. We believe the rolling 12-month average (FY data below) provides a better picture of the current status of patient participation.



Fiscal Year: Patients Fulfilling 1+ Prescription

	FY20	FY21	FY22	FY23
Patients Fulfilling 1+	1766	7880	21,400	29,057
% Change YTY	--	+446.2%	+271.6%	+135.8%

By this metric, 29,057 patients were "active" in the program over the previous 12 months ending August 2023. This indicates a much smaller program than simple enrollment data indicates.

Potential Growth of Patient Enrollment by Condition

Because each state enacts and administers its medical cannabis and low-THC programs with vastly different standards, estimating the potential growth of CUP participation by conditions is complicated and imprecise. While the rates of eligible condition diagnosis across populations remains consistent from state-to-state, many other factors – the availability of medical advice, proximity to a dispensing organization, the stigma around using cannabis, just to name a few – impact a patient's decision to seek a consultation and prescription from a state medical cannabis program.

Most notably, comparisons between other cannabis-authorizing states are grossly imperfect because no other state has a medical cannabis program comparable to Texas.

Nonetheless, we attempted to provide an analysis between Texas' current low-THC program and Florida's low-THC and medical cannabis program.

	Florida	% of Pop.	Texas	% of Pop.	Texas Deviation	Additional Texas Patients if Equal to Florida
Cancer	66,457	0.31%	2,795	0.01%	0.30%	87,309
Epilepsy	16,921	0.08%	517	0.00%	0.08%	22,425
PTSD	695,592	3.19%	12,507	0.04%	3.15%	930,598
ALS	3,997	0.02%	76	0.00%	0.02%	5,343
MS	160,218	0.74%	573	0.00%	0.73%	216,656

Florida's Medical Board and State OMMU reports note that while the number of conditions did not change in 2022, the number of dispensing locations authorized was increased. In both states patients may be enrolled for multiple conditions but data in both states is provided based on individual patient counts for the primary or first enrolled condition.

The Florida Medical Board provides an annual report on the number of enrolled patients by qualifying condition[18]. We compared Florida's enrollment numbers (as a percent of total population) with current Texas enrollment by condition in order to compare enrollment in the two states.

For comparison, we also measured Texas' CUP program enrollment against the more mature medical program next door in New Mexico (although New Mexico transitioned to a hybrid medical-adult use program in 2021, the state still manages a medical program requiring prescriptions for eligible conditions that serves 102,000 patients per year).

By comparing the percentage of potentially eligible patients currently enrolled in Texas with the percentage of those enrolled in New Mexico, we were able to estimate a maximum enrollment for

[18] Florida Board of Medicine, https://flboardofmedicine.gov/pdfs/03022023-PCPR.pdf

each eligible condition. This assumes that the program continues to grow to provide similar access as New Mexico's does today with prescribers and dispensing organizations in each county.

Number of Potential Eligible Patients	% US Pop w Condition	NM Est Patients	NM Enrolled	NM % Eligible Who Enrolled	TX Est. Patients	TX Enrolled (2022)	% Enrolled	Est Addl Enrollment	Potential % Growth by Condition
ALS	0.01%	192.6	23	11.95%	2,687	76	2.83%	245	1065%
Autism	2.19%	46,340	180	0.39%	646,707	734	0.11%	1,778	988%
Cancer	0.38%	7,975	5089	63.81%	111,298	2795	2.51%	68,224	1341%
Epilepsy +Seizure Disorder	1.20%	25,392	1023	4.03%	354,360	995	0.28%	13,281	1298%
Multiple Sclerosis	0.21%	4,443	569	12.81%	62,013	573	0.92%	7,367	1295%
Neurodegenerative Disease	1.42%	30,	346	1.15%	420,578	5358	1.27%	-	0%
PTSD	5%	105,800	56844	53.73%	1,476,500	12507	0.85%	780,783	1374%
Spasticity	0.15%	3,187.70	234	7.34%	44,486.30	2068	4.65%	1,197.60	512%
								872,878.60	

Data source notes[19]

Both estimates should be taken with heavy caution. The methodology ignores many external factors which cannot be measured with the current data such as: proximity to medical advice supporting cannabis as a treatment option, proximity to a dispensing organization, quality and variety of products available to meet patient needs, product pricing, and the impact of different THC dosing limits (New Mexico's medical program has much higher limits than Texas and Florida has a high THC limit and more product diversity as well as more than 500 dispensary locations).

Even with those important caveats, the trend in the program matches the projection trend in the comparison data: Texas' medical cannabis program is growing rapidly in all eligible conditions and

19 Populations of New Mexico and Texas sourced from US Census Bureau, August 2024
Population condition rates sourced from the CDC and NIH (retrieved Aug. 2024):
https://www.cdc.gov/als/researchpublications/2023/Publication_Prevalance_2018.html; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9128411/; https://www.cancer.gov/about-cancer/understanding/statistics; https://www.cdc.gov/epilepsy/data/; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4799713/; https://www.niehs.nih.gov/research/supported/health/neurodegenerative/index.cfm; https://www.ptsd.va.gov/understand/common/common_adults.asp

appears poised to continue to do so even absent legislative changes that have been or may be proposed in the future.

DATA SUMMARY: PHYSICIAN ACCESS

Introduction

Our analysis examines multiple metrics relating to access to physicians.

Physicians Enrolled, By County

To visualize physician access statewide, we cross-referenced each physician's Texas Medical Board (TMB) registration to their CUP registration to map their primary practice location, by county. Of course, many physicians practice in multiple locations and or offer telemedicine and other remote access options for patient consultations, but this data mapping exercise helps to provide some data on the availability of prescribing physicians by region and county in Texas.

It should be noted that the Compassionate Use Act exempts doctors from being publicly listed in the CUP physician directory unless they explicitly opt-in. Because we used CURT data for all physicians these maps include physicians who prescribe but may not be listed on the public registry.

This data can help us determine the number of physicians in the program and their primary practice area, but this specific data set does not provide condition-level data a patient must use to find a prescriber qualified to create a treatment plan for their condition.

Exhibit: Registered Prescribing Physicians, by County

ANDERSON County, TX	1	**GALVESTON County, TX**	4	**MIDLAND County, TX**	3
ANDREWS County, TX	1	**GILLESPIE County, TX**	2	**MONTGOMERY County,**	19
BASTROP County, TX	1	**GRAY County, TX**	1	**NACOGDOCHES County,**	2
BELL County, TX	16	**GRAYSON County, TX**	1	**NUECES County, TX**	6
BEXAR County, TX	71	**GREGG County, TX**	4	**ORANGE County, TX**	1
BOWIE County, TX	1	**HARRIS County, TX**	173	**PARKER County, TX**	2
BRAZORIA County, TX	5	**HAYS County, TX**	5	**POTTER County, TX**	8

BRAZOS County, TX	1	HIDALGO County, TX	13	RANDALL County, TX	1
BURNET County, TX	1	HOOD County, TX	1	SHELBY County, TX	1
CALHOUN County, TX	1	HOPKINS County, TX	1	SMITH County, TX	6
CAMERON County, TX	6	HUNT County, TX	1	TARRANT County, TX	85
COLEMAN County, TX	1	JASPER County, TX	1	TAYLOR County, TX	2
COLLIN County, TX	59	JEFFERSON County, TX	1	TITUS County, TX	1
COMAL County, TX	2	JOHNSON County, TX	4	TOM GREEN County, TX	2
DALLAS County, TX	107	KENDALL County, TX	4	TRAVIS County, TX	88
DEAF SMITH County,	1	KERR County, TX	3	UVALDE County, TX	1
DENTON County, TX	20	LA SALLE County, TX	1	VAL VERDE County, TX	1
EL PASO County, TX	14	LAMAR County, TX	2	VICTORIA County, TX	1
ELLIS County, TX	3	LUBBOCK County, TX	7	WICHITA County, TX	2
FALLS County, TX	1	MCLENNAN County, TX	1	WILLIAMSON County, TX	21
FORT BEND County, TX	24	MEDINA County, TX	1	YOUNG County, TX	3

Enrolled Physicians by Specialty, By County

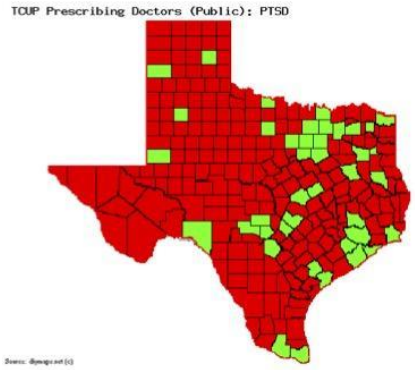
Because the CUP legislation limits participation by physicians to patients with their certified specialties, a simple tally of physicians by county is not a true representation of access for all patients.

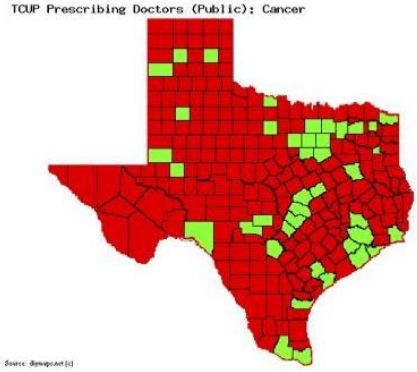
By matching enrolled physicians and their specialty to TMB license records we mapped enrolled physician locations by county for each eligible condition.

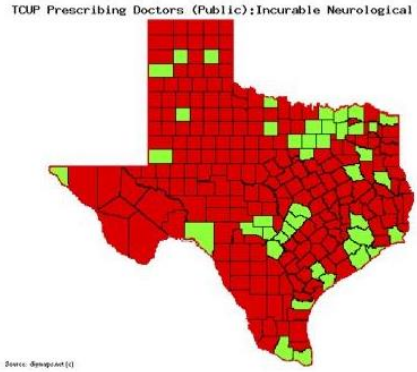
The resulting data shows huge gaps in access to physicians for every condition, corresponding to gaps in access or unmet demand for specialties identified in DSHS physician shortage data.

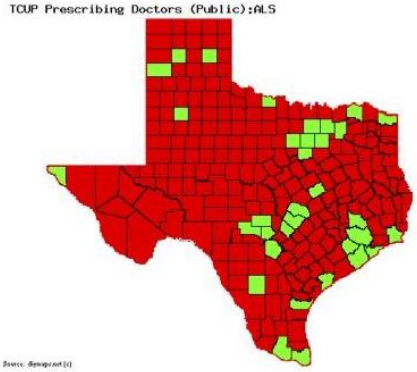
This data does not distinguish between publicly listed and non-public prescribers.

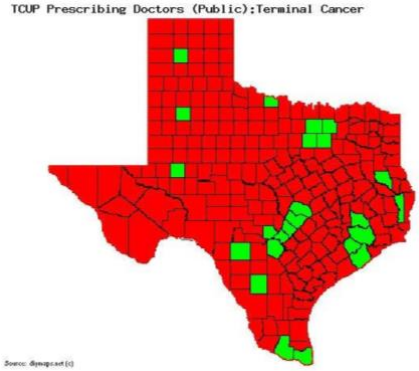
Exhibit: Counties with Enrolled Physicians, by Condition











Prescribing physician availability is not uniform across the state. Patients in rural and remote portions of the state may be required to travel a day or more to access a physician qualified and enrolled to consider them for a consultation to participate in the CUP program.

Prescriptions Issued, by Physician

Prescriber/Patient Ratio

Of 58,936 prescriptions granted to patients in 2022 by the 390 active physicians prescribing that year, the vast majority were from doctors prescribing relatively few prescriptions per year. However, 53.7% of prescriptions were issued by just 11 doctors who each issued more than 1,000 prescriptions in 2022. The highest prescribing doctor issued 10,145 (17% of all prescriptions issued statewide in that year).

Among prescribing physicians, the median number of prescriptions issued was 21. The lowest number was 1. The highest number was 10,145.

Similarly, the number of prescriptions issued per physician (a metric of program activity) varies widely across prescribers.

Exhibit: Number of Prescriptions Issued by Physician, 2022

Prescriptions issued	Number of Doctors	% of Doctors Prescribing
1-49	259	66.4%
50-99	35	8.9%
100-499	77	19.7%
500-1,000	7	1.8%
1,000+	11	2.8%

As with the number of patients per prescriber, the number of prescriptions issued per prescriber is skewed by the small percentage of prescribers who prescribe large numbers of prescriptions per year. 11 doctors each issued more than 1,000 prescriptions in 2022, or an average of 4 new prescriptions per working day.

DATA SUMMARY: PATIENT PARTICIPATION IN TEXAS VS. OTHER STATES

As noted throughout this report, the Texas low-THC program is unique in the country - even among other low-THC and medical-only cannabis program states. As just one example, Texas requires both a physician enrollment and a prescription with specific THC limits and dosage, while most other states only require a physician enrollment and allow patients to then seek their own treatment options at dispensaries. Texas' low-THC number and limited product offerings also impact patient participation rates.

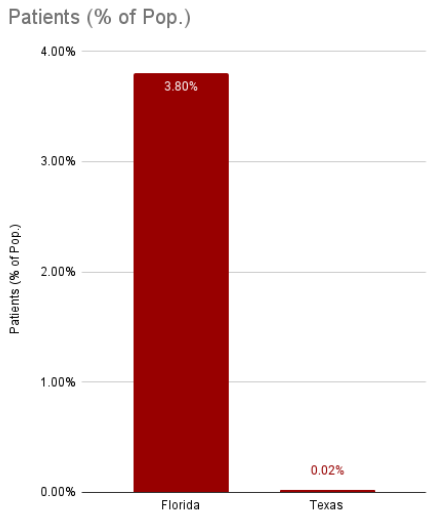
Nonetheless, national cannabis regulators and policy firms frequently reference the ratio of a state's total population to enrolled patient count as a measure for comparing state medical cannabis programs. We use this measure in this analysis because it provides a good yardstick for the potential growth of the CUP program if some of the proposed legislative program amendments were to be implemented in future years.

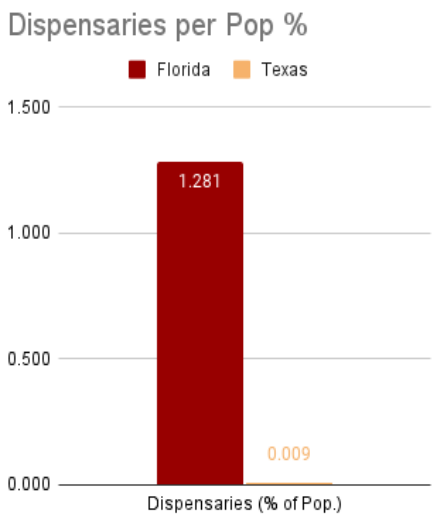
Comparing Texas to Other State Programs

Florida provides perhaps the closest analogous program for Texas' comparison. Both programs were established in the mid-2010s with limited conditions and low-THC, and both share regulatory and legislative histories.

As of August 30, 2023, Florida reports 841,580 enrolled patients (3.8% total population) served by 588 dispensary locations statewide. Texas currently serves 66,250 enrolled patients (0.02%) served by 3 dispensaries.

Exhibit: Patients and Dispensaries Per Capita, Texas vs. Florida





The national Marijuana Policy Project uses a similar metric to track this data on an annual basis.

Exhibit: Medical Cannabis Participation Numbers, by State. Note: 20

State	State Population (2022)	Patient Numbers	Current Through	Percent of State Population Who Are Patients in Program
Alabama	5,074,296	N/A	N/A	N/A
Alaska	733,583	175	2022	0.03%
Arizona	7,359,197	127,162	Jun-23	1.73%
Arkansas	3,045,637	94,373	7/8/2023	3.10%
California	39,029,342	3,199	2022	0.01%
Colorado	5,839,926	67,502	Jun-23	1.16%
Connecticut	3,626,205	42,179	6/30/2023	1.16%
Delaware	1,018,396	16,800	Jul-23	1.65%
Florida	22,244,823	831,775	7/7/2023	3.74%
Hawaii	1,440,196	31,886	6/30/2023	2.21%
Illinois	12,582,032	64,170	May-23	0.51%
Kentucky	4,512,310	N/A	N/A	N/A
Louisiana	4,590,241	25,482	5/31/2023	0.56%
Maine	1,385,340	106,164	2022	7.66%
Maryland	6,164,660	162,401	7/1/2023	2.63%
Massachusetts	6,981,974	94,136	7/13/2023	1.35%

[20] https://www.mpp.org/issues/medical-marijuana/state-by-state-medical-marijuana-laws/medical-marijuana-patient-numbers/

Michigan	10,034,113	151,940	5/31/2023	1.51%
Minnesota	5,717,184	40,345	3/31/2023	0.71%
Mississippi	2,940,057	18,000	7/10/2023	0.61%
Missouri	6,177,957	163,787	6/30/2023	2.65%
Montana	1,122,867	30,045	7/6/2022	2.68%
Nevada	3,177,772	12,512	May-23	0.39%
New Hampshire	1,395,231	13,364	6/30/2022	0.96%
New Jersey	9,261,699	102,593	7/3/2023	1.11%
New Mexico	2,113,344	100,921	May-23	4.78%
New York	19,677,151	122,960	7/1/2023	0.62%
North Dakota	779,261	7,950	6/30/2022	1.02%
Ohio	11,756,058	174,591	5/31/2023	1.49%
Oklahoma	4,019,800	368,679	6/1/2023	9.17%
Oregon	4,240,137	16,799	1/1/2023	0.40%
Pennsylvania	12,972,008	712,421	5/15/2022	5.49%
Rhode Island	1,093,734	16,552	6/30/2022	1.51%
South Dakota	909,824	10,914	7/10/2023	1.20%
Utah	3,380,800	71,850	Jun-23	2.13%
Vermont	647,064	4,302	6/13/2022	0.66%
Virginia	8,683,619	12,334	7/18/2023	0.58%
Washington	7,785,786	N/A	N/A	N/A
West Virginia	1,775,156	25,119	7/7/2023	1.42%
AVERAGE (All States)				1.96%
AVERAGE (Medical-Only States)				**5.32%**
TEXAS	**30,029,572**	**66,205**		**0.22%**

Compared to medical-only program states, Texas' patient participation rate is a fraction of comparison states. Patients, physicians, and DOs in the program all identify similar limiting factors to Texas' program including a lack of diverse products, lack of convenient access to dispensaries and the relatively low THC cap imposed by Texas statute.

While those factors currently make Texas' program more restrictive than comparator states, proposals in the legislature have sought to remove or lower those barriers through legislation. Some

factors, such as product diversity, can be addressed by existing Dos and/or regulatory changes at the department level.

While the current state comparison data should not be used as an “apples-to-apples” comparison of programs, this data review identifies data sets that are available in other states to guide policy makers in evaluating the potential impact of future changes on patient participation. Further data analysis would be required for those proposals.

ABOUT OUR TEAM

Weeds Consulting Services (Weeds LLC) got its start in 2019 with New Mexico's program to update and transition the state's successful medical cannabis program to a hybrid medical/adult-use program.

Governor Michelle Lujan Grisham appointed former police officer and Albuquerque City Council President Pat Davis to head a statewide working group of cabinet secretaries, legislative analysis, patients, medical dispensary operators, law enforcement and local government representatives to evaluate best practices for medical and adult-use programs across the country.

The resulting report became the roadmap for New Mexico's program transformation. The process, led by Davis and supported by experienced policy analysts Matt Kennicott and Patricia Mattioli, launched Weeds consulting group.

Together they recruited a team of former legislative analysts, executive policy leaders, industry operators and former cannabis regulators to craft licensing, compliance, and public policy strategies for the ever-changing landscape of cannabis regulation.

In addition to licensing more than 300 locations in New Mexico, the team helped to secure New Mexico's first Schedule 1 research pharmacy license in 2022 and the country's first federally authorized cannabis research permit from the DEA in 2023. Today the team continues to work with the team building a 100,000 square foot DEA-permitted medical cannabis research facility in Grants, New Mexico.

OUR TEAM

Pat Davis, Co-Founder. CEO. pat@weeds.team

Pat Davis was appointed in 2019 by New Mexico Governor Lujan Grisham to serve as chair of the governor's cannabis legalization working group. He led a group of more than 20 industry experts, State cabinet secretaries, regulators, and advocates to produce a roadmap for the state's transition from medical cannabis to adult-use legalization based on best practices across 14 states.

A former police officer and graduate of the FBI National Academy, Pat traded in his badge to work on public policy, and specifically drug policy. In 2009, he received a Master's Degree in Criminal Justice Policy from New Mexico State University. He also serves as an elected member of the Albuquerque City Council where he wrote and passed the State's first cannabis zoning codes and legislation decriminalizing cannabis.

Pat has appeared as an expert on New Mexico's cannabis industry in dozens of state and national media outlets.

Chris Lee. *Licensing Specialist***.** chris@weeds.team

Chris came to Weeds after more than 5 years working as a grower and wholesale manager in New Mexico's medical cannabis program. As a licensing specialist, Chris has helped to hundreds of applicants build successful applications to license new facilities, renew state licensing, consumption lounges, and local zoning variances.

Bobbi Martinez *Compliance & Education Program Manager. bobbi@weeds.team*

No one knows cannabis compliance better than the state's first cannabis division compliance manager, Bobbi Martinez. Bobbi is one of the leading Hispanic women in cannabis and a proud seventh-generation New Mexican passionate about food systems, horticulture, and sustainability. With an education in Controlled Environment Agriculture, Bobbi has spent her career working on high tech vertical farms, doing research and development for horticultural technology, farm operations, CEA consulting, and working for the local cannabis industry.

Bobbi has done almost every job in the industry, starting from the bottom as a trimmer in the grow room, she worked her way up to the compliance team for a large operator. Most recently, she worked as Compliance Manager for the State of New Mexico's medical and recreational cannabis program, overseeing all licensed cannabis establishments and a team of compliance officers. Bobbi's focus has been on strategic planning, data collection and operational efficiency. With Bobbi's education, experience, and love for the cannabis industry, she will bring value to any cannabis business she works with.

APPENDIX: PATIENT SURVEY RESPONSES

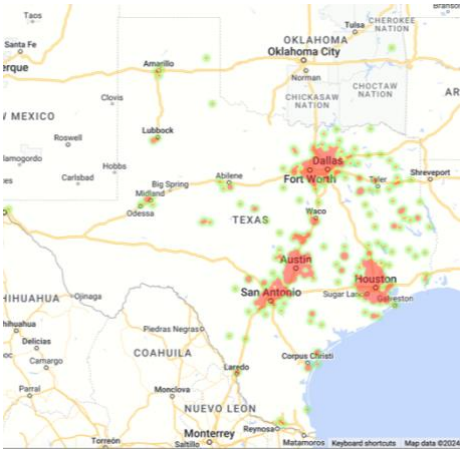
The CUP program staff distributed the survey to members and organizations affiliated with the CUP working group, licensed dispensing organizations (DOs), and to the public via an online link on the program's website.

The survey was conducted using HIPAA-compliant survey tools through SurveyMonkey. We did not solicit or capture any personally identifiable health information. Survey results are based on the respondents' self-reported demographics and experiences and cannot be independently verified.

We received 980 responses between May 13 and June 12, 2024. 323 responses were incomplete or abandoned during the survey, leaving 657 valid responses for this analysis.

The analysis shows that 94.9% of respondents are current patients (or guardians of a patient).

Respondent demographics



The majority of respondents (94.9%) report that they are active CUP patients or guardians of enrolled patients.

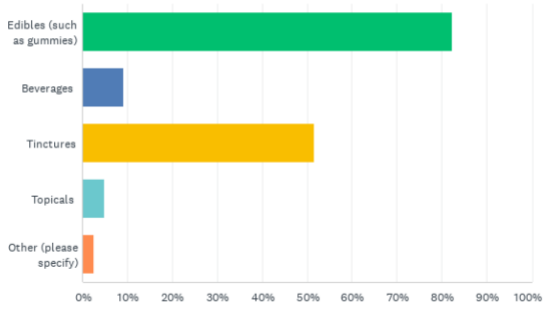
Complete survey responses were received from 99 of 254 with most responses coming from zip codes in the major metropolitan areas of Austin, San Antonio, Houston, Dallas and Fort Worth.

48% of respondents report that they were first prescribed medical cannabis within the past year. Only 16% have been in the CUP for more than two years.

91% of respondents report fulfilling a prescription (purchasing medical cannabis from a dispensing organization) at least once within the past six months (Notably, this survey was primarily distributed through licensed DOs)

Edibles (such as gummies) (82.3%) and tinctures (51.6%) are the most popular methods for medical cannabis consumption.

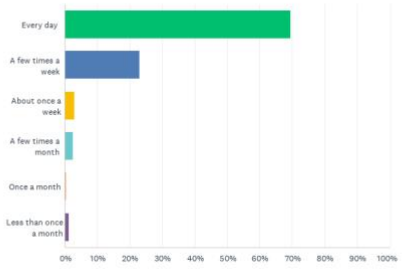
Q17 How do you typically consume CUP prescribed medical cannabis? (Check all that apply)



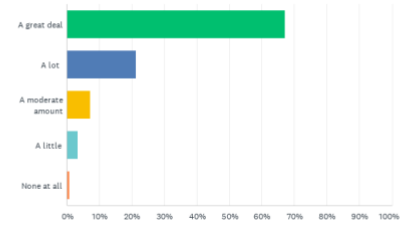
69.4% of respondents reported using medical cannabis daily. 92% use medical cannabis more than once per week, on average.

88% of patients say medical cannabis is effective at managing their medical condition “a great deal” or “a lot.”

Q18 On average, how often do you consume CUP prescribed medical cannabis?



Q21 How effective do you find medical cannabis in managing your medical condition(s)?



31.5% of patients report spending less than $100 per month on medical cannabis. 45.5% spend between $100 and $200 per month. 6% of respondents reported spending more than $300 per month.

Patient access analysis

One goal of the survey was to determine if physical distance from a qualified, enrolled specialist or dispensing organization was a barrier to patient access. The survey responses were overwhelmingly from those who are current patients served by the three licensed DOs in central Texas. Among those who are current patients:

- 78% travel less than 30 minutes to a traditional pharmacy (Q8).
- 76% travel less than 30 minutes to see a general medical practitioner (Q9)
- 92% of current patients said finding a qualified CUP prescriber and making an appointment for a CUP evaluation was easy. Another 12% said finding a physician was easy but more difficult than a traditional medical evaluation (Q31).
- 61% of patients report waiting less than one week between their initial outreach to a physician and their initial physician consultation (Q32).

Among respondents who are not currently patients (23), only 4% reported driving more than 1 hour from home to access a traditional pharmacy.

Both patients and physicians reported widespread use of telemedicine and phone consultations for medical program evaluations.

- 81.7% of patients reported using telemedicine (62.0%) or phone (19.7%) to complete their initial CUP consultation.
- Similarly, 80.1% of physicians with required specialties report using telemedicine for CUP patients.
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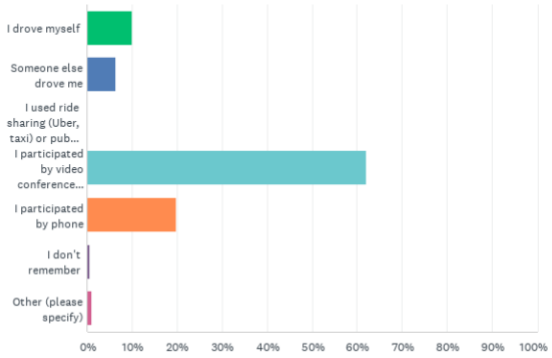
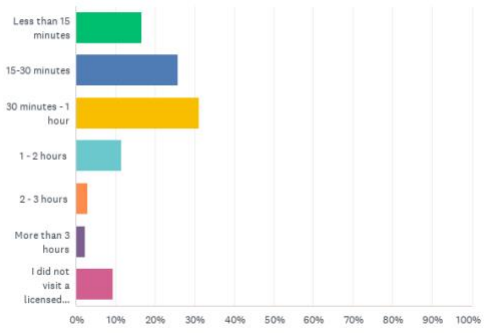
Q34 How did you participate in your CUP consultation/exam? (If you have had multiple consultations, think of your most recent experience)



Patient responses relating to access to dispensing organizations, however, showed slightly different results:

- 16.6% reported having to travel 1 hour or more to reach to their nearest dispensary to access medical cannabis (Q38)
- 42.5% travel less than 30 minutes

Q38 Thinking of your most recent visit to a licensed dispensary location, I had to travel:



- 40% of respondents said they visit a dispensary once or "a few times" a month., but no respondents said they visited as often as daily.

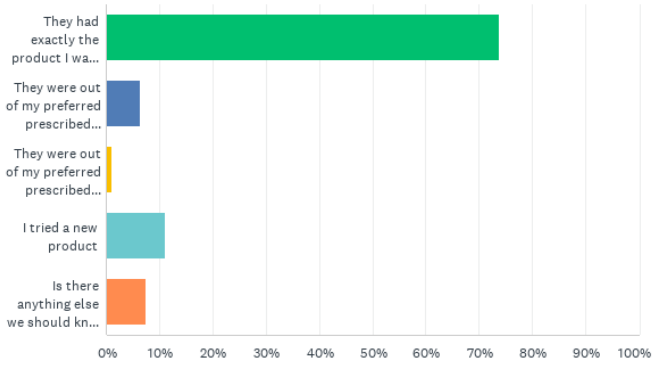
- 28.9% of patients reported using remote pickup options exclusively (a reminder that there are no licensed DOs outside of the Austin area, but remote pickup/delivery is available in the Houston and Dallas/Fort Worth areas).

*A reminder that the overwhelming majority of responses were only received from existing patients in major metropolitan areas in and between Austin, San Antonio, Houston, Dallas and Fort Wort currently served by the 3 licensed DOs. There was insufficient response data to evaluate the experience of Texans in other parts of the state.

When asked about their most recent experience with dispensing organizations, the large majority of patients are satisfied with options available for medical cannabis:

- 74% of patients reported being able to access the medical cannabis product they were looking for (Q40)
- 6.4% reported not being able to access their preferred product and having to choose a different option

Q40 Thinking of your most recent visit to your licensed dispensary:

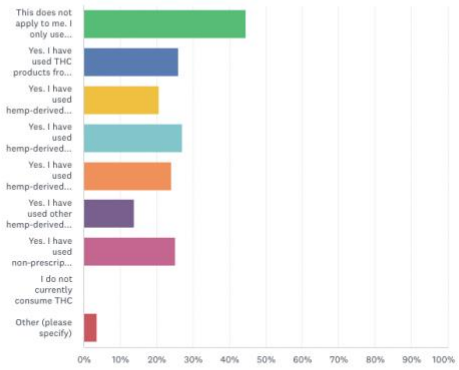


Use of non-medical THC and hemp-derived products

- 55% of CUP patients report supplementing their medical cannabis use with cannabis products from sources outside of a licensed dispensing organization.
- 16.7% of eligible patients report that they no longer use prescribed medical cannabis and only use products from outside the medical cannabis program.

Despite eligibility for the Texas Compassionate Use Program (CUP), have you ever sought out hemp-derived (Delta-8, THC-A) alternatives or THC cannabis from a source other than the three licensed CUP dispensaries to treat a condition covered by the CUP? (Check all that apply)

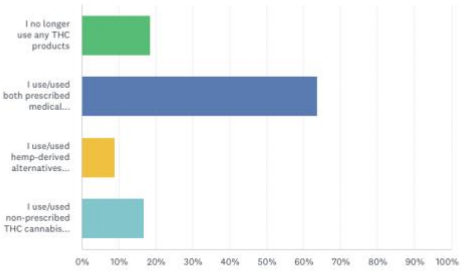
Answered: 621 Skipped: 1



ANSWER CHOICES		RESPONSES	
This does not apply to me. I only use medical cannabis products purchased from a licensed dispensary in Texas		44.61%	277
Yes. I have used THC products from a licensed dispensary in another state such as OK or NM		26.09%	162
Yes. I have used hemp-derived THC-A alternatives		20.61%	128
Yes. I have used hemp-derived Delta-8 alternatives		27.05%	168
Yes. I have used hemp-derived Delta-9 alternatives		24.15%	150
Yes. I have used other hemp-derived alternatives		13.85%	86
Yes. I have used non-prescription THC products		25.12%	156
I do not currently consume THC		0.16%	1
Other (please specify)	Responses	3.54%	22
Total Respondents: 621			

If you use/used non-prescribed THC products, do you use them along with or as a substitute for prescribed medical cannabis? (Check all that apply)

Answered: 453 Skipped: 169



ANSWER CHOICES	RESPONSES	
I no longer use any THC products	18.54%	84
I use/used both prescribed medical cannabis products and one or more of those alternatives	63.80%	289
I use/used hemp-derived alternatives instead of CUP prescribed medical cannabis products	9.05%	41
I use/used non-prescribed THC cannabis instead of CUP prescribed medical cannabis products	16.78%	76
Total Respondents: 453		

- Of patients who supplement their medical cannabis with products from a source not including a DO, 55% prefer smoking or vaping as a consumption method. Those methods are not currently available for CUP products.

Analysis

The responses received from patients indicate that those living in the state's large metro areas served by DOs and remote pickup options have ready access to physicians and dispensaries. However, most still use telemedicine to participate with their enrolled prescriber:

- Telemedicine is a popular method for both physicians and patients to access each other for medical cannabis screening. 80% of physicians with required specialties and 81% of patients seeking an evaluation for CUP used telemedicine for their first consultation.

A large majority of patients seem satisfied with the medical cannabis options available to them through licensed dispensing organizations. However, almost ⅔ also say they supplement their medical cannabis with THC products or hemp-derived products from other sources outside the program.

APPENDIX: PHYSICIAN SURVEY RESPONSES

The survey was distributed via email by the CUP program to physicians enrolled in the program and to other physicians by the Texas Medical Board (TMB) through their regular licensee updates and alert system.

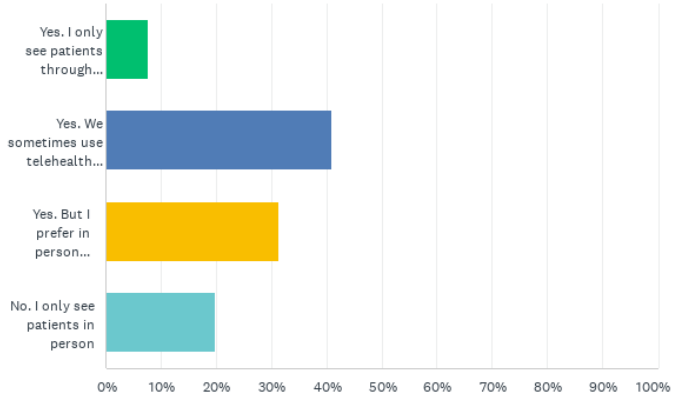
We received 514 responses between May 13 and May 30, 2024. Twenty responses were incomplete or abandoned during the survey, leaving 494 valid responses for this analysis.

Physician demographics

The majority of respondents (97.7%) report that they have practiced medicine for five or more years. 59.6% have practiced for more than 20 years. Just 2.8% have practiced medicine for less than two years.

12.6% of respondents indicated that they do not have a physical presence in Texas and only practice via telemedicine (Learn more about Texas interstate medical reciprocity).

Q2 In your practice, do you offer telehealth consultations with patients?



Q2: In your practice, do you offer telehealth consultations with patients?

Answered: 261 Skipped: 1

ANSWER CHOICES	RESPONSES	
Yes. I only see patients through telehealth.	7.66%	20
Yes. We sometimes use telehealth options to connect with patients	41.00%	107
Yes. But I prefer in person appointments when feasible	31.42%	82
No. I only see patients in person	19.92%	52
TOTAL		261

Program awareness among physicians

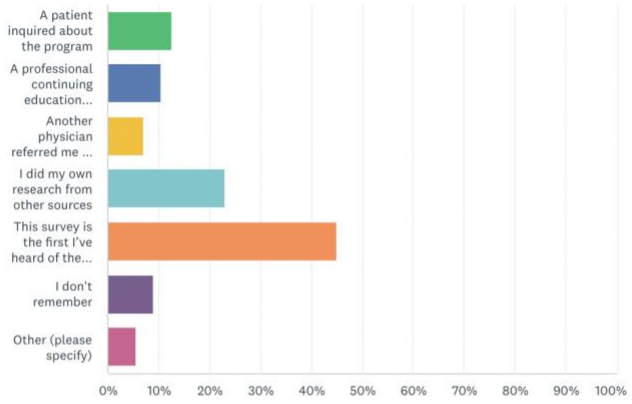
Among all physicians responding:

- 45% of total respondents indicated that this survey from CUP was the first time they had been aware of Texas' medical marijuana program (Q7). Of those familiar with the program, 12.3% first learned of it in response to a patient inquiry, 7.2% through a colleague referral and 22.9% through their independent research.

- Even among those with knowledge of the CUP program, 45.9% say they do not know any of the program's specifics (Q8). When asked to list the biggest hurdle for physician enrollment (Q36), 30.5% indicated "not enough training or information." 66% of responding physicians say they are unfamiliar with the program or "are not familiar with the specifics" (Q8).

How did you first learn about the Texas Compassionate Use Program (CUP)? (Check all that apply)

Answered: 495 Skipped: 0



ANSWER CHOICES		RESPONSES	
A patient inquired about the program		12.53%	62
A professional continuing education course		10.51%	52
Another physician referred me to the program		7.07%	35
I did my own research from other sources		23.03%	114
This survey is the first I've heard of the program		45.05%	223
I don't remember		8.89%	44
Other (please specify)	Responses	5.45%	27
Total Respondents: 495			

- Most physicians (53.8%) say they would be comfortable referring eligible patients to enrolled CUP prescribers but do not know how to find those specialists (Q19).
- 31.8% of all physicians indicated that they were not comfortable referring patients to a medical cannabis program (Q19).

Of respondents reporting that they are board-certified to treat a CUP-authorized condition:

- 32% were unaware of the program until they received this survey.

Q7: How did you first learn about the Texas Compassionate Use Program (CUP)? (Check all that apply)

Answered: 262 Skipped: 0

ANSWER CHOICES	RESPONSES	
A patient inquired about the program	16.41%	43
A professional continuing education course	11.83%	31
Another physician referred me to the program	10.69%	28
I did my own research from other sources	32.06%	84
This survey is the first I've heard of the program	32.44%	85
I don't remember	8.78%	23
Other (please specify)	4.58%	12
TOTAL		306

Crosstab: Physician survey; Physicians reporting a qualifying specialty. Respondents were able to indicate more than one answer, if applicable.

- Of those who reported having researched the CUP program, 56.9% found information about how to participate difficult to access (Q18).
- 64.7% would participate in a continuing education course on the CUP program if offered in the next year (Q20).

Physician participation in CUP

Texas' medical cannabis program does not automatically publish the names of enrolled physicians. However, physicians can opt into a public directory of enrolled physicians published on the CUP program website.

Among physicians who reported being an enrolled CUP prescriber:

- 39.3% did not opt-in to the public listing (Q26).
- 82.5% of all enrolled physicians do not advertise their participation elsewhere (Q27).
- 73% indicated that the process to enroll in the CUP program was easy or very easy (Q28).

Among physicians who indicated reservations about participating in the program, the most common reasons were a concern for “abuse” and answers related to conflicts between state and federal law on cannabis (Q30).

In the patient survey, 27.5% of patients and potential patients reported it was not possible or "not as easy" to find a specialist for a medical cannabis consultation. Increasing the number of publicly identifiable enrolled physicians may assist patients in overcoming those challenges.

Opportunities to increase physician participation

66% of total respondents say they would participate in professional medical continuing education on the CUP program, if offered, in the next year.

47.5% of respondents say they have participated in some professional continuing education (CE) on medical cannabis in the past five years (including but not limited to the Texas program, expressly) (Q20). Physicians

were asked to provide details on the specifics of those continuing education courses as best they could recall. Of those who provided details, the most popular education sources were national medical specialty conferences, mandatory CE in psychiatry, pain management and drug management. These responses indicate that training on medical cannabis may be widely available for physicians interested in participating in the Texas medical cannabis program and already be required for some specialties.

Analysis

Texas' program is unique in that it limits physician participation in the medical cannabis program to those with enumerated specialties correlating to legislature-authorized conditions for medical cannabis use. Our analysis indicates that many counties (and entire DPS and DSHS regions) lack access to locally practicing CUP-enrolled specialists. However, the popularity of telemedicine and phone consultations with both physicians and patients may minimize the importance of physical proximity in determining reasonable patient access to qualified and enrolled physicians.

- Just 40 of 211 responding physicians with qualified specialties (18.9%) report that they serve patients statewide, but 80.1% of the same group report using telemedicine in their practice (see below). Notably, of those reporting a "statewide" practice, 55% also report not having any in-state physical location.
- Telemedicine is a popular method for both physicians and patients to access each other for medical cannabis screening. 80% of physicians with required specialties and 81% of patients seeking an evaluation for CUP used telemedicine for their first consultation. (An additional 11.6% of patients reported using a telephone consultation instead of an in-person or video visit).

Taken together, this indicates that statewide access to qualified specialists may be achieved through telemedicine options, though some specialties still have very few enrolled physicians. Our initial assumption that a lack of access to physicians locally or regionally may negatively impact patient participation does not bear out in patient and physician experiences.

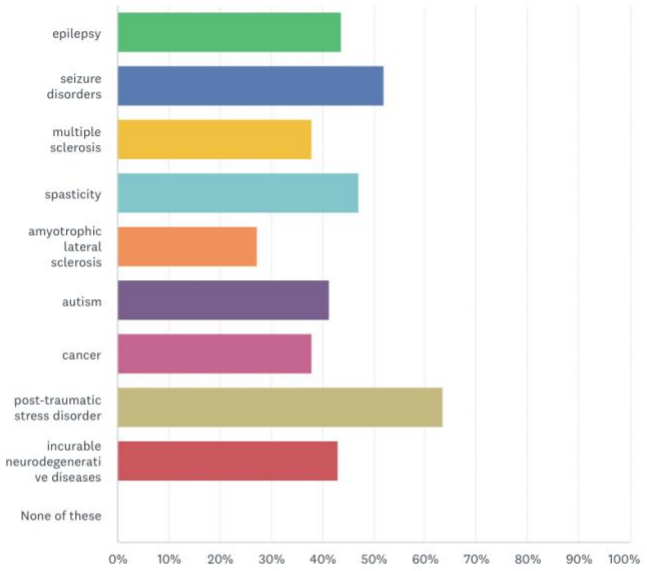
The CUP physician survey found that 65% of physicians with those required specialties who are not already enrolled prescribers are interested in and would participate in continuing education on CUP if offered. This points to an accessible and high-impact tactic to expand the number of participating physicians available for patients.

Among physicians enrolled in CUP, the overwhelming majority (73%) rated the process "easy," and 60% chose to list themselves publicly in the CUP prescriber directory. When these factors are considered alongside the interest in education about medical cannabis and the CUP from certified specialists, a strategy for increasing patient access to specialists emerges.

When respondents were filtered for physicians with CUP-qualified specialties and those interested in participating in continuing education on the CUP program, we found 121 certified specialists (across all specialties) who are strong recruits to become prescribers in the CUP program.

Are you board certified to treat any of these medical conditions? (select all that apply)

Answered: 121 Skipped: 0



ANSWER CHOICES	RESPONSES	
epilepsy	43.80%	53
seizure disorders	52.07%	63
multiple sclerosis	38.02%	46
spasticity	47.11%	57
amyotrophic lateral sclerosis	27.27%	33
autism	41.32%	50
cancer	38.02%	46
post-traumatic stress disorder	63.64%	77
incurable neurodegenerative diseases	42.98%	52
None of these	0.00%	0
Total Respondents: 121		

Crosstab: Physician survey; Filtered for physicians who self-report a qualified CUP-required specialty AND who report interest in participating in continuing education on the CUP program within the next year