# Physician Certification Pattern Review

# 2023 Annual Report

July 1, 2021 - June 30, 2022

**Physician Certification Pattern Review Panel** Florida Board of Medicine Florida Board of Osteopathic Medicine





Board of Medicine and Board of Osteopathic Medicine Physician Certification Pattern Review 2023 Annual Report



Section 381.986(4)(j), Florida Statutes, directs the Board of Medicine and the Board of Osteopathic Medicine to "jointly create a physician certification pattern review panel that shall review all physician certifications submitted to the medical marijuana use registry." The Physician Certification Pattern Review Panel (Panel) shall track and report the number of physician certifications and the qualifying medical conditions, dosage, supply amount, and form of marijuana certified. These data shall be reported both by individual qualified physician and in the aggregate, by county, and statewide.

The Panel is responsible for reporting its findings and recommendations by January 1 of each year to the Governor, the President of the Senate, and the Speaker of the House of Representatives. This report analyzes data from July 1, 2021, through June 30, 2022.

# **Physician Certification Pattern Review Panel**

#### **Chair and Vice Chair**

Sandra Schwemmer, D.O., Chair Nicholas Romanello, Consumer Member, Vice Chair

#### Members

Jorge Gadea, D.O. William Kirsh, D.O. Nicole Justice, Consumer Member Amy Derick, M.D. Michael Wasylik, M.D.

This report provides a summary of the data for Fiscal Year 2022 (the 2023 Annual Report). In November of 2021, the Panel requested that the data cycle dates for the annual report be changed to align with the fiscal year for future reports. Comparisons between the data from FYs 2020, 2021, and 2022 were made. All physician certification data were extracted from the Medical Marijuana Use Registry (MMUR). Physician licensure information was extracted from the Division of Medical Quality Assurance (MQA) Licensure Database.

- 1. FY 2020 Data: 12 months of data, July 1, 2019, through June 30, 2020.
- 2. FY 2021 Data: 12 months of data, July 1, 2020, through June 30, 2021.
- 3. FY 2022 (2023 Annual Report): 12 months of data, July 1, 2021, through June 30, 2022.

#### Date Range for 2023 Annual Report Data

July 1, 2021, through June 30, 2022

#### **Purpose of the Panel**

The Panel reviews physician certification patterns, produces an annual report including recommendations, and reports the findings to the Governor, the President of the Senate, and the Speaker of the House of Representatives by January 1 of each year, pursuant to section 381.986(4)(j), Florida Statutes (F.S).

#### **Highlights of Trends in Physician Certifications**

1. Based upon a review of the data for FYs 2020, 2021, and 2022, the data have reflected a steady increase in the number of physician certifications, physician certifications containing at least one order for smoking as a route of administration, the number of qualified patients, and qualified physicians.

Physician certifications: 633,864 to 921,464 to 1,142,172.

Certifications with smoke order(s): 532,111 to 860,291 to 1,089,072.

Qualified patients with certifications: 401,818 to 607,220 to 757,600.

Qualified physicians with certifications: 1,623 to 1,656 to 1,725.

- The greatest number of certifications were issued by a small percentage of qualified physicians. This ratio has been increasing as more physicians see more patients, and more patients continue with subsequent certifications each fiscal year.
  - 2020: 69% of certifications were issued by 12% of qualified physicians; 1,000 + certifications each.2% of certifications were issued by 48% of qualified physicians; 1-49 certifications each.
  - 2021: 80% of certifications were issued by 15% of qualified physicians; 1,000 + certifications each.
    1% of certifications were issued by 45% of qualified physicians; 1-49 certifications each.
  - 2022: 83% of certifications were issued by 17% of qualified physicians; 1,000 + certifications each.
    1% of certifications were issued by 43% of qualified physicians; 1-49 certifications each.
- 3. The ordered average daily dose (mg) has shifted each year. This year, using a geometric mean calculation, daily dose amounts have increased slightly across all routes of administration for both low-THC cannabis and medical marijuana. Smoking as an appropriate route of administration remains consistently at the top of the limit allowed by statute, 2.5 oz. per order period.

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# I. General Process for Medical Marijuana Certifications

#### 1. Requirements for Qualified Physicians

Physicians qualify to order medical marijuana if they hold an active and unrestricted license as an allopathic physician under Chapter 458, F.S., or an osteopathic physician under Chapter 459, F.S., and successfully complete an approved 2-hour Continuing Medical Education course and examination. The course is repeated before the biennial license renewal deadline. All Florida-licensed physicians must provide information for a primary practice location. However, physicians may self-report as "Not Practicing", maintain an active license, and not provide a primary practice location. See Table 1.

| Reported Physician Practice<br>Location Address | FY 2020 <sup>1</sup> | FY 2021 <sup>1</sup> | FY 2022 <sup>1</sup> |
|---|----------------------|----------------------|----------------------|
| In a Florida County                             | 2,333                | 2,299                | 2,038                |
| Not Practicing                                  | 41                   | 32                   | 25                   |
| Out of State                                    | 85                   | 98                   | 81                   |

Table 1. Total number of Florida-licensed physicians qualified to certify patients for medical marijuana.

<sup>1</sup> Data cycle is July – June prior to January 1<sup>st</sup> publication date. See page i.

#### 2. Requirements to Issue a Physician Certification

Figure 1 illustrates the general process to issue a physician certification. Currently, a physician certification can be issued only if the qualified physician conducted a physical examination while physically present in the same room as the patient; completed a full assessment of the patient's medical history; reviewed the Prescription Drug Monitoring Program (PDMP) database; and diagnosed the patient with at least one qualifying medical condition. Qualified physicians are responsible for the determination that the medical use of marijuana would likely outweigh the potential health risks for the patient. Physicians must complete the medical consent form and, when appropriate, submit required documentation as part of the certification process. See section 381.986(4)(a-g), F.S.

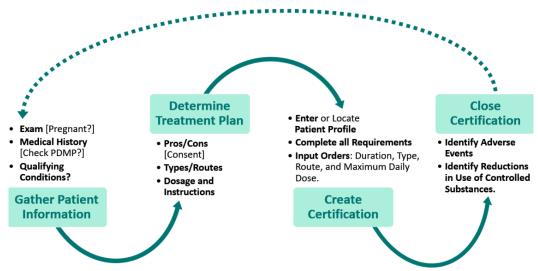


Figure 1. General process for determining if medical marijuana is an appropriate patient treatment.

Physicians must submit required documentation and maintain up-to-date certification information in the MMUR. When closing a certification, physicians must note adverse events or reductions in use of other

controlled substances. To continue to use medical marijuana as a treatment for the patient's medical condition(s), physicians and patients must complete the entire process as a new certification.

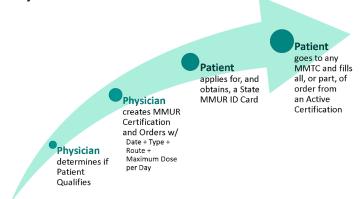
# 3. Requirements for Patients to Obtain Medical Marijuana

Figure 2 illustrates the general process for patients to obtain medical marijuana. Once a qualified physician determines that the medical use of marijuana would likely outweigh the potential health risks for the patient, a certification is created for the patient. Certifications contain orders with a maximum duration of 35 to 70 days depending on route of administration (Edibles, Inhalation, Oral, Smoking, Sublingual, Suppository, or Topical).

Current certifications have a maximum duration of 210 days, or three consecutive 70-day orders (six consecutive 35-day orders for smoking). Patients are allowed one current (active) certification and one pending (future) certification. Each order has a start and end date. Physicians can modify current orders.

Once a physician certification has been issued, first-time qualified patients must obtain a Florida Medical Marijuana ID card. If medical marijuana as a treatment for the patient's medical condition is continued, the card must be renewed every 12 months. Orders can be filled at any medical marijuana treatment center (MMTC) in Florida.

**Figure 2.** General process for Florida residents who are interested in obtaining certifications for medical marijuana.



# 4. Reporting Physician Certification Data

- Physician certification data for this report were pulled directly from the MMUR rather than vendorgenerated reports used previously. This investment toward internal control of data gives the Office of Medical Marijuana Use (OMMU) more support for its Quality Assurance team, a critical feature in live data systems. Increased data access will allow rapid reporting by developing dashboards.
- Physician primary practice locations (addresses physicians provide in the Practitioner Profile) are taken from the MQA licensure database.
- Section 381.986(4)(j), F.S., requires the Panel to report physician certification data "both by individual qualified physician and in the aggregate, by county, and statewide." Please see the separate document, "Data Tables for Physician Certification Pattern Review, 2023 Annual Report."

# **II. Trends in Physician Certifications**

Table 2 and Figure 3 show the growth in number of physician certifications, individual patients, and qualified physicians. Patient counts reflect distinct individuals; patients may have more than one certification in each time period.

|  | FY 2020 | FY 2021 | FY 2022   | Percent Change<br>FY 2021 to FY 2022 |
|--|---------|---------|-----------|--------------------------------------|
| Certifications                                 | 633,864 | 921,464 | 1,142,172 | 24% ↑                                |
| Individual<br>Patients                         | 401,818 | 607,220 | 757,600   | 25% ↑                                |
| Qualified<br>Physicians with<br>Certifications | 1,623   | 1,656   | 1,725     | 4% ↑                                 |
| All Qualified<br>Physicians                    | 2,459   | 2,429   | 2,144     | 12% ↓                                |

**Table 2:** Growth in physician certifications for medical marijuana use.

Figure 3. Number of physician certifications and patient counts in FY 2020, FY 2021, and FY 2022.

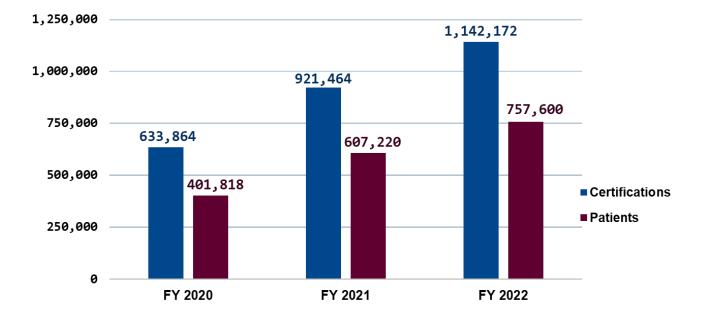


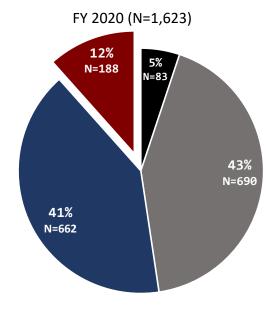
Table 3 provides information on how certification counts can vary by qualified physician. Only qualified physicians who have issued physician certifications during the time periods for the three data sets are included. The number of certifications has increased more than the number of qualified physicians issuing certifications, as can be seen in the average number of certifications per physician and the range in number of certifications per physician. This is illustrated in the three pie charts in Figure 4 and Figure 5.

| Table 3: Number of certifications in each da | a set. |
|--|--------|
|--|--------|

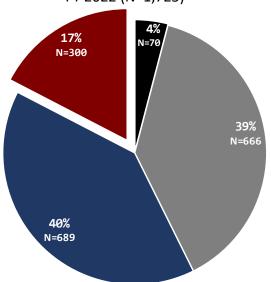
|   | FY 2020     | FY 2021     | FY 2022     |
|---|-------------|-------------|-------------|
| All Certifications                                | 633,864     | 921,464     | 1,142,172   |
| Average number of<br>certifications per physician | 391         | 556         | 662         |
| Range in number of certifications per physician   | 1 to 13,924 | 1 to 25,033 | 1 to 32,686 |
| Median  | 57          | 66          | 76          |
| Mode  | 1           | 1           | 1           |
| Individual Patients                               | 401,818     | 607,220     | 757,600     |

**Figure 4.** Trends in the percentage of physicians whose total number of certifications fall into one of four groups. Percentages are based on the number of physicians in each group divided by the total number of physicians in that data set.

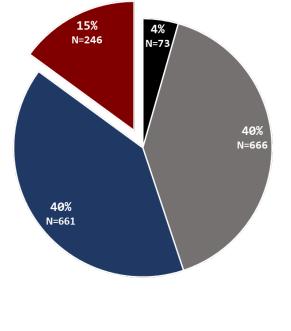
- 1 certification per physician
- 2 to 49 certifications per physician
- 50 to 999 certifications per physician
- 1,000 or more certifications per physician



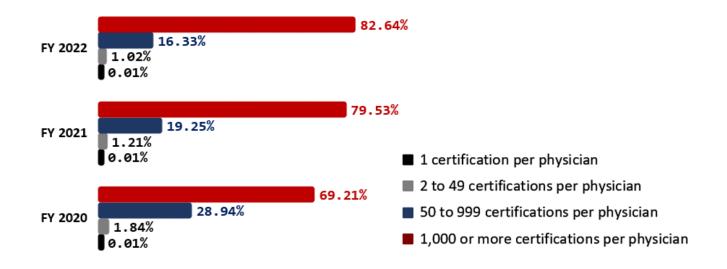
FY 2022 (N=1,725)



FY 2021 (N=1,656)

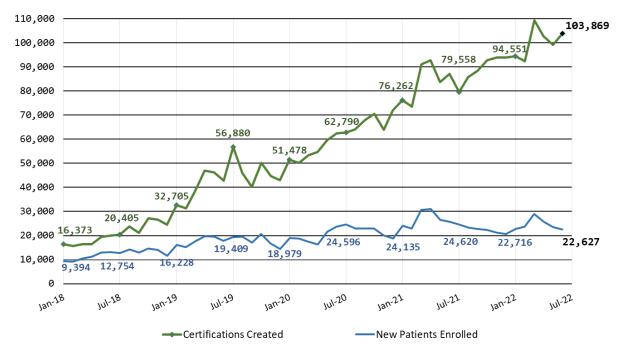


**Figure 5.** Percentage of certifications issued by physicians in each of the four groups. For example, in FY 2022, 0.01% of certifications issued were from physicians (N=70) who issued only 1 certification and 83% of certifications issued were from physicians (N=300) who issued 1,000 or more certifications. Physician counts in each group are in Figure 4.



Two changes occurred during the past four reporting periods: first, marijuana in a form for smoking became available for medical use on March 18, 2019, (Senate Bill 182) and second, edibles as a route of administration became available on August 27, 2020, when the Department of Health issued production standards. See Figure 6.

**Figure 6.** Month and year counts for certifications created and newly enrolled patients (no previous certifications) from January 1, 2018, through June 30, 2022. Point values for January and July are shown for each line. The June 2022 values are in black.



# III. Trends in Patient Qualifying Condition

Physicians are required to determine that a patient's medical condition meets one of the qualifying conditions listed in section 381.986(2), F.S. The list is included in Table 4. Patients may have more than one qualifying condition recorded in the MMUR by a qualified physician and more than one certification.

**Table 4:** Trends in the total number and percentage of qualifying conditions reported in each data set.Conditions listed in **bold font** are the top three qualifying conditions reported by physicians.

|  | FY :    | 2020                 | FY 2021 |                      | FY 2022 |                      |
|--|---------|----------------------|---------|----------------------|---------|----------------------|
| Qualifying Condition   | Number  | Percent <sup>2</sup> | Number  | Percent <sup>2</sup> | Number  | Percent <sup>2</sup> |
| (a) Cancer   | 49,612  | 5.1%                 | 59,999  | 3.8%                 | 66,457  | 3.8%                 |
| (b) Epilepsy   | 14,146  | 1.4%                 | 19,154  | 1.2%                 | 16,921  | 1.0%                 |
| (c) Glaucoma   | 10,389  | 1.1%                 | 13,072  | 0.8%                 | 15,069  | 0.9%                 |
| (d) Positive status for human<br>immunodeficiency virus (HIV)  | 6,802   | 0.7%                 | 9,203   | 0.6%                 | 8,833   | 0.5%                 |
| (e) Acquired immune deficiency syndrome (AIDS)   | 1,409   | 0.1%                 | 2,051   | 0.1%                 | 1,963   | 0.1%                 |
| (f) Post-traumatic stress disorder<br>(PTSD)   | 328,890 | 33.6%                | 607,004 | 38.6%                | 695,592 | 39.4%                |
| (g) Amyotrophic lateral sclerosis<br>(ALS)   | 6,889   | 0.7%                 | 12,153  | 0.8%                 | 3,997   | 0.2%                 |
| (h) Crohn's disease  | 19,326  | 2.0%                 | 29,649  | 1.9%                 | 32,965  | 1.9%                 |
| (i) Parkinson's disease  | 7,424   | 0.8%                 | 8,945   | 0.6%                 | 7,285   | 0.4%                 |
| (j) Multiple sclerosis (MS)  | 97,923  | 10.0%                | 184,113 | 11.7%                | 160,218 | 9.1%                 |
| (k) Medical conditions of the<br>same kind or class as or<br>comparable to those enumerated<br>in paragraphs (a)-(j) <sup>1</sup>                        | 238,896 | 24.4%                | 412,835 | 26.2%                | 508,124 | 28.8%                |
| <ul> <li>(I) A terminal condition diagnosed<br/>by a physician other than the<br/>qualified physician issuing the<br/>physician certification</li> </ul> | 2,250   | 0.2%                 | 3,494   | 0.2%                 | 3,292   | 0.2%                 |
| (m) Chronic nonmalignant pain  | 194,836 | 19.9%                | 212,507 | 13.5%                | 244,899 | 13.9%                |
| Total qualifying conditions reported:  | 978,    | 792                  | 1,574   | ,179                 | 1,765   | 615,                 |
| Total number of certifications:  | 633,    | 864                  | 92      | 1,464                | 1,14    | 2,172                |
| Total number of individual patients:   | 401,    | 818                  | 60      | 7,220                | 75      | 7,600                |

<sup>1</sup> Physicians are required to provide information on certifications under qualifying condition (k) same kind or class.

<sup>2</sup> Percent of total qualifying conditions reported.

In September 2020, the Panel requested information on the top five medical conditions qualified physicians recorded most often in the MMUR under qualifying condition (k). In November 2020, the Panel asked for more detail on the medical conditions of patients certified under qualifying condition (f), PTSD.

Data for Tables 5, 6, and 7 are physician entries to the MMUR under qualifying condition (k). These data were collected separately from the data in previous tables and as such will vary slightly. For live data systems like the MMUR, each download is a snapshot in time; small differences in the data are expected. Data submitted using a paper copy of Form DH-MQA-5027 (rev. 02/2018) are not included.

**Table 5.** Patient medical conditions<sup>1</sup> reported by physicians for 1% or more of patients certified as qualifying condition (k) "medical conditions of the same kind or class as..." in FY 2022.

| He | tient medical conditions by category using the World<br>ealth Organization's International Statistical Classification<br>Diseases and Related Health Problems   | FY 2022<br>Number Percent <sup>2</sup> |     |  |
|----|---|--|-----|--|
| 1. | <b>One form of "anxiety"</b> (e.g., generalized anxiety disorder, depression, insomnia, panic attacks, sleep disorders).  | 180,382                                | 42% |  |
| 2. | One or more symptoms, diseases, or disorders for<br>"chronic pain from neuro or muscular degeneration or<br>injury" (e.g., cervical or lumbar pain, degenerative<br>disc/joint disease, muscle spasms, myopathic<br>encephalopathy, restless leg syndrome,<br>rheumatoid/osteoarthritis). | 108,388                                | 25% |  |
| 3. | Only "chronic pain" or "pain" reported.   | 38,268                                 | 9%  |  |
| 4. | One or more forms of "anxiety" AND one or more forms<br>of "chronic pain from neuro or muscular degeneration or<br>injury."   | 22,304                                 | 5%  |  |
| 5. | Two or more forms of "anxiety" as listed.   | 39,759                                 | 9%  |  |
|    | <b>Others with 1,421 or less:</b> digestive, respiratory, infectious disease, circulatory, genitourinary, genetic, skin and connective tissue, ophthalmological.  | 21,919                                 | 5%  |  |
|    | Unable to determine   | 20,316                                 | 5%  |  |
|    | Number of medical conditions reported:  | 431,33                                 | 6   |  |
|    | Number of qualifying condition (k) certifications:  | 508,12                                 |     |  |
|    | Number of distinct patients in this table:<br>Number of physicians in this table:   | 281,19<br>720                          | 9   |  |
|    |   | 720                                    |     |  |

<sup>1</sup> Patients may have multiple certifications and 1 to 5 medical conditions.

<sup>2</sup> Percent of total number of medical conditions reported.

In the MMUR, all certifications using qualifying condition (k) "medical conditions of the same kind or class as..." require identification of one or more qualifying conditions (a)-(j) the physician identifies as a match to the patient's medical condition(s).

Because a patient's certification may include multiple medical conditions, and/or multiple matches to qualifying conditions (a)-(j), the records were sorted to review only those certifications with *one other qualifying condition (a)-(j)*.

In this reporting period, 69% (352,611 of 508,124) certifications met these conditions. See Table 6.

**Table 6:** Number and percentage of times each qualifying condition (a)-(j) was identified as being the "same kind, or class" as the patient's medical condition. Conditions listed in **bold font** are the top three reported by physicians.

|   | FY 20                   | )22                  |
|---|-------------------------|----------------------|
| Qualifying Condition <sup>1</sup>   | Number                  | Percent <sup>2</sup> |
| (a) Cancer  | 3,499                   | 0.99%                |
| (b) Epilepsy  | 5,708                   | 1.6%                 |
| (c) Glaucoma  | 376                     | 0.1%                 |
| (d) Positive status for human immunodeficiency virus (HIV)  | 1,538                   | 0.4%                 |
| (e) Acquired immune deficiency syndrome (AIDS)  | 238                     | 0.07%                |
| (f) Post-traumatic stress disorder (PTSD)   | 210,354                 | 59.7%                |
| (g) Amyotrophic lateral sclerosis (ALS)   | 1,323                   | 0.4%                 |
| (h) Crohn's disease   | 12,208                  | 3.5%                 |
| (i) Parkinson's disease   | 2,330                   | 0.7%                 |
| (j) Multiple sclerosis (MS)   | 115,037                 | 32.6%                |
| Total <i>single</i> qualifying condition reported:<br>Number of distinct patients in this table:<br>Number of physicians in this table: | 352,63<br>244,94<br>698 |                      |

<sup>1</sup> Qualifying condition (k) patient medical condition(s) may align with more than one qualifying condition, only certifications with one (a)-(j) qualifying condition noted are shown here.
 <sup>2</sup> Percent of total number of single qualifying conditions reported.

Table 7 provides an expansion of qualifying condition (k) data requested by the Panel in the 2021 recommendations to staff. The Panel was specifically interested in patient medical conditions physicians identified in certifications that identified qualifying condition (f) post-traumatic stress disorder (PTSD) as being the same kind or class or as comparable to the patient medical condition.

There were 245,006 medical conditions reported in 233,654 certifications for 166,965 patients by 614 physicians that met the Panel's request. Medical conditions reported by physicians for 1% or more of patients with qualifying condition (k) certifications were grouped into six categories.

**Table 7:** Number and percentage of patient medical conditions physicians reported as being the "same kind, or class" as qualifying condition (f) post-traumatic stress disorder (PTSD) under qualifying condition (k) requirements, July 1, 2021, through June 30, 2022. Medical conditions listed under qualifying condition (k) certifications that do not use (f) PTSD are provided for comparison.

| Patient medical conditions <sup>1</sup> by category using the  |         | FY 2022                        |         |                                  |  |
|--|---------|--------------------------------|---------|----------------------------------|--|
| World Health Organization's International Statistical<br>Classification of Diseases and Related Health Problems  |         | d PTSD<br>Percent <sup>2</sup> | No PTSI | D listed<br>Percent <sup>2</sup> |  |
| <ol> <li>One form of "anxiety" (e.g., generalized anxiety<br/>disorder, depression, insomnia, panic attacks, sleep<br/>disorders).</li> </ol>  | 165,957 |                                | 14,425  |                                  |  |
| 2. Two or more forms of "anxiety" as listed.   | 36,328  | 14.8%                          | 3,431   | 1.8%                             |  |
| 3. One or more forms of "anxiety" AND one or more forms of "chronic pain from neuro or muscular degeneration or injury".   | 15,435  | 6.3%                           | 6,869   | 3.7%                             |  |
| 4. Only "chronic pain" or "pain" reported.   | 6,574   | 2.7%                           | 31,694  | 17.0%                            |  |
| 5. One or more symptoms, diseases, or disorders for<br>"chronic pain from neuro or muscular<br>degeneration or injury" (e.g., cervical or lumbar<br>pain, degenerative disc/joint disease, muscle<br>spasms, myopathic encephalopathy, restless leg<br>syndrome, rheumatoid/osteoarthritis). | 2,715   | 1.1%                           | 105,673 | 56.7%                            |  |
| <ol> <li>Digestive (e.g., abdominal pain, anorexia, loss of<br/>appetite, celiac disease, colitis, diabetes,<br/>diverticulitis, irritable bowel syndrome, nausea,<br/>pancreatitis, vomiting, wasting syndrome)</li> </ol>  | 3,808   | 1.6%                           | 8,887   | 4.8%                             |  |
| Combined total for medical conditions identified 515<br>times <sup>1</sup> or less: autoimmune, circulatory, genetic,<br>genitourinary, infectious disease, ophthalmological,<br>respiratory, and/or skin and connective tissue.   | 2,621   | 1.1%                           | 6,604   | 3.5%                             |  |
| Unable to determine  | 11,568  | 4.7%                           | 8,748   | 4.7%                             |  |
| Number of medical conditions:  | 245     | ,006                           | 186     | ,331                             |  |
| Number of distinct patients:   | 166     | ,965                           | 123     | ,774                             |  |

<sup>1</sup> Patients may have multiple certifications and 1 to 5 medical conditions.

<sup>2</sup> Percent of total medical conditions reported.

# IV. Trends in Orders by Type, Route, and Average Daily Dose

Data in this section refer to the total number of orders across all certifications, or to the geometric mean of the daily dose ordered per physician by route and type. Within each certification, the number of orders and the maximum daily dose in milligrams per day (mg) for any order, route, or type can vary.

Tables 8 and 9 provide the total number of orders by type and route for all certifications between July 1, 2019, and June 30, 2022. The increase in number of certifications increases the number of orders. Sublingual and Suppository order counts continue to increase more rapidly than other routes of administration.

**Table 8:** Total number of orders for low-THC cannabis, by route, in all certifications in each data set.Edibles as a route of administration became available August 27, 2020.

| Route       | FY 2020                  | FY 2021   | FY 2022   | Percent Change<br>FY 2021 to FY 2022 |
|-------------|--------------------------|-----------|-----------|--------------------------------------|
| Edibles     | -                        | 2,257,090 | 3,226,136 | N/A <sup>1</sup>                     |
| Inhalation  | 1,551,506                | 2,512,034 | 3,224,199 | 28% 1                                |
| Oral        | 1,593,656                | 2,546,474 | 3,234,702 | 27% ↑                                |
| Sublingual  | 784,982                  | 2,119,418 | 3,143,905 | 48% ↑                                |
| Suppository | Suppository 98,662 300,9 |           | 472,315   | 57% ↑                                |
| Topical     | 1,471,936                | 2,455,131 | 3,167,278 | 29% ↑                                |

<sup>1</sup>A full year comparison cannot be made.

**Table 9:** Total number of orders for medical marijuana, by route, in all certifications in each data set.Edibles as a route of administration became available August 27, 2020.

| Route       | FY 2020   | FY 2021   | FY 2022   | Percent Change<br>FY 2021 to FY 2022 |
|-------------|-----------|-----------|-----------|--------------------------------------|
| Edibles     | -         | 2,356,750 | 3,308,693 | N/A <sup>1</sup>                     |
| Inhalation  | 1,726,259 | 2,620,144 | 3,297,212 | 26% 1                                |
| Oral        | 1,701,284 | 2,615,992 | 3,298,967 | 26% 🕇                                |
| Sublingual  | 857,242   | 2,200,278 | 3,207,690 | 46% 🕇                                |
| Suppository | 105,454   | 309,768   | 475,743   | 54% 1                                |
| Topical     | 1,575,919 | 2,530,751 | 3,232,525 | 28% 1                                |

<sup>1</sup>A full year comparison cannot be made.

Tables 10 and 11 show the statewide average of the physician's average daily dose ordered in milligrams per day (mg) for six routes of low-THC cannabis and medical marijuana. With three full years of data, changes in trends were noted in the average daily dose amounts ordered.

Comparing the FY 2021 data with the FY 2022 data, *and including outlier* amounts, Low-THC cannabis average daily dose amounts ordered have increased for all routes of administration. Edibles, Inhalation, and Oral routes each increased by 7%. Suppository and Topical Routes both increased by 11%. The Sublingual route increased by 8%.

The FY 2021 data and FY 2022 data comparison of medical marijuana average daily dose amounts ordered, *including outlier* amounts, similarly showed an increase across all routes. The Edibles route increased by 10%. Inhalation and Oral routes both increased by 9%. The Sublingual, Suppository, and Topical routes showed increases of 11%, 13%, and 16% respectively. Note: Edibles as a route only had ten months of data in FY 2021, as it became available August 27, 2020.

In order to retain all data observations and make comparisons without skewing caused by outlier amounts, the data presented here also include a geometric mean (GeoMean) calculation. A geometric mean uses all data observations to create a mean closer to the median. The usual average calculation (arithmetic mean) is provided for comparison, as are descriptive statistics for each data set (i.e., the range of physician doses high to low, the median or middle point, and the mode or most frequently occurring number). See the "Terms and Definitions" section for more detail on geometric mean calculations and outliers.

**Table 10:** Statewide geometric mean daily dose (mg) for low-THC cannabis, in Edibles, Inhalation, and Oral forms, in each data set. Edibles as a route of administration became available August 27, 2020. Number of physicians with orders in each year is included in brackets.

|         | Edil    | bles    | l de la companya de l | Inhalation |         |         | Oral    |         |
|---------|---------|---------|---|------------|---------|---------|---------|---------|
| Low-THC | FY 2021 | FY 2022 | FY 2020   | FY 2021    | FY 2022 | FY 2020 | FY 2021 | FY 2022 |
|         | [1,423] | [1,553] | [1,375]   | [1,451]    | [1,501] | [1,442] | [1,500] | [1,560] |
| GeoMean | 179     | 192     | 195   | 212        | 226     | 172     | 189     | 203     |
| Max     | 44,800  | 44,800  | 462,522   | 14,000     | 19,000  | 21,385  | 18,080  | 20,435  |
| Min     | 3.0     | 5.0     | 1.0   | 10.0       | 5.0     | 1.0     | 2.0     | 5.0     |
| Median  | 142     | 173     | 147   | 166        | 200     | 122     | 150     | 188     |
| Mode    | 200     | 200     | 200   | 200        | 200     | 200     | 200     | 200     |

**Table 11:** Statewide geometric mean daily dose (mg) for Low-THC cannabis, in Sublingual, Suppository, and Topical forms, in each data set. The number of physicians with orders in each year is included in brackets.

|         | :       | Sublingual |         |         | ippository | ,       | Topical |         |         |  |
|---------|---------|------------|---------|---------|------------|---------|---------|---------|---------|--|
| Low-THC | FY 2020 | FY 2021    | FY 2022 | FY 2020 | FY 2021    | FY 2022 | FY 2020 | FY 2021 | FY 2022 |  |
|         | [1,289] | [1,435]    | [1,514] | [565]   | [682]      | [791]   | [1,305] | [1,415] | [1,508] |  |
| GeoMean | 164     | 177        | 191     | 172     | 205        | 228     | 139     | 159     | 177     |  |
| Max     | 14,458  | 14,000     | 20,435  | 14,000  | 14,000     | 19,000  | 19,122  | 21,000  | 20,435  |  |
| Min     | 4.0     | 4.4        | 3.0     | 10.0    | 15.0       | 10.0    | 1.0     | 3.0     | 1.0     |  |
| Median  | 118     | 141        | 183     | 167     | 191        | 200     | 117     | 138     | 164     |  |
| Mode    | 200     | 200        | 200     | 200     | 200        | 200     | 200     | 200     | 200     |  |

**Table 12:** Statewide average daily dose (mg) from all physician's average daily dose for medical marijuana, in Edibles, Inhalation, and Oral forms, in each data set. Edibles as a route of administration became available August 27, 2020. The number of physicians with orders in each year is included in brackets.

| Medical   | Edi             | bles    |         | Inhalation |         | Oral      |         |         |  |
|-----------|-----------------|---------|---------|------------|---------|-----------|---------|---------|--|
| Marijuana | FY 2021 FY 2022 |         | FY 2020 | FY 2021    | FY 2022 | FY 2020   | FY 2021 | FY 2022 |  |
| wanjuana  | [1,553]         | [1,689] | [1,567] | [1,599]    | [1,674] | [1,557]   | [1,601] | [1,667] |  |
| GeoMean   | 176             | 193     | 204     | 227        | 248     | 176       | 196     | 214     |  |
| Max       | 14,000          | 36,500  | 36,888  | 14,000     | 36,500  | 5,329,944 | 14,000  | 18,025  |  |
| Min       | 10.0            | 10.0    | 5.0     | 15.0       | 3.0     | 2.0       | 5.0     | 9.0     |  |
| Median    | 139             | 167     | 149     | 170        | 200     | 124       | 149     | 186     |  |
| Mode      | 200             | 200     | 200     | 200        | 200     | 200       | 200     | 200     |  |

**Table 13:** Statewide average daily dose (mg) from all physician's average daily dose for medical marijuana, in Sublingual, Suppository, and Topical forms, in each data set. The number of physicians with orders in each year is included in brackets.

| Medical   |         | Sublingual |         |         | uppository | /       | Topical |         |         |  |
|-----------|---------|------------|---------|---------|------------|---------|---------|---------|---------|--|
| Marijuana | FY 2020 | FY 2021    | FY 2022 | FY 2020 | FY 2021    | FY 2022 | FY 2020 | FY 2021 | FY 2022 |  |
| manjaana  | [1,408] | [1,528]    | [1,608] | [656]   | [762]      | [884]   | [1,430] | [1,500] | [1,597] |  |
| GeoMean   | 157     | 178        | 198     | 174     | 207        | 233     | 134     | 157     | 182     |  |
| Max       | 40,513  | 14,000     | 35,750  | 4,800   | 14,000     | 16,000  | 21,385  | 14,333  | 18,458  |  |
| Min       | 3.0     | 5.0        | 10.0    | 10.0    | 5.0        | 10.0    | 3.0     | 5.0     | 5.0     |  |
| Median    | 112     | 136        | 179     | 157     | 172        | 200     | 115     | 130     | 165     |  |
| Mode      | 200     | 200        | 200     | 200     | 200        | 200     | 200     | 200     | 200     |  |

# V. Top Five Physicians by Reporting Measures

The following tables provide information on the top five physicians in each data set and include:

- 1. Number of certifications.
- The number and physician's percentage of the top three qualifying conditions: (f) PTSD, (k) Medical Conditions of the Same Kind or Class as or Comparable to those enumerated in paragraphs (a)-(j), and (m) Chronic Nonmalignant Pain. Physician Specialty Area as provided in the Practitioner Profile in the MQA Licensure Database is included, if available.
- 3. The highest average maximum daily dose in milligrams per day (mg) by type and route.

Note:

- 1. By statute, allopathic and osteopathic physicians are not required to include or update specialties in the Practitioner Profile. Specialty information in Tables 15, 16, 17, 34, 35, and 36 is as of July 1, 2022, and may not reflect current information.
- 2. Physician license numbers in this section have been de-identified with a unique identifier (UID).
- 3. Patients may have more than one qualifying condition in a single certification, and more than one certification in a reporting period.

# **1.** Physicians with the Highest Number of Certifications

Table 14: Top five physicians with the highest number of certifications in each data set.

|     | FY 2020                     |                       |     | FY 2021                     |                       | FY 2022 |                             |                       |  |
|-----|-----------------------------|-----------------------|-----|-----------------------------|-----------------------|---------|-----------------------------|-----------------------|--|
| UID | Number of<br>Certifications | Number of<br>Patients | UID | Number of<br>Certifications | Number of<br>Patients | UID     | Number of<br>Certifications | Number of<br>Patients |  |
| AY  | 13,924                      | 5,941                 | AY  | 25,033                      | 9,905                 | AY      | 32,686                      | 12,496                |  |
| BA  | 12,241                      | 8,253                 | AZ  | 15,806                      | 9,711                 | BA      | 17,677                      | 11,820                |  |
| AZ  | 11,841                      | 8,098                 | BA  | 15,516                      | 10,742                | EH      | 15,735                      | 12,746                |  |
| AU  | 6,134                       | 4,188                 | DL  | 9,841                       | 6,978                 | DL      | 14,918                      | 13,374                |  |
| J   | 5,795                       | 3,543                 | CY  | 9,521                       | 6,456                 | DW      | 13,677                      | 10,839                |  |

**Table 15:** Top five physicians with the highest number of certifications including "Qualifying Condition (f)PTSD."

|  | FY 2020  | FY 2021  | FY 2022   |
|--|--|--|---|
| Range in Total Number of Certifications                                    | 3,712 to 13,926  | 7,815 to 25,033 1  | 0,060 to 32,686   |
| Range in Percentage of<br>Physician's Certifications<br>including (f) PTSD | 67% to 99.7%   | 75% to 98%   | 73% to 99%  |
| Physician Specialty Area <sup>1</sup>                                      | <ul> <li>Pediatrics</li> <li>Family Medicine</li> <li>Emergency Medicine<br/>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Radiology-Diagnostic</li> <li>Hospice and<br/>Palliative Medicine</li> <li>Not Listed</li> </ul> | <ul> <li>Radiation<br/>Oncology</li> <li>Pediatrics</li> <li>Family Medicine</li> <li>Not Listed</li> </ul> |

<sup>1</sup>Reference on page 13.

**Table 16:** Top five physicians with the highest number of certifications including "Qualifying Condition (k)Medical Conditions of the Same Kind or Class."

|   | FY 2020   | FY 2021  | FY 2022   |
|---|---|--|---|
| Range in Total Number<br>of Certifications  | 4,712 to 13,926   | 7,024 to 25,033  | 9,348 to 32,686   |
| Range in Percentage of<br>Physician's Certifications<br>including (k) Same Kind<br>or Class | 27% to 76%  | 34% to 78%   | 17% to 80%  |
| Physician Specialty Area <sup>1</sup>   | <ul> <li>Pediatrics</li> <li>Family Medicine</li> <li>Emergency Medicine</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Radiology-Diagnostic</li> <li>Hospice and<br/>Palliative Medicine</li> <li>Not Listed</li> </ul> | <ul> <li>Radiation<br/>Oncology</li> <li>Pediatrics</li> <li>Family Medicine</li> <li>Not Listed</li> </ul> |

<sup>1</sup>Reference on page 13.

**Table 17:** Top five physicians with the highest number of certifications including "Qualifying Condition (m) Chronic Nonmalignant Pain."

|   | FY 2020   | FY 2021  | FY 2022   |
|---|---|--|---|
| Range in Total Number<br>of Certifications  | 3,712 to 13,926   | 5,899 to 25,033  | 7,500 to 32,686   |
| Range in Percentage of<br>Physician's<br>Certifications including<br>(m) Chronic Pain | 52% to 99.7%  | 45% to 96%   | 41% to 96%  |
| Physician Specialty Area <sup>1</sup>   | <ul><li>Family Medicine</li><li>Pediatrics</li><li>Not Listed</li></ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Plastic Surgery</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Internal Medicine</li> <li>Pediatrics</li> <li>Obstetrics and<br/>Gynecology</li> <li>Not Listed</li> </ul> |

<sup>1</sup>Reference on page 13.

## 2. Physicians with the Highest Average Daily Dose – Low-THC Cannabis by Route

**Table 18:** Low-THC cannabis: **Edibles**, top five physicians with the highest average daily dose (mg). No data for the 2020 Report. Edibles as a route of administration became available August 27, 2020.

| FY 2020 (No Data) |         | FY 2021                         |                     |  | FY 2022                    |                     |
|-------------------|---------|---------------------------------|---------------------|--|----------------------------|---------------------|
|                   | UID     | Average Daily<br>Dose (mg)      | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
|                   | AT      | 44,800                          | 3                   | AT                                       | 44,800                     | 3                   |
|                   | DZ      | 14,000                          | 6                   | EI                                       | 19,388                     | 39                  |
|                   | EA      | 10,650                          | 6                   | EJ                                       | 19,000                     | 15                  |
|                   | DT      | 10,000                          | 3                   | AA                                       | 17,649                     | 21                  |
|                   | I       | 8,948                           | 166                 | DZ                                       | 14,000                     | 51                  |
|                   | Geometr | ric mean <sup>1</sup> : 179 mg/ | day                 | Geometric mean <sup>1</sup> : 192 mg/day |                            |                     |

|         | FY 2020                         |                     |  | FY 2021                    |                     |  | FY 2022                    |                     |
|---------|---------------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
| UID     | Average Daily<br>Dose (mg)      | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
| W       | 462,522                         | 9,760               | DZ                                       | 14,000                     | 6                   | EJ                                       | 19,000                     | 15                  |
| Х       | 25,290                          | 6                   | EA                                       | 9,988                      | 8                   | EI                                       | 17,621                     | 43                  |
| А       | 19,122                          | 101                 | AT                                       | 9,600                      | 4                   | DZ                                       | 14,000                     | 51                  |
| AA      | 11,413                          | 16                  | Y  | 9,000                      | 2                   | AM                                       | 12,244                     | 129                 |
| I       | 8,923                           | 120                 | I  | 9,000                      | 177                 | EN                                       | 10,000                     | 3                   |
| Geometr | ric mean <sup>1</sup> : 195 mg/ | day                 | Geometric mean <sup>1</sup> : 212 mg/day |                            |                     | Geometric mean <sup>1</sup> : 226 mg/day |                            |                     |

**Table 19:** Low-THC cannabis: **Inhalation**, top five physicians with the highest average daily dose (mg).

<sup>1</sup>No outliers removed.

Table 20: Low-THC cannabis: Oral, top five physicians with the highest average daily dose (mg).

|          | FY 2020                         |                     |  | FY 2021                    |                     | FY 2022                                  |                            |                     |  |
|----------|---------------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|--|
| UID      | Average Daily<br>Dose (mg)      | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |  |
| А        | 21,385                          | 102                 | DI                                       | 18,080                     | 9                   | EI                                       | 20,435                     | 37                  |  |
| AA       | 11,821                          | 19                  | DZ                                       | 14,000                     | 6                   | EJ                                       | 19,000                     | 15                  |  |
| I        | 8,923                           | 120                 | EA                                       | 9,988                      | 8                   | AA                                       | 17,649                     | 21                  |  |
| AB       | 4,559                           | 32                  | I  | 9,000                      | 177                 | DZ                                       | 14,000                     | 51                  |  |
| DJ       | 3,750                           | 4                   | AA                                       | 7,875                      | 55                  | AM                                       | 12,284                     | 132                 |  |
| Geometri | ic mean <sup>1</sup> : 172 mg/o | day                 | Geometric mean <sup>1</sup> : 189 mg/day |                            |                     | Geometric mean <sup>1</sup> : 203 mg/day |                            |                     |  |

| UID     | FY 2020<br>Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | FY 2021<br>Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | FY 2022<br>Average Daily<br>Dose (mg) | Number<br>of Orders |
|---------|---------------------------------------|---------------------|--|---------------------------------------|---------------------|--|---------------------------------------|---------------------|
| А       | 14,458                                | 99                  | DZ                                       | 14,000                                | 6                   | EI                                       | 20,435                                | 37                  |
| AA      | 14,000                                | 3                   | AJ                                       | 11,000                                | 4                   | EJ                                       | 19,000                                | 15                  |
| I       | 9,500                                 | 6                   | EA                                       | 9,988                                 | 8                   | DZ                                       | 14,000                                | 51                  |
| AB      | 4,646                                 | 14                  | I  | 9,000                                 | 149                 | AM                                       | 12,244                                | 129                 |
| EL      | 3,942                                 | 11                  | DM                                       | 8,453                                 | 1,119               | EO                                       | 9,518                                 | 743                 |
| Geometr | ic mean¹: 164 mg/c                    | day                 | Geometric mean <sup>1</sup> : 177 mg/day |                                       |                     | Geometric mean <sup>1</sup> : 191 mg/day |                                       |                     |

Table 21: Low-THC cannabis: Sublingual, top five physicians with the highest average daily dose (mg).

<sup>1</sup>No outliers removed.

Table 22: Low-THC cannabis: Suppository, top five physicians with the highest average daily dose (mg).

|       | FY 2020                                  |                     |     | FY 2021                                  |                     |     | FY 2022                                  |                     |  |
|-------|--|---------------------|-----|--|---------------------|-----|--|---------------------|--|
| UI    | Average Daily<br>D Dose (mg)             | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number of<br>Orders |  |
| AF    | 14,000                                   | 3                   | DZ  | 14,000                                   | 6                   | EJ  | 19,000                                   | 15                  |  |
| ]     | 10,000                                   | 3                   | DO  | 10,000                                   | 42                  | AM  | 14,000                                   | 18                  |  |
| ι     | J 2,400                                  | 1                   | AM  | 9,400                                    | 9                   | DZ  | 14,000                                   | 51                  |  |
| C     | 1,420                                    | 2                   | I   | 9,000                                    | 138                 | EO  | 9,319                                    | 731                 |  |
| Bł    | H 1,260                                  | 50                  | DM  | 8,676                                    | 1,090               | I   | 9,000                                    | 270                 |  |
| Geome | Geometric mean <sup>1</sup> : 172 mg/day |                     |     | Geometric mean <sup>1</sup> : 205 mg/day |                     |     | Geometric mean <sup>1</sup> : 228 mg/day |                     |  |

|         | FY 2020                        |                     |  | FY 2021                    |                     |  | FY 2022                    |                     |
|---------|--------------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
| UID     | Average Daily<br>Dose (mg)     | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
| А       | 19,122                         | 101                 | AJ                                       | 21,000                     | 8                   | EI                                       | 20,435                     | 37                  |
| AJ      | 17,500                         | 3                   | DI                                       | 20,033                     | 3                   | EJ                                       | 19,000                     | 15                  |
| I       | 8,930                          | 118                 | DH                                       | 20,000                     | 2                   | DZ                                       | 14,000                     | 51                  |
| BD      | 7,133                          | 3                   | DZ                                       | 14,000                     | 6                   | AM                                       | 12,556                     | 129                 |
| AC      | 7,100                          | 6                   | EF                                       | 10,725                     | 4                   | EN                                       | 10,000                     | 3                   |
| Geometr | ic mean <sup>1</sup> : 139 mg/ | day                 | Geometric mean <sup>1</sup> : 159 mg/day |                            |                     | Geometric mean <sup>1</sup> : 177 mg/day |                            |                     |

Table 23: Low-THC cannabis: Topical, top five physicians with the highest average daily dose (mg).

<sup>1</sup>No outliers removed.

## 3. Physicians with the Highest Average Daily Dose – Medical Marijuana by Route

**Table 24:** Medical marijuana: **Edibles**, top five physicians with the highest average daily dose (mg). No data for Edibles in the 2020 Report. Edibles as a route of administration became available August 27, 2020.

| FY 2020 (No Data) |  | FY 2021                    |                     | FY 2022                                  |                            |                     |
|-------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
|                   | UID                                      | Average Daily<br>Dose (mg) | Number of<br>Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
|                   | DZ                                       | 14,000                     | 6                   | EP                                       | 36,500                     | 12                  |
|                   | DI                                       | 13,102                     | 23                  | AT                                       | 16,833                     | 9                   |
|                   | EA                                       | 10,650                     | 6                   | EI                                       | 16,824                     | 45                  |
|                   | AT                                       | 8,983                      | 15                  | EJ                                       | 16,000                     | 18                  |
|                   | DM                                       | 7,821                      | 1,211               | EQ                                       | 14,000                     | 3                   |
|                   | Geometric mean <sup>1</sup> : 176 mg/day |                            |                     | Geometric mean <sup>1</sup> : 193 mg/day |                            |                     |

|          | FY 2020                         |                     |  | FY 2021                    |                     |  | FY 2022                    |                     |
|----------|---------------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
| UID      | Average Daily<br>Dose (mg)      | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
| Y        | 36,888                          | 12                  | DZ                                       | 14,000                     | 6                   | EP                                       | 36,500                     | 12                  |
| А        | 19,122                          | 101                 | DI                                       | 10,386                     | 29                  | EI                                       | 16,891                     | 45                  |
| х        | 16,920                          | 9                   | DQ                                       | 10,000                     | 3                   | EJ                                       | 16,000                     | 18                  |
| AJ       | 14,000                          | 3                   | EA                                       | 9,988                      | 8                   | EQ                                       | 14,000                     | 3                   |
| AA       | 11,450                          | 16                  | DH                                       | 9,082                      | 56                  | EB                                       | 14,000                     | 10                  |
| Geometri | ic mean <sup>1</sup> : 204 mg/d | ау                  | Geometric mean <sup>1</sup> : 227 mg/day |                            |                     | Geometric mean <sup>1</sup> : 248 mg/day |                            |                     |

**Table 25:** Medical marijuana: Inhalation, top five physicians with the highest average daily dose (mg).

<sup>1</sup>No outliers removed.

Table 26: Medical marijuana: Oral, top five physicians with the highest average daily dose (mg).

|         | FY 2020                                  |                     |     | FY 2021                                  |                     |     | FY 2022                                  |                     |  |
|---------|--|---------------------|-----|--|---------------------|-----|--|---------------------|--|
| UID     | Average Daily<br>Dose (mg)               | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number<br>of Orders |  |
| М       | 5,329,944                                | 1,121               | DZ  | 14,000                                   | 6                   | EI  | 18,025                                   | 42                  |  |
| AU      | 109,331                                  | 18,332              | DI  | 11,169                                   | 27                  | EJ  | 16,000                                   | 18                  |  |
| А       | 21,385                                   | 102                 | EA  | 9,988                                    | 8                   | EQ  | 14,000                                   | 3                   |  |
| BE      | 18,464                                   | 35                  | DH  | 9,773                                    | 46                  | DZ  | 14,000                                   | 54                  |  |
| AA      | 11,853                                   | 19                  | AA  | 7,170                                    | 55                  | AM  | 12,284                                   | 132                 |  |
| Geometr | Geometric mean <sup>1</sup> : 115 mg/day |                     |     | Geometric mean <sup>1</sup> : 196 mg/day |                     |     | Geometric mean <sup>1</sup> : 214 mg/day |                     |  |

|  | FY 2020                    |                     |  | FY 2021                    |                     |  | FY 2022                    |                     |
|--|----------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
| UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
| BE                                       | 40,513                     | 54                  | DZ                                       | 14,000                     | 6                   | EP                                       | 35,750                     | 12                  |
| AJ                                       | 17,500                     | 2                   | AJ                                       | 11,000                     | 4                   | EI                                       | 18,933                     | 40                  |
| А  | 14,458                     | 99                  | EA                                       | 9,988                      | 8                   | EJ                                       | 16,000                     | 18                  |
| AA                                       | 14,000                     | 3                   | DM                                       | 8,439                      | 1,121               | AM                                       | 15,148                     | 132                 |
| EL                                       | 4,340                      | 10                  | EG                                       | 8,400                      | 1                   | DZ                                       | 14,000                     | 54                  |
| Geometric mean <sup>1</sup> : 157 mg/day |                            |                     | Geometric mean <sup>1</sup> : 178 mg/day |                            |                     | Geometric mean <sup>1</sup> : 198 mg/day |                            |                     |

 Table 27: Medical marijuana: Sublingual, top five physicians with the highest average daily dose (mg).

<sup>1</sup>No outliers removed.

Table 28: Medical marijuana: Suppository, top five physicians with the highest average daily dose (mg).

|          | FY 2020                                  |                     |     | FY 2021                                  |                     |     | FY 2022                                  |                     |  |
|----------|--|---------------------|-----|--|---------------------|-----|--|---------------------|--|
| UID      | Average Daily<br>Dose (mg)               | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number<br>of Orders | UID | Average Daily<br>Dose (mg)               | Number of<br>Orders |  |
| AQ       | 4,800                                    | 6                   | DZ  | 14,000                                   | 6                   | EJ  | 16,000                                   | 18                  |  |
| DI       | 3,500                                    | 2                   | DO  | 10,000                                   | 42                  | AM  | 14,000                                   | 18                  |  |
| EM       | 1,963                                    | 8                   | AM  | 9,400                                    | 9                   | DZ  | 14,000                                   | 54                  |  |
| DJ       | 1,833                                    | 6                   | DM  | 8,676                                    | 1,090               | EO  | 9,330                                    | 731                 |  |
| U        | 1,750                                    | 6                   | DC  | 3,298                                    | 87                  | AY  | 7,281                                    | 57                  |  |
| Geometri | Geometric mean <sup>1</sup> : 174 mg/day |                     |     | Geometric mean <sup>1</sup> : 207 mg/day |                     |     | Geometric mean <sup>1</sup> : 233 mg/day |                     |  |

|  | FY 2020                    |                     |  | FY 2021                    |                     |  | FY 2022                    |                     |
|--|----------------------------|---------------------|--|----------------------------|---------------------|--|----------------------------|---------------------|
| UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders | UID                                      | Average Daily<br>Dose (mg) | Number<br>of Orders |
| А  | 21,385                     | 102                 | DH                                       | 14,333                     | 35                  | EI                                       | 18,458                     | 41                  |
| AJ                                       | 17,500                     | 1                   | DZ                                       | 14,000                     | 6                   | EJ                                       | 16,000                     | 18                  |
| BD                                       | 10,450                     | 2                   | AJ                                       | 12,500                     | 8                   | AM                                       | 15,148                     | 132                 |
| AT                                       | 9,600                      | 3                   | EF                                       | 10,725                     | 4                   | EB                                       | 14,000                     | 3                   |
| Y  | 7,600                      | 2                   | EA                                       | 9,988                      | 8                   | DZ                                       | 14,000                     | 54                  |
| Geometric mean <sup>1</sup> : 134 mg/day |                            |                     | Geometric mean <sup>1</sup> : 157 mg/day |                            |                     | Geometric mean <sup>1</sup> : 182 mg/day |                            |                     |

**Table 29:** Medical marijuana: **Topical**, top five physicians with the highest average daily dose (mg).

# VI. Marijuana in a Form for Smoking

Certifications with orders for smoking began on March 18, 2019, when Senate Bill 182 (2019) was signed into law by Governor Ron DeSantis. See section 381.986 (4)(c), F.S.

|  | FY 2020     | FY 2021     | FY 2022     |
|--|-------------|-------------|-------------|
| All Certifications with at Least<br>One Order for Smoking                | 532,111     | 860,291     | 1,089,072   |
| Average number of<br>certifications with smoking<br>per physician        | 391         | 591         | 695         |
| Range in total number of<br>certifications with smoking<br>per physician | 1 to 13,924 | 1 to 24,624 | 1 to 32,584 |
| Median   | 57          | 66          | 75          |
| Mode   | 1           | 1           | 1           |
| All Patients<br>(with smoking certifications)                            | 351,177     | 575,095     | 728,655     |

**Table 30:** Number of certifications that contain at least one order for smoking in each data set.

**Table 31:** All smoking orders, percentage of total qualified physicians with orders for smoking, and descriptive statistics (in ounces ordered) in each data set.

|  | FY 2020   | FY 2021   | FY 2022   |
|--|-----------|-----------|-----------|
| All Orders for Smoking                           | 2,983,098 | 4,931,098 | 6,302,534 |
| Percentage of Physicians with Orders for Smoking | 83%       | 88%       | 91%       |
| GeoMean ounces ordered                           | 2.45      | 2.46      | 2.47      |
| Max  | 2.50      | 2.50      | 2.50      |
| Min  | 0.03      | 0.60      | 0.54      |
| Median   | 2.50      | 2.50      | 2.50      |
| Mode   | 2.50      | 2.50      | 2.50      |

**Table 32:** Trends in the total number and percentage of qualifying conditions reported in certifications containing at least one order for smoking. Patients may have more than one qualifying condition per certification. Conditions listed in **bold font** are the top three qualifying conditions reported by physicians.

|   | FY 2    | 020                  | FY 2    | 2021                 | FY 2022   |                      |
|---|---------|----------------------|---------|----------------------|-----------|----------------------|
| Qualifying Condition  | Number  | Percent <sup>1</sup> | Number  | Percent <sup>1</sup> | Number    | Percent <sup>1</sup> |
| (a) Cancer  | 37,424  | 4.5%                 | 51,713  | 3.5%                 | 59,224    | 3.5%                 |
| (b) Epilepsy  | 11,206  | 1.4%                 | 17,165  | 1.2%                 | 15,513    | 0.9%                 |
| (c) Glaucoma  | 8,374   | 1.0%                 | 11,870  | 0.8%                 | 14,126    | 0.8%                 |
| (d) Positive status for human<br>immunodeficiency virus (HIV)   | 5,739   | 0.7%                 | 8,509   | 0.6%                 | 8,426     | 0.5%                 |
| (e) Acquired immune deficiency syndrome (AIDS)  | 1,159   | 0.1%                 | 1,825   | 0.1%                 | 1,651     | 0.1%                 |
| (f) Post-traumatic stress disorder<br>(PTSD)  | 291,533 | 35.3%                | 576,442 | 39.3%                | 670,199   | 40.0%                |
| (g) Amyotrophic lateral sclerosis<br>(ALS)  | 6,098   | 0.7%                 | 11,423  | 0.8%                 | 3,559     | 0.2%                 |
| (h) Crohn's disease   | 16,015  | 1.9%                 | 27,065  | 1.8%                 | 31,483    | 1.9%                 |
| (i) Parkinson's disease   | 4,571   | 0.6%                 | 6,810   | 0.5%                 | 5,896     | 0.4%                 |
| (j) Multiple sclerosis (MS)   | 83,453  | 10.1%                | 169,059 | 11.5%                | 148,922   | 8.9%                 |
| (k) Medical conditions of the<br>same kind or class as or<br>comparable to those enumerated<br>in paragraphs (a)-(j)  | 207,355 | 25.1%                | 389,109 | 26.5%                | 485,470   | 28.9%                |
| <ul> <li>(I) A terminal condition diagnosed</li> <li>by a physician other than the</li> <li>qualified physician issuing the</li> <li>physician certification</li> </ul> | 1,607   | 0.2%                 | 3,100   | 0.2%                 | 3,043     | 0.2%                 |
| (m) Chronic nonmalignant pain   | 151,774 | 18.4%                | 193,155 | 13.2%                | 229,990   | 13.7%                |
| Total qualifying conditions reported:   | 826,    | 308                  | 1,467   | 1,467,245            |           | ,502                 |
| Total number of certifications:   | 532,    | 111                  | 860,291 |                      | 1,089,072 |                      |
| Total number of patients:<br>(with smoking certifications)  | 352,    | 177                  | 575,095 |                      | 728,655   |                      |

<sup>1</sup>Percent of total qualifying conditions reported.

**Table 33:** Top five physicians with the highest number of certifications containing at least one order for smoking.

|     | FY 2020                     |                       |     | FY 2021                     |                       |     | FY 2022                     |                       |
|-----|-----------------------------|-----------------------|-----|-----------------------------|-----------------------|-----|-----------------------------|-----------------------|
| UID | Number of<br>Certifications | Number of<br>Patients | UID | Number of<br>Certifications | Number of<br>Patients | UID | Number of<br>Certifications | Number of<br>Patients |
| AY  | 13,924                      | 5,941                 | AY  | 24,624                      | 9,844                 | AY  | 32,584                      | 12,482                |
| BA  | 12,241                      | 8,253                 | AZ  | 15,802                      | 9,711                 | BA  | 17,316                      | 11,646                |
| AZ  | 11,841                      | 8,098                 | BA  | 15,429                      | 10,700                | EH  | 15,716                      | 12,735                |
| AU  | 6,134                       | 4,188                 | DL  | 9,840                       | 6,978                 | DL  | 14,918                      | 13,374                |
| J   | 5,795                       | 3,543                 | CY  | 9,392                       | 6,407                 | DW  | 13,668                      | 10,834                |

**Table 34:** Top five physicians with the highest number of certifications containing at least one order for smoking and including "Qualifying Condition (f) PTSD."

|  | FY 2020   | FY 2021   | FY 2022   |
|--|---|---|---|
| Range in Total Number of<br>Certifications                                 | 3,707 to 12,322   | 7,740 to 24,624   | 10,059 to 32,584  |
| Range in Percentage of<br>Physician's Certifications<br>including (f) PTSD | 74% to 99.7%  | 75% to 99%  | 74% to 99%  |
| Physician Specialty Area <sup>1</sup>                                      | <ul><li>Family Medicine</li><li>Pediatrics</li><li>Not Listed</li></ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Diagnostic<br/>Radiology</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Diagnostic<br/>Radiology</li> <li>Not Listed</li> </ul> |

<sup>1</sup>Specialty information is as of July 1, 2022 and may not reflect current information.

**Table 35:** Top five physicians with the highest number of certifications containing at least one order for smoking and including "Qualifying Condition (k) Medical conditions of the same kind or class."

|   | FY 2020  | FY 2021   | FY 2022  |
|---|--|---|--|
| Range in Total Number of<br>Certifications  | 4,634 to 12,322  | 6,744 to 24,624   | 7,408 to 17,316  |
| Range in Percentage of<br>Physician's Certifications<br>including (k) Same Kind or<br>Class | 28% to 72%   | 34% to 78%  | 55% to 80%   |
| Physician Specialty<br>Area <sup>1</sup>  | <ul> <li>Family Practice,<br/>Hospice and<br/>Palliative Medicine</li> <li>Emergency<br/>Medicine</li> <li>Pediatrics</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Family Practice,<br/>Hospice and<br/>Palliative Medicine</li> <li>Pediatrics</li> <li>Radiology-Diagnostic</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Radiation<br/>Oncology</li> <li>Hospice and<br/>Palliative<br/>Medicine</li> <li>Not Listed</li> </ul> |

<sup>1</sup>Specialty information is as of July 1, 2022 and may not reflect current information.

**Table 36:** Top five physicians with the highest number of certifications containing at least one order for smoking and including "Qualifying Condition (m) Chronic nonmalignant pain."

|  | FY 2020   | FY 2021  | FY 2022   |
|--|---|--|---|
| Range in Total Number of<br>Certifications   | 3,178 to 12,322   | 5,799 to 24,624  | 7,473 to 32,584   |
| Range in Percentage of<br>Physician's Certifications<br>including (m) Chronic Pain | 52% to 99.7%  | 45% to 96%   | 41% to 96%  |
| Physician Specialty Area <sup>1</sup>  | <ul><li>Family Medicine</li><li>Pediatrics</li><li>Not Listed</li></ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Plastic Surgery</li> <li>Not Listed</li> </ul> | <ul> <li>Family Medicine</li> <li>Pediatrics</li> <li>Internal<br/>Medicine</li> <li>Obstetrics and<br/>Gynecology</li> <li>Not Listed</li> </ul> |

<sup>1</sup> Specialty information is as of July 1, 2022 and may not reflect current information.

# VII. Summary of the 2023 Annual Report

**Physician certifications** created for qualified patients each month continue to show a cumulative increase for each year of reporting. For example, certifications increased by 57% (32,705 to 51,478) from January 2019 to January 2020, then increased by 48% (to 76,262) for January 2021. From January 2021 to January 2022, certifications per month increased more slowly, 24% (to 94,551). The most recent monthly count was 103,869 for June 2022.

**New patient enrollment** each month increased by 17% from January 2019 compared to January 2020 (16,228 to 18,979), and by 27% for January 2021. Enrollments each month then decreased by 6% (to 22,716) for January 2022. The most recent monthly count was 22,627 for June 2022.

**The average daily dose** ordered for low-THC cannabis and medical marijuana has changed slightly since the previous fiscal year. The amounts ordered for marijuana in a form for smoking remain consistent with previous reports.

**Data Tables for Physician Certifications** contain detailed certification data for individual qualified physicians, and in the aggregate, by county and statewide, and are provided in a separate document.

## Panel Recommendations from 2022 Report

#### **Requests to Panel Support Staff:**

- 1. Consider comparable data from other states or jurisdictions for future reports, if applicable.
- 2. Present data using the geometric mean versus the average in future reports.
- 3. Include an emphasis on the unreliability of physician primary practice location information.
- 4. Provide a break-down of physicians with certifications greater than 1,000 or more into smaller groups (adding 2,000 and 5,000 or more).
- 5. Change the data cycle from October 1 through September 30 to July 1 through June 30 to align with the fiscal year in future reports.

# **VIII. Panel Recommendations for FY 2023**

- 1. Add information on the impact of COVID-19 on physician certification counts, if possible.
- 2. Add data on order counts by age groups, if possible.

# IX. Terms and Definitions

**Average (AVG) daily dose** is the average of all *maximum* daily doses ordered within a physician certification by route of administration and type (low-THC cannabis or medical marijuana).

**Average ounces** are the average of all "total ounces per 35-day order period of marijuana in a form for smoking" by certification, physician, county, or state.

**Cannabidiol (CBD)** for low-THC cannabis ordered by route(s) in the MMUR is measured in milligrams per day.

**Chronic nonmalignant pain** means pain that is caused by a qualifying medical condition or that originates from a qualifying medical condition and persists beyond the usual course of that qualifying medical condition.

**County** is based on the primary practice location (address) physicians provided in the MQA Licensure Database.

**Dose** is the milligrams (mg) per day for each route of administration a physician recommends in the MMUR as part of a certification for marijuana. The "total mg/day" is the sum of all doses for a given form and type of marijuana ordered. All dose data entered were used.

Form is a term referenced in section 381.986, F.S., to describe the routes of administration.

**Geometric mean** is a method for describing the central tendency of a set of numbers by finding the product of their values. An arithmetic mean adds numbers instead of multiplies them. The geometric mean is used when there are large fluctuations in a data set to prevent outliers from skewing result, yet still included those data points in the analysis.

**Low-THC cannabis** means a plant of the genus *Cannabis*, the dried flowers of which contain 0.8 percent or less of THC and more than 10 percent of CBD weight for weight; the seeds thereof; the resin extracted from any part of such plant; or any compound, manufacture, salt, derivative, mixture, or preparation of such plant or its seeds or resin that is dispensed from an MMTC.

**Marijuana** means all parts of any plant of the genus *Cannabis*, whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant or its seeds or resin, including low-THC cannabis, which are dispensed from an MMTC for medical use by a qualified patient.

**Medical marijuana treatment centers (MMTCs)** are licensed by the state to grow, process, and dispense marijuana to qualified patients who have certifications and identification cards issued by the OMMU.

**Medical Marijuana Use Registry (MMUR)** is a secure, electronic, online medical marijuana use registry for physicians, patients, and caregivers that is accessible to law enforcement agencies, qualified physicians, and MMTCs.

**Medical use** means the acquisition, possession, use, delivery, transfer, or administration of marijuana authorized by a physician certification. The term does not include:

- 1. Possession, use, or administration of marijuana that was not purchased or acquired from an MMTC.
- 2. Possession, use, or administration of marijuana in the form of commercially produced food items other than edibles or of marijuana seeds.

- 3. Use or administration of any form or amount of marijuana in a manner that is inconsistent with the qualified physician's directions or physician certification.
- 4. Transfer of marijuana to a person other than the qualified patient for whom it was authorized or the qualified patient's caregiver on behalf of the qualified patient.
- 5. Use or administration of marijuana in the following locations:
  - a. On any form of public transportation, except for low-THC cannabis not in a form for smoking.
  - b. In any public place, except for low-THC cannabis not in a form for smoking.
  - c. In a qualified patient's place of employment, except when permitted by his or her employer.
  - d. In a state correctional institution, as defined in section 944.02, F.S., or a correctional institution, as defined in section 944.241, F.S.
  - e. On the grounds of a preschool, primary school, or secondary school, except as provided in section 1006.062, F.S.
  - f. In a school bus, a vehicle, an aircraft, or a motorboat, except for low-THC cannabis not in a form for smoking.
- 6. The smoking of marijuana in an enclosed indoor workplace is defined in section 386.203(5), F.S.

**Medical Quality Assurance (MQA) Licensure Database** contains information on health care practitioners in the state of Florida licensed under Chapter 458, F.S., and Chapter 459, F.S. The information includes an indicator for physicians who have qualified to order low-THC cannabis and medical marijuana for qualified patients.

**Office of Medical Marijuana Use (OMMU)** is charged with writing and implementing the Florida Department of Health rules for the use of marijuana; overseeing the statewide MMUR; and licensing Florida businesses to cultivate, process, and dispense marijuana to qualified patients. More information about the MMUR is available online at the OMMU's website: <u>https://knowthefactsmmj.com/</u>

**Orders** refer to consecutive order periods, up to three, each with a maximum number of 70 days. Within the 70-day period, physicians can choose to order 10 options: low-THC cannabis and/or medical marijuana in up to five different routes of administration.

Physician certifications for marijuana in a form for smoking may have up to six order periods, each with a maximum number of 35 days.

**Outliers** are individual data observations (such a mg/dose or total supply amount in mg) that are an abnormal distance from all other data observations in the set. Observations that fell more than 1.5 interquartile ranges below the first quartile or above the third quartile were considered outliers and removed from calculations for average daily dose and supply totals.

**Physician certification** means a qualified physician's authorization for a qualified patient to receive marijuana and a marijuana delivery device from an MMTC.

**Physician county** data are pulled from the most recent data available relative to the end of the reporting period. "Not Practicing" physicians had an active status in the MQA Licensure database when county information was accessed; "Out of State" physicians had out-of-state addresses but were otherwise listed as active status.

**Practitioner Profile** information is drawn from the MQA Licensure Database and contains physician information that is posted in the online "License Verification" search.

**Qualified patient** means a resident of this state who has been added to the MMUR by a qualified physician to receive marijuana or a marijuana delivery device for medical use and who has a qualified patient identification card.

**Qualified physician** means a person who holds an unrestricted license as an allopathic physician under Chapter 458, F.S., or as an osteopathic physician under Chapter 459, F.S., and is in compliance with the physician education requirements of subsection (3) of 381.986, F.S.

**Qualifying medical conditions** are required for physician certification. A patient must be diagnosed with at least one of the following conditions to qualify to receive marijuana or a marijuana delivery device:

| (a) Cancer  | (i) Parkinson's disease  |  |
|---|--|--|
| (b) Epilepsy  | (j) Multiple sclerosis (MS)  |  |
| (c) Glaucoma  | (k) Medical conditions of the same kind or class<br>as or comparable to those enumerated in<br>paragraphs (a)-(j)                                    |  |
| (d) Positive status for human immunodeficiency<br>virus (HIV) |  |  |
| (e) Acquired immune deficiency syndrome<br>(AIDS)             | <ul> <li>(I) A terminal condition diagnosed by a physician<br/>other than the qualified physician issuing the<br/>physician certification</li> </ul> |  |
| (f) Post-traumatic stress disorder (PTSD)                     | (m) Chronic nonmalignant pain  |  |
| (g) Amyotrophic lateral sclerosis (ALS)                       |  |  |

(h) Crohn's disease

**Routes of administration** are defined in the Department of Health's Emergency Rule 64ER20-31, Florida Administrative Register, as the appropriate method for the usable product to be taken into the body of the qualified patient, as certified by a qualified physician.

**Smoking** means burning or igniting a substance and inhaling the smoke. As permitted by section 381.986(4)(c), F.S., qualified physicians may determine that smoking is an appropriate route of administration for a qualified patient.

**Supply** is the total amount in milligrams (mgs) for all orders within a certification (daily dose multiplied by the number of days ordered) for all routes of administration other than smoking. For smoking, supply is the total amount in ounces (oz) for all orders within a certification.

**Terminal condition** means a progressive disease or medical or surgical condition that causes significant functional impairment, is not considered by a treating physician to be reversible without the administration of life-sustaining procedures and will result in death within one year after diagnosis if the condition runs its normal course.

**Tetrahydrocannabinol (THC)** for medical marijuana ordered by route(s) in the MMUR is measured in milligrams per day.

**Type** is low-THC cannabis or medical marijuana.

#### **Contact Us**

Your feedback is important to us. If you have questions or suggestions about this report, please let us know.



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