MMCPS-25

Maryland Medical Cannabis Patient Survey Report 2025

Prepared for
Maryland Cannabis Administration

Prepared by
Cannabis Public Policy Consulting

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The Maryland Cannabis Administration (MCA) sponsored this survey and report from Cannabis Public Policy Consulting (CPPC). This is MCA's fourth annual survey of its medical cannabis patients. The first survey was conducted in the fall of 2022, just ahead of a ballot referendum where Maryland voters approved expanded cannabis legalization to adults 21 and older beginning July 1, 2023. MCA has replicated the Maryland Medical Cannabis Patient Survey (MMCPS) each fall, with a similarly robust response rate of approximately 13,000 certified patients ages 18 and older. The MMCPS-25 builds on findings in prior cycles, taking a deep dive into evolving patient experiences in the medical cannabis program with an eye toward identifying opportunities to support the medical program, which has seen a decline in active certifications since expanded legalization. This report also examines survey data from a research lens to help build the knowledge base on critical medical cannabis topics. We invite you to review and explore this report, which includes an appendix with the full set of survey data with comparisons, where applicable, across all four survey waves. For comments or questions, email publichealth.mca@maryland.gov.

NOTHING IN THIS REPORT IS INTENDED AS MEDICAL ADVICE

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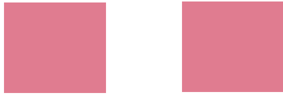

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Definitions and Acronyms

Cannabinoid — naturally occurring chemical compounds found in cannabis

Cannabis flower/Flower — the smokable part of the cannabis plant

CBD — cannabidiol. A non-intoxicating cannabinoid in cannabis

Certified patient — an individual who has met their medical provider's criteria for treatment with medical cannabis and for whom the provider has issued a certification

Certifying provider (CP) — clinicians registered with MCA to certify patients for medical cannabis. CPs include a range of provider types (i.e., physician, physician assistant, nurse practitioner, podiatrist, dentist). CPs must have active licensure in Maryland, including prescribing controlled substances in the state

Clinical Director — an individual registered with the MCA to provide guidance to medical cannabis patients on specific topics including drug interactions, side effects, contraindications, strengths and effects of medical cannabis strains and methods, forms and routes of medical cannabis administration

Concentrate — a cannabis product that is a highly concentrated form of cannabis, including dabs, wax, shatter, resin, and Rick Simpson Oil

Consumption — using cannabis products

Correlated — having a mutual relationship or connection

Descriptive characteristics — a summary statistic that quantitatively describes or summarizes features from our sample

Dose — a quantity of cannabis products taken or recommended to be taken at a particular time, measured in mg THC by combining the quantity and THC potency of cannabis consumed per sitting

DUIC — driving under the influence of cannabis; driving within 3 hours of consuming cannabis or while under the influence of cannabis

Edibles — food products infused with cannabis extract

High THC — defined in the report as greater than 30% THC for inhaled products and greater than 10 mg THC for edible products

Low THC — defined in the report as less than 15% THC for inhaled products and less than 5 mg THC for edible products

Medical cannabis use — cannabis used to relieve the symptoms of a medical condition

MCA — Maryland Cannabis Administration

MMCC — Maryland Medical Cannabis Commission

MMCPS — Maryland Medical Cannabis Patient Survey

Patients — people registered and certified to use medical cannabis in Maryland

Polysubstance use — the use of more than one substance, including but not limited to alcohol and opioids

Principal investigator — the individual responsible for the preparation, conduct, and administration of the study

Problematic use — a problematic pattern of cannabis use leading to clinically significant impairment or distress

PTSD — post-traumatic stress disorder

Qualifying conditions — cachexia, anorexia, wasting syndrome, severe or chronic pain, severe nausea, seizures, severe or persistent muscle spasms, glaucoma, PTSD, or another chronic medical condition that is severe and for which other treatments have been ineffective and the symptoms reasonably can be expected to be relieved by the medical use of cannabis

Nonmedical cannabis use — cannabis used for anything other than to relieve the symptoms of a medical condition

Registration — required medical cannabis patient documentation with the Maryland Cannabis Administration that is good for six years

Respondents — Maryland medical cannabis patients who completed the MMCPS-25 survey

Terpenes — Aromatic compounds found in cannabis and many other plants that contribute to scent and flavor and may also influence how cannabinoids affect the body

THC — Tetrahydrocannabinol. The primary psychoactive cannabinoid in cannabis responsible for the “high,” which can also influence pain, appetite, mood, and nausea.

Vaping — the action of inhaling and exhaling aerosolized cannabis concentrate

Executive Summary

- **Customer service satisfaction with MCA services:** When respondents used an MCA service, satisfaction was generally positive. MCA's website and the OneStop registration portal appear to be core engagement tools, with the portal showing particularly strong satisfaction. Direct MCA communication channels (email and call center) were used less frequently than the website and portal, suggesting that direct communication with MCA may not be a primary touchpoint for most patients. MCA may consider increasing the visibility of these communication channels and clarifying their purpose, particularly for issues not easily addressed through the website or portal.

- **Interest in educational materials and outreach events:** Respondents appeared most receptive to educational materials that fit naturally into their current interactions with the system, such as at dispensaries and on the MCA website, rather than creating new event-based outreach initiatives. The topics generating the greatest interest focused on guidance related to cannabis use and informed purchasing, including how to read product labels and certificate of analyses (COAs), as well as understanding product composition (cannabinoids and terpenes). MCA may wish to expand and/or enhance its offerings of online and point-of-sale (printed) fact sheets, pocket guide takeaways, and other collateral materials.

- **Program changes with greatest impact:** The changes most likely to meaningfully improve patient satisfaction and experience would be to extend certification periods and increase availability to products favored by medical patients (e.g., RSO, transdermal patches, tinctures, topicals, suppositories, etc.). Service enhancements—such as extended hours, provider education, and helpline access—offer moderate benefits but are less frequently seen as transformative. Better understanding the contribution of these factors is important before implementing programmatic changes particularly with regard to annual certification visits, as they offer a critical opportunity for patient education and can help to strengthen the patient-provider relationship.

- **Product availability:** Overall, respondents reported the most consistent availability with edibles and balanced-ratio (THC:CBD) products, while availability was much more uneven for RSO and RSO capsules, patches, and suppositories. To help address these concerns, MCA could share product availability data with manufacturers to better align production with demand as well as reinforce medical patient product reservation requirements with dispensaries.

- **Knowledge gaps:** A vast majority (89%) of respondents reported feeling "very" or "somewhat knowledgeable" about selecting or using medical cannabis for their qualifying condition. Despite that, when asked specifically what they want to learn more about from certifying providers, respondents primarily indicated wanting information on selecting products and determining dosages for use. Patients expressed gaps in high-quality information on cannabis hyperemesis syndrome (CHS), addiction/Cannabis Use Disorder (CUD), and possible side effects or contraindications; these gaps could be addressed with educational resources (e.g., fact sheets, brochures) developed by MCA for providers or at the point-of-sale, a cannabis helpline, provider education, or a combination of the above.

- **Checking monthly allotment:** Patients currently lack a clear or consistent place to obtain accurate information about their monthly allotment. This gap presents an important opportunity for MCA to enhance the medical program by providing patients with access to an easy and reliable tool for patients to check their remaining monthly allotment in real-time.

- **Affordability by income level:** Affordability of medical cannabis showed a clear income gradient. Household incomes between $30,000 and $49,999 marked the tipping point where half of respondents reported they could afford the products they needed. Below that level, affordability dropped sharply, while above it, the proportion able to afford medical cannabis increased steadily—indicating that affordability concerns are concentrated among those earning under $30,000 and diminish once income surpasses roughly $50,000. MCA should explore use of the Compassionate Use Fund (CUF) and other opportunities to support lower income patients.

- **Chronic Pain and Perceived Efficacy:** Respondents with chronic pain reported meaningful perceived relief at moderate THC doses, regardless of product type, suggesting that moderate dosing may be sufficient to balance effectiveness with safety. While individual experiences vary and additional research is warranted, these findings nonetheless underscore that educational and harm reduction materials may help patients with chronic pain focus on considerations beyond simply using high THC products or high doses for symptom relief.

- **Patterns of Use:** Chronic pain was the most common qualifying condition (51.5%, consistent with previous survey waves and the scientific literature), and many respondents reported using medical cannabis to manage multiple conditions beyond their qualifying diagnosis. Cannabis use was typically frequent (daily or near-daily) and involved multiple administration methods, most commonly flower and edibles (each ~71%).

- **Reasons for High THC Use: High THC** use was common in the sample, with 25% of respondents saying the most important factor when selecting a cannabis product is high THC potency. Personal experience was primarily driving the choice of high THC products (rather than recommendations from providers or dispensary agents), with a combined 82% saying high THC products were most effective for their condition or they need high THC to feel an effect. MCA may want to consider developing additional education materials or warning statements about high THC products, along with guidance for selecting lower THC options and/or ways to reduce cannabis use, particularly if needing increasingly higher THC options to feel effects.

- **High THC and Adverse Effects:** High THC cannabis use was associated with slightly more frequent adverse psychological and physical experiences. While the absolute differences are small, they are meaningful given that 41% of patients report primarily using high THC products. Public health messaging and harm-reduction strategies could reinforce the importance of responsible and informed use, including reading product labels and understanding product contents, and monitoring for adverse effects. MCA might consider other harm reduction strategies such as advising dispensaries to offer and display lower THC options, requiring dispensary signage on high THC product risks and/or requiring dispensaries to provide educational materials with high THC product purchases.

- **Dose per Occasion:** Like past survey waves, THC dose (mg THC) per use occasion was estimated for the four most common methods of administration (flower, edibles, vape, concentrates). Interestingly, the current wave saw substantial increases in median dose for flower and modest increases for edibles, compared to past waves. Possible reasons for this observation include increasing THC potency in the marketplace as well as longer-term cannabis use, with the average length of participants among survey respondents being 4.5 years, which may indicate increasing tolerance and higher doses over time.

- **Public Health Findings:** Since 2023, when adult-use was legalized and an uptick in driving under the influence (DUIC) was observed among survey respondents, the proportion of medical cannabis patients reporting past month DUIC has remained generally stable, declining modestly from 39% in 2023 to 34% in 2024, with 32% in the most recent survey. Respondents consistently perceived alcohol- and polysubstance-impaired driving as higher risk than cannabis alone. Safe storage of cannabis (i.e., keeping it up, away, out of sight and locked) was more likely among households with children under 18 and younger patients, while public consumption remained relatively common, particularly at event venues (20%) and public recreation areas (17%). Together, these findings call for continued public and consumer education on responsible use practices including reminders about smoke-free laws, hazards of drugged driving, and safe storage of cannabis in the home.

- **Stigma and Comfort Discussing Cannabis Use with Healthcare Providers:** Comfort levels when discussing cannabis with friends, family, and healthcare providers have remained relatively stable across survey years, with "other healthcare providers" (excluding primary care providers) consistently rated with the lowest comfort scores. Within these conversations, lower comfort scores were observed among respondents with annual incomes over $100,000, those whose gender identities were not included in the survey response options, and respondents aged 18–20 and 66–75 years (i.e., in the youngest and older patient groupings). These findings may help guide certifying providers and other healthcare providers in approaching conversations about cannabis use with patients, offering insights to improve communication, support patient comfort, and reduce stigma associated with medical cannabis use.

Section 1. Research Methodology

1.1 Research Methods

The MMCPS-25 launched on Tuesday, October 21, 2025, at 12:00 p.m. ET on the Qualtrics web survey platform. All active, certified medical patients over age 18 were invited to complete the survey, and patient participation was voluntary. An invitation to participate in the survey was sent to 89,035 email addresses (provided to MCA by patients during registration) through the Qualtrics distribution tool, with 2.2% (1,924) of the emails bouncing back. The survey was open and collected responses for thirteen days. This timeframe was determined by two main goals: 1) to keep the survey open for about two weeks to provide patients with sufficient opportunity to provide feedback, and 2) to collect a similar number of complete responses as the past surveys, MMCPS-22, MMCPS-23, and MMCPS-24 (i.e., approximately 13,000, 16,000, and 12,000 responses, respectively).

The survey closed at 12:00 p.m. ET on Monday, November 3. Of the 16,864 patients who initiated the survey, 122 were excluded due to failing Qualtrics' fraud detection measures (e.g., bot detection, duplicate responses), 927 were excluded for incorrectly answering a basic attention check question, 2,816 were excluded for exiting the survey before completion, and 259 were excluded for not meeting study requirements (e.g., reporting an age below 18 years or declining consent). In total, 3,694 participants were removed, resulting in a final study sample of 13,170 participants. Cannabis Public Policy Consulting (CPPC) served as the contracted research firm for this project, working in collaboration with MCA on study design and conducting all research procedures. This survey study was reviewed and approved by the Biomedical Research Alliance of New York (BRANY) Institutional Review Board prior to data collection.

1.2 Supplemental Certifying Provider Survey

Concurrent with the MMCPS-25, MCA conducted a complementary survey of certifying providers (CPs) for the first time to better understand their experiences with the medical cannabis program, their perceptions of patients' needs, and their assessment of patients' knowledge of medical cannabis. The CP survey was fielded during a similar timeframe as the MMCPS-25, from October 22 to November 5, 2025, and yielded 144 complete responses, which was approximately 10% of the CP population, a similar response rate to each of the MMCPS waves. This survey was conducted independently by MCA, without assistance from CPPC, and was not reviewed by an IRB. Although the CP survey was administered separately from the MMCPS-25, its questions were intentionally aligned with the MMCPS-25. As such, relevant data from the CP survey are included throughout this report to provide additional context where appropriate.

1.3 Respondent Demographic Characteristics

For a complete review of demographic distributions, refer to Appendix A of this report. Select demographic characteristics of the 2025 survey sample is summarized in **Table 1.** A majority of respondents in the 2025 survey sample were female (56%) and White (75%), with nearly all identifying as non-Hispanic/Latino (95%). Respondents were distributed across a broad age range, although skewing slightly older, with the largest groups between 56–65 years (22%) and 66–75 years (22%), followed closely by the 36–45 and 46–55 age ranges (both 19%). Regarding educational attainment, 22% had completed a bachelor's degree, 33% had completed some college or an associate's degree, and 19% had a master's, doctoral, or other postgraduate degree. Most respondents were employed full-time (45%),

while 32% were retired. **The proportion of respondents who work full-time has decreased over each cycle while the proportion retired has increased.** Median annual household income fell in the $50,000–$74,999 range, with 11% preferring not to disclose their income. Geographically, respondents were concentrated in Baltimore County (16%) and Montgomery County (12%), with representation across all of Maryland's other counties as well. Demographic characteristics across the 2022, 2023, 2024, and 2025 samples (not shown in **Table 1**) matched by 99% on average, which strengthens our confidence in the findings presented throughout the report, particularly when data across survey years are compared or compiled. Moreover, the samples matched the demographic characteristics (age, race, and county of residence) of the 2025 actual patient population by 98% on average, which strengthens our confidence in the generalizability of the survey findings to the full patient population.

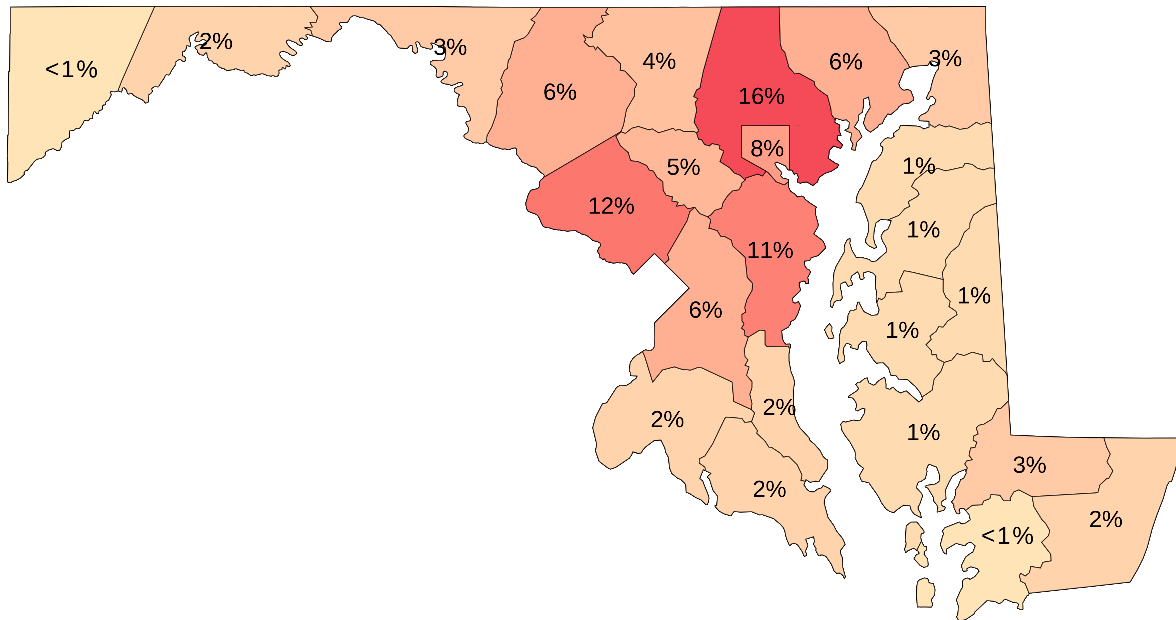
Table 1: Demographic Characteristics of Full Survey Sample and Actual Patient Population

	MMCPS 2025 N = 13,170	Actual 2025 Patient Population N = 89,358
Age		
18 to 20	1.1%	1.7%
21 to 25	1.9%	4.1%
26 to 35	10.0%	16.7%
36 to 45	19.0%	22.9%
46 to 55	19.0%	18.6%
56 to 65	22.0%	17.8%
66 to 75	22.0%	14.9%
76 to 85	4.3%	3.2%
86+	0.1%	0.2%
Gender Identity		
Male	41.0%	48.4%
Female	56.0%	51.3%
Transgender female	<0.1%	-
Transgender male	0.3%	-
Non-binary	1.3%	-
Not included above	<0.1%	-
Prefer not to answer	1.1%	-
Race		
American Indian or Alaskan Native	0.6%	0.4%
Asian	1.1%	1.3%
Black or African American	17.0%	18.4%
Native Hawaiian or other Pacific Islander	0.2%	0.2%

	MMCPS 2025 N = 13,170	Actual 2025 Patient Population N = 89,358
Race (continued)		
White	75.0%	67.9%
More than one race	3.4%	3.2%
Other	2.9%	8.7%
County		
Allegany County	1.8%	1.9%
Anne Arundel County	11.0%	11.6%
Baltimore City	7.7%	7.7%
Baltimore County	16.0%	16.7%
Calvert County	2.2%	1.9%
Caroline County	0.8%	0.8%
Carroll County	4.4%	4.5%
Cecil County	2.8%	2.8%
Charles County	2.2%	2.1%
Dorchester County	1.0%	1.0%
Frederick County	6.4%	6.4%
Garrett County	0.4%	0.4%
Harford County	6.3%	6.3%
Howard County	5.3%	5.2%
Kent County	0.5%	0.5%
Montgomery County	12.0%	11.4%
Prince George's County	6.3%	6.6%
Queen Anne's County	1.3%	1.3%
St. Mary's County	1.8%	1.7%
Somerset County	0.5%	0.4%
Talbot County	1.0%	1.0%
Washington County	3.3%	3.2%

	MMCPS 2025 N = 13,170	Actual 2025 Patient Population N = 89,358
County (continued)		
Washington County	3.3%	3.2%
Wicomico County	2.6%	2.6%
Worcester County	2.3%	2.1%

Figure 1. County Distribution of MMCPS-25 Respondents



Section 2. Assessing and Enhancing the Medical Program

A key focus of the MMCPS-25 was MCA's commitment to continuously evaluate and improve the medical program to ensure that patients are heard and supported, and that the program remains patient-centered. During the summer of 2025, MCA held a series of three roundtable listening sessions with medical cannabis patients and certifying providers (CPs) to gather qualitative insights and identify new areas of interest for quantitative research in MMCPS-25. Accordingly, this survey included several questions assessing patients' experiences and satisfaction with the program, their perspectives on potential programmatic improvements, and their interest in MCA-led education and outreach efforts. This section summarizes the relevant survey questions and key findings.

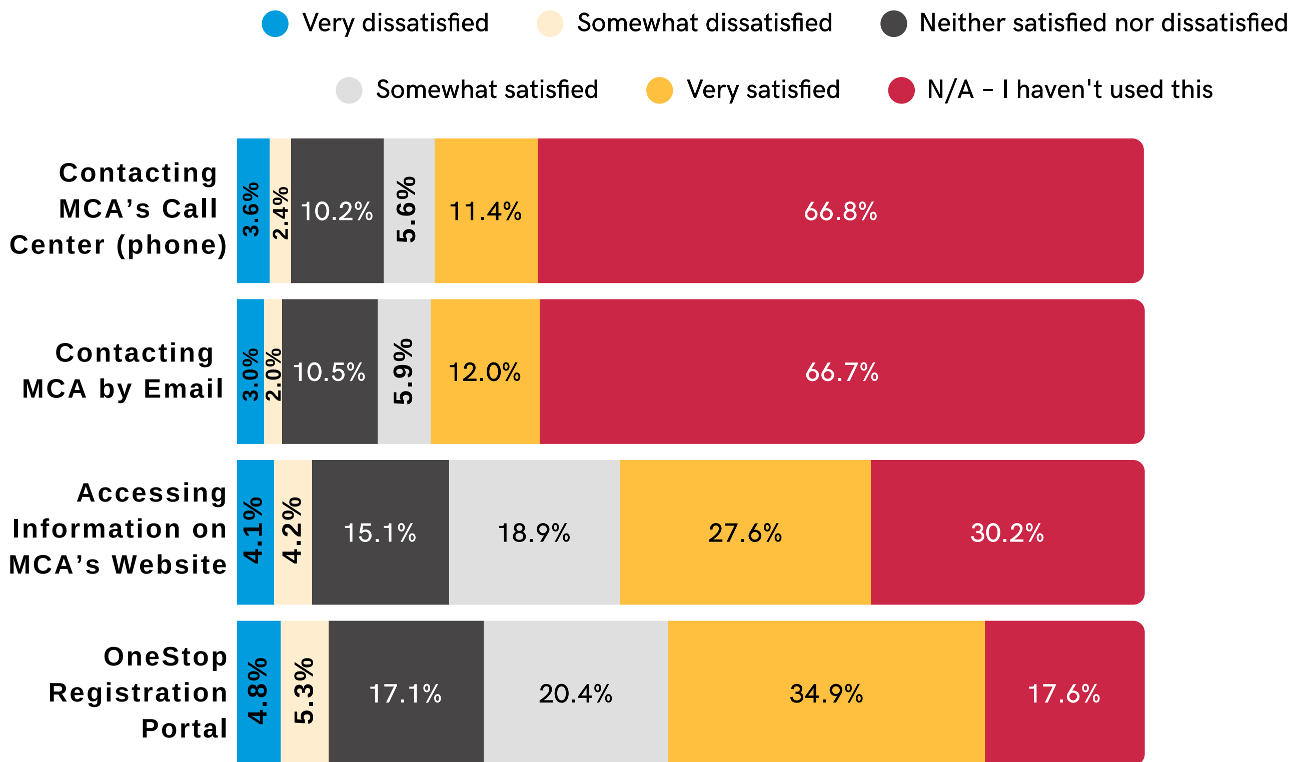
2.1 Customer Service

How is MCA doing?

Respondents rated their satisfaction (from very dissatisfied to very satisfied) with four MCA services: contacting the MCA call center by phone, contacting MCA by email, accessing information on the MCA website, and using the OneStop registration portal, which is used primarily for initial patient registration and annual provider recertification (see **Figure 2**). Satisfaction levels varied across services, but two clear patterns emerged: (1) Most respondents reported being satisfied when they had used a service, and (2) a substantial share of respondents had not used certain services, especially communication channels like email or the call center.

Among those who provided a rating, only 5-10% of respondents reported dissatisfaction with any services utilized. The MCA communication channels – email and the call center – were used least, with about two-thirds of respondents (67%) reporting they had not used the services. This suggests direct communication with MCA may not be a primary touchpoint for most patients.

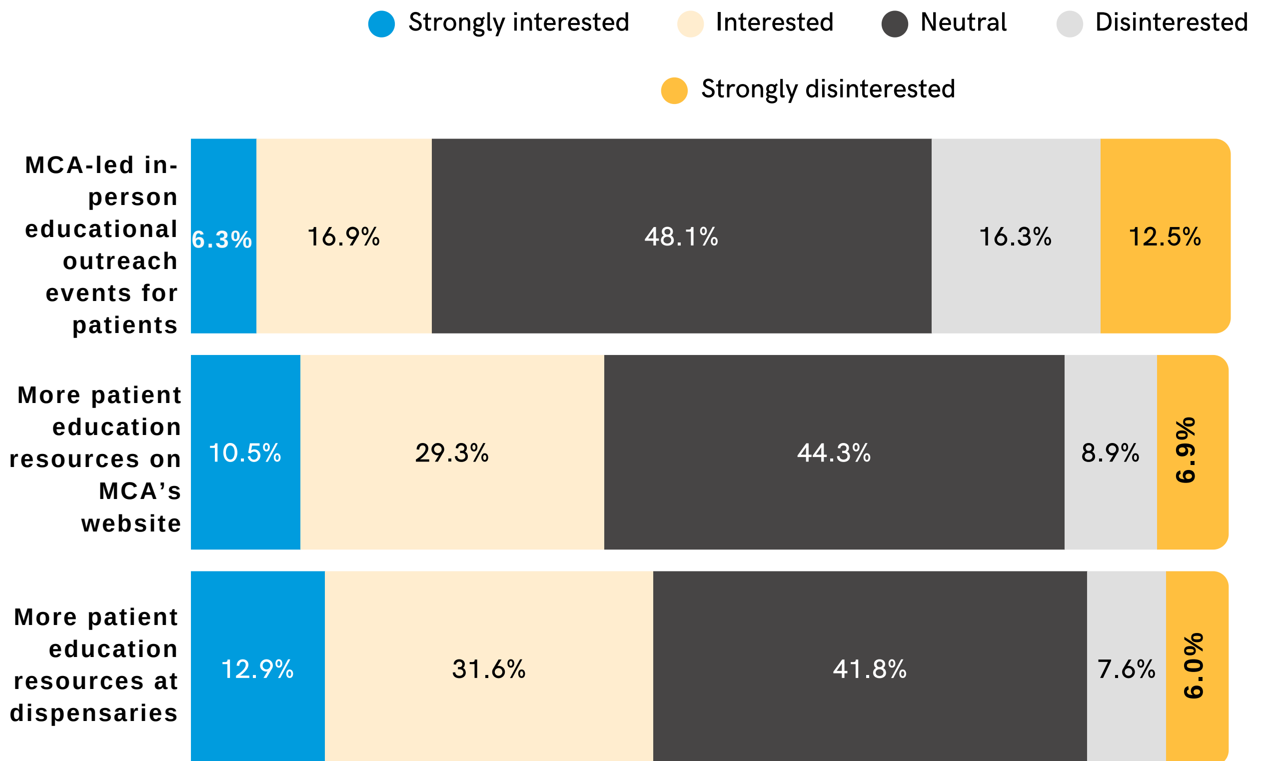
Figure 2. Respondent Satisfaction with MCA Services



What type of customer service efforts or resources are respondents interested in?

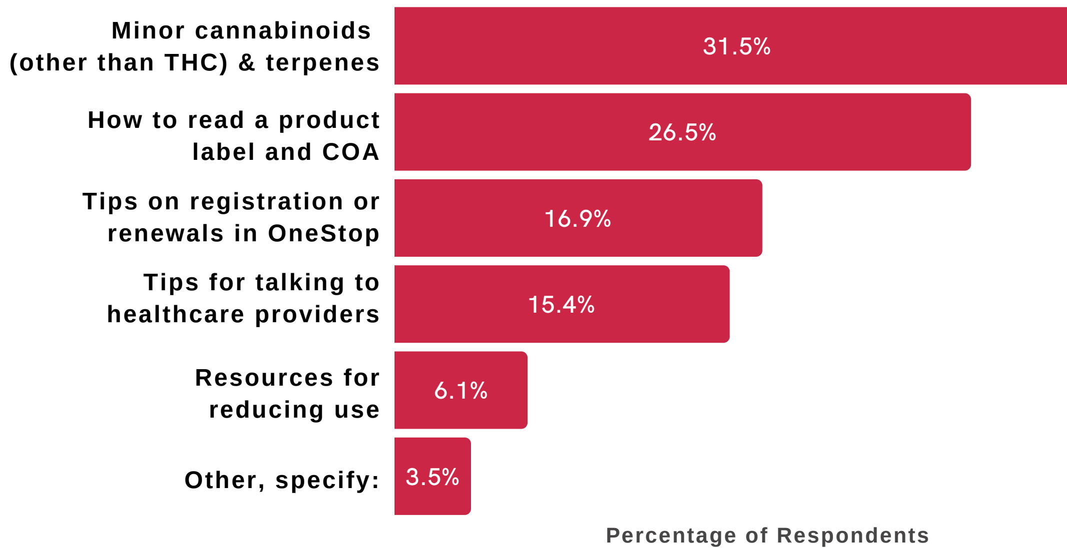
Respondents rated their interest in educational events and resources using a 5-point Likert scale from strongly disinterested to strongly interested (see **Figure 3**). Across all three proposed methods—MCA-led in-person outreach events, expanded patient education at dispensaries, and additional education on the MCA website—the most common response was Neutral, suggesting that many respondents either do not have strong preferences or are unsure about what these resources would offer. Interest was highest for expanded patient education, particularly through dispensaries and the MCA website, with nearly 45% and 40% of respondents reporting being interested or strongly interested, respectively. In contrast, in-person MCA-led outreach events generated interest from only 23% of respondents. These findings suggest that while education is valued, respondents may prefer to access it through existing touchpoints—especially dispensaries and the MCA website —rather than through newly created in-person events.

Figure 3. Interest in Customer Service Efforts and Patient Education Resource



Among respondents who indicated interest in educational outreach or resources, the strongest interest centers on product understanding (see **Figure 4**). In response to a question that asked, "In the previous question you indicated interest in educational outreach events or resources. Which topics are you most interested in (select all)?", the most frequently selected responses were minor cannabinoids and terpenes (32%) and how to read a product label and Certificate of Analysis (27%). Together, these patterns suggest that many patients want deeper, more practical guidance on product composition and effects to inform purchasing. Administrative and care-navigation topics also attracted meaningful interest. Tips on registration or renewals in OneStop (17%) and tips for talking to healthcare providers (15%) reflect a desire for support in navigating both the regulatory process and conversations related to medical use. Fewer respondents expressed interest in resources for reducing use (6%), indicating that while harm reduction remains relevant to some, it is not a primary educational interest for most participants.

Figure 4. Topics of Interest for Educational Outreach or Resources



2.2 Program Changes

What program changes and MCA initiatives would have the biggest impact on patient experience?

Informed by MCA's roundtable sessions with patients and CPs, this survey asked respondents to rate how a series of dispensary and program features might improve their experience as a medical patient (see **Figure 5**). The results highlighted several features with the potential to meaningfully enhance patient experience, with two initiatives emerging as especially high-impact: extending medical cannabis certifications from one to two years and improving the availability of medically used products, such as RSO, transdermal patches, suppositories, topicals, etc.

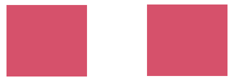
Extending certification from one to two years stood out as the change with the largest projected benefit, with nearly 88% of respondents indicating it would create a "great improvement" in their experience. Very few respondents felt it would offer little or no improvement, reflecting broad consensus that changing the annual renewal interval would substantially enhance patient experience. It is possible this reflects administrative challenges (e.g., logistics or scheduling) related to renewal visits as well as financial considerations since renewal visits typically involve an

out-of-pocket cost to the patient, most commonly $51–100 (see **Figure 12**). Better understanding the contribution of these factors is important before implementing programmatic changes since annual certification visits offer a critical opportunity for patient education on dose, contraindications, problem use, etc., and serve to strengthen the patient-provider relationship.

Improving availability to medically used cannabis products emerged as a clear priority for patients—a theme echoed in the roundtable sessions. Nearly 45% say that better availability of RSO and other medically used products would create a great improvement, making product reliability one of the strongest opportunities for MCA to boost satisfaction and meet patient needs. Similarly, 42% report that increasing the home grow allotment from 4 to 6 plants would lead to a great improvement, suggesting that patients place high value on reliable, consistent access to medically used cannabis products, regardless of whether that access comes through dispensaries or expanded home cultivation. Access to a helpline for medical cannabis questions at no cost to patients was also highly rated, with 40% indicating it would be a great improvement.

Figure 5. Perceptions of How Dispensary and Program Features Could Improve the Medical Cannabis Experience

	Great improvement	Some improvement	Little improvement	No improvement
Offering more low THC products	11.4%	14.2%	13.9%	60.5%
Requiring medical cannabis education for certifying providers	31.3%	29.5%	16.6%	22.6%
Extending medical-only dispensary hours by 2 hours per day	35.5%	21.5%	16.2%	26.8%
Access to a free helpline for medical cannabis questions	39.5%	26.9%	14.9%	18.6%
Increasing home grow allotment from 4 to 6 plants	41.8%	19.3%	11.3%	27.6%
Improving RSO and other medical product availability	44.7%	28.0%	10.9%	16.5%
Extending cannabis patient certification from 1-2 years	88.0%	8.5%	1.7%	1.8%



2.3 Product Availability

What cannabis products are available on a regular basis?

One recommendation from the MMCPS-24 was to expand and diversify medical cannabis product offerings. This topic was initially explored in MCA's roundtables to gather qualitative feedback and was then examined in the MMCPS-25 to generate quantitative insights. In the survey, respondents were asked how easy or difficult it is to obtain a range of medically used cannabis products (see **Figure 6**). Across surveyed product types, the items most consistently available to respondents were high dose edibles (available to medical patients only) and 1:1 CBD:THC products, with 58–62% of respondents reporting that these are easy to obtain. Low dose edibles were also generally available, though at slightly lower levels (49% easy to obtain). In contrast, RSO and RSO capsules showed more limited availability: only 22–30% report they are easy to obtain, and many indicated they do not use these products, which may reflect both access barriers and limited product presence on shelves. Availability was even more constrained for suppositories and transdermal patches, where fewer than 13% found them easy to obtain and the vast majority reported not using them, suggesting these items may be rarely available or offered inconsistently across dispensaries. Topicals fell in the middle, with about one-third (33%) reporting they are easy to obtain.

Figure 6. Ease of Availability of Certain Medically Used Cannabis Products

	Difficult	Neither difficult nor easy	Easy	N/A - I don't use this
High dose edibles (>10mg/serving)	11.6%	8.1%	61.8%	18.5%
1:1 CBD:THC products	7.8%	10.4%	57.9%	23.9%
Low dose edibles (<5 mg THC mg/serving)	8.9%	7.0%	48.7%	35.4%
Topicals (balms)	8.2%	7.8%	32.7%	51.2%
RSO	8.2%	8.5%	29.9%	53.4%
RSO capsules	8.6%	7.7%	22.3%	61.4%
Transdermal patches	9.1%	6.2%	12.3%	72.4%
Suppositories	5.7%	5.0%	6.4%	82.9%

2.4 Knowledge Gaps

How knowledgeable are patients about selecting and using cannabis?

A vast majority (89%) of respondents reported feeling “very” or “somewhat knowledgeable” about selecting or using cannabis for their qualifying condition. Knowledge about selecting cannabis for a qualifying condition showed weak but statistically significant correlations with age, length of time as a medical patient, and frequency of use (all $ps < .001$, see

Appendix A3). Specifically, cannabis knowledge tended to decrease with increasing age but increase with longer duration as a medical patient and higher frequency of use. However, these relationships were small in magnitude, suggesting that other factors (not measured in this survey) likely play a greater role in shaping cannabis knowledge. Income was not a meaningful predictor of knowledge on selecting and using cannabis products, suggesting that relevant information has been accessible to all respondents regardless of income level.

Where do patients get information about cannabis?

Respondents were asked to report their primary source of information for a variety of cannabis topics (**Figure 7**; “N/A” and “None of the above” responses were removed to see remaining responses more clearly; distributions containing all response options are in Appendix A). Dispensary agents (budtenders) were the primary source of information by 58% of respondents for selecting products for their qualifying condition, and by 80% for information on types of cannabis strains/products, and 77% and 78% of these respondents, respectively, were very or somewhat satisfied with the information provided. Dispensary agents were also the primary source of information by nearly half (47%) of respondents for THC dose for their qualifying medical condition, raising concern about reliance on non-clinical entities for this guidance, and suggesting an opportunity for 1) increasing education about available resources including CPs and Clinical Directors and 2) exploring a free helpline to ensure access to clinical support.

Interestingly, patients whose CP is also their PCP were more likely, on average, to report that their CP/PCP is their primary source of information for drug interactions (44.9%) and side effects/contraindications (38.6%) related to their medical cannabis use, whereas those whose CP is not their PCP were most likely to consult the MCA for this information (28.6% and 28.0%, respectively). Encouraging PCPs to become CPs and/or helping patients identify CPs who also provide primary care could help to improve patient education and access to critical medical cannabis information.

Information on monthly allotment was unique for two reasons: it was discussed at a higher rate than many other topics (i.e., fewer “N/A” responses), and the primary source of information varied widely across respondents. This dispersion suggests that patients currently lack a clear or consistent place to obtain accurate information about their monthly allotment. This gap presents an important opportunity for MCA to strengthen patient knowledge and information. Monthly allotment operates on a rolling 30-day schedule, yet patients cannot currently view their remaining allotment directly. While MCA staff— and, in

many cases, dispensary agents at the point of sale—can look up this information, the absence of an accessible, patient-facing tool likely contributes to confusion. Providing a reliable way for patients to check their remaining allotment, potentially through the MCA website or point-of-sale resources, would directly address this need and help standardize where patients seek information on this topic.

Figure 7. Distribution of Patients' Primary Information Sources for Cannabis Topics

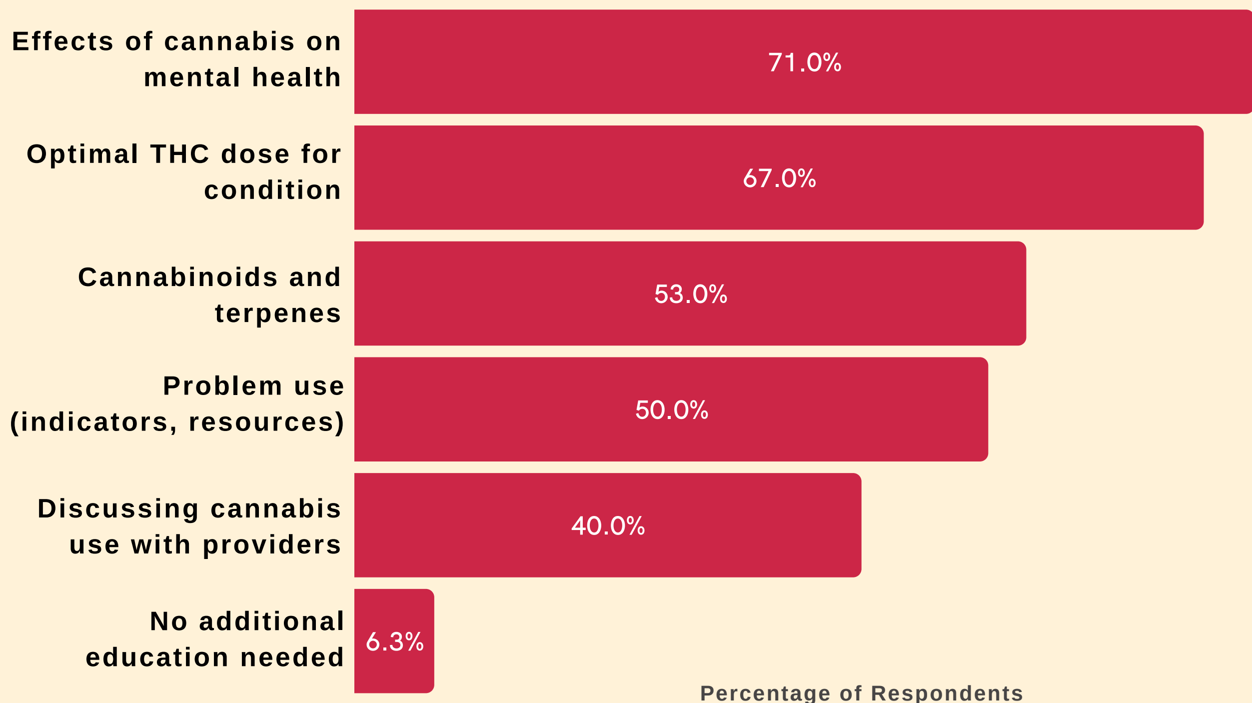
NOTE: Respondents who did not seek information on a given topic (i.e., who responded "N/A" or "None of the above") were excluded in the analysis for Figure 7. Appendix A6 shows the descriptive statistics using the full sample as the denominator.

	Certifying provider	Clinical director	Primary care provider (PCP)	Other healthcare provider	Dispensary agent	MCA	Friend
Addiction/Cannabis use disorder	36.2%	6.6%	26.7%	10.6%	9.6%	6.3%	4.1%
Cannabis hyperemesis syndrome (CHS)	35.8%	6.7%	23.4%	9.0%	12.1%	5.4%	7.6%
Forms of cannabis for my condition	24.0%	4.7%	3.9%	2.8%	57.8%	1.7%	5.1%
Drug interactions	34.0%	3.6%	31.4%	8.5%	15.1%	3.0%	4.4%
Monthly allotment	36.8%	3.5%	3.2%	1.7%	35.6%	18.3%	0.9%
Possible side effects of contraindications	32.7%	5.0%	22.1%	6.9%	25.7%	3.3%	4.4%
THC dose for my condition	32.0%	6.1%	5.6%	3.9%	47.0%	2.0%	3.5%
Types of strains or products	10.6%	1.9%	0.8%	0.7%	79.7%	1.0%	5.3%

What topics do patients need more education on? *Complementary insights from the Certifying Provider survey*

In MCA's separate provider survey, CPs for Maryland medical cannabis patients were presented with similar topic areas and asked to select the areas they believe patients need education about (**Figure 8**). The effects of cannabis on mental health (70.8%) and the optimal THC dose for one's qualifying condition (66.7%) were most commonly endorsed by providers, which tracks with findings from the patient survey where more patients rely on dispensary agents than CPs or other clinicians for information on appropriate THC dose (see **Figure 7**). Other important patient education topics ranked by CPs included functions of cannabinoids and terpenes (52.8%) and indicators of/resources for problem use (50.0%). Few providers overall reported that patients do not need additional education regarding their medical cannabis use. This finding is encouraging, as it suggests providers recognize the ongoing need for patient-centered education and regular discussions to promote informed cannabis consumption. CPs also separately indicated they perceive their patients as generally knowledgeable about medical cannabis. Together, these findings highlight the importance of recognizing patients' existing knowledge while still emphasizing the need for continued guidance amidst the complex therapeutic landscape of medical cannabis.

Figure 8. Topics Certifying Providers Endorse as Areas Where Patients Need More Education



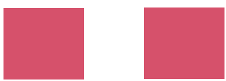
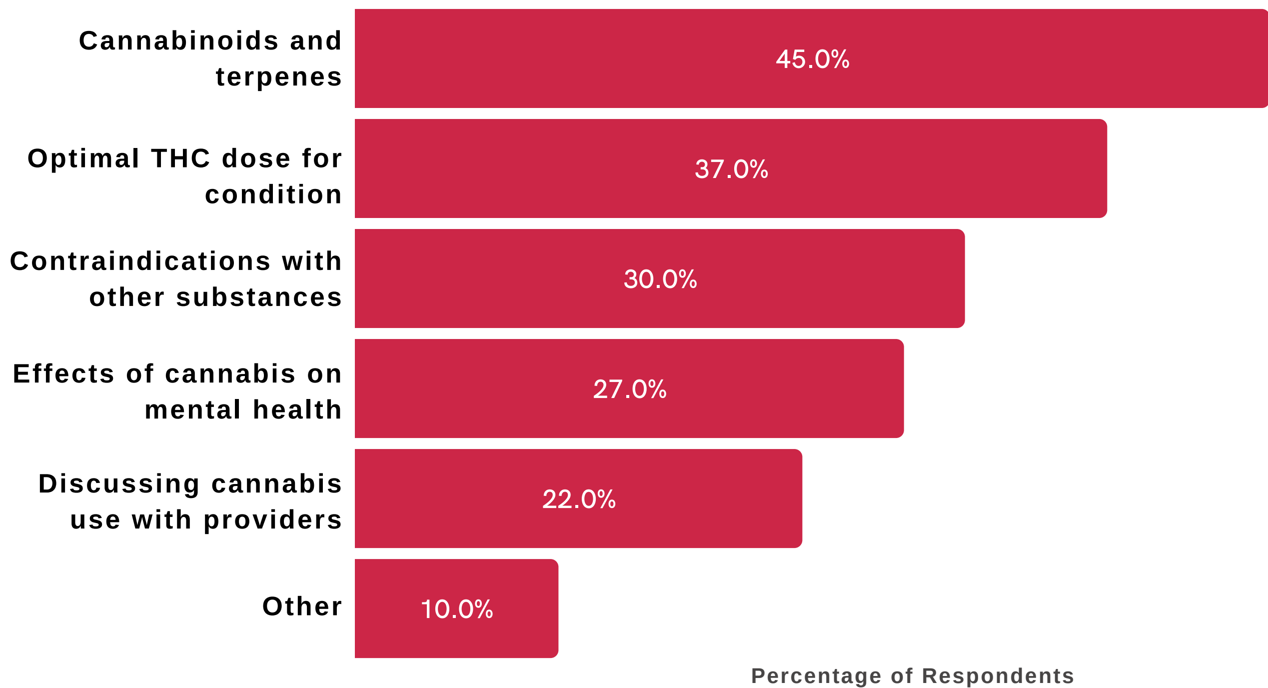


Figure 9. Topics MMCPS-25 Respondents Want to Learn More About from Their Certifying Providers



What topics do patients want to learn more about from certifying providers?

A question in the MMCPS-25 asked respondents which topics they would like to learn more about from their CPs. Response options aligned closely with those for the patient education question in the CP survey (see **Figures 8 and 9**). The most frequently endorsed topic among respondents was optimal cannabinoid ratio or terpenes for my qualifying condition (abbreviated as "Cannabinoids and terpenes" in the figure), selected by 45% of respondents. This was followed by optimal THC dose for my condition (37%), contraindications with other substances (30%). Notably effects on mental health (27%) and discussing cannabis use with providers (22%) were ranked substantially lower by patients than by providers (71% and 40% respectively), indicating a mismatch in education priorities that may warrant continued attention given this discrepancy.

What resources should be developed for certifying provider offices, point of sale, and MCA's website?

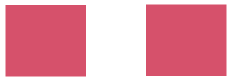
The information source question, described above, was followed by a question asking respondents to rate their satisfaction with the information provided by each source for each topic, offering insight into the quality of information available to patients, where lower satisfaction is interpreted as lower quality. The three surveyed topics with the largest gaps in high-quality information were cannabis hyperemesis syndrome (CHS), addiction/cannabis use disorder (CUD), and possible side effects or contraindications. These are medically oriented topics, and individual guidance may be optimal; however, knowledge gaps could also be bridged with targeted educational resources (i.e., fact sheets, brochures) developed by MCA for providers or distributed at the point-of-sale, a cannabis helpline, CP education, or a combination of these approaches.

In the provider survey, CPs were also asked about their interest in a range of medical cannabis training education topics. Overall, CPs demonstrated a strong willingness to participate in medical cannabis training if offered at a modest fee or no cost. Specifically, there was interest in training on cannabis for specific conditions/diseases (79.2%), medical contraindications of cannabis (78.5%), functions of cannabinoids and terpenes (69.4%), and dosing (60.4%). Notably, these areas of interest closely align with the topics patients indicated they would like to learn more about from their CP (see **Figure 9**), suggesting an opportunity to tailor medical cannabis educational programs to support both CP knowledge and patient needs.

2.5 Access Barriers

Cost/Affordability

MCA has recently taken steps to reduce financial barriers within the medical cannabis program. These include eliminating the $25 patient registration fee and removing the requirement for a physical medical cannabis ID card. MCA is also continuing to study and identify potential opportunities to ensure the program remains affordable and accessible to all patients. This section uses MMCPS-25 data to examine cost and affordability from multiple perspectives.

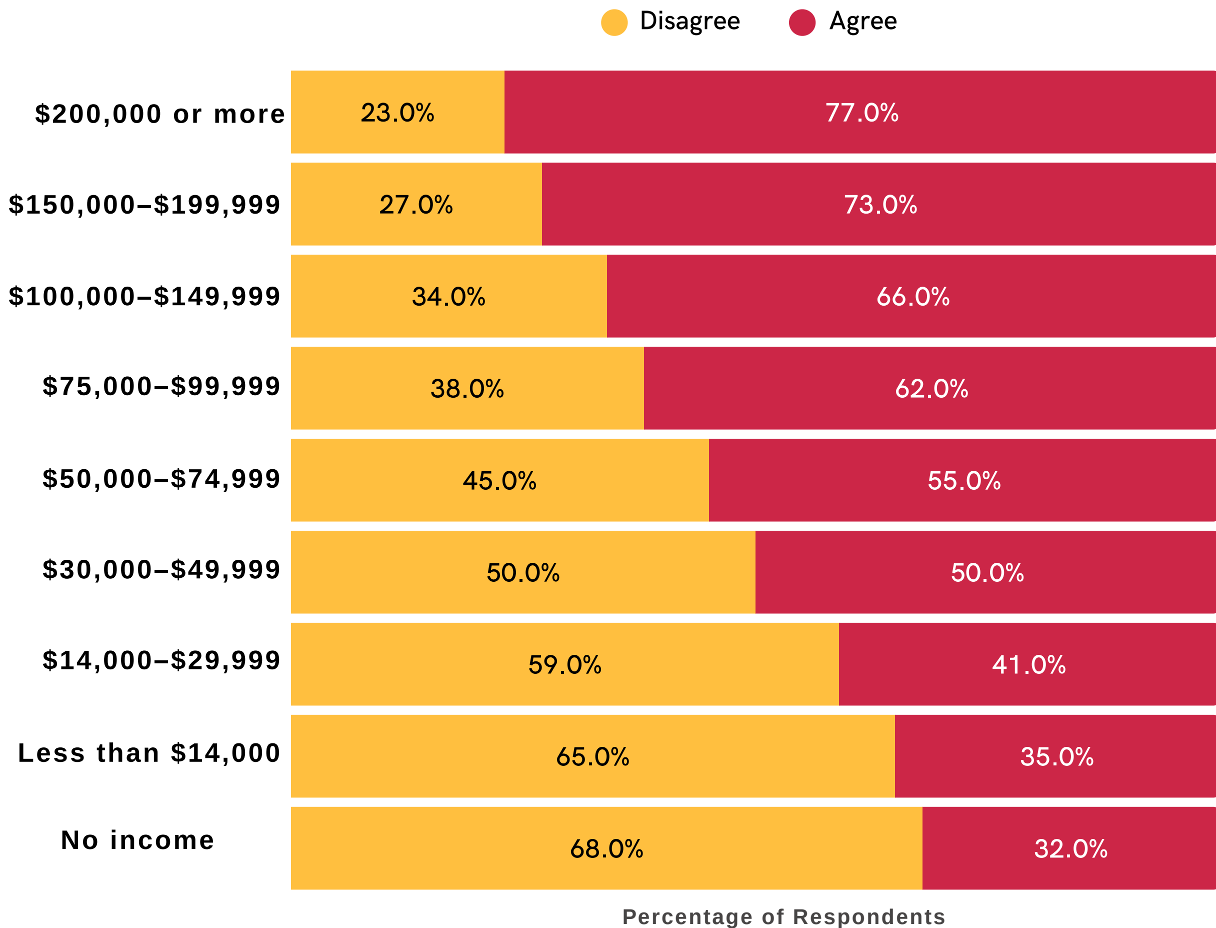


At what income level, age, and work status do patients feel they can afford to purchase medical cannabis?

Income and age were both significant predictors of respondents' perceived ability to afford the medical cannabis they need, as measured by agreement with the statement "I can afford to buy the amount of medical cannabis I need to manage my symptoms" (1 = strongly disagree to 5 = strongly agree). Higher income and older age were positively associated with affordability perceptions ($ps < .001$), indicating that older and higher income respondents tended to report greater ability to afford medical cannabis. Additionally, respondents who were retired or working full-time had 1.87 times higher odds of reporting that they could afford the medical cannabis they needed compared to other work-status groups ($p < 0.001$). This indicates patients in other work-status groups—such as students, stay at home parents or homemakers, part-time workers, or those not working or seeking work—may be at the greatest risk of suffering from financial barriers.

Affordability of medical cannabis, as measured by responses to the statement, "I can afford to buy the amount of medical cannabis I need to manage my symptoms," showed a clear gradient by income level (**Figure 10**). Among respondents with annual household incomes below $30,000, fewer than half reported that they could afford the amount of medical cannabis needed to manage their symptoms. The tipping point occurred in the $30,000–$49,999 income group, where the proportion of respondents who agreed they could afford medical cannabis reached 50%. Above this income level, affordability increased steadily, with a majority of respondents in every higher income category reporting that they were able to afford the products they needed. This pattern suggests that affordability concerns are most concentrated among individuals with incomes under $30,000 and begin to diminish as income surpasses $50,000.

Figure 10. Agreement with the Statement "I can afford to buy the amount of medical cannabis I need to manage my symptoms." by Income Level



Note: Response options "Strongly agree" and "Somewhat agree" were combined into Agree, and "Neither agree nor disagree," "Somewhat disagree," and "Strongly disagree" were combined into Disagree.

When examining median THC dose per use by responses to the affordability question, median dose varied by respondents' level of agreement with the affordability statement (see **Table 2**). Higher median doses were observed among respondents who indicated that they could not afford the amount of medical cannabis needed to manage their symptoms. Median dose per use was highest among those who strongly disagreed or somewhat disagreed (45.0 mg THC), decreased among those who neither agreed nor disagreed (40.5 mg THC), and was lowest among those who somewhat agreed (35.5 mg THC) or strongly agreed (30.2 mg THC). Overall, stronger ability to afford medical cannabis was associated with lower median dose per use. Dose estimate methodology is described in Section 4.3. of this report.

Table 2. Median THC Dose per Use by Agreement with Cannabis Affordability Statement

Response	Median dose per use (mg THC)
Strongly disagree	45.0
Somewhat disagree	45.0
Neither agree nor disagree	40.5
Somewhat agree	35.5
Strongly agree	30.0

Could access barriers drive patients to leave the program?

Since 2023, the MMCPS has asked patients if they plan to remain in the medical program. Across each wave, the percent responding 'yes' increased -- 87% in 2023, 92% in 2024, 94% in 2025 -- while the percent who 'weren't sure' or said 'no' decreased. In the present survey, patients were asked about travel time (by car) to the nearest dispensary from their home to help assess if longer distances presented a barrier that predicted leaving the medical program.

Respondents in Garrett and Somerset Counties reported the greatest median travel time to the nearest dispensary (30 to 60 minutes). Notably, residents in these counties represented less than 1% of the survey sample (n=150 combined), and those counties' populations are among the smallest in the state. However, living in Garrett or Somerset counties did not significantly predict whether respondents planned to remain in the program, nor whether they had ever purchased as an adult-use consumer. Overall, distance was not meaningfully associated with program retention, or product availability, and as such, geographic location does not appear to be a reason that patients will leave the program.

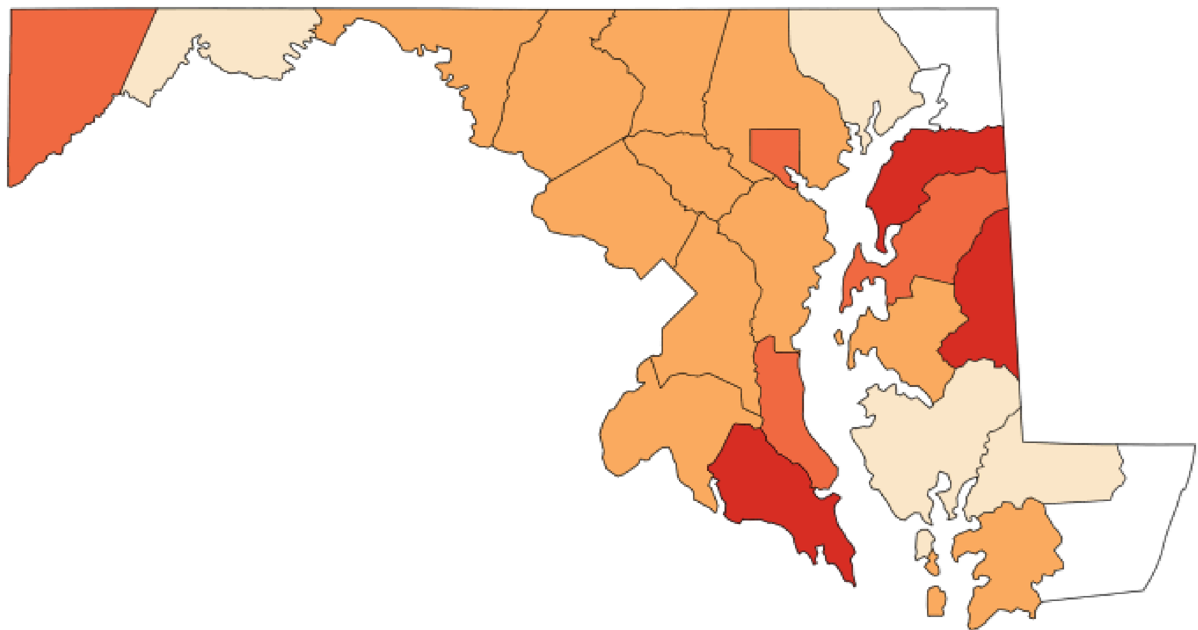
Are there underserved regions?

The map in **Figure 11** presents a county-level composite score based on four survey measures related to access barriers, including dispensary travel distance, product availability, adult (non-medical) market use, and intent to leave the program. Higher scores indicate greater risk of access barriers. St. Mary's, Kent, Caroline, and Somerset Counties exhibited the highest

composite scores, suggesting residents in these areas face the greatest access challenges. Targeted efforts to investigate and address these barriers in these counties could help improve equitable access and program retention.

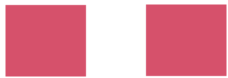
Figure 11. County Accessibility Composite Score Map

Note: Higher scores indicate greater risk of access barriers.



2.6 Certifying Providers

One area of focus for MCA has been understanding the relationship between medical cannabis patients and their CPs, with the goal of strengthening this medical touchpoint and supporting better patient satisfaction and optimal health outcomes. The MMCPS-25 included questions to assess these relationships from the patient perspective, and MCA captured CPs viewpoints via the supplemental survey. Where the two data sources align, findings are presented together to provide a more complete picture of the patient–provider relationship.

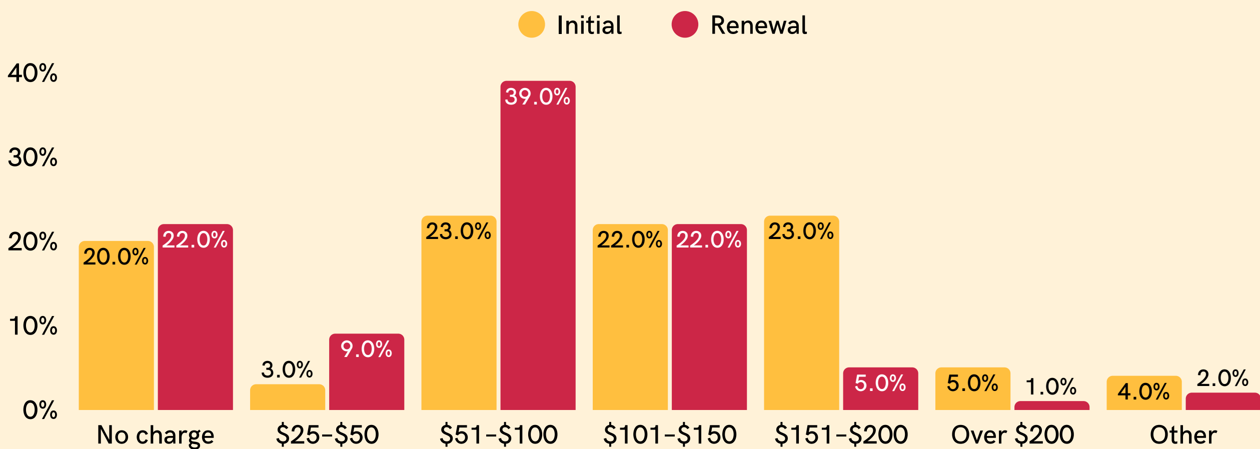


What costs are associated with certifying provider exams?

Reducing financial barriers to participation in the medical cannabis program has been a consistent MCA priority. Previous MMCPS waves have shown that cost concerns can influence whether patients remain in the program, prompting MCA to take a closer look in this year's surveys at the fees patients encounter when obtaining medical cannabis certifications.

MCA's provider survey asked respondents how much they charge for initial and renewal medical cannabis certification exams for patients paying out-of-pocket (**Figure 12**). Among the 144 CPs that participated, fees for initial appointments were spread widely across price ranges, with many charging $51–100 (23%), $101–150 (22%), or $151–200 (23%). Renewal appointments were generally less costly: the most common fee was $51–100 (39%). About one in five CPs reported not charging a fee for either type of appointment. In contrast, on the patient survey, respondents more frequently reported paying renewal visit fees, with 84.4% of MMCPS-25 respondents saying they paid a fee for their annual medical cannabis recertification **(Figure 13**).

Figure 12. Distribution of Certification Exam Fees Reported by Certifying Providers, by Appointment Type



Source: MCA's 2025 Certifying Provider Survey

How many patients were able to be certified by their PCP?

Approximately 12% of MMCPS-25 respondents said their CP is also their PCP (see **Figure 13)**. To assess potential differences in outcomes as a result of having a CP who is also a PCP, patients were separated into two groups - those whose CP also serves as their PCP, and those whose CP is not their PCP. No statistically significant differences emerged when examining patients perceived knowledge about medical cannabis across these groups. However, patients whose CP is also their PCP were significantly more likely to report that their CP offers in-person recertification visits, is very knowledgeable about medical cannabis use for their qualifying condition, is available for questions about medical cannabis, asks about the products they typically use, and asks if they are using their full monthly allotment compared to those whose CP is not their PCP. Notably, the CP survey did not ask directly about PCP status, although other questions provided insight into their professional roles, including that a majority of respondents (65%) were nurse practitioners.

Do patients have a bona fide relationship with their CP?

Quality of the patient–provider relationship was assessed using items from both the MMCPS-25 (**Figure 13**) and the CP survey. Repeat visits to the same provider can signal a stronger relationship, as continuity allows CPs to better understand and monitor patients' conditions and usage patterns. Most CPs (66.6%) reported that a majority (51% or more) of their medical cannabis renewal visits involve repeat patients. Most CPs also said less than half of their patients primarily see them for the purpose of obtaining medical cannabis certification. Involvement in and oversight of patients' product use may also reflect stronger relationships. In the MMCPS-25, patients were asked whether their CP asks about (1) the cannabis products they typically use and (2) whether they are using their full monthly allotment; 66.1% and 41% of patients, respectively, answered "True." Patient trust in their CP's knowledge is another indicator of relationship quality. Overall, 76% of respondents reported that their CP is very knowledgeable about medical cannabis use for their qualifying condition. Overall, the available data suggest encouraging signs of strong patient–provider relationships among medical cannabis patients, and underscore the value of the annual certification visit requirement. However, more comprehensive measures would allow for a fuller understanding of how these relationships develop and impact patient care. Incorporating additional questions—such as length of time with the CP or frequency of

interactions—could help refine these estimates. Developing a dedicated relationship-quality index may also support deeper analyses to identify where providers are excelling and where opportunities remain to better support patients.

Figure 13. Response Distribution for Statements About Certifying Provider

Statement	True	False	I don't know
My CP is also my usual or primary care provider (PCP)	12.3%	80.2%	7.5%
My CP asks if I'm using my full monthly allotment	41.0%	36.7%	22.3%
My CP offers in-person recertification visits, if I want them	49.9%	13.6%	36.5%
My CP asks about products I use, including THC content	66.1%	17.6%	16.2%
My CP has been available for questions about medical cannabis if I had them	74.2%	4.3%	21.5%
My CP is very knowledgeable about medical cannabis for my qualifying condition	76.0%	3.7%	20.4%
My CP charges me for annual medical cannabis re-certification	84.4%	6.6%	8.9%

Percentage of Respondents

Section 3. Patterns of Use and Public Health

All waves of the MMCPS have documented respondents' patterns of use, including qualifying conditions, reasons for use, frequency, and methods of administration. This section presents data from the 2025 survey alongside data from previous MMCPS waves when available. It also covers other behaviors, such as driving under the influence (or within three hours of consuming cannabis, 'DUIC'), polysubstance use, and smoking cannabis in public spaces, and examines their public health implications.

3.1 Patterns of Use

Qualifying Conditions

Respondents reported their qualifying conditions, with severe or chronic pain being the most common (51.5%), followed by "other chronic condition" (28.3%) and post-traumatic stress disorder (12.9%). This distribution is consistent with all previous survey waves (see **Table 3**). Conditions reported under the "other chronic condition" category are listed in **Table 4;** as in past waves, anxiety (35.6%), insomnia (21.8%), and "other" conditions (18.8%) were most frequently cited. Additionally, more than two-thirds of respondents reported using medical cannabis to treat symptoms or conditions beyond their official qualifying condition (see **Appendix A2**). Specifically, 39.4% reported treating one additional condition, and 33% reported treating two or more.

Table 3. Frequency of Qualifying Conditions: 2022 to 2025

	Percentage of Respondents			
	2022	2023	2024	2025
Severe or chronic pain	46.0%	50.0%	50.0%	51.5%
Other chronic condition	33.0%	29.0%	29.0%	28.3%
Post Traumatic Stress Disorder (PTSD)	13.0%	13.0%	13.0%	12.9%
Severe or persistent muscle spasms	3.0%	3.0%	2.6%	2.4%
Severe nausea	3.0%	2.0%	2.3%	1.8%
Glaucoma	—	1.0%	1.0%	1.1%
Seizures	1.0%	1.0%	0.8%	0.9%
Anorexia	1.0%	1.0%	0.9%	0.9%
Cachexia or wasting syndrome	0.2%	0.0%	0.2%	0.2%

Table 4. Frequency of Conditions Treated by Those with Qualifying Condition “Other Chronic Condition”: 2023 to 2025 (not asked in 2022)

	Percentage of Respondents		
	2023	2024	2025
Anxiety	38.0%	37.0%	35.6%
Insomnia or sleep disruptions	22.0%	21.0%	21.8%
Other, not listed here	17.0%	18.0%	18.8%
Depression	11.0%	9.8%	9.6%
Arthritis	5.0%	5.9%	6.6%
Gastrointestinal (stomach) distress	4.0%	4.2%	4.1%
Attention-deficit/hyperactivity disorder (ADHD)	2.0%	3.3%	2.8%
Autism Spectrum Disorder (ASD)	1.0%	0.6%	0.5%
Sexual disorders	—	0.2%	0.2%

The MMCPS-25 sample primarily used cannabis for medical rather than non-medical purposes. When asked what percentage of their cannabis use was for medical reasons, 71% reported exclusively medical use, and another 19% reported that three-quarters of their use was medical, with the remainder being non-medical (see **Table 5**). While the percentage using exclusively for medical purposes was slightly lower in 2025 compared to the previous wave, overall, the percentages across years are similar and indicate commitment to the medical program.

Table 5. Percentage of Cannabis Consumption for Medical vs. Non-Medical (i.e., Recreational/Adult-Use) in Past Month: MMCPS-2022 to 2025

	Percentage of Respondents			
	2022	2023	2024	2025
100% medical use	63.8%	67.1%	74.0%	70.6%
75% medical, 25% non-medical	19.0%	17.6%	16.0%	18.9%
50% medical, 50% non-medical	11.9%	9.6%	7.7%	8.8%
25% medical, 75% non-medical	1.8%	1.6%	1.4%	1.2%
100% non-medical	0.8%	0.6%	0.5%	0.4%

Past-Month Use Frequency and Methods of Administration

The survey measured past-month cannabis use frequency and methods of administration. A majority of respondents (70.4%) reported using cannabis on 20 or more days in the past month, including half (50.4%) who used cannabis on all 30 days and another 20% who used on 20-29 days. Infrequent use was less typical, with only 10% reporting use on 0-4 days.

Flower and edibles were the most commonly used methods of administration, each reported by about 71% of respondents. Use of vape products was reported by 55.3% of respondents, followed by topicals at 21.7% and concentrates at 16%. Use of multiple administration methods was common, as more than three-quarters of respondents (77.9%) used two or more methods in the past month. **Table 6** displays the average number of respondents who reported any use of each method (i.e., excluding respondents who reported zero days). Flower had the highest average frequency at 17.6 days per month, followed by vaping (14.5 days), edibles (12 days), and concentrates (11.3 days).

Table 6. Past-Month Use by Method of Administration

Method of administration	% that used the method at least once (n=12,695)	Avg days of use
Flower	70.9%	17.6
Edibles	70.7%	12.0
Vaporizer/cartridge	55.3%	14.5
Topicals (balm, lotion, cream)	21.7%	9.0
Concentrates (dabbing, wax, shatter, etc.)	16.0%	11.3
Capsules or tablets	10.0%	9.1
Tinctures or oral sprays (elixirs)	9.1%	8.2
Transdermal (patch)	1.5%	8.5
Rectal/vaginal suppositories	0.4%	9.6

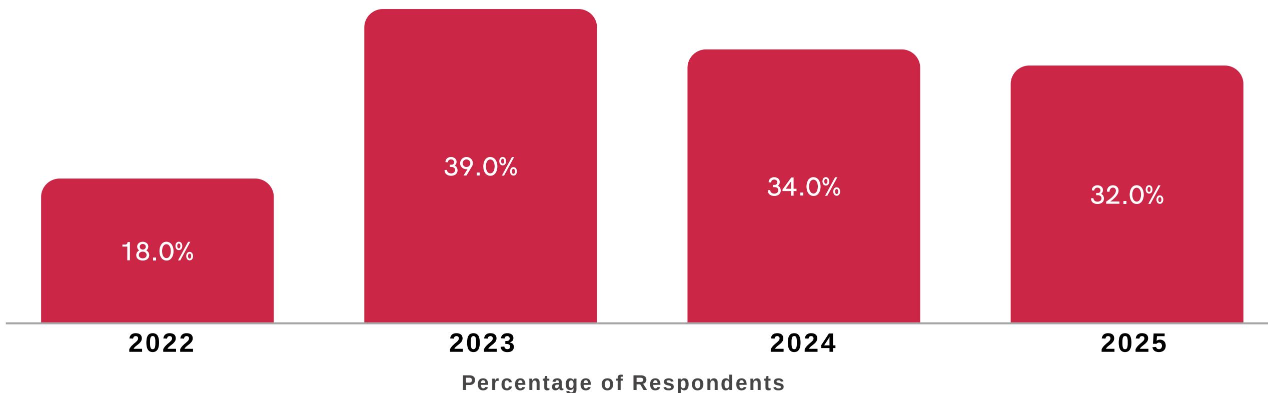
3.2 Public Health and Safety

Driving Under the Influence of Cannabis (DUIC)

Among patients who have consumed cannabis in the past 30 days, most (67.7%) report zero DUIC[1] days in the past month. Around one-third (32.1%) of respondents reported at least one day of DUIC in the past month, which is similar to findings from the 2024 survey (34%), see **Figure 18**. When examining DUIC prevalence across survey administration years, we observe a generally stable pattern since 2023. Given the timing of adult-use legalization, this stability likely reflects broader trends in DUIC behavior following market stabilization after adult-use implementation.

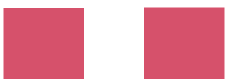
1. DUIC is defined as driving/operating a car or other motor vehicle within 3 hours of consuming cannabis and/or when under the influence of cannabis.

Figure 14. Frequency of Past-Month DUIC, Separated by Survey Administration Year



Similar to previous survey administrations, respondents were asked about their perceived risk of harm of driving while under the influence (e.g., not at all, a little, moderately, and very harmful). In the present survey, 63% of patients reported that driving under the influence of cannabis is "very harmful" or "moderately harmful", compared to 60% from 2024. Similarly, respondents were consistently more likely to report greater perceived harm in driving under the influence of alcohol, with 99% reporting at least moderate harm associated with this behavior in both the 2025 and 2024 surveys. A new question was added to the present survey, inquiring about perceived risk of harm of driving while under the influence of both cannabis and another substance. Overall, 74% endorsed this behavior as at least moderately harmful. Together, these findings suggest that medical cannabis patients perceive different levels of driving-related risk depending upon the substance involved and appear to view polysubstance-impaired driving and alcohol-impaired driving as more harmful than driving after cannabis use alone. MCA may want to expand its cannabis impaired driving public PSAs to include other impairing substances given receptiveness to the information.

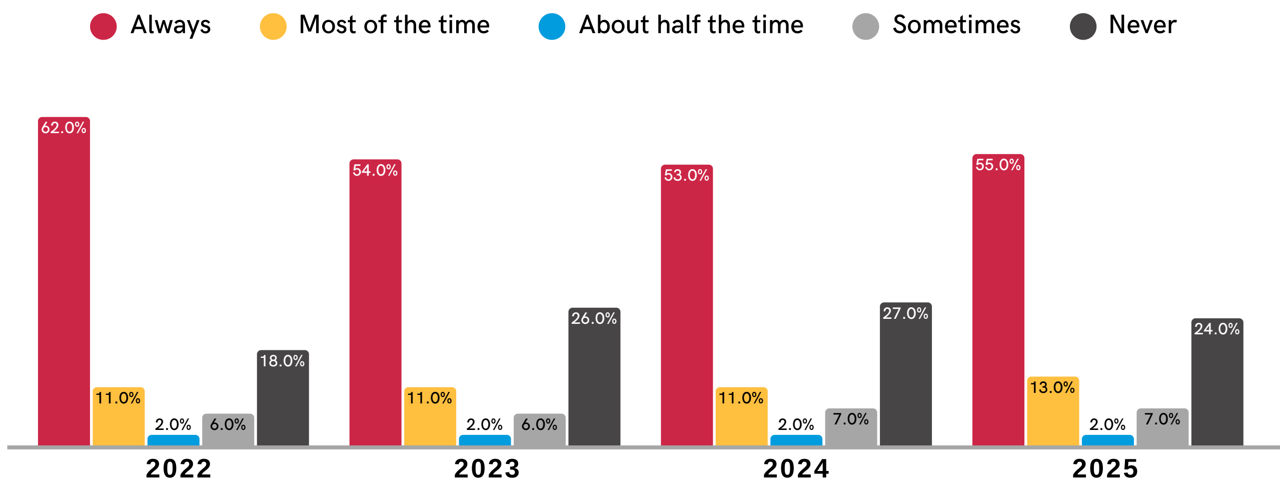
Consistent with prior survey waves, respondents with more DUIC days reported lower perceived risk of harm of driving under the influence of cannabis, and this finding was statistically significant ($r = -.298$, $p < .001$). Interestingly, individuals with greater DUIC days also reported lower risk of harm for driving under the influence of alcohol, and cannabis plus another substance; however, although these findings were statistically significant, the effect was small ($rs = -.049$ and $-.067$). This pattern is indicative of a broader tendency for those with higher-frequency DUIC to minimize driving-related risk across substances, with the most pronounced effects occurring when the substance matches their own use (e.g., cannabis and DUIC).



Safe Storage of Cannabis in the Home

Since 2022, survey respondents have been presented with questions inquiring about responsible storage of cannabis in their home. Consistent with previous surveys, over half (54.6%) of respondents in the present survey indicate that they "always" store their cannabis in a locked, safe location and fewer than one-quarter report "never" storing their cannabis safely. These consistent findings suggest steady adherence to recommended safe storage practices among most patients in the medical program, although continued PSAs and consumer-based reminders are warranted, particularly to move the needle for the 24% who do not store it safely. Having at least one child under the age of 18 in the household significantly predicted the likelihood in which respondents reported storing cannabis in a locked, safe location. This finding is consistent with prior surveys. Age was also a significant predictor, such that younger patients were more likely to safely store their cannabis (data not shown).

Figure 15. Frequency of Storing Cannabis in a Locked Location, 2022-2025



Smoking Cannabis In Public

Public consumption of cannabis remains relatively common, although slightly less so than in previous survey cycles. In the past month, 29% of patients reported smoking or vaping cannabis in one or more public locations. This figure is slightly lower than previous surveys, in which 35% and 36% reported consuming cannabis in a public location in the MMCPS-24 and '23 surveys. Similar to prior years, event venues (20%) and public recreation areas (17%) were the most common public locations where respondents reported smoking or vaping cannabis, indicating that patterns of public consumption have remained generally consistent. To help ensure

awareness of smoke-free policies and change behaviors related to public use, PSAs on respecting smoke-free public spaces should continue.

Adverse or Unwanted Consumption Experiences

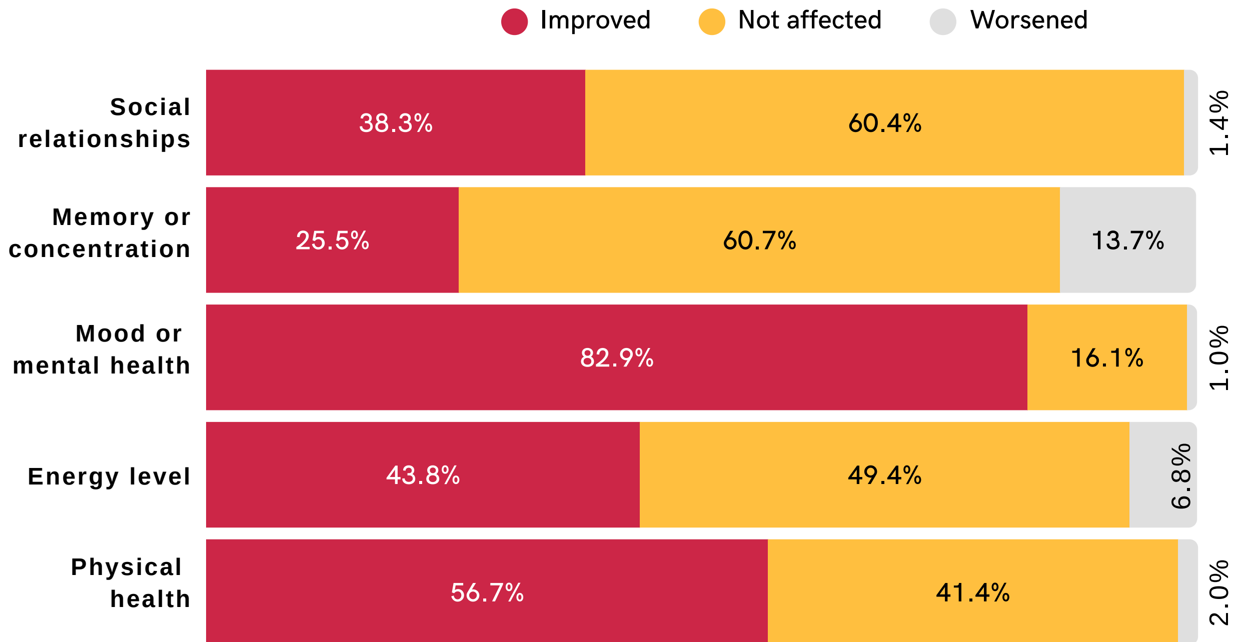
In a question asking about cannabis-related adverse experiences, 42% of respondents reported experiencing at least one adverse experience after consuming cannabis in the past year. Similar to previous survey administration years, anxiety was the most common adverse experience (31.9%), followed by panic (14.1%), and psychotic or paranoid feelings (10.4%).

In the present survey, respondents were separately asked whether cannabis has improved, worsened, or had no effect on various health and social outcomes. A majority indicated that cannabis has improved or had no effect on these outcomes. Respondents most frequently reported that cannabis has improved their mood or mental health (82.9%), physical health (56.7%), and energy level (43.8%), and has had no effect on their memory or concentration (60.7%) and social relationships (60.4%). Energy level was added as a response option in the MMCPS-25 to complement mood and mental health, since they can be interrelated. About 7% of patients reported worsening of energy levels, which was the second highest negative outcome (after worsening of memory and concentration), although still relatively modest with equal numbers stating improvements or no change to energy levels. Interestingly, when separately asked how often they have had a problem with memory or concentration after using cannabis, 41.6% report having experienced memory or concentration issues within the past six months (see Appendix A5). This discrepancy suggests that while individuals may not perceive lasting impacts on cognition, many still experience acute cannabis-related memory or concentration issues.

Table 7. Percent of Respondents Experiencing Each Adverse Event; Grouped by Survey Year (not asked in 2023)

Condition	2022	2024	2025
Anxiety	30.2%	36.9%	31.9%
Panic	16.4%	16.6%	14.1%
Psychotic or paranoid feelings	12.8%	13.7%	10.4%
Suicidal thoughts or ideation	2.8%	2.8%	2.2%
Breathing problems	10.1%	14.3%	12.3%
Nausea/vomiting	9.0%	9.6%	8.4%

Figure 16. Reported Effects of Cannabis on Health and Social Outcomes



Have patients seen new PSAs on identifying licensed and regulated dispensaries?

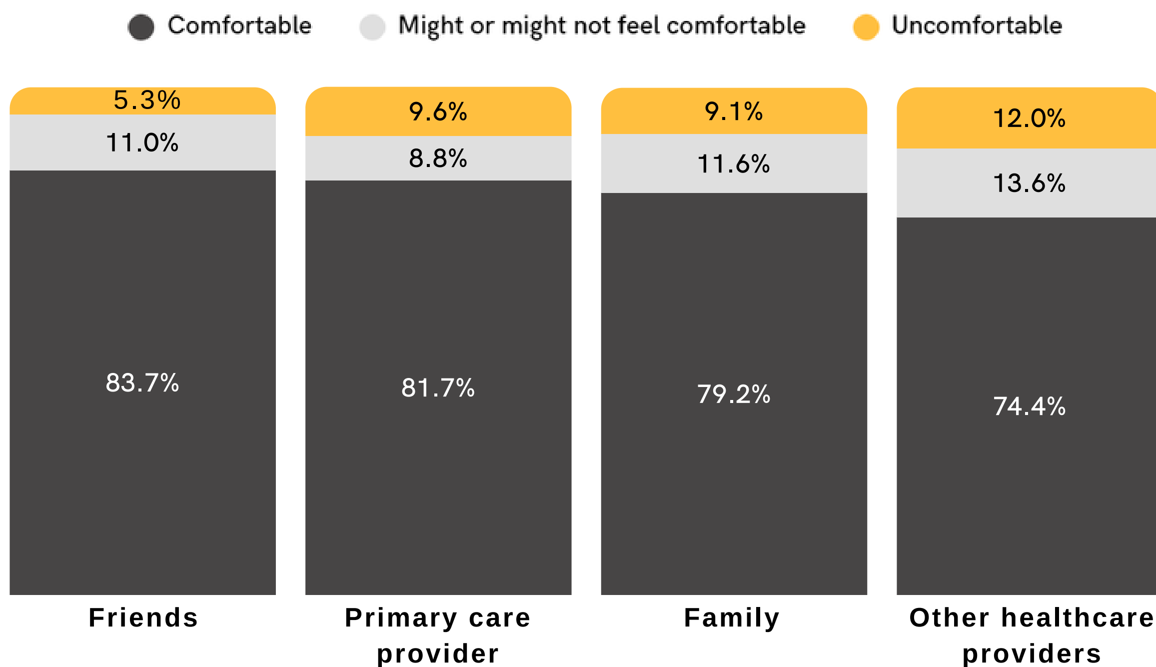
To assess familiarity with the new "Cannabis Trusted Source" signage, which includes a QR code linking to MCA's Dispensary Locator Tool where patients can identify licensed and regulated dispensaries, participants were shown the graphic and asked to report their familiarity and engagement with it. Most respondents reported limited engagement with the sign: 40% indicated they had never seen it, and 43.8% had seen it at least once but had never scanned the QR code. Only 4.5% reported scanning the code at least once, which may reflect that MMCPS-25 respondents have greater familiarity with licensed dispensaries, in part given a majority of respondents reported being in the medical program for more than four years.

When asked how confident they felt that cannabis purchased from a licensed dispensary was safe and uncontaminated, respondents expressed overwhelmingly positive perceptions, which is consistent with past survey cycles. More than three-quarters (76.1%) reported very high confidence, and another 17.2% reported somewhat high confidence. Only a small minority expressed low confidence (1.5%), and 5.1% were neutral.

Stigma and Comfort Discussing Cannabis with Healthcare Providers

From 2022 to 2025, the MMCPS asked respondents to rate their comfort discussing cannabis use with friends, family, their primary care provider, and other healthcare providers, using a 5-point Likert scale ranging from "Not at all comfortable" to "Very comfortable." **Figure 17** presents the response distributions from the MMCPS-25 data, with "Very comfortable" and "Somewhat comfortable" combined into a single "Comfortable" category, and "Definitely not comfortable" and "Probably not comfortable" combined into "Uncomfortable." Overall, approximately three-quarters of respondents reported feeling comfortable discussing cannabis with each group.

Figure 17. MMCPS-25 Respondents' Comfort Discussing Cannabis with Friends, Family, PCPs, and Other Healthcare Professionals



Comfort levels have remained relatively consistent across survey years, with "other healthcare providers" consistently rated the lowest. Given this stability, we combined survey data across years and analyzed it by demographic subgroups. This larger pooled dataset increased sample sizes for minority subgroups, improving the reliability of subgroup comparisons. **Figures 18, 19, and 20** show the average comfort scores across income levels, gender identities, and age groups, with higher scores indicating greater comfort (based on coded responses from 0 = Not at all comfortable to 4 = Very comfortable). Comfort discussing cannabis use with healthcare providers, excluding primary care providers, was lowest among respondents with annual incomes over $100,000, those whose gender identities were not included in the survey response options, and respondents aged 18–20 and 66–75 years. These findings may help guide certifying providers (CPs) and other healthcare providers in approaching conversations about cannabis use with patients, offering insights to improve communication and support patient comfort.

Figure 18. Discussing Cannabis Use with Other (non-primary) Healthcare Providers by Income: 2023 to 2025 Data Combined
Average Comfort Score (from scale 0=Uncomfortable to 4=Very Comfortable)

Figure 19. Discussing Cannabis Use with Other (non-primary) Healthcare Providers by Gender Identity: 2023 to 2025 Data Combined
Average Comfort Score (from scale 0=Uncomfortable to 4=Very Comfortable)

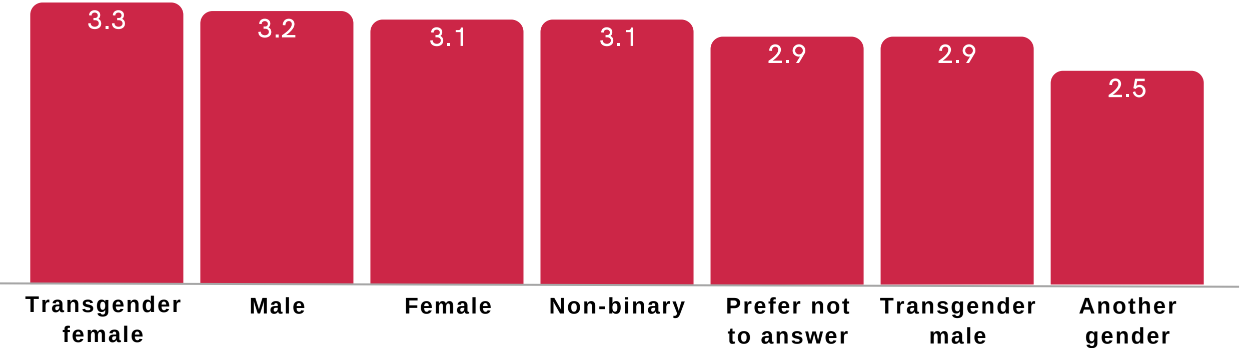
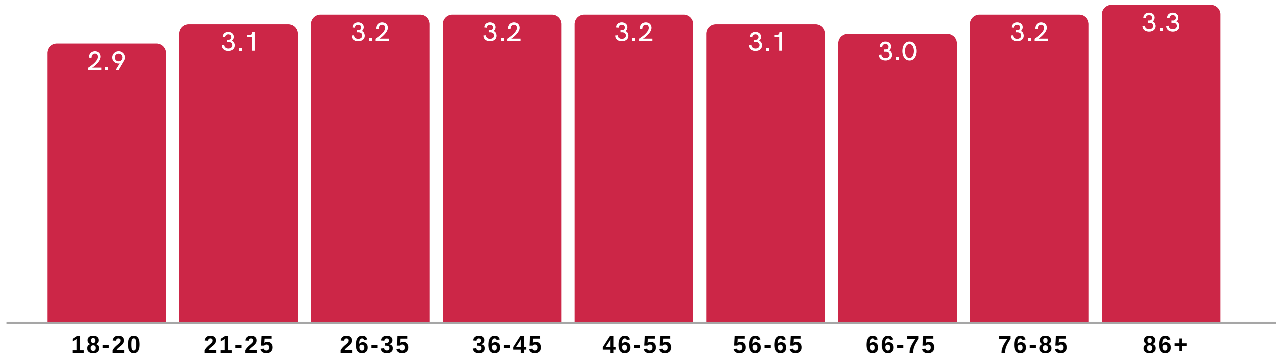


Figure 20. Discussing Cannabis Use with Other (non-primary) Healthcare Providers by Age Range: 2023 to 2025 Data Combined
Average Comfort Score (from scale 0=Uncomfortable to 4=Very Comfortable)



Section 4. Improving the Medical Cannabis Knowledge Base

Clinical evidence and randomized controlled trials (RCTs) on medical cannabis remains limited, and little new high-quality clinical research has emerged in the past year since the MMCPS-24. Most of the available scientific literature continues to rely on observational or self-reported studies, such as the MMCPS, which provide valuable evidence, but are subject to potential biases and therefore limit the ability to draw firm conclusions about clinical outcomes. Additional evidence comes from pharmaceutical cannabis-related medications—such as Epidiolex, which contains the non-psychoactive cannabinoid cannabidiol (CBD), and Marinol, which contains synthetic THC—but these products are prescribed for narrow indications and differ substantially from the products, formulations, and potencies available to state medical cannabis patients. Consequently, patient-use guidelines, such as dosing and use for specific conditions, remain largely patient-driven and based on individual experience rather than robust clinical evidence. In this section of the report, we explore several areas of medical cannabis use that have emerged as priorities in conferences and roundtable discussions with patients and physicians. These topics appear to hold significant importance for the patient population; however, scientific evidence supporting them remains scarce. Our goal is to present and contextualize these topics to strengthen the knowledge base and highlight areas where further research is needed.

4.1 Pain Relief

Chronic pain is the most common reason people seek medical cannabis in the US, a trend reflected in the MMCPS-25, where 51.5% reported severe or chronic pain as their qualifying condition. Past studies have found promising effects of THC on pain relief; however, results vary depending on factors such as method of administration, cannabinoid ratios, and THC concentrations.[2,3] This subsection examines the relationship between chronic

2. Pennypacker SD, Cunnane K, Cash MC, Romero-Sandoval EA. Potency and therapeutic THC and CBD ratios: US cannabis markets overshoot. Front Pharmacol. 2022;13:921493. doi:10.3389/fphar.2022.921493
3. Maharajan MK, Yong YJ, Yip HY, et al. Medical cannabis for chronic pain: can it make a difference in pain management? J Anesth. 2020;34:95-103. doi:10.1007/s00540-019-02680-y

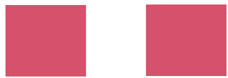
pain and medical cannabis use to better understand factors such as perceived treatment efficacy, THC dose, and consumption method. These insights can help inform strategies to optimize outcomes for patients using medical cannabis to manage severe or chronic pain. One limitation of the present study is the lack of data on specific types of chronic pain, such as neuropathic versus nociceptive pain, or whether the pain followed an injury or had no clear underlying cause, meaning our findings are generalized across different pain types. Further research that captures these details could provide deeper insights into how medical cannabis impacts specific pain conditions.

How does perceived efficacy differ between respondents with chronic pain and those with other qualifying conditions? Does efficacy differ by demographics?

Respondents with chronic pain rated medical cannabis as slightly less effective, on average, than those with other qualifying conditions (mean scores: 2.90 vs. 3.13, respectively, on a 0–4 scale ranging from “Not effective at all” to “Extremely effective”). This difference remained significant after adjusting for age, gender, and race. In an adjusted binary logistic regression model, respondents with chronic pain were approximately 35% less likely to rate medical cannabis as “very” or “extremely effective” compared with respondents with qualifying conditions other than chronic pain ($OR \approx 0.65$, $p < 0.001$). Older age was also associated with slightly lower efficacy ratings. Gender had minimal effects, while race showed some significant differences: compared to white respondents, Asian respondents had lower odds of reporting high efficacy, whereas Black, multiracial, and “Another race” respondents had higher odds (see Appendix C for data table).

What primary products and doses do patients with chronic pain use?

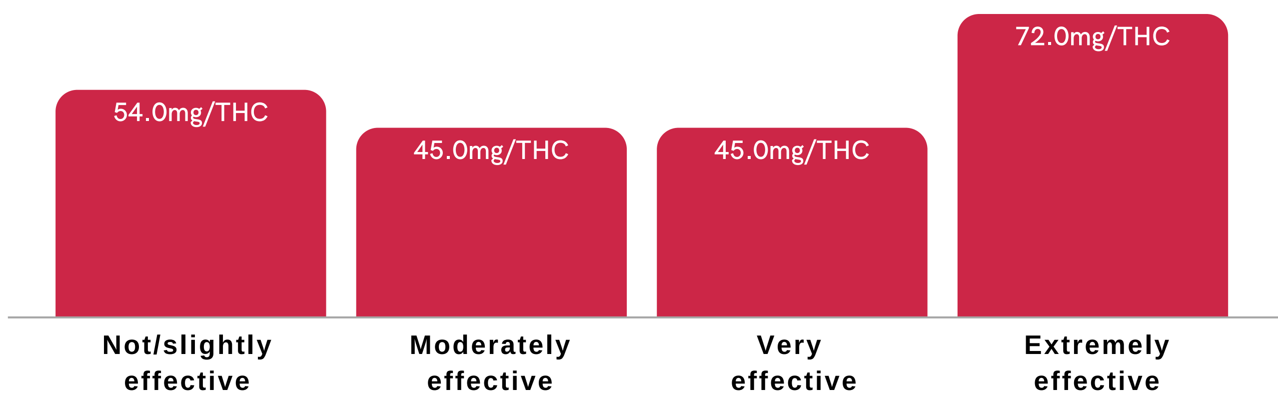
Among respondents with chronic pain, the most commonly used cannabis products were flower (45%), edibles (26%), and vaping products (18%), with a median estimated dose per use of 35.5 mg THC across methods. **Figures 21 and 22** below present median THC dose per occasion by perceived efficacy rating for inhaled vs edible products. These data come from respondents that completed the dose questionnaire, so all data is related to primary product of administration (flower, vape, concentrates, or edibles) and past month use patterns. Due to smaller sample sizes among the two lowest efficacy categories, “Not at all effective” and “Slightly effective” were combined into “Not/slightly effective.”



For inhaled products, respondents reporting either end of the efficacy scale —not/slightly or extremely effective—reported the highest median doses (54 mg and 72 mg THC per occasion, respectively), while those reporting moderately or very effective outcomes reported lower median doses (45 mg THC per occasion for each; see **Figure 21**). The moderate and very effective categories included more respondents (n=459 and n=1,001) than the extremely effective group (n=509), and both groups reported the same median dose per occasion (45 mg THC). These findings indicate that many patients experienced moderate to high perceived efficacy at a more moderate median dose (45 mg THC).

A similar pattern was not observed among respondents primarily using edible cannabis products, as perceived effectiveness increased with increasing dose, although overall estimated doses were lower for edible products than inhaled products. Finally, when considering primary method and perceived efficacy (by controlling for dose), respondents primarily using flower reported slightly higher efficacy than those primarily using edibles, while concentrates and vaping showed no significant differences. Taken together, these patterns highlight the potential value of recommending moderate doses, regardless of method (inhaled vs edible) to balance effectiveness with safety and minimize risk of adverse effects.

Figure 21. Median Dose of Inhaled Products by Perceived Efficacy Among Chronic Pain Patients



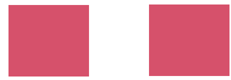
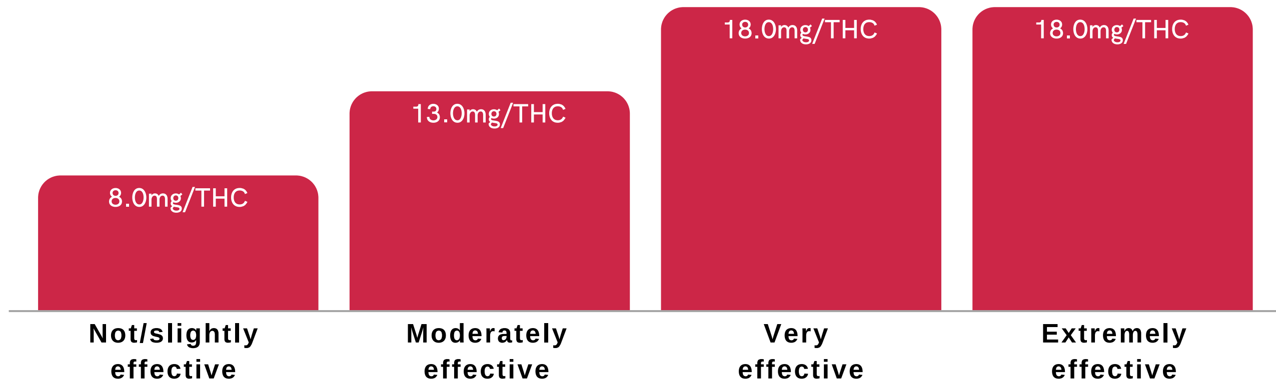


Figure 22. Median Dose of Edible Products by Perceived Efficacy Among Chronic Pain Patients



4.2 High THC

Average THC concentration in cannabis products and use of these high-potency products has increased significantly nationwide in the past 15 years.[4] High THC use is common among Maryland medical cannabis patients. While there is no universally established definition of "high THC," for this report we use thresholds based on products available on the market: >30% THC for inhaled products and >10 mg THC per serving for edibles. Among MMCPS-25 respondents who used cannabis in the past month, 35% of those primarily using inhaled products reported using high THC products (>30% THC), while 55% of those primarily using edibles reported consuming high THC edibles (>10 mg THC). This section of the report examines patterns of high THC use in the patient population and explores the reasons patients choose these products.

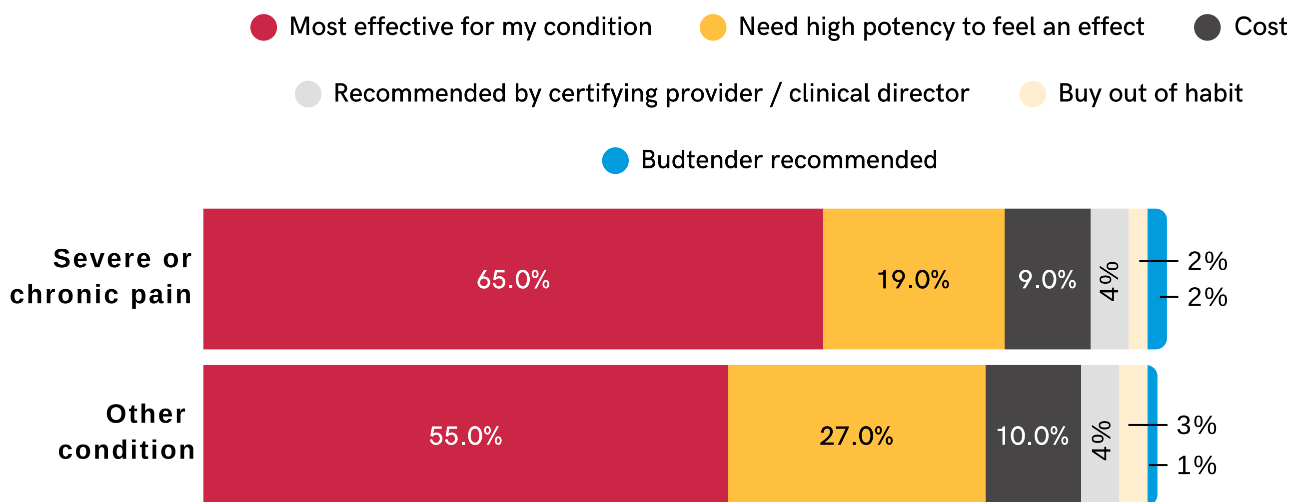
Why do patients purchase high THC products, especially if their qualifying condition is "chronic pain"?

Respondents were asked to select the most important factor when purchasing cannabis in a multiple-choice question, and 25% selected high THC potency. When those respondents were asked in a follow-up question why high THC potency was most important, the majority of respondents indicated their choice was based on personal experience (**Figure 23**).

4. ElSohly MA, Chandra S, Radwan M, Majumdar CG, Church JC. A comprehensive review of cannabis potency in the United States in the last decade. Biol Psychiatry Cogn Neurosci Neuroimaging. 2021;6(6):603-606. doi:10.1016/j.bpsc.2020.12.016

Across all respondents, the most common reason was that high THC products are most effective for their qualifying condition, with 65% of patients with chronic or severe pain and 55% of patients with other conditions selecting this reason. Other reasons, such as needing high potency to feel an effect, were also reported, particularly among patients with conditions other than chronic pain (27% vs. 19% in pain patients). Recommendations from a certifying provider (CP) or dispensary agent/budtender were infrequently cited (<4% in both groups). Cost considerations were mentioned by roughly 9–10% of respondents, and habitual purchasing was rare (<3%).

Figure 23. Reasons High THC Potency Is Prioritized When Selecting Dispensary Products

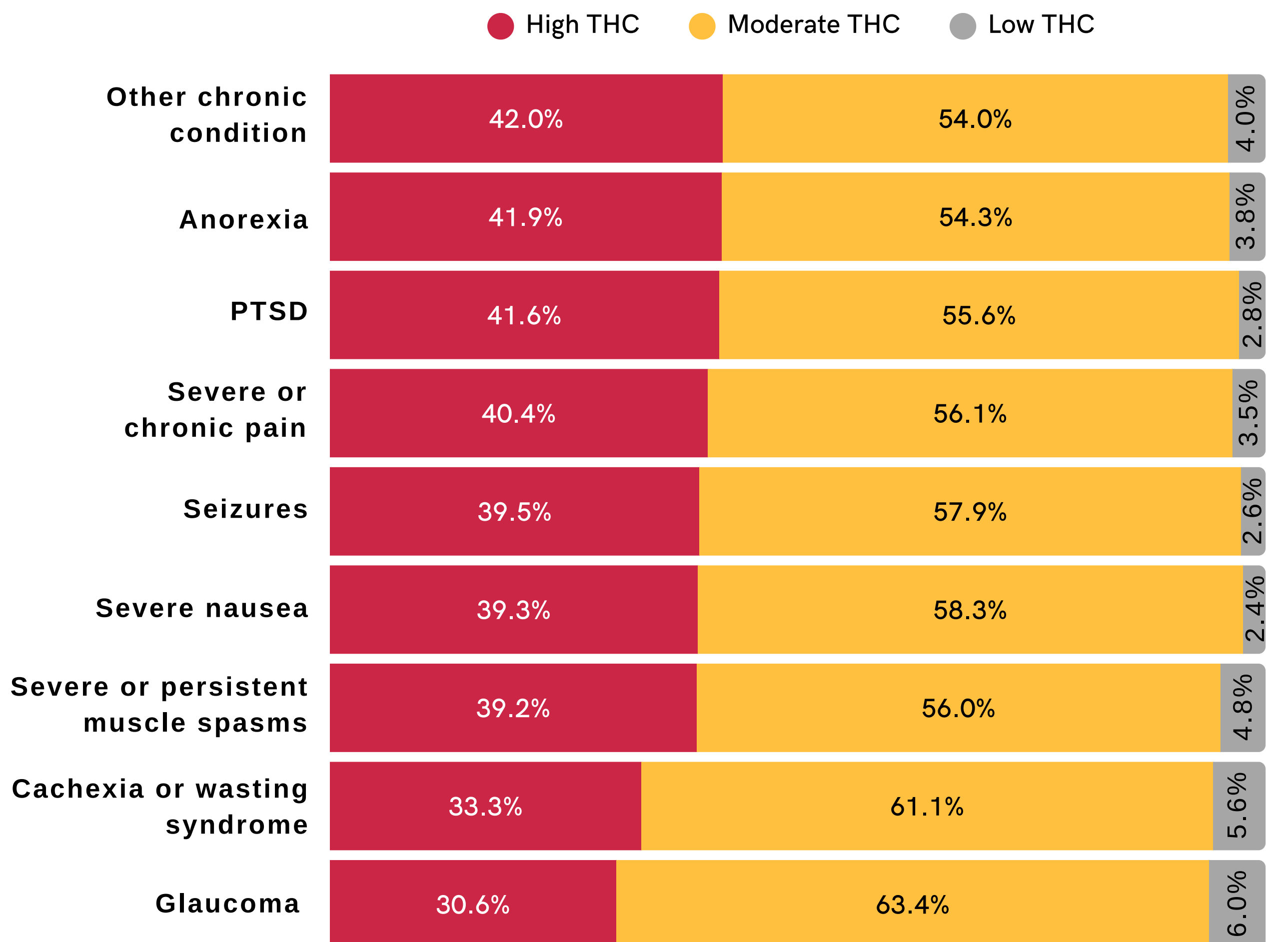


Relationship between THC potency and perceived treatment efficacy in chronic pain patients

A key finding in the previous section showed moderate THC doses were perceived to be as effective as higher doses for chronic pain, particularly among inhaled products. When looking at THC potency, we see a similar pattern. Among respondents with chronic pain, low THC users (<15% THC inhaled; <5 mg THC edibles) reported slightly lower perceived efficacy than those who did not use low THC products ($p < 0.001$). However, high THC users (>30% THC inhaled; >10 mg THC edibles) did not report significantly greater efficacy compared to non-high THC users ($p = 0.076$). Taken together, these results suggest that mid-range THC products may offer effective symptom relief without the need for very high THC potency, since only low THC products were linked to lower perceived efficacy.

To further examine potency, we defined "high THC" as >30% THC for inhaled products and >10 mg THC for edibles, "low THC" as <15% THC for inhaled products and <5 mg THC for edibles, and "moderate THC" included all remaining values for each product type. Across qualifying conditions, use of high-potency THC was consistent, with roughly 31–42% of respondents reporting that their typical product was high THC (**Figure 24**). The highest proportions of high THC use were observed among Other chronic conditions (42%), Anorexia (42%), and PTSD (42%) while the lowest were found among Glaucoma (31%) and Cachexia/wasting syndrome (33%). In contrast, low THC use remains rare across all conditions (2–6%). Overall, these patterns indicate that most respondents prefer moderate or high THC products, while low THC products make up only a very small share of typical use across all qualifying conditions.

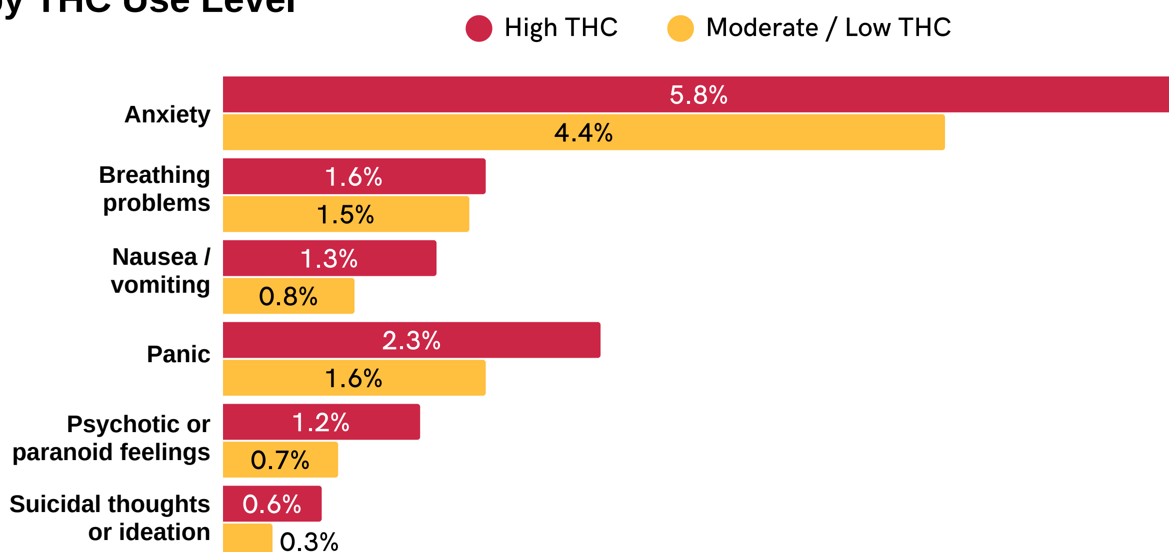
Figure 24. Percentage of Respondents using High, Moderate, or Low THC Products by Qualifying Condition



Association Between THC Content and Adverse Effects Frequency

We compared the frequency of adverse cannabis-related experiences between respondents who reported high THC product use and those who reported moderate/low THC use, examining the proportion of participants who experienced each adverse effect weekly or more often (see **Figure 25**). Across most categories, high THC users reported slightly higher percentages of weekly or more frequent adverse experiences compared to moderate/low THC users. For anxiety, nausea/vomiting, panic, psychotic or paranoid feelings, and suicidal thoughts or ideation, statistically significant differences between THC groups were detected. However, the absolute differences were small—for example, weekly anxiety was reported by 5.8% of high THC users versus 4.4% of moderate/low THC users. The only exception was breathing problems, where there was no significant difference between high THC users (1.6%) and moderate/low THC users (1.5%). These findings align with research indicating that high THC cannabis use is associated with increased risk for adverse effects such as cognitive impairments,[5] psychosis,[6] and CUD.[7] A practical implication is that patients with pre-existing vulnerability to these physical and behavioral health conditions may benefit from choosing lower-THC products. From a regulatory approach, it supports measures such as clearer labeling, required education for high THC purchases, and enhanced dispensary agent training to support safer consumer decisions.

Figure 25. Percentage Experiencing Adverse Cannabis Effects Weekly by THC Use Level



5. Colizzi M, Bhattacharyya S. Does cannabis composition matter? Differential effects of delta-9-tetrahydrocannabinol and cannabidiol on human cognition. Curr Addict Rep. 2017;4:62-74. doi:10.1007/s40429-017-0142-2
6. Di Forti M, Amoretti S, et al. The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicentre case-control study. Lancet Psychiatry. 2019;6(5):427-436.
7. Kvamme SL, Pedersen MM, Thomsen KR, Thylstrup B. Exploring medicinal use of low THC cannabis products—comparing experienced effects and side-effects between CBD-oil-only users to users of high THC cannabis products. Drugs Educ Prev Policy. 2025;32(2):132-144. doi:10.1080/09687637.2024.23111

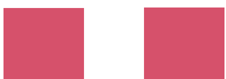
4.3 Dose

Understanding and accurately estimating cannabis dose is important for several reasons. For example, appropriate dosing could support safer patterns of use and allow for greater precision in addressing symptoms, with the potential to improve therapeutic effects. It may also help reduce risks that can be associated with cannabis use—such as dependence, cannabis use disorder (CUD), CHS, cognitive changes, worsening mental health symptoms, or other adverse effects—drawing on principles observed with other medications.[8] Despite its importance, scientific evidence on cannabis dosing remains limited, creating challenges for both clinical guidance and patient decision-making, as definitive dose recommendations have not been established for medical or adult-use purposes. Estimating dose is complicated by several factors, such as the growing diversity of cannabis products and inherent difficulty estimating dose of inhaled THC products, the varying effects that occur when THC is combined with other cannabinoids such as cannabidiol (CBD), and the variability in timing and methods of administration presented across studies.[9, 10] Despite these methodological constraints, the MMCPS cross-sectional survey remains an important tool for advancing our understanding of dose by contributing data where evidence is otherwise scarce.

What have we learned about dose with 4 years of survey data?

Dose per use occasion, expressed as milligrams of THC (mg THC), has been estimated in every MMCPS study using a series of self-reported questions about typical consumption patterns, including quantity used and THC potency. Only respondents reporting cannabis use in the past month complete the dose questionnaire. Informed by the scientific literature, we first developed this method for the 2022 MMCPS to meet the statutory requirement to establish a baseline dose per use. We have continued to measure dose in subsequent MMCPS waves to track trends over time. The dose formulas have been refined as new scientific evidence has become available, such as accounting for THC-loss for inhaled products,[11] and prior

8. Borodovsky JT, Murphy E, Hasin DS, Livne O, Wall M, Aharonovich E, Wisell C, Struble CA, Habib MI, Budney AJ. Self-titration of cannabis consumption: an epidemiological perspective. J Psychiatr Res. 2025;191:527-534. doi:10.1016/j.jpsychires.2025.09.014
9. Volkow ND, Baler R. Emergency department visits from edible versus inhalable cannabis. Ann Intern Med. 2019;170(8):569-570. doi:10.7326/M19-0542
10. MacCallum CA, Russo EB. Practical considerations in medical cannabis administration and dosing. Eur J Intern Med. 2018;49:12-19. doi:10.1016/j.ejim.2018.01.004
11. Budney AJ, Borodovsky JT, Struble CA, Habib MI, Shmulewitz D, Livne O, Aharonovich E, Walsh C, Cuttler C, Hasin DS. Estimating THC consumption from smoked and vaped cannabis products in an online survey of adults who use cannabis. Cannabis Cannabinoid Res. Published online 2022. doi:10.1089/can.2022.0238



estimates have been recalculated to maintain consistency with updated formulas. In the 2025 MMCPS, we further refined the dose formula for concentrated products; accordingly, the 2024 estimate has been updated using this new formula, while the 2022 and 2023 estimates have been removed because those surveys did not collect self-reported quantity used. In earlier reports, a median value had been imputed for those years' missing data; however, now that we have two consecutive years of patient-reported quantity data, we have opted to leave those values blank going forward (see **Table 8**).

Table 8 presents the median THC dose (mg THC) per use occasion across the four most common methods of administration, by survey year. The median dose for flower increased substantially in the current survey, rising from approximately 47 mg THC in prior years to 67.5 mg THC. The changes in flower dose may be informed by fewer respondents reporting lower quantities such as 0.1 and 0.2 grams per session, and more reporting larger quantities per session: 1, 1.5, 2.5, 3.5 grams. There were also fewer respondents reporting using lower potency products (under 25% THC), with increases in those reporting use of higher potency, 25-35% (see Appendix A for data). Edible doses also rose, increasing from a stable median of about 8 mg THC per use to 13 mg THC in the current year, which can be characterized by fewer respondents reporting using lower doses per session (under 10 mg THC), and more respondents reporting higher dose edibles, particularly the 31-40 mg THC range. Median doses for vape products remained consistent with previous years, while concentrate doses were unchanged from the updated 2024 estimates.

Table 8. Median Dose per Occasion (mg THC) by Product Type

	Flower	Edible	Vape	Concentrate
2022	45.0	8.0	19.2	--
2023	47.3	8.0	16.0	--
2024	47.2	8.0	16.0	84.5
2025	67.5	13.0	18.0	86.2

Is medical cannabis dose too high?

When comparing the 2025 data to previous years, dose appears to have increased; however, it is important to note that cross-sectional survey data do not allow for definitive conclusions about trends over time. Behavioral factors may help explain the higher doses observed in the current survey. For example, patients may be consuming larger amounts in a single session or selecting higher-potency products—as indicated by the 25% of respondents who reported high THC potency as the most important factor when selecting a cannabis product—as well as general trend toward increasing THC potency of cannabis products on the market. Additionally, longer-term use appears to be common. In the current sample, the average length of participation in the medical program is 4.5 years, which may indicate increasing tolerance and rising consumption over time.

This naturally raises the question: “Is medical cannabis dose too high?” While few precise dosing recommendations exist, researchers suggest that medical effects typically occur around 5–10 mg THC,[12] indicating that current doses may exceed what is necessary for therapeutic benefit. This includes indications for chronic or severe pain, which is the leading qualifying condition for Maryland medical cannabis patients.[13] However, in the absence of broadly accepted dosing guidelines, a conservative approach—“start low and go slow”—is recommended, with gradual adjustments over time to account for changes in tolerance.[14] The scientific literature emphasizes that the optimal dose is the lowest amount that achieves symptom relief without causing adverse effects.[15]

A recently published study on cannabis tolerance and symptom relief suggests that regularly rotating cannabis products can help reduce or even reverse tolerance by varying the types of cannabinoids and phytochemicals consumed.[15] According to the authors, this strategy may allow patients to achieve optimal symptom relief while using the lowest effective dosages.

12. Freeman TP, Lorenzetti V. “Standard THC units”: a proposal to standardize dose across all cannabis products and methods of administration. Addiction. 2020;115(7):1207-1216. doi:10.1111/add.14842
13. Velzeboer R, Malas A, Boerkoel P, Cullen K, Hawkins M, Roesler J, Lai WWK. Cannabis dosing and administration for sleep: a systematic review. Sleep. 2022;45(11):zsac218. doi:10.1093/sleep/zsac218
14. MacCallum CA, Russo EB. Practical considerations in medical cannabis administration and dosing. Eur J Intern Med. 2018;49:12-19. doi:10.1016/j.ejim.2018.01.004
15. Stith SS, Li X, Brockelman F, Keeling K, Hall B, Vigil JM. Cannabis tolerance reduces symptom relief. Front Pharmacol. 2025;16:1496232. doi:10.3389/fphar.2025.1496232

Although more research is needed, these findings provide useful insights and potential guidance for both patients and providers. Findings also reinforce the need to provide additional education and resources at the point-of-sale, at a minimum, regarding high THC products (how to read product labels and identify high THC products, potential risks, individuals who should avoid these products, lower THC alternatives to consider, etc.). Importantly, this education is applicable to medical patients as well as adult-use consumers as they have access to many of the same products including high THC vape and concentrate products.

How Dose Varies by Condition, Demographics, and Reported Effects

We pooled survey data collected across four waves (2022–2025) and examined THC dose per use occasion in relation to key variables, including qualifying condition, perceived efficacy, demographic characteristics, adverse experiences, and social outcomes. This approach allowed us to assess patterns associated with dose across a large, combined sample.

Table 9 presents median THC dose (mg per use occasion) by qualifying condition and perceived efficacy (2022–2025). For several conditions—including anorexia/cachexia or wasting syndrome, glaucoma, "other" chronic condition, seizures, severe or chronic pain, and severe or persistent muscle spasms—respondents reporting "very" or "extremely effective" symptom relief generally had the highest median dose per use occasion. Some conditions deviated from this overall trend. Among respondents using medical cannabis for PTSD, those reporting "not effective at all" had the highest median dose (48.9 mg THC), although those reporting "extremely effective" had the second-highest median dose (45 mg THC). For severe nausea, the highest median dose was observed among respondents reporting cannabis as "moderately effective," rather than at the highest efficacy category.

When median dose was assessed across demographic variables (**Table 10**), pooled data from the four survey waves indicated higher overall median doses among males and among respondents reporting other gender identities. A clear age gradient was also observed: median THC dose declined steadily with increasing age beginning after age 25.

Past-year frequency of adverse physical and mental health experiences following cannabis use was measured in 2022 and 2025. These two waves were pooled to estimate the median THC dose associated with each reported adverse experience and frequency category (**Table 11**). Across all

experiences examined—anxiety, breathing problems, nausea/vomiting, panic, psychotic or paranoid feelings, and suicidal thoughts or ideation—the highest median doses were observed among respondents reporting the most frequent occurrences (approximately daily). It is important to note, however, that adverse experiences were reported infrequently overall. Finally, **Table 12** presents median THC dose by respondents' perceived effects of medical cannabis on selected health and social outcomes in the pooled 2022 and 2025 sample. Overall, THC dose did not demonstrate consistent or notable associations across most outcome domains. One potential exception was social relationships, where higher median doses were modestly associated with reports of negative effects. Importantly, reports of worsened outcomes were uncommon: 10% or fewer respondents endorsed "worsened" effects across all categories examined.

Table 9. Median Dose (mg THC) by Qualifying Condition and Perceived Efficacy: 2022, 2023, 2024, and 2025 Samples Pooled

	Perceived Efficacy of Cannabis for Treating Qualifying Condition				
	Not Effective At All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
Overall (all conditions)					
N (%)	222 (0.4%)	1671 (3.1%)	11,309 (20.6%)	24,638 (45%)	16,949 (30.9%)
Dose (mdn)	20	18	26	30	36
Anorexia					
N (%)	1 (0.3%)	5 (1.6%)	36 (11%)	145 (46%)	129 (41%)
Dose (mdn)	^	^	30	40.5	39.9
Cachexia or wasting syndrome					
N (%)	0 (0%)	0 (0%)	12 (21%)	25 (44%)	20 (35%)
Dose (mdn)	^	^	27	60.8	20.1
Glaucoma					
N (%)	2 (0.8%)	20 (8.5%)	78 (33%)	93 (39%)	43 (18%)
Dose (mdn)	^	22.9	36.0	45.0	47.2

	Perceived Efficacy of Cannabis for Treating Qualifying Condition				
	Not Effective At All	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
Other Chronic Condition					
N (%)	20 (0.2%)	207 (2.1%)	1,742 (18%)	4,681 (47%)	3,298 (33%)
Dose (mdn)	8.0	13.0	20.2	26.6	33.8
PTSD					
N (%)	12 (0.3%)	64 (1.5%)	572 (13%)	1,838 (42%)	1,854 (43%)
Dose (mdn)	48.9	19.7	30.2	33.8	45.0
Seizures					
N (%)	1 (0.4%)	4 (1.5%)	40 (15%)	101 (37%)	129 (47%)
Dose (mdn)	^	^	33.8	45.0	67.5
Severe Nausea					
N (%)	1 (0.1%)	17 (2.3%)	77 (11%)	301 (41%)	332 (46%)
Dose (mdn)	^	39.9	45.0	35.5	36.0
Severe or Chronic Pain					
N (%)	34 (0.2%)	436 (2.7%)	3,825 (24%)	7,461 (47%)	4,230 (26%)
Dose (mdn)	14.7	18.0	25.5	33.8	40.5
Severe or Persistent Muscle Spasms					
N (%)	1 (0.1%)	15 (1.7%)	213 (24%)	413 (46%)	253 (28%)
Dose (mdn)	^	20.0	26.6	30.2	42.0

* ^ small sample size (n < 10)
Findings in this table are not intended as medical advice. Patients should always consult a healthcare provider for medical concerns.

Table 10. Median Dose (mg THC) by Method of Administration and Demographic Characteristics: 2022, 2023, 2024, and 2025 Samples Pooled

	mg THC per Occasion (mdn)				
	Flower N=17,026	Edible N=8,989	Vape N=6,259	Concentrate N=612	Overall N=27,793
Full Sample (all survey years)	**47**	**8**	**18**	**42**	**30**
Gender Identity					
Male	47.2	8	19.2	84.5	35.5
Female	54	8	15.3	84.5	27
Transgender female	36	8	18.9	^	27
Transgender male	67.5	13	19	^	35.2
Nonbinary	47.2	8	16.9	69.5	30.2
Other, not included above	67.5	^	^	^	36.6
Prefer not to answer	45	13	13.3	^	33.8
Age Group					
18 to 20	67.5	8	25.3	84.5	41.2
21 to 25	67.5	13	22.6	84.5	45
26 to 35	67.5	8	16.9	84.5	37.2
36 to 45	67.5	8	16.9	84.5	35.5
46 to 55	63	8	18.1	84.5	33.8
56 to 65	45	8	15.5	99	27
66 to 75	45	8	15.3	74.5	25.5
76 or older	45	8	15.1	^	18

* ^ small sample size (n < 10)
(mdn) = median
Findings in this table are not intended as medical advice. Patients should always consult a healthcare provider for medical concerns.

Table 11. Median Dose (mg THC) by Frequency of Adverse Experiences in Past year: 2022 and 2025 Samples Pooled

	Frequency of Adverse Experience in Past Year				
	Never	Once or Twice	About Monthly	About Weekly	About Daily
Adverse Experience					
Anxiety					
N (%)	10,219 (65%)	4,191 (27%)	620 (3.9%)	414 (2.6%)	354 (2.2%)
Dose (mdn)	35.5	33.8	33.8	35.5	52.7
Breathing Problems					
N (%)	13,595 (86%)	1,697 (11%)	254 (1.6%)	139 (0.9%)	88 (0.6%)
Dose (mdn)	33.8	37.2	37.2	42.2	66.5
Nausea/Vomiting					
N (%)	14,308 (91%)	1,139 (7.2%)	157 (1.0%)	98 (0.6%)	67 (0.4%)
Dose (mdn)	34.6	35.5	35.5	54.8	67.5
Panic					
N (%)	13,333 (84%)	1,899 (12%)	292 (1.8%)	155 (1.0%)	117 (0.7%)
Dose (mdn)	33.8	35.5	35.5	45	90
Psychotic or Paranoid Feelings					
N (%)	13,825 (88%)	1,630 (10%)	187 (1.2%)	100 (0.6%)	57 (0.4%)
Dose (mdn)	35.5	33.8	35.5	35.5	94.5
Suicidal Thoughts or Ideation					
N (%)	15,393 (97%)	282 (1.8%)	54 (0.3%)	33 (0.2%)	28 (0.2%)
Dose (mdn)	35.5	36	51.9	33.8	85.5

(mdn) = median
Findings in this table are not intended as medical advice. Patients should always consult a healthcare provider for medical concerns.

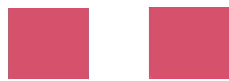


Table 12. Median Dose (mg THC) by Perceived Effects of Medical Cannabis on Health and Social Outcomes: 2022 and 2025 Samples Pooled

	Improved	Neither/Not affected	Worsened
Health or Social Outcome			
Energy Level			
N (%)	2,529 (45%)	2,694 (48%)	392 (7%)
Dose (mdn)	37.2	35.5	36
Memory or Concentration			
N (%)	5,307 (33.7%)	8,871 (56.3%)	1,592 (10%)
Dose (mdn)	40.5	27	33.8
Mood or Mental Health			
N (%)	14,005 (89%)	1,698 (11%)	82 (0.5%)
Dose (mdn)	33.8	26.6	35.5
Physical Health			
N (%)	10,621 (67%)	4,962 (31%)	198 (1%)
Dose (mdn)	33.8	30.2	38.6
Social Relationships (family, friends, neighbors)			
N (%)	7,897 (50%)	7,740 (49%)	142 (0.9%)
Dose (mdn)	35.5	27	45

(mdn) = median
Findings in this table are not intended as medical advice. Patients should always consult a healthcare provider for medical concerns.

Section 5. Recommendations

■ Develop a Certifying Provider–Patient Relationship Quality Index: Future survey waves could benefit from a standardized Relationship Quality Index to quantify the strength of the interaction between patients and their certifying providers. This index would help MCA assess how provider relationships influence patient knowledge, satisfaction, and program engagement. Indicators could include whether the certifying provider (CP) also serves as the patient's primary care provider (PCP), frequency of interactions over the year (capturing continuity and depth), the number of topics for which the CP is the patient's primary information source (reflecting trust and perceived expertise), and measures of communication quality and trust. The index could be refined using internal consistency testing or factor analysis, providing MCA with a clear, quantitative tool to assess relational dynamics and identify opportunities to strengthen patient support within the program.

■ Patients have consistently expressed concerns about availability of specific medically used cannabis products through the 2025 roundtables, MMCPS-24, and MMCPS-25. To help address these concerns, MCA could share cannabis product availability data with manufacturers. Many lesser-used products (e.g., tinctures, patches, capsules) are not prioritized because manufacturers have limited incentives to produce them. MCA could explore incentive options for manufacturers that increase the availability of these underrepresented products favored by patients. Sharing data and clear recommendations may help encourage production of items currently missing from the market.

■ Engage directly with dispensary agents/budtenders, who play a significant role in patients' decision-making around product selection and dosing. These activities could include conducting a survey similar to the Certifying Provider survey or hosting dedicated roundtables to learn what questions they receive from patients, what training they have completed, and what additional tools would help them serve patients effectively. These insights

can inform the development of point-of-sale materials, targeted training modules, and clearer guidance on when budtenders should refer patients to Clinical Directors or Certifying Providers—particularly for medical questions. Strengthening this engagement can enhance Responsible Vendor Training and improve the consistency and quality of patient interactions across dispensaries.

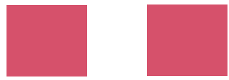
■ For future waves of the MMCPS, consider implementing a two-stage design in which participants from the main survey can opt into a follow-up survey a few weeks later, with responses linked across surveys. This approach would provide stronger insight into short-term changes in patterns of use, support validation of key measures, and enhance development of tools such as a more robust certifying provider quality index.

■ Our data show that high THC product use is common, and research indicates that such use may heighten behavioral health risks. MCA could implement consumer-protection measures such as clearer potency labeling, brief required education for high THC purchases, and strengthened budtender training to support more informed decision-making.

■ MCA’s interest in leveraging the Compassionate Use Fund (CUF) to support Medicaid beneficiaries and Veterans—alongside income-based disparities observed in our findings—suggests an opportunity to operationalize the CUF to improve affordability and access. This could include options such as reimbursing providers or aligning CUF coverage with Maryland Medicaid.

■ Establish a dedicated access or help line to support patients within the medical cannabis program. This resource could provide guidance on product use, interactions with other medications, and general questions and would become increasingly important as new social equity dispensaries open without a Clinical Director requirement. The helpline would offer patients an additional, reliable point of contact for informed decision-making.

■ MCA should investigate available data sources (e.g., its seed-to-sale and/or laboratory test data) to assess market-level data on product potencies (flower, edibles, adult-use, and medical) to help contextualize observed increases in respondent-reported doses. Monitoring changes in products available on the market, including the possible rise of higher-dose edibles and decrease of mid-range doses (10–40 mg), can help interpret survey findings and inform patient guidance.



Appendices

Table A1. Demographics

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How old are you?				
18 to 20	1.6%	1.2%	1.2%	1.0%
21 to 25	5.1%	3.5%	2.6%	1.9%
26 to 35	21.0%	16.0%	13.0%	10.0%
36 to 45	24.0%	22.0%	21.0%	19.0%
46 to 55	17.0%	18.0%	19.0%	19.0%
56 to 65	17.0%	20.0%	20.0%	22.0%
66 to 75	13.0%	18.0%	19.0%	22.0%
76 to 85	1.3%	2.7%	3.0%	4.3%
86+	0.1%	0.2%	0.1%	0.1%
What is your gender identity?				
Male	44.0%	41.0%	40.0%	41.0%
Female	54.0%	57.0%	57.0%	56.0%
Transgender female	0.2%	0.2%	<0.1%	<0.1%
Transgender male	0.2%	0.2%	0.4%	0.3%
Non-binary	1.3%	1.2%	1.5%	1.3%
Not included above	<0.1%	<0.1%	<0.1%	<0.1%
Prefer not to answer	0.8%	0.9%	0.8%	1.1%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Please choose the option below that is most accurate for you.				
I prefer not to answer	2.1%	2.1%	2.1%	2.6%
I am neither pregnant nor breastfeeding	94.0%	94.0%	94.0%	94.0%
I am not currently, but was pregnant or breastfeeding in the last year	2.6%	2.6%	2.5%	2.1%
I am currently breastfeeding	0.4%	0.4%	0.4%	0.2%
I am currently pregnant	0.9%	0.6%	0.6%	0.3%
I am currently pregnant and breastfeeding	0.2%	0.4%	0.3%	0.4%
Does anyone under the age of 18 live with you? Please select all that apply.				
No one under 18 lives with me	63.0%	67.0%	69.0%	72.0%
Yes, one or more children under age 5	9.6%	7.8%	6.8%	5.4%
Yes, one or more children ages 6-10	11.0%	8.8%	8.9%	7.8%
Yes, one or more children ages 11-15	11.0%	9.9%	9.4%	8.8%
Yes, one or more children ages 16-18	5.8%	6.1%	6.3%	5.7%
Are you Hispanic or Latino?				
Yes	6.1%	5.4%	5.9%	4.7%
No	94.0%	95.0%	94.0%	95.0%
What is the highest level of schooling you have completed?				
Less than high school	1.3%	1.3%	1.1%	1.2%
High school diploma or equivalent	16.0%	17.0%	17.0%	18.0%
Trade school certificate/diploma	5.7%	5.9%	6.2%	6.4%
Some college, or associates degree	32.0%	33.0%	33.0%	33.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
What is the highest level of schooling you have completed? (cont.)				
Trade school certificate/diploma	5.7%	5.9%	6.2%	6.4%
Some college, or associates degree	32.0%	33.0%	33.0%	33.0%
Bachelor’s degree	25.0%	23.0%	23.0%	22.0%
Master’s degree, PhD, or other postgraduate education	19.0%	19.0%	20.0%	19.0%
Does anyone under the age of 18 live with you? Please select all that apply.				
Working full-time	57.0%	50.0%	49.0%	45.0%
Working part-time	8.3%	9.3%	8.7%	8.7%
Student	1.9%	1.8%	2.0%	1.5%
Stay-at-home parent or homemaker	4.8%	4.0%	4.1%	3.8%
Not working	5.7%	6.1%	5.9%	5.6%
Not working, seeking employment	3.0%	3.4%	3.0%	3.4%
Retired	19.0%	25.0%	27.0%	32.0%
What is your annual household income from all sources?				
No income	1.7%	1.6%	1.5%	1.8%
Less than $14,000	4.4%	4.2%	3.5%	3.9%
$14,000 to $29,999	8.3%	8.3%	8.1%	8.2%
$30,000 - $49,999	14.0%	13.0%	13.0%	13.0%
$50,000 - $74,999	15.0%	15.0%	16.0%	16.0%
$75,000 - $99,999	12.0%	12.0%	13.0%	13.0%
$100,000 to $149,999	17.0%	16.0%	17.0%	16.0%
$150,000 - $199,999	8.5%	9.1%	9.3%	8.5%
$200,000 or more	7.6%	7.5%	8.0%	7.7%
I prefer not to answer	9.5%	10.0%	9.3%	11.0%
I don't know	2.0%	1.9%	1.7%	1.8%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
In which county in Maryland do you reside?				
Allegany County	1.6%	1.6%	1.7%	1.8%
Anne Arundel County	11.0%	11.0%	10.0%	11.0%
Baltimore City	9.1%	8.6%	8.3%	7.7%
Baltimore County	18.0%	17.0%	16.0%	16.0%
Calvert County	1.9%	2.0%	1.9%	2.2%
Caroline County	0.8%	0.8%	0.8%	0.8%
Carroll County	4.0%	4.3%	4.3%	4.4%
Cecil County	2.1%	2.5%	3.0%	2.8%
Charles County	1.9%	2.2%	2.0%	2.2%
Dorchester County	1.0%	0.9%	0.9%	1.0%
Frederick County	6.2%	6.1%	6.7%	6.4%
Garrett County	0.5%	0.4%	0.5%	0.4%
Harford County	6.3%	6.0%	6.0%	6.3%
Howard County	5.4%	5.2%	5.4%	5.3%
Kent County	0.3%	0.4%	0.5%	0.5%
Montgomery County	13.0%	12.0%	12.0%	12.0%
Prince George’s County	5.8%	6.2%	6.1%	6.3%
Queen Anne’s County	1.3%	1.3%	1.4%	1.3%
St. Mary’s County	1.6%	1.7%	1.7%	1.8%
Somerset County	0.4%	0.4%	0.4%	0.5%
Talbot County	0.9%	1.1%	1.0%	1.0%
Washington County	3.0%	3.0%	3.5%	3.3%
Wicomico County	2.5%	2.5%	2.8%	2.6%
Worcester County	1.7%	2.0%	2.1%	2.3%
Other (please specify)	<0.1%	<0.1%	0.1%	0.1%

Table A2. Patterns of Use

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How many years have you been a certified patient in the Maryland medical cannabis program?				
1	29.0%	19.0%	9.5%	7.7%
2	26.0%	20.0%	15.0%	8.4%
3	25.0%	27.0%	24.0%	17.0%
4	13.0%	16.0%	22.0%	18.0%
5	7.0%	11.0%	14.0%	19.0%
6	-	7.6%	8.2%	11.0%
7	-	-	7.9%	8.2%
8	-	-	-	10.0%
How many days in the past month did you use each substance? – Cannabis				
0 days	4.1%	3.0%	3.2%	3.2%
1-4 days	8.8%	8.1%	7.4%	7.2%
5-10 days	9.3%	8.6%	7.7%	7.6%
11-19 days	13.0%	11.0%	11.0%	12.0%
20-29 days	20.0%	20.0%	20.0%	20.0%
All 30 days	45.0%	49.0%	50.0%	50.0%
How many days in the past month did you use each substance? – Tobacco				
0 days	78.0%	78.0%	79.0%	80.0%
1-4 days	3.3%	3.4%	3.1%	3.3%
5-10 days	1.8%	1.8%	1.5%	1.7%
11-19 days	1.8%	1.4%	1.5%	1.4%
20-29 days	1.9%	2.0%	1.9%	1.9%
All 30 days	13.0%	13.0%	13.0%	12.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How many days in the past month did you use each substance? – Alcohol				
0 days	40.0%	43.0%	44.0%	49.0%
1-4 days	29.0%	28.0%	29.0%	27.0%
5-10 days	15.0%	14.0%	13.0%	12.0%
11-19 days	8.8%	8.4%	7.5%	6.9%
20-29 days	4.4%	4.7%	4.2%	3.6%
All 30 days	2.0%	2.2%	2.3%	2.0%
How many days in the past month did you use each substance? – Psychedelics				
0 days	96.0%	96.0%	96.0%	97.0%
1-4 days	3.0%	3.3%	3.2%	2.4%
5-10 days	0.2%	0.3%	0.2%	0.3%
11-19 days	<0.1%	<0.1%	0.1%	<0.1%
20-29 days	<0.1%	<0.1%	<0.1%	<0.1%
How many days in the past month did you use each substance? – Benzodiazepines (e.g., Xanax)				
0 days	91.0%	92.0%	91.0%	92.0%
1-4 days	4.1%	3.7%	4.1%	3.5%
5-10 days	1.4%	1.0%	1.2%	1.1%
11-19 days	0.6%	0.6%	0.6%	0.6%
20-29 days	0.5%	0.5%	0.5%	0.5%
All 30 days	2.5%	2.4%	2.9%	2.6%
How many days in the past month did you use each substance? – Stimulants				
0 days	94.0%	95.0%	93.0%	94.0%
1-4 days	1.3%	1.1%	1.3%	1.0%
5-10 days	0.6%	0.5%	0.6%	0.4%
11-19 days	0.6%	0.5%	0.7%	0.6%
20-29 days	1.0%	0.9%	1.0%	0.9%
All 30 days	2.3%	2.4%	3.3%	2.7%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How many days in the past month did you use each substance? – Opioids				
0 days	95.0%	94.0%	93.0%	94.0%
1-4 days	1.5%	1.5%	1.6%	1.5%
5-10 days	0.6%	0.6%	0.6%	0.7%
11-19 days	0.4%	0.5%	0.4%	0.3%
20-29 days	0.3%	0.5%	0.5%	0.4%
All 30 days	2.2%	2.7%	3.4%	3.0%
What medical condition or symptom do you most commonly use cannabis to treat (i.e., your qualifying condition)? Select one.				
Anorexia	1.0%	1.0%	0.9%	0.9%
Cachexia or wasting syndrome	0.2%	0.1%	0.2%	0.2%
Glaucoma		1.0%	1.0%	1.1%
Post Traumatic Stress Disorder (PTSD)	13.0%	13.0%	13.0%	13.0%
Seizures	0.7%	0.9%	0.8%	0.9%
Severe nausea	2.6%	2.3%	2.3%	1.8%
Severe or chronic pain	46.0%	51.0%	50.0%	51.0%
Severe or persistent muscle spasms	3.0%	2.6%	2.6%	2.4%
Other chronic condition	34.0%	29.0%	29.0%	28.0%
You reported using cannabis to treat "Other chronic condition" in the previous question. Which condition are you most commonly using cannabis to treat? – Selected choice				
Anxiety	-	38.0%	37.0%	36.0%
Arthritis	-	5.0%	5.9%	6.6%
Attention-deficit/hyperactivity disorder (ADHD)	-	2.3%	3.3%	2.8%
Autism Spectrum Disorder (ASD)	-	0.5%	0.6%	0.5%
Depression	-	11.0%	9.8%	9.6%
Gastrointestinal (stomach) distress	-	3.9%	4.2%	4.1%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
You reported using cannabis to treat “Other chronic condition” in the previous question. Which condition are you most commonly using cannabis to treat? – Selected choice. (Cont.)				
Insomnia or sleep disruptions	-	22.0%	21.0%	22.0%
Sexual disorders	-	-	0.2%	0.2%
Other, not listed here (please specify)	-	17.0%	18.0%	19.0%
Think about the medical condition or symptom you most commonly use cannabis to treat. How effective do you feel cannabis has been in treating that condition or symptom?				
Not effective at all	0.5%	0.5%	0.3%	0.3%
Slightly effective	3.5%	3.0%	3.0%	2.7%
Moderately effective	22.0%	19.0%	21.0%	22.0%
Very effective	46.0%	42.0%	45.0%	47.0%
Extremely effective	28.0%	35.0%	31.0%	29.0%
Do you use cannabis to treat any other symptoms/conditions?				
No	-	-	-	28.0%
Yes, one other symptom/condition	-	-	-	39.0%
Yes, two or more other symptoms/conditions	-	-	-	33.0%
In the past month, what percentage of your cannabis consumption was medical vs. non-medical (i.e., recreational)?				
100% medical use	64.0%	69.0%	74.0%	71.0%
75% medical, 25% non-medical	19.0%	18.0%	16.0%	19.0%
50% medical, 50% non-medical	12.0%	10.0%	7.7%	8.8%
25% medical, 75% non-medical	1.7%	1.6%	1.4%	1.2%
100% non-medical	0.8%	0.7%	0.5%	0.4%
I didn’t use cannabis in the past month	2.1%	0.3%	0.3%	0.1%

Table A3. Dispensary and Purchasing Behaviors

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
When purchasing cannabis at a licensed dispensary, how confident do you feel that you are receiving a safe, uncontaminated product?				
I have not purchased cannabis at a dispensary in Maryland	0.3%	0.2%	0.2%	0.1%
Very low confidence	0.4%	0.5%	0.5%	0.6%
Low confidence	0.7%	0.7%	0.9%	0.9%
Neutral	4.5%	4.2%	4.7%	5.1%
Somewhat high confidence	15.0%	14.0%	16.0%	17.0%
Very high confidence	79.0%	81.0%	78.0%	76.0%
Please take a look at this sign [MCA'S Cannabis Trusted Source sign was presented]. Which of the following is true for you?				
I have never seen this sign	-	-	-	40.0%
I have seen this sign at least once, but never scanned the QR code	-	-	-	44.0%
I have seen this sign and scanned the QR code at least once	-	-	-	4.5%
None of the above	-	-	-	12.0%
How close is the nearest licensed dispensary to your house (by car)?				
I don't know	-	-	-	0.3%
Less than 15 minutes	-	-	-	66.0%
15-30 minutes	-	-	-	29.0%
30-60 minutes	-	-	-	4.3%
More than an hour	-	-	-	0.2%
Met a dispensary Clinical Director in-person?				
Yes	42.0%	41.0%	40.0%	36.0%
No	48.0%	49.0%	52.0%	56.0%
I don't know	9.9%	9.6%	8.0%	7.4%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Met a dispensary Clinical Director by phone or video				
Yes	49.0%	51.0%	49.0%	48.0%
No	44.0%	43.0%	45.0%	47.0%
I don't know	6.8%	6.7%	5.7%	5.0%
Tried to meet with a Clinical Director, but none were available				
Yes	1.6%	1.7%	1.6%	1.5%
No	91.0%	90.0%	91.0%	92.0%
I don't know	7.0%	7.8%	7.2%	6.4%
Was not aware Clinical Directors exist				
Yes	31.0%	30.0%	30.0%	27.0%
No	62.0%	61.0%	61.0%	64.0%
I don't know	7.8%	8.6%	8.3%	9.7%
Purchased cannabis without using a medical card (adult-use)				
No	-	92.0%	82.0%	76.0%
Yes	-	8.0%	18.0%	24.0%
Primary reason purchased adult-use cannabis				
Exceeded medical allotment	-	17.0%	15.0%	15.0%
Preferred anonymity of adult-use market	-	18.0%	6.6%	6.0%
Dispensary technical issue accessing certification	-	-	11.0%	11.0%
Medical certification temporarily lapsed	-	36.0%	36.0%	36.0%
Other reason	-	64.0%	31.0%	32.0%
Plan to remain in the medical cannabis program				
No	-	1.9%	1.2%	0.9%
Yes	-	87.0%	92.0%	94.0%
I don't know	-	11.0%	6.8%	5.4%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Primary reason you plan to leave the medical program				
Higher product costs	-	5.6%	4.1%	7.8%
Cost of annual recertification	-	38.0%	22.0%	18.0%
Paperwork/administrative burden	-	4.3%	4.8%	4.3%
Firearm purchasing/possession concern	-	12.0%	18.0%	17.0%
Prefer adult-use anonymity	-	3.6%	4.1%	3.5%
Adult-use products sold on open market	-	11.0%	13.0%	11.0%
Other reason	-	26.0%	34.0%	37.0%
Knowledge selecting and using medical cannabis				
Not at all knowledgeable	-	-	-	0.8%
Somewhat unknowledgeable	-	-	-	2.2%
Neutral	-	-	-	7.9%
Somewhat knowledgeable	-	-	-	40.0%
Very knowledgeable	-	-	-	49.0%
Affordability of medical cannabis				
Strongly disagree	-	-	-	11.0%
Somewhat disagree	-	-	-	18.0%
Neither agree nor disagree	-	-	-	13.0%
Somewhat agree	-	-	-	30.0%
Strongly agree	-	-	-	28.0%
Cost of medical cannabis is reasonable				
Strongly disagree	-	-	-	12.0%
Somewhat disagree	-	-	-	24.0%
Neither agree nor disagree	-	-	-	16.0%
Somewhat agree	-	-	-	33.0%
Strongly agree	-	-	-	15.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Dispensaries have adequate supply of medical-only products				
Strongly disagree	-	-	-	7.5%
Somewhat disagree	-	-	-	13.0%
Neither agree nor disagree	-	-	-	14.0%
Somewhat agree	-	-	-	33.0%
Strongly agree	-	-	-	32.0%
Dispensaries offer types of medical-only products I want				
Strongly disagree	-	-	-	5.9%
Somewhat disagree	-	-	-	9.3%
Neither agree nor disagree	-	-	-	16.0%
Somewhat agree	-	-	-	34.0%
Strongly agree	-	-	-	35.0%
Most important factor when selecting a product (high THC definition provided)				
high THC potency	-	-	-	25.0%
Low THC potency	-	-	-	1.9%
Cannabinoid ratio or terpenes	-	-	-	19.0%
Regular product availability	-	-	-	8.7%
Recommendation from friends/internet	-	-	-	0.8%
Type of strain	-	-	-	15.0%
Cost (sales or discounts)	-	-	-	22.0%
Budtender recommendation	-	-	-	4.4%
Other	-	-	-	3.7%
Why high THC potency is most important				
Cost/affordability	-	-	-	9.6%
Recommended by provider or Clinical Director	-	-	-	3.8%
Most effective for qualifying condition	-	-	-	60.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Why high THC potency is most important (cont.)				
Budtender recommendation	-	-	-	1.2%
Habit	-	-	-	2.5%
Need high potency to feel effect	-	-	-	23.0%

Table A4. Dose

	2022	2023	2024	2025
Which method did you most commonly use to consume cannabis in the past month?				
Smoking dried flower (glassware, pipe, bowl, bong, pre-roll, joint, etc.)	49.0%	46.0%	46.0%	48.0%
Ingesting edibles	21.0%	26.0%	25.0%	26.0%
Vaping cannabis	23.0%	21.0%	21.0%	20.0%
Dabbing concentrates	3.7%	3.1%	4.0%	3.3%
Tinctures or oral sprays	1.5%	1.1%	1.0%	1.1%
Capsules or tablets	1.1%	1.0%	1.1%	1.2%
Topicals (balm, lotion, cream)	1.3%	1.7%	1.4%	1.1%
Transdermal (patch)	<0.1%	0.0%	<0.1%	<0.1%
Rectal/vaginal suppositories	<0.1%	<0.1%	<0.1%	<0.1%
In a typical session or sitting, how many grams of cannabis flower (bud) do you consume?				
0	0.3%	0.4%	0.4%	0.2%
0.1	4.3%	4.7%	4.5%	2.3%
0.2	9.1%	9.2%	8.6%	5.6%
0.3	8.8%	8.2%	8.4%	6.5%
0.4	6.5%	4.8%	5.2%	5.6%
0.5	22.0%	21.0%	22.0%	21.0%

	2022	2023	2024	2025
In a typical session or sitting, how many grams of cannabis flower (bud) do you consume? (cont.)				
0.6	2.3%	3.6%	3.7%	3.6%
0.7	4.4%	4.7%	4.6%	4.5%
0.8	2.5%	2.7%	3.1%	1.9%
0.9	1.6%	2.1%	2.3%	1.9%
1	14.0%	14.0%	15.0%	16.0%
1.1	1.4%	1.8%	1.3%	1.4%
1.2	0.9%	1.2%	1.2%	1.3%
1.3	1.0%	0.8%	0.6%	0.8%
1.4	0.9%	1.0%	0.9%	0.9%
1.5	6.1%	5.6%	5.6%	7.3%
1.6	0.8%	0.9%	0.7%	1.3%
1.7	0.4%	0.6%	0.4%	0.7%
1.8	0.5%	0.4%	0.4%	0.4%
1.9	0.5%	0.5%	0.3%	0.5%
2	4.4%	4.0%	3.7%	3.9%
2.1	0.6%	0.4%	0.5%	0.5%
2.2	0.2%	0.3%	0.3%	<0.1%
2.3	0.2%	0.2%	0.2%	0.3%
2.4	0.3%	0.3%	0.1%	0.2%
2.5	1.4%	1.4%	1.1%	1.8%
2.6	0.3%	0.3%	0.3%	0.4%
2.7	0.2%	<0.1%	0.2%	0.2%
2.8	0.2%	0.1%	0.1%	<0.1%
2.9	0.2%	<0.1%	<0.1%	0.1%

	2022	2023	2024	2025
In a typical session or sitting, how many grams of cannabis flower (bud) do you consume? (cont.)				
3	0.9%	0.8%	0.7%	1.0%
3.1	0.2%	0.3%	0.1%	0.4%
3.2	<0.1%	<0.1%	<0.1%	<0.1%
3.3	<0.1%	<0.1%	0.0%	<0.1%
3.4	0.2%	0.1%	<0.1%	0.3%
3.5	1.4%	1.3%	1.0%	3.3%
3.6	0.3%	0.5%	0.4%	0.9%
3.7	0.1%	<0.1%	0.2%	0.1%
3.8	<0.1%	<0.1%	<0.1%	<0.1%
3.9	<0.1%	0.0%	<0.1%	<0.1%
4	0.2%	<0.1%	0.2%	0.2%
4.1	<0.1%	<0.1%	0.2%	0.2%
4.2	<0.1%	<0.1%	<0.1%	<0.1%
4.3	<0.1%	<0.1%	<0.1%	0.0%
4.4	<0.1%	0.0%	<0.1%	0.0%
4.5	<0.1%	<0.1%	<0.1%	<0.1%
4.6	<0.1%	<0.1%	<0.1%	<0.1%
4.7	0.0%	<0.1%	0.0%	0.0%
4.8	0.0%	0.0%	0.0%	<0.1%
4.9	0.0%	0.0%	<0.1%	<0.1%
5	1.0%	1.0%	0.9%	1.7%
What is the typical THC potency (percent of THC) of the cannabis flower that you have consumed in the past month? You may not know exactly, but please give it your best guess.				
I don't know	5.2%	5.9%	5.6%	5.1%
Less than 10%	0.7%	0.0%	0.0%	0.5%

	2022	2023	2024	2025
What is the typical THC potency (percent of THC) of the cannabis flower that you have consumed in the past month? You may not know exactly, but please give it your best guess. (cont.)				
Between 10-15%	1.5%	1.4%	1.3%	1.0%
Between 15-20%	7.6%	6.1%	4.9%	3.1%
Between 20-25%	33.0%	27.0%	28.0%	21.0%
Between 25-35%	44.0%	47.0%	50.0%	57.0%
Between 35-50%	3.3%	4.8%	4.4%	6.7%
Between 50-60%	0.9%	1.4%	1.1%	1.2%
Between 60-80%	2.4%	3.6%	3.2%	2.1%
Greater than 80%	1.1%	2.3%	2.2%	2.3%
Typically, how many milligrams of THC are in the cannabis edibles you consume per sitting (e.g., session)?				
I don't know	3.8%	3.7%	3.2%	3.2%
5 mg or less of THC	27.0%	24.0%	17.0%	11.0%
6-10 mg of THC	38.0%	34.0%	32.0%	30.0%
11-15 mg of THC	7.8%	7.1%	7.2%	7.7%
16-20 mg of THC	6.7%	8.0%	10.0%	12.0%
21-30 mg of THC	7.9%	8.8%	8.4%	6.5%
31-40 mg of THC	5.6%	8.9%	15.0%	22.0%
41-50 mg of THC	1.5%	2.5%	3.4%	4.1%
51-60 mg of THC	0.5%	0.7%	0.8%	1.0%
61 or more mgs of THC	1.6%	2.2%	2.8%	2.7%
What type of edible(s) do you typically consume? Select all that apply.				
Candy (gummies, chews, hard candy, etc.)	-	73.0%	73.0%	75.0%
Mints or gum	-	5.1%	3.8%	2.9%
Baked goods or chocolate	-	14.0%	13.0%	12.0%
Beverages or drink mix	-	5.2%	8.0%	8.4%
Other, please specify	-	2.5%	2.3%	2.2%

	2022	2023	2024	2025
During the past month, did you typically consume cannabis edibles that were higher in THC, higher in CBD, or that contain somewhat equal amounts of THC and CBD?				
I don't know	7.8%	7.1%	6.3%	7.3%
Higher in THC	51.0%	53.0%	56.0%	52.0%
Higher in CBD	7.8%	9.1%	8.4%	7.5%
Contains roughly the same amounts of each	33.0%	30.0%	29.0%	33.0%
In the past month, how many grams per week did you vape cannabis oil/concentrates?				
I don't know	17.0%	14.0%	16.0%	13.0%
Less than 1 gram	42.0%	47.0%	43.0%	34.0%
1-2 grams	25.0%	25.0%	26.0%	29.0%
3-4 grams	8.4%	8.5%	8.7%	13.0%
5-10 grams	5.1%	3.7%	4.6%	6.3%
11-15 grams	1.0%	1.0%	1.0%	2.2%
16-20 grams	0.6%	0.2%	0.4%	0.7%
21-30 grams	0.4%	0.2%	0.4%	0.9%
More than 30 grams	0.2%	0.3%	0.3%	0.9%
On a typical day when you vape cannabis, how many sessions (sittings) do you have?				
0	0.2%	0.3%	0.5%	0.7%
1	27.0%	27.0%	22.0%	15.0%
2	25.0%	23.0%	23.0%	19.0%
3	18.0%	19.0%	18.0%	17.0%
4	10.0%	9.8%	11.0%	14.0%
5	8.5%	8.6%	8.0%	11.0%
6	3.4%	3.5%	5.2%	6.1%
7	1.3%	2.1%	1.5%	1.9%
8	2.1%	1.9%	2.1%	3.4%
9	0.2%	<0.1%	0.4%	0.4%

	2022	2023	2024	2025
On a typical day when you vape cannabis, how many sessions (sittings) do you have?				
10	1.6%	1.8%	1.8%	2.9%
11 or more	3.4%	3.7%	7.2%	10.0%
What is the typical potency (percent of THC) of the vape products that you have consumed in the past month?				
I don't know	17.0%	15.0%	15.0%	13.0%
Between 0-9%	1.1%	1.7%	0.9%	0.7%
Between 10-19%	2.6%	2.5%	2.0%	2.0%
Between 20-29%	11.0%	10.0%	11.0%	11.0%
Between 30-39%	2.6%	3.7%	3.0%	5.0%
Between 40-49%	1.6%	1.4%	1.4%	1.7%
Between 50-59%	1.8%	2.1%	1.4%	1.4%
Between 60-69%	2.7%	2.6%	2.2%	1.9%
Between 70-79%	31.0%	26.0%	22.0%	19.0%
Between 80-89%	28.0%	31.0%	40.0%	40.0%
90% or more	1.5%	3.5%	2.1%	3.3%
In a typical session (or sitting), how many grams of cannabis concentrates do you consume?				
0	-	-	-	0.5%
0.1	-	-	-	22.0%
0.2	-	-	-	27.0%
0.3	-	-	-	13.0%
0.4	-	-	-	6.3%
0.5	-	-	-	13.0%
0.6	-	-	-	1.9%
0.7	-	-	-	2.9%
0.8	-	-	-	0.5%
0.9	-	-	-	0.5%

	2022	2023	2024	2025
In a typical session (or sitting), how many grams of cannabis concentrates do you consume? (cont.)				
1	-	-	-	5.8%
1.1	-	-	-	0.5%
1.5	-	-	-	1.9%
1.7	-	-	-	0.5%
1.8	-	-	-	1.0%
2	-	-	-	0.5%
2.1	-	-	-	0.5%
2.3	-	-	-	0.5%
3	-	-	-	1.9%
On a typical day you consume cannabis concentrates how many sessions (sittings) do you have?				
I don't know	5.6%	4.7%	6.0%	6.8%
0	0.2%	1.6%	0.9%	0.0%
1	9.3%	9.8%	9.0%	8.0%
2	16.0%	19.0%	17.0%	19.0%
3	21.0%	26.0%	20.0%	19.0%
4	15.0%	13.0%	16.0%	15.0%
5	13.0%	11.0%	10.0%	14.0%
6	6.7%	7.1%	10.0%	6.8%
7	2.4%	2.4%	1.3%	1.7%
8	2.8%	2.0%	2.1%	3.6%
9	0.2%	0.0%	0.0%	0.7%
10	1.9%	0.8%	1.3%	2.7%
11 or more	5.6%	2.8%	4.7%	3.4%

	2022	2023	2024	2025
What is the typical THC potency (percent of THC) of the concentrates that you have consumed in the past month?				
I don't know	5.2%	5.1%	9.0%	8.7%
0-9%	0.2%	0.8%	0.0%	0.5%
10-19%	0.9%	0.8%	1.3%	0.5%
20-29%	4.1%	3.2%	4.3%	4.6%
30-39%	0.9%	1.2%	1.1%	5.1%
40-49%	0.4%	1.6%	0.9%	1.0%
50-59%	1.1%	1.2%	0.6%	0.7%
60-69%	2.8%	3.2%	4.5%	1.7%
70-79%	39.0%	34.0%	38.0%	30.0%
80-89%	43.0%	42.0%	35.0%	40.0%
90% or more	3.0%	6.3%	5.3%	6.5%

Table A5. Public Health

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How comfortable do you feel telling or letting the following people know that you consume cannabis? - Family				
Definitely not comfortable	4.9%	4.5%	4.6%	5.2%
Probably not comfortable	4.5%	4.0%	4.2%	4.0%
Might or might not feel comfortable	13.0%	12.0%	12.0%	12.0%
Somewhat comfortable	19.0%	19.0%	18.0%	20.0%
Very comfortable	59.0%	61.0%	61.0%	59.0%
How comfortable do you feel telling or letting the following people know that you consume cannabis? - Friends				
Definitely not comfortable	2.1%	2.6%	2.5%	2.7%
Probably not comfortable	2.3%	2.6%	2.5%	2.6%
Might or might not feel comfortable	10.0%	11.0%	10.0%	11.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How comfortable do you feel telling or letting the following people know that you consume cannabis? - Friends (cont.)				
Somewhat comfortable	18.0%	17.0%	17.0%	19.0%
Very comfortable	67.0%	67.0%	67.0%	65.0%
How comfortable do you feel telling or letting the following people know that you consume cannabis? - My primary care provider				
Definitely not comfortable	4.1%	5.0%	4.6%	5.3%
Probably not comfortable	4.9%	4.9%	4.4%	4.2%
Might or might not feel comfortable	9.9%	9.1%	8.2%	8.8%
Somewhat comfortable	18.0%	18.0%	18.0%	20.0%
Very comfortable	63.0%	63.0%	64.0%	62.0%
How comfortable do you feel telling or letting the following people know that you consume cannabis? - Other healthcare providers				
Definitely not comfortable	4.7%	5.6%	5.2%	6.2%
Probably not comfortable	6.2%	6.0%	5.6%	5.8%
Might or might not feel comfortable	14.0%	14.0%	12.0%	14.0%
Somewhat comfortable	19.0%	20.0%	20.0%	21.0%
Very comfortable	55.0%	55.0%	57.0%	54.0%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Anxiety				
Never	70.0%	-	63.0%	68.0%
Once or twice	15.0%	-	28.0%	23.0%
About monthly	8.8%	-	4.3%	3.3%
About weekly	3.6%	-	2.7%	2.5%
About daily	2.7%	-	2.2%	2.6%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Panic				
Never	84.0%	-	83.0%	86.0%
Once or twice	9.9%	-	13.0%	10.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Panic (cont.)				
About monthly	4.0%	-	2.0%	1.7%
About weekly	1.4%	-	1.1%	1.1%
About daily	1.0%	-	0.7%	0.9%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Psychotic or paranoid feelings				
Never	87.0%	-	86.0%	90.0%
Once or twice	8.2%	-	11.0%	8.5%
About monthly	3.3%	-	1.4%	0.9%
About weekly	0.9%	-	0.6%	0.6%
About daily	0.6%	-	0.4%	0.4%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Psychotic or paranoid feelings				
Never	97.0%	-	97.0%	98.0%
Once or twice	1.3%	-	2.0%	1.5%
About monthly	0.8%	-	0.4%	0.3%
About weekly	0.3%	-	0.2%	0.2%
About daily	0.3%	-	0.2%	0.2%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Breathing problems				
Never	90.0%	-	86.0%	88.0%
Once or twice	5.3%	-	11.0%	9.5%
About monthly	3.1%	-	1.6%	1.4%
About weekly	1.1%	-	0.9%	0.9%
About daily	0.5%	-	0.6%	0.6%
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Nausea/vomiting				
Never	91.0%	-	90.0%	92.0%
Once or twice	5.7%	-	7.5%	6.5%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
During the past year, have you experienced the following conditions when consuming cannabis, and if so, how often? - Nausea/vomiting (cont.)				
About monthly	1.9%	-	1.0%	0.9%
About weekly	0.8%	-	0.6%	0.6%
About daily	0.5%	-	0.5%	0.4%
How often in the past 6 months have you had a problem with your memory or concentration after using cannabis?				
Never	-	66.0%	63.0%	58.0%
Less than monthly	-	20.0%	23.0%	26.0%
Monthly	-	5.2%	6.0%	6.1%
Weekly	-	4.9%	5.1%	5.6%
Daily or almost daily	-	3.7%	3.6%	3.8%
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Physical health				
Not affected	-	-	-	41.0%
Improved	-	-	-	57.0%
Worsened	-	-	-	2.0%
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Energy level				
Not affected	-	-	-	49.0%
Improved	-	-	-	44.0%
Worsened	-	-	-	6.8%
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Mood or mental health				
Not affected	-	-	-	16.0%
Improved	-	-	-	83.0%
Worsened	-	-	-	1.0%
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Memory or concentration				
Not affected	-	-	-	61.0%
Improved	-	-	-	26.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Memory or concentration (cont.)				
Worsened	-	-	-	14.0%
Please indicate below whether cannabis has improved, worsened, or not affected each of the following health and social outcomes. - Social relationships (family, friends, neighbors)				
Not affected	-	-	-	60.0%
Improved	-	-	-	38.0%
Worsened	-	-	-	1.4%
In the past year, how often did you engage in each of the following? - I smoked cannabis inside my house				
Never	40.0%	40.0%	44.0%	44.0%
Sometimes	17.0%	17.0%	15.0%	14.0%
About half the time	4.5%	3.7%	4.0%	3.4%
Most of the time	15.0%	15.0%	15.0%	14.0%
Always	23.0%	24.0%	22.0%	25.0%
In the past year, how often did you engage in each of the following? - I vaped cannabis inside my house				
Never	35.0%	36.0%	39.0%	42.0%
Sometimes	25.0%	26.0%	24.0%	20.0%
About half the time	6.5%	5.6%	5.1%	4.2%
Most of the time	15.0%	14.0%	14.0%	13.0%
Always	18.0%	18.0%	18.0%	21.0%
In the past year, how often did you engage in each of the following? - I stored cannabis in a locked, safe location				
Never	19.0%	26.0%	27.0%	24.0%
Sometimes	6.2%	6.2%	6.7%	6.6%
About half the time	1.8%	1.9%	1.9%	2.2%
Most of the time	11.0%	11.0%	11.0%	13.0%
Always	62.0%	55.0%	53.0%	55.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
In the past year, how often did you engage in each of the following? - I smoked or vaped cannabis in my car while driving				
Never	-	77.0%	85.0%	86.0%
Sometimes	-	18.0%	11.0%	10.0%
About half the time	-	1.7%	1.4%	1.3%
Most of the time	-	1.5%	1.3%	1.2%
Always	-	1.9%	1.3%	1.4%
In your opinion, how harmful or dangerous are each of the following activities? - Driving under the influence of cannabis				
Not harmful at all	-	15.0%	13.0%	14.0%
A little harmful	-	30.0%	26.0%	23.0%
Moderately harmful	-	25.0%	25.0%	24.0%
Very harmful	-	30.0%	35.0%	39.0%
In your opinion, how harmful or dangerous are each of the following activities? - Driving under the influence of alcohol				
Not harmful at all	-	0.4%	0.4%	0.5%
A little harmful	-	1.1%	0.9%	0.9%
Moderately harmful	-	7.7%	6.8%	6.1%
Very harmful	-	91.0%	92.0%	93.0%
In your opinion, how harmful or dangerous are each of the following activities? - Using cannabis at the same time as alcohol or other substances				
Not harmful at all	-	45.0%	9.8%	9.1%
A little harmful	-	25.0%	22.0%	17.0%
Moderately harmful	-	18.0%	25.0%	23.0%
Very harmful	-	12.0%	43.0%	51.0%
During the past month, how many times did you drive/operate a car or other motor vehicle within three hours of consuming cannabis and/or when you were under the influence of cannabis?				
0 times	80.0%	60.0%	66.0%	68.0%
1 time	3.8%	5.8%	5.7%	6.0%
2-3 times	6.4%	13.0%	12.0%	12.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
During the past month, how many times did you drive/operate a car or other motor vehicle within three hours of consuming cannabis and/or when you were under the influence of cannabis? (cont.)				
4-5 times	1.8%	5.0%	3.8%	3.6%
6 or more times	6.4%	16.0%	13.0%	10.0%
I did not use cannabis in the past 30 days	1.2%	0.2%	0.2%	0.3%
When you use cannabis, how often do you use the following substances in the same sitting or at the same time? - Tobacco or nicotine products				
Never	-	-	-	77.0%
Sometimes	-	-	-	8.7%
About half the time	-	-	-	2.8%
Most of the time	-	-	-	5.6%
Always	-	-	-	5.5%
When you use cannabis, how often do you use the following substances in the same sitting or at the same time? - Alcohol				
Never	-	-	-	57.0%
Sometimes	-	-	-	37.0%
About half the time	-	-	-	3.7%
Most of the time	-	-	-	1.6%
Always	-	-	-	0.4%
In the past month, have you smoked or vaped cannabis in the following locations? - Public Recreation Area (Park, Beach, Pool, etc.)				
No	-	83.0%	75.0%	83.0%
Yes	-	17.0%	25.0%	17.0%
In the past month, have you smoked or vaped cannabis in the following locations? - Public transportation				
No	-	99.0%	98.0%	99.0%
Yes	-	1.4%	2.0%	1.4%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
In the past month, have you smoked or vaped cannabis in the following locations? - Workplace or office				
No	-	94.0%	93.0%	95.0%
Yes	-	5.8%	6.8%	5.0%
In the past month, have you smoked or vaped cannabis in the following locations? - Event venues (sports, concerts, etc.)				
No	-	84.0%	75.0%	80.0%
Yes	-	16.0%	25.0%	20.0%
In the past month, have you smoked or vaped cannabis in the following locations? - Bar or Restaurant				
No		89.0%	86.0%	87.0%
Yes		11.0%	14.0%	13.0%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Offering more low THC products				
No improvement	-	-	29.0%	61.0%
Little improvement	-	-	19.0%	14.0%
Some improvement	-	-	27.0%	14.0%
Great improvement	-	-	25.0%	11.0%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Extending medical cannabis patient certification from 1 to 2 years				
No improvement	-	-	-	1.9%
Little improvement	-	-	-	1.7%
Some improvement	-	-	-	8.5%
Great improvement	-	-	-	88%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Improving RSO and other medical product availability				
No improvement	-	-	-	16.0%
Little improvement	-	-	-	11.0%
Some improvement	-	-	-	28.0%
Great improvement	-	-	-	45.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Requiring medical cannabis education for certifying providers				
No improvement	-	-	-	23.0%
Little improvement	-	-	-	17.0%
Some improvement	-	-	-	30.0%
Great improvement	-	-	-	31.0%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Increasing home allotment from 4 to 6 plants				
No improvement	-	-	-	28.0%
Little improvement	-	-	-	11.0%
Some improvement	-	-	-	19.0%
Great improvement	-	-	-	42.0%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Extending medical-only dispensary hours to 2 hours per day				
No improvement	-	-	-	27.0%
Little improvement	-	-	-	16.0%
Some improvement	-	-	-	21.0%
Great improvement	-	-	-	36.0%
To what extent would the following dispensary and program features improve your experience as a medical patient? (This is to gauge interest. Changes may not be implemented.) - Access to a free helpline for medical cannabis questions				
No improvement	-	-	-	19.0%
Little improvement	-	-	-	15.0%
Some improvement	-	-	-	27.0%
Great improvement	-	-	-	40.0%
How easy or difficult is it to access or obtain the following products? - Low dose edibles (2.5 mg per serving)				
N/A I don't use this	-	-	-	35.0%
Very easy	-	-	-	39.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How easy or difficult is it to access or obtain the following products? - Low dose edibles (2.5 mg per serving) (cont.)				
Somewhat easy	-	-	-	10.0%
Neither difficult nor easy	-	-	-	7.0%
Somewhat difficult	-	-	-	5.6%
Very difficult	-	-	-	3.3%
How easy or difficult is it to access or obtain the following products? - 1:1 CBD:THC products				
N/A I don't use this	-	-	-	24.0%
Very easy	-	-	-	40.0%
Somewhat easy	-	-	-	17.0%
Neither difficult nor easy	-	-	-	10.0%
Somewhat difficult	-	-	-	6.1%
Very difficult	-	-	-	1.7%
How easy or difficult is it to access or obtain the following products? - RSO				
N/A I don't use this	-	-	-	53.0%
Very easy	-	-	-	18.0%
Somewhat easy	-	-	-	12.0%
Neither difficult nor easy	-	-	-	8.5%
Somewhat difficult	-	-	-	6.5%
Very difficult	-	-	-	1.7%
How easy or difficult is it to access or obtain the following products? - RSO capsules				
N/A I don't use this	-	-	-	61.0%
Very easy	-	-	-	14.0%
Somewhat easy	-	-	-	8.8%
Neither difficult nor easy	-	-	-	7.7%
Somewhat difficult	-	-	-	5.7%
Very difficult	-	-	-	2.9%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How easy or difficult is it to access or obtain the following products? - Topicals (balms)				
N/A I don't use this	-	-	-	51.0%
Very easy	-	-	-	21.0%
Somewhat easy	-	-	-	12.0%
Neither difficult nor easy	-	-	-	7.8%
Somewhat difficult	-	-	-	6.0%
Very difficult	-	-	-	2.2%
How easy or difficult is it to access or obtain the following products? - Transdermal patches				
N/A I don't use this	-	-	-	72.0%
Very easy	-	-	-	8.1%
Somewhat easy	-	-	-	4.2%
Neither difficult nor easy	-	-	-	6.2%
Somewhat difficult	-	-	-	4.0%
Very difficult	-	-	-	5.1%
How easy or difficult is it to access or obtain the following products? - Suppositories				
N/A I don't use this	-	-	-	83.0%
Very easy	-	-	-	4.4%
Somewhat easy	-	-	-	2.0%
Neither difficult nor easy	-	-	-	5.0%
Somewhat difficult	-	-	-	1.8%
Very difficult	-	-	-	3.8%

Table A6. Information Sources and Satisfaction

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Drug interactions (alcohol, prescription/nonprescription drugs, supplements)				
Certifying provider	-	-	21.0%	18.0%
Clinical director	-	-	4.2%	1.9%
Primary care provider (PCP)	-	-	19.0%	17.0%
Other healthcare provider	-	-	6.6%	4.6%
Dispensary agent (budtender)	-	-	8.4%	8.1%
None of the above	-	-	28.0%	29.0%
N/A	-	-	13.0%	18.0%
MCA	-	-	-	1.6%
Friend	-	-	-	2.4%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Possible side effects or contraindications				
Certifying provider	-	-	21.0%	17.0%
Clinical director	-	-	4.9%	2.7%
Primary care provider (PCP)	-	-	14.0%	12.0%
Other healthcare provider	-	-	5.8%	3.7%
Dispensary agent (budtender)	-	-	15.0%	14.0%
None of the above	-	-	27.0%	28.0%
N/A	-	-	12.0%	18.0%
MCA	-	-	-	1.8%
Friend	-	-	-	2.3%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Different methods, strengths, effects, and forms of cannabis for my qualifying condition				
Certifying provider	-	-	19.0%	17.0%
Clinical director	-	-	5.4%	3.4%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Different methods, strengths, effects, and forms of cannabis for my qualifying condition (cont.)				
Primary care provider (PCP)	-	-	3.8%	2.8%
Other healthcare provider	-	-	3.3%	2.0%
Dispensary agent (budtender)	-	-	46.0%	42.0%
None of the above	-	-	16.0%	18.0%
N/A	-	-	5.8%	9.5%
MCA	-	-	-	1.2%
Friend	-	-	-	3.7%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - THC dose appropriate/effective for my qualifying condition				
Certifying provider	-	-	23.0%	20.0%
Clinical director	-	-	6.1%	3.8%
Primary care provider (PCP)	-	-	4.1%	3.4%
Other healthcare provider	-	-	3.6%	2.4%
Dispensary agent (budtender)	-	-	31.0%	29.0%
None of the above	-	-	24.0%	26.0%
N/A	-	-	8.1%	12.0%
MCA	-	-	-	1.2%
Friend	-	-	-	2.1%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Addiction / cannabis use disorder				
Certifying provider	-	-	14.0%	11.0%
Clinical director	-	-	3.9%	2.0%
Primary care provider (PCP)	-	-	9.2%	8.2%
Other healthcare provider	-	-	4.5%	3.2%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Addiction / cannabis use disorder (cont.)				
Dispensary agent (budtender)	-	-	3.3%	2.9%
None of the above	-	-	35.0%	32.0%
N/A	-	-	31.0%	38.0%
MCA	-	-	-	1.9%
Friend	-	-	-	1.3%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Cannabis hyperemesis syndrome (CHS)				
Certifying provider	-	-	-	7.9%
Clinical director	-	-	-	1.5%
Primary care provider (PCP)	-	-	-	5.2%
Other healthcare provider	-	-	-	2.0%
Dispensary agent (budtender)	-	-	-	2.7%
None of the above	-	-	-	34.0%
N/A	-	-	-	44.0%
MCA	-	-	-	1.2%
Friend	-	-	-	1.7%
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Monthly Allotment				
Certifying provider	-	-	-	24.0%
Clinical director	-	-	-	2.3%
Primary care provider (PCP)	-	-	-	2.0%
Other healthcare provider	-	-	-	1.1%
Dispensary agent (budtender)	-	-	-	23.0%
None of the above	-	-	-	17.0%
N/A	-	-	-	18.0%
MCA	-	-	-	12.0%
Friend	-	-	-	0.6%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
For each of the following topics related to medical cannabis use, who has been your primary source of information? - Types of strains or products				
Certifying provider	-	-	-	8.0%
Clinical director	-	-	-	1.5%
Primary care provider (PCP)	-	-	-	0.6%
Other healthcare provider	-	-	-	0.5%
Dispensary agent (budtender)	-	-	-	60.0%
None of the above	-	-	-	15.0%
N/A	-	-	-	9.3%
MCA	-	-	-	0.7%
Friend	-	-	-	4.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Drug interactions (alcohol, prescription/nonprescription drugs, supplements)				
Very unsatisfied	-	-	2.8%	2.7%
Somewhat unsatisfied	-	-	1.6%	2.5%
Neutral	-	-	26.0%	33.0%
Somewhat satisfied	-	-	13.0%	16.0%
Very satisfied	-	-	56.0%	46.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Possible side effects or contraindications				
Very unsatisfied	-	-	2.5%	2.6%
Somewhat unsatisfied	-	-	1.7%	2.9%
Neutral	-	-	28.0%	35.0%
Somewhat satisfied	-	-	14.0%	16.0%
Very satisfied	-	-	54.0%	44.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Different methods, strengths, effects, and forms of cannabis for my qualifying condition				
Very unsatisfied	-	-	2.4%	2.3%
Somewhat unsatisfied	-	-	1.7%	2.5%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How satisfied were you with the information that this source (from previous question) provided to you? - Different methods, strengths, effects, and forms of cannabis for my qualifying condition (cont.)				
Neutral	-	-	21.0%	27.0%
Somewhat satisfied	-	-	17.0%	20.0%
Very satisfied	-	-	58.0%	49.0%
How satisfied were you with the information that this source (from previous question) provided to you? - THC dose appropriate/effective for my qualifying condition				
Very unsatisfied	-	-	2.7%	2.3%
Somewhat unsatisfied	-	-	1.7%	2.9%
Neutral	-	-	24.0%	27.0%
Somewhat satisfied	-	-	16.0%	19.0%
Very satisfied	-	-	56.0%	49.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Addiction / cannabis use disorder				
Very unsatisfied	-	-	3.1%	3.1%
Somewhat unsatisfied	-	-	1.7%	3.1%
Neutral	-	-	40.0%	45.0%
Somewhat satisfied	-	-	9.2%	12.0%
Very satisfied	-	-	46.0%	37.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Cannabis hyperemesis syndrome (CHS)				
Very unsatisfied	-	-	-	5.2%
Somewhat unsatisfied	-	-	-	3.8%
Neutral	-	-	-	48.0%
Somewhat satisfied	-	-	-	9.5%
Very satisfied	-	-	-	33.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How satisfied were you with the information that this source (from previous question) provided to you? - Monthly allotment				
Very unsatisfied	-	-	-	2.4%
Somewhat unsatisfied	-	-	-	2.8%
Neutral	-	-	-	31.0%
Somewhat satisfied	-	-	-	15.0%
Very satisfied	-	-	-	49.0%
How satisfied were you with the information that this source (from previous question) provided to you? - Types of strains or products				
Very unsatisfied	-	-	-	2.2%
Somewhat unsatisfied	-	-	-	2.8%
Neutral	-	-	-	24.0%
Somewhat satisfied	-	-	-	20.0%
Very satisfied	-	-	-	50.0%

Table A6. Certifying Providers and MCA Customer Service

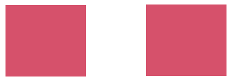
	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Is also my usual or primary care provider (PCP).				
TRUE	-	-	-	12.0%
FALSE	-	-	-	80.0%
I don't know	-	-	-	7.5%
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Offers in-person recertification visits, if I want them.				
TRUE	-	-	-	50.0%
FALSE	-	-	-	14.0%
I don't know	-	-	-	37.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Is very knowledgeable about using medical cannabis for my qualifying condition.				
TRUE	-	-	-	76.0%
FALSE	-	-	-	3.7%
I don't know	-	-	-	20.0%
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Has been available for questions about medical cannabis if I had them.				
TRUE	-	-	-	74.0%
FALSE	-	-	-	4.3%
I don't know	-	-	-	22.0%
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Asks about products I typically use, including THC content.				
TRUE	-	-	-	66.0%
FALSE	-	-	-	18.0%
I don't know	-	-	-	16.0%
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Asks if I'm using my full monthly allotment.				
TRUE	-	-	-	41.0%
FALSE	-	-	-	37.0%
I don't know	-	-	-	22.0%
Select whether the following statements are true for you regarding your certifying provider (CP). My CP... Charges me for annual medical recertification.				
TRUE	-	-	-	84.0%
FALSE	-	-	-	6.6%
I don't know	-	-	-	8.9%
What topics would you like to learn more about from your certifying provider? Select all that apply. - Selected Choice - Optimal THC dose for my qualifying medical condition				
Optimal THC dose for my qualifying medical condition	-	-	-	22.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
What topics would you like to learn more about from your certifying provider? Select all that apply. - Selected Choice - Optimal THC dose for my qualifying medical condition (cont.)				
Optimal cannabinoid ratio or terpenes for my qualifying condition	-	-	-	26.0%
Effects of cannabis on my mental health	-	-	-	16.0%
How to talk to other healthcare providers about cannabis use	-	-	-	13.0%
Contraindications (what drugs or other substances to avoid when using medical cannabis)	-	-	-	17.0%
Something else, please specify:	-	-	-	6.1%
How satisfied have you been with each of the following: - Contacting MCA's Call Center (by phone)				
Very dissatisfied	-	-	-	3.6%
Somewhat dissatisfied	-	-	-	2.4%
Neither satisfied nor dissatisfied	-	-	-	10.0%
Somewhat satisfied	-	-	-	5.6%
Very satisfied	-	-	-	11.0%
N/A I haven't used this	-	-	-	67.0%
How satisfied have you been with each of the following: - Contacting MCA by email				
Very dissatisfied	-	-	-	2.9%
Somewhat dissatisfied	-	-	-	2.1%
Neither satisfied nor dissatisfied	-	-	-	11.0%
Somewhat satisfied	-	-	-	5.9%
Very satisfied	-	-	-	12.0%
N/A I haven't used this	-	-	-	67.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
How satisfied have you been with each of the following: - Accessing information on MCA's website				
Very dissatisfied	-	-	-	4.1%
Somewhat dissatisfied	-	-	-	4.2%
Neither satisfied nor dissatisfied	-	-	-	15.0%
Somewhat satisfied	-	-	-	19.0%
Very satisfied	-	-	-	28.0%
N/A I haven't used this	-	-	-	30.0%
How satisfied have you been with each of the following: - OneStop registration portal				
Very dissatisfied	-	-	-	4.8%
Somewhat dissatisfied	-	-	-	5.3%
Neither satisfied nor dissatisfied	-	-	-	17.0%
Somewhat satisfied	-	-	-	20.0%
Very satisfied	-	-	-	35.0%
N/A I haven't used this	-	-	-	18.0%
Rate your interest in each of the following: - MCA-led in-person educational outreach events for patients				
Strongly disinterested	-	-	-	12.0%
Disinterested	-	-	-	16.0%
Neutral	-	-	-	48.0%
Interested	-	-	-	17.0%
Strongly interested	-	-	-	6.3%
Rate your interest in each of the following: - More patient education resources on MCA's website				
Strongly disinterested	-	-	-	6.9%
Disinterested	-	-	-	8.8%
Neutral	-	-	-	44.0%
Interested	-	-	-	29.0%
Strongly interested	-	-	-	11.0%

	2022 N = 13,0111	2023 N = 16,4481	2024 N = 12,2771	2025 N = 13,1701
Rate your interest in each of the following: - More patient education resources at dispensaries				
Strongly disinterested	-	-	-	6.0%
Disinterested	-	-	-	7.6%
Neutral	-	-	-	42.0%
Interested	-	-	-	32.0%
Strongly interested	-	-	-	13.0%
In the previous question you indicated interest in educational outreach events or resources. Which topics are you most interested in (select all).				
Tips on registration or renewals in OneStop	-	-	-	17.0%
Minor cannabinoids (other than THC) and terpenes	-	-	-	32.0%
Tips for talking to healthcare providers	-	-	-	15.0%
Resources for reducing use	-	-	-	6.1%
How to read a product label and COA	-	-	-	27.0%
Other, specify:	-	-	-	3.5%



Appendix B. Comparing New vs Original Dose Methods – Added Validity for Continued Use of Dose Measure

In the MMCPS-25, we attempted to measure dose with a slightly different approach, where the slider scales used to record amount of cannabis used were replaced with open-text boxes for participants to write in their amount. All other components of the dose questionnaire and the formulas were unchanged. Half of participants were randomly directed the new measure and the other half to the old measure. The two groups were compared to determine whether one of these dose methods was more effective than the other. The main takeaway is that the data collected from the two methods did not differ meaningfully from one another in any way that one is the standout leader. Therefore, we decided to continue using the method that we've been using since 2022, which utilized the slider scales.

Comparison Analyses Testing for Differences in Mean and Variability: Text vs Slider Scales in Dose Questionnaire

A two-sample t-test showed a statistically significant difference between the two input methods ($p = 0.041$). On average, participants using the slider reported higher cannabis amounts (mean = 0.45) than those using the text input (mean = 0.35). The estimated mean difference is about 0.10 units, with a 95% confidence interval ranging from 0.004 to 0.202. The difference in mean amounts reported is statistically significant at $\alpha = 0.05$, but the effect size is small. This suggests the method of input (slider vs. text) may slightly influence how much cannabis amount participants report — possibly due to differences in how people perceive or interact with the input format. An F-test for equality of variances showed a statistically significant difference in variance between the slider and text groups ($p = 0.041$). This means the spread of cannabis amount responses differs across methods — specifically, the slider group shows greater variability, suggesting that the slider allowed respondents to express a wider range of cannabis amounts rather than clustering responses around a limited set of values. Taken together, these findings supported our decision to continue using the slider scale method for estimating dose in the MMCPS.

Appendix C

Table C1 data is referenced in Section 4.1. Pain Relief. Estimates predict the likelihood of rating treatment as very or extremely effective when accounting for age, race, and gender.

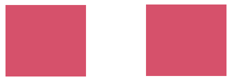
Table C1. Adjusted Binary Logistic Regression Predicting High Perceived Efficacy of Medical Cannabis

Predictor	Estimate (β)	Std. Error	z-value	p-value	OR (exp(β))
Intercept	2.24	0.208	10.79	<0.001	9.39
Qualifying Condition					
Severe or chronic pain	-0.437	0.042	-10.37	<0.001	0.65
Age	-0.023	0.0015	-15.22	<0.001	0.978
Race					
American Indian, Native American, or Alaskan Native	-0.064	0.254	-0.25	0.802	0.94
Asian	-0.451	0.194	-2.32	0.02	0.64
Black or African American	0.122	0.057	2.14	0.032	1.13
Native Hawaiian or other Pacific Islander	-0.021	0.522	-0.04	0.967	0.98
Other Race	0.341	0.139	2.46	0.014	1.41
More Than One Race	0.377	0.133	2.84	0.004	1.46
Gender Identity					
Male	0.04	0.043	0.94	0.346	1.04
Transgender female	-0.792	0.63	-1.26	0.209	0.45
Transgender male	0.206	0.488	0.42	0.673	1.23
Non-binary	-0.22	0.198	-1.11	0.267	0.8
Not included	-0.414	0.7	-0.59	0.554	0.66
Prefer not to answer	-0.317	0.193	-1.64	0.1	0.73

Model reference categories: Qualifying condition = any condition besides Severe or chronic pain, Race = White, Gender identity = Female

Table C1. Adjusted Binary Logistic Regression Predicting High Perceived Efficacy of Medical Cannabis

Correlate	Spearman's ρ	p-value
Time in medication program	0.145	<0.001
Age	-0.138	<0.001
Polysubstance use frequency	0.158	<0.001
Income	-0.023	0.013



Appendix D

MCA implemented a survey of certifying providers between October 22 – November 5th, 2025, with a participation goal of five (5) percent. MCA received nearly 150 responses, approximately doubling our participation goal. Survey results reported in the MMCPS-25 are listed below. Questions? publichealth.mca@maryland.gov

Table D1. Key Findings: MCA's 2025 Certifying Provider Survey

Response Option	%
How effective would you say medical cannabis has been for your patients for each of the following medical conditions?	
Severe or Chronic Pain	
Moderately effective	32.9%
Not effective at all	2.1%
Slightly effective	4.3%
Unknown/NA	5.0%
Very effective	55.7%
Insomnia or Sleep Deprivation	
Moderately effective	26.1%
Not effective at all	1.4%
Slightly effective	8.7%
Unknown/NA	4.3%
Very effective	59.4%
Anxiety	
Moderately effective	36.6%
Not effective at all	0.7%
Slightly effective	10.6%
Unknown/NA	4.9%
Very effective	47.2%

What is your typical fee for medical cannabis patients paying out-of-pocket for an INITIAL medical cannabis certification exam?	
Depression	
Moderately effective	31.9%
Not effective at all	11.9%
Slightly effective	14.1%
Unknown/NA	17.8%
Very effective	24.4%
PTSD	
Moderately effective	26.7%
Not effective at all	5.2%
Slightly effective	7.4%
Unknown/NA	17.0%
Very effective	43.7%
GI Distress	
Moderately effective	25.0%
Not effective at all	5.3%
Slightly effective	14.4%
Unknown/NA	25.0%
Very effective	30.3%

What is your typical fee for medical cannabis patients paying out-of-pocket for an INITIAL medical cannabis certification exam?	
$25-50	3.5%
$51-100	22.9%
$101-150	21.5%
$151-200	22.9%
Over $200	4.9%
I don't charge my patients a fee for medical cannabis certification	20.1%
Other	4.2%

What is your typical fee for medical cannabis patients paying out-of-pocket for a RENEWAL medical cannabis certification exam?	
$25-50	9.0%
$51-100	38.9%
$101-150	22.2%
$151-200	4.9%
Over $200	1.4%
I don't charge my patients a fee for medical cannabis certification	21.5%
Other	2.1%

If MCA were to offer medical cannabis training, which of the following topics would be most beneficial to you as a certifying provider? (check all that apply)	
Integrating cannabis into your practice	42.4%
Indicators of/ resources for problem use	45.8%
Dosing	60.4%
Cannabinoids and terpenes (functions)	69.4%
Cannabis medical contraindications/clinical due diligence	78.5%
Cannabis for specific conditions/diseases	79.2%

How much would you be willing to pay for a two (2) hour medical cannabis CME course?	
I would not take/pay for a medical cannabis CME course	29.9%
Up to $50	44.4%
Up to $100	16.0%
Up to $150	4.2%
Up to $200	4.9%
Over $200	0.7%

Overall, how knowledgeable do you perceive your patients to be about medical cannabis?	
Knowledgeable	53.5%
Neutral	20.1%
Not very knowledgeable	10.4%

Overall, how knowledgeable do you perceive your patients to be about medical cannabis? (Cont.)	
Varies widely by patient	15.3%
Other	0.7%

What topic(s) do patients need education about? (check all that apply)	
Effects of cannabis on mental health	70.8%
Optimal THC dose for qualifying condition	66.7%
Cannabinoids and terpenes (functions)	52.8%
Indicators of/resources for problem use	50.0%
How to talk to providers about cannabis use	39.6%
They generally don't need additional education	6.3%