Michigan Medical Marihuana Act Statistical Report with Program Information and Financial Data For Fiscal Year 2018

(Pursuant to MCL 333.26426 (i) (1), (2), (3), (4) and (5) and Section 505 of Public Act 207 of 2018)

December 18, 2018

Prepared by

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Bureau of Marijuana Regulation





SHELLY EDGERTON DIRECTOR

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Executive Summary:

The Michigan Medical Marihuana Act Statistical Report with Program Information and Financial Data for Fiscal Year 2018 contains the reporting requirements pursuant to both MCL 333.26426(i) (1), (2), (3), (4) and (5) and Section 505 of Public Act 207 of 2018.

The Michigan Medical Marihuana Act, Initiated Law 1 of 2008, Section 6 (i) [MCL 333.26426 (i) (1), (2), (3), (4) and (5)] states: The department shall submit to the legislature an annual report that does not disclose any identifying information about qualifying patients, primary caregivers, or physicians, but does contain, at a minimum, all of the following information:

- (1) The number of applications filed for registry identification cards.
- (2) The number of qualifying patients and primary caregivers approved in each county.
- (3) The nature of the debilitating medical conditions of the qualifying patients.
- (4) The number of registry identification cards revoked.
- (5) The number of physicians providing written certifications for qualifying patients.

Public Act 207 of 2018 requires the following:

Sec. 505. The department shall submit a report by January 31 to the standing committees on appropriations of the senate and house of representatives, the fiscal agencies, and the state budget director that includes all of the following information for the prior fiscal year regarding the medical marihuana program under the Michigan medical marihuana act, 2008 IL 1, MCL 333.26421 to 333.26430:

- (a) The number of initial applications received.
- (b) The number of initial applications approved and the number of initial applications denied.
- (c) The average amount of time, from receipt to approval or denial, to process an initial application.
- (d) The number of renewal applications received.
- (e) The number of renewal applications approved and the number of renewal applications denied.
- (f) The average amount of time, from receipt to approval or denial, to process a renewal application.

- (g) The percentage of initial applications not approved or denied within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.
- (h) The percentage of renewal applications not approved or denied within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.
- (i) The percentage of registry cards for approved initial applications not issued within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.
- (j) The percentage of registry cards for approved renewal applications not issued within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.
- (k) The number of registry identification cards issued to or renewed for patients residing in each county as of September 30 of the preceding fiscal year under the Michigan medical marihuana act, 2008 IL 1, MCL 333.26421 to 333.26430.
- (I) The amount collected from the medical marihuana program application and renewal fees authorized in section 5 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26425.
- (m) The costs of administering the medical marihuana program under the Michigan medical marihuana act, 2008 IL 1, MCL 333.26421 to 333.26430.

Pursuant to these requirements, this report has been prepared and issued electronically to the House and Senate appropriations standing committees, House and Senate Fiscal Agencies, and the state budget director to meet the both the annual and January 31 reporting requirements. In addition, this report is also online under the following locations:

- The Bureau of Marijuana Regulation (BMMR) website at: www.michigan.gov/bmr.
- The All About LARA section Legislative Reports of the Department of Licensing and Regulatory Affairs website at: www.michigan.gov/lara.

Executive Background:

The Michigan Medical Marijuana Program (MMMP) is a state registry program within the Bureau of Marijuana Regulation, Michigan Department of Licensing and Regulatory Affairs (LARA). The program administers the Michigan Medical Marihuana Act as approved by Michigan voters on November 4, 2008. The program implements the statutory tenets of this act in such a manner that protects the public and assures the confidentiality of its participants.

Specifically, the information provided in this report is based on data from October 1, 2017 through September 30, 2018.

Required Information for MCL 333.26426 (i) (1), (2), (3), (4) and (5):

(1) The number of applications filed for registry identification cards.

For Fiscal Year 2018, there were a total of 185,442 applications filed for medical marihuana registry identification cards.

(2) The number of qualifying patients and primary caregivers approved in each county.

The total number of patients and caregivers by county is listed below:

| County | Patients | Caregivers |
|------------|----------|------------|
| Alcona | 428 | 64 |
| Alger | 193 | 39 |
| Allegan | 2,978 | 547 |
| Alpena | 815 | 108 |
| Antrim | 844 | 176 |
| Arenac | 811 | 135 |
| Baraga | 180 | 27 |
| Barry | 1,637 | 295 |
| Bay | 3,710 | 413 |
| Benzie | 702 | 121 |
| Berrien | 4,701 | 843 |
| Branch | 1,519 | 268 |
| Calhoun | 4,048 | 733 |
| Cass | 1,607 | 279 |
| Charlevoix | 746 | 135 |
| Cheboygan | 614 | 95 |
| Chippewa | 776 | 134 |
| Clare | 1,135 | 179 |
| Clinton | 1,585 | 266 |
| Crawford | 443 | 74 |
| Delta | 1,045 | 215 |
| Dickinson | 838 | 174 |
| Eaton | 3,988 | 701 |
| Emmet | 883 | 114 |
| Genesee | 17,939 | 3,052 |
| Gladwin | 881 | 143 |
| Gogebic | 498 | 106 |

| County | Patients | Caregivers |
|----------------|----------|------------|
| Grand Traverse | 2,911 | 465 |
| Gratiot | 1,119 | 164 |
| Hillsdale | 1,933 | 346 |
| Houghton | 699 | 119 |
| Huron | 742 | 80 |
| Ingham | 10,792 | 1,631 |
| Ionia | 1,578 | 210 |
| losco | 1,012 | 136 |
| Iron | 478 | 83 |
| Isabella | 1,404 | 207 |
| Jackson | 5,321 | 960 |
| Kalamazoo | 5,818 | 975 |
| Kalkaska | 832 | 167 |
| Kent | 11,834 | 1,435 |
| Keweenaw | 60 | 11 |
| Lake | 457 | 86 |
| Lapeer | 3,273 | 561 |
| Leelanau | 408 | 67 |
| Lenawee | 4,378 | 742 |
| Livingston | 4,858 | 699 |
| Luce | 147 | 26 |
| Mackinac | 310 | 49 |
| Macomb | 29,303 | 4,136 |
| Manistee | 785 | 142 |
| Marquette | 1,419 | 393 |
| Mason | 1,016 | 138 |
| Mecosta | 986 | 133 |
| Menominee | 699 | 144 |
| Midland | 1,837 | 236 |
| Missaukee | 346 | 65 |
| Monroe | 5,205 | 738 |
| Montcalm | 2,091 | 422 |
| Montmorency | 457 | 90 |
| Muskegon | 4,959 | 653 |
| Newaygo | 1,642 | 275 |
| Oakland | 36,177 | 4,692 |
| Oceana | 1,087 | 160 |
| Ogemaw | 667 | 100 |
| Ontonagon | 185 | 28 |
| Osceola | 737 | 145 |

| County | Patients | Caregivers |
|--------------|----------|------------|
| Oscoda | 222 | 30 |
| Otsego | 834 | 152 |
| Ottawa | 4,912 | 561 |
| Presque Isle | 363 | 64 |
| Roscommon | 980 | 151 |
| Saginaw | 5,532 | 752 |
| Saint Clair | 4,424 | 652 |
| Saint Joseph | 1,771 | 303 |
| Sanilac | 1,209 | 193 |
| Schoolcraft | 270 | 56 |
| Shiawassee | 2,749 | 446 |
| Tuscola | 2,561 | 485 |
| Van Buren | 2,728 | 524 |
| Washtenaw | 12,586 | 1,487 |
| Wayne | 49,906 | 6,095 |
| Wexford | 962 | 192 |
| Out of State | | 7 |
| Total | 297,515 | 43,056* |

^{*}Please note the grand total is less than the sum of the counties, as a single person could serve in multiple counties on different registrations.

(3) The nature of the debilitating medical conditions of the qualifying patients.

The name of the debilitating condition as well as the total percentage of medical marihuana patients who are afflicted with the debilitating condition:

| Name of Debilitating Condition | % of Patients Afflicted with Debilitating Condition* |
|--------------------------------|--|
| Acquired Immune Deficiency | 0.28% |
| Syndrome (AIDS) | |
| Alzheimer's | 0.05% |
| Amyotrophic Lateral Sclerosis | 0.05% |
| Cachexia | 0.63% |
| Cancer | 4.91% |
| Crohn's disease | 1.09% |
| Glaucoma | 1.34% |
| Hepatitis C | 1.01% |
| Human Immunodeficiency Virus | 0.30% |
| (HIV) | |
| Nail Patella | 0.02% |

| Seizures - Epilepsy | 2.13% |
|---------------------------------|--------|
| Severe and Chronic pain | 91.11% |
| Severe and Persistent Muscle | 24.05% |
| Spasms | |
| Severe Nausea | 9.50% |
| Wasting Syndrome | 0.80% |
| Post -Traumatic Stress Disorder | 4.09% |
| Obsessive Compulsive Disorder** | 0.09% |
| Arthritis** | 2.04% |
| Rheumatoid Arthritis** | 0.14% |
| Spinal Cord Injury** | 0.10% |
| Colitis** | 0.04% |
| Inflammatory Bowel Disease** | 0.10% |
| Ulcerative Colitis** | 0.05% |
| Parkinson's Disease** | 0.03% |
| Tourette's Syndrome** | 0.01% |
| Autism** | 0.04% |
| Chronic Pain** | 4.31% |

^{*}The total adds up to more than 100% because most patients are diagnosed with more than one debilitating medical condition. The table above shows the percentage of all patients diagnosed with each condition.

(4) The number of registry identification cards revoked.

Zero registry cards were revoked in Fiscal Year 2018.

(5) The number of physicians providing written certifications for qualifying patients.

During Fiscal Year 2018, there were a total of 1,818 physicians who provided written certifications for qualifying medical marihuana patients.

^{**} July 7, 2018 new Medical Conditions were approved.

Required Information for Section 505 of Public Act 207 of 2018:

(a) The number of initial applications received.

146.505

(b) The number of initial applications approved and the number of initial applications denied.

Approved: 137,168 Denied: 25,965

- * The total initial applications approved and initial applications denied adds to more than the total initial applications received. This occurs because renewals become initial applications if they are not processed before the registration expiration date. A renewal application can be processed within the statutory timeframe of 15 business days, but the registration may expire before the renewal application is processed.
- (c) The average amount of time, from receipt to approval or denial, to process an initial application.
 - 9.17 business days
- (d) The number of renewal applications received.

38,937

(e) The number of renewal applications approved and the number of renewal applications denied.

Approved – 23,311 Denied – 2,609

** The total renewal applications approved and renewal applications denied is less than the total renewal applications received. This occurs because renewals become initial applications if they are not processed before the registration expiration date. A renewal application can be processed within the statutory timeframe of 15 business days, but the registration may expire before the renewal application is processed.

- *** The total initial and renewal applications approved and denied are more than the total initial and renewal applications received because we processed more applications than we received this fiscal year.
- (f) The average amount of time, from receipt to approval or denial, to process a renewal application.

8.97 business days

(g) The percentage of initial applications not approved or denied within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.

0.05%

(h) The percentage of renewal applications not approved or denied within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.

0.05%

(i) The percentage of registry cards for approved initial applications not issued within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.

0%

(j) The percentage of registry cards for approved renewal applications not issued within the time requirements established in section 6 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26426.

0%

(k) The number of registry identification cards issued to or renewed for patients residing in each county between October 1, 2017 and September 30, 2018 under the Michigan medical marihuana act, 2008 IL 1, MCL 333.26421 to 333.26430.

| County | New Patient Cards Issued By County | Patient Cards Renewed By County |
|---------|--|---------------------------------------|
| Alcona | 179 | 46 |
| Alger | 86 | 19 |
| Allegan | 1,183 | 355 |

| County | New Patient Cards Issued By County | Patient Cards Renewed By County |
|----------------|--|---------------------------------------|
| Alpena | 358 | 59 |
| Antrim | 395 | 77 |
| Arenac | 395 | 78 |
| Baraga | 81 | 18 |
| Barry | 712 | 166 |
| Bay | 2,061 | 289 |
| Benzie | 297 | 53 |
| Berrien | 1,901 | 540 |
| Branch | 619 | 249 |
| Calhoun | 1,830 | 351 |
| Cass | 679 | 160 |
| Charlevoix | 306 | 100 |
| Cheboygan | 263 | 64 |
| Chippewa | 312 | 81 |
| Clare | 536 | 126 |
| Clinton | 740 | 128 |
| Crawford | 200 | 33 |
| Delta | 419 | 131 |
| Dickinson | 359 | 93 |
| Eaton | 1,733 | 360 |
| Emmet | 376 | 76 |
| Genesee | 7,977 | 1,399 |
| Gladwin | 379 | 92 |
| Gogebic | 199 | 52 |
| Grand Traverse | 1,276 | 240 |
| Gratiot | 473 | 113 |
| Hillsdale | 896 | 234 |
| Houghton | 302 | 58 |
| Huron | 370 | 47 |
| Ingham | 4,825 | 718 |
| Ionia | 679 | 179 |
| losco | 512 | 77 |
| Iron | 199 | 56 |
| Isabella | 637 | 86 |
| Jackson | 2,438 | 469 |
| Kalamazoo | 2,551 | 552 |
| Kalkaska | 346 | 82 |

| County | New Patient Cards Issued By County | Patient Cards Renewed By County |
|--------------|--|---------------------------------------|
| Kent | 5,470 | 987 |
| Keweenaw | 26 | 6 |
| Lake | 192 | 55 |
| Lapeer | 1,467 | 302 |
| Leelanau | 179 | 34 |
| Lenawee | 2,152 | 354 |
| Livingston | 2,329 | 360 |
| Luce | 69 | 17 |
| Mackinac | 131 | 42 |
| Macomb | 13,862 | 1,895 |
| Manistee | 334 | 86 |
| Marquette | 669 | 114 |
| Mason | 402 | 107 |
| Mecosta | 436 | 100 |
| Menominee | 278 | 96 |
| Midland | 896 | 142 |
| Missaukee | 148 | 31 |
| Monroe | 2,442 | 456 |
| Montcalm | 818 | 322 |
| Montmorency | 189 | 57 |
| Muskegon | 2,253 | 471 |
| Newaygo | 702 | 184 |
| Oakland | 17,120 | 2,496 |
| Oceana | 467 | 126 |
| Ogemaw | 309 | 67 |
| Ontonagon | 91 | 23 |
| Osceola | 328 | 94 |
| Oscoda | 99 | 27 |
| Otsego | 325 | 83 |
| Ottawa | 2,297 | 435 |
| Presque Isle | 146 | 32 |
| Roscommon | 429 | 97 |
| Saginaw | 2,657 | 416 |
| Saint Clair | 2,106 | 380 |
| Saint Joseph | 782 | 194 |
| Sanilac | 573 | 119 |
| Schoolcraft | 106 | 27 |

| County | New Patient Cards Issued By County | Patient Cards Renewed By County |
|------------|--|---------------------------------------|
| Shiawassee | 1,198 | 291 |
| Tuscola | 1,186 | 244 |
| Van Buren | 1,181 | 344 |
| Washtenaw | 5,809 | 854 |
| Wayne | 23,985 | 2,550 |
| Wexford | 451 | 88 |
| Total | 137,168 | 23,311 |

(I) The amount collected from the medical marihuana program application and renewal fees authorized in section 5 of the Michigan medical marihuana act, 2008 IL 1, MCL 333.26425.

\$11,972,506.16

(m) The costs of administering the medical marihuana program under the Michigan medical marihuana act, 2008 IL 1, MCL 333.26421 to 333.26430.

\$5,329,409.37

Conclusion:

The Bureau of Marijuana Regulation's executive and legislative charge is the oversight of medical marijuana in Michigan. This includes the administration and oversight of the MMMP. The information contained in this report is required pursuant to MCL 333.26426 (i) (1), (2), (3), (4) and (5) and Section 505 of PA 207 of 2018 and provides specific information regarding: identification cards, patients and primary caregivers, the nature of debilitating medical conditions of qualifying patients, the number of physicians providing written certifications for qualifying patients, revenue, expenditures, application determinations, and timeliness information of the MMMP for the time period beginning October 1, 2017 through September 30, 2018.



Michigan Medical Marijuana Program

Application/Renewal Instructions and Checklist www.michigan.gov/mmp

Application for Registry Identification Card

(517) 284-6400

Apply or Renew Online at www.michigan.gov/mmp

- You must be a patient without a caregiver (or remove caregiver upon renewing) and create a secure online account.
- Your physician must have an online account and submit an online certification following an in-person medical evaluation.

Instructions for Paper Application

- This application is for a person who is 18 years of age or older and a resident of Michigan.
- Type or print legibly when completing the application.
- The original signed Application Form and Physician Certification Form must be submitted to the MMMP.
- Keep a copy of all documents submitted for your records.
- All documents must be signed within one year from the date they are received.
- A renewal application will only be accepted within 90 days prior to the card's expiration date.
- Make checks or money orders payable to: State of Michigan-MMMP.
- Do not include other forms, fees, or documentation in the envelope.
- Mail only one complete application and all required documentation (see below) in one envelope to:

Michigan Medical Marijuana Program P.O. Box 30083 Lansing, MI 48909

Checklist Application Form for Registry Identification Card Any use of white-out on or alterations to the Application Form will result in the denial of your application. If you are acting as either the legal guardian or Medical Durable Power of Attorney (MDPOA) for the applicant, you must submit a copy of proof of legal guardianship or MDPOA with signatory authority with the application. The MDPOA or legal guardian must also submit a copy of his or her proof of Michigan Residency (see below). If your MDPOA has specific conditions that must be met before it becomes activated, you must submit proof those conditions (e.g. proof the patient is incapacitated) have been met. Patient Fee: \$60 If designating a caregiver, include: \$25 caregiver fee A copy of caregiver's valid state-issued driver license or personal identification card. Proof of Michigan Residency (Valid Michigan driver license, personal identification card, or signed voter registration) Copies must be clear and legible. A copy of a voter registration without a signature is not valid. If a patient submits a voter registration, you must include additional proof of valid identity for verification purposes (i.e., government-issued document that includes your name and date of birth)

A Physician Certification Form must be completed and signed by a medical doctor or doctor of osteopathic

Any use of white-out on or alterations to the Physician Certification Form will result in the denial of your

medicine and surgery who holds a current license to practice in the State of Michigan.

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Physician Certification Form

application.



Application Form for Registry Identification Card

| For Official Use Only \$60 Patient (with no caregiver) Fee Received \$85 Patient (with caregiver) Fee Received | |
|--|--|
| | |

| To Apply or Renew Online Visit our website www.michigan.gov/mmp | | | DO NOT MAIL MORE THAN ONE APPLICATION PER ENVELOPE | | | | | |
|---|------------------|----------|--|-----------------------|------------------|-----------------------|---------|--|
| Section A: Patient Information (NAME AS IT APPEARS ON ID) (REQUIRED) | | | | | | | | |
| 1. Legal First Name | 2. Middle | Initial | 3a. Legal Las | st Name | | 3b. Suffix (Jr., Sr., | etc.) | |
| | | | | | | | | |
| 4. Patient Registry ID Card Number (For Renewals Only) 5. Date of Birth (MM/DD/YYYY) | | | | | | | | |
| 3. Date of birth (MM/DD/1111) | | | | | | | | |
| | | | _ | | | | | |
| 6a. Mailing Address 6b. Apartment/Suite/Lot# | | | | | | | | |
| | | | | | | | | |
| 7. City | | 8. Sta | ite | 9. Zip Code | | | | |
| | | ۱ ۱ | ΜI | | | | | |
| 10. Telephone Number (Optional) | | - | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Section B: Person Allowed to Possess Patient's Ma | - | • | | | | | | |
| 11. Plant possession: You must select one box. Failu | | will r | esult in the | denial of your ap | oplication. | | | |
| SELECT ONLY ONE: | | | | | | | | |
| ☐ My caregiver will pos | sess the pla | nts. | | | | | | |
| Section C: Caregiver Information (NAME AS IT APPEARS | ON ID) (If th | he pat | ient is desig | nating a caregi | ver) | | | |
| 12. Legal First Name | 13. Middle | Initial | 14a. Legal La | ist Name | 1 | 14b. Suffix (Jr., Sr. | , etc.) | |
| | | | | | | | | |
| 15. Caregiver Registry ID Card Number (For Renewals Only) | 16. Dat | e of Bir | th (MM/DD/ | YYYY) | 17. Gender (use | d for conviction | | |
| | | | . , , | | history only) | _ | | |
| | - | | _ | | Male | Female | | |
| 18a. Mailing Address 18b. Ap | partment/Su | iite/Lot | # | | | | | |
| | | | | | | | | |
| 19. City | | 19. S | tate | 20. Zip Code | | | | |
| | | | | | | | | |
| 21. Telephone Number (Optional) | | | | | | | | |
| | | | | | | | | |
| 22 Orbert News Head by Consider and | | | | | | | | |
| 22. Other Names Used by Caregiver (Nicknames, maiden nam | es, etc. Use a s | eparate | piece of paper if | you need space for ad | ditional names.) | | | |
| | | | | | | | | |
| Section D: Patient /Caregiver Signature & Date (Ri | | | | | | | | |
| I attest the information I provided is true and accurate and th awL1 of 2008, MCL 333.26421 et seq.) and associated admini | | | | | | | | |
| law enforcement and result in criminal prosecution. I autho | | | | | _ | | | |
| contained in the form completed by my certifying physician, t | | | | | | | | |
| ■ Signature of Patient: | | | | | Date: | | | |
| I attest the information I provided is true and accurate and th | at I will comp | oly with | the requireme | nts of the Michigan | Medical Marihuar | na Act (Initiated | | |
| Law 1 of 2008, MCL 333.26421 et seq.) and associated administrative rules. I agree to serve as the patient's primary caregiver, am at least 21 years old, | | | | | | | | |
| have no convictions that disqualify me from serving as a primary caregiver, and authorize the department to use the information provided in this application to perform a criminal background check. I understand that falsified or fraudulent information may be reported to law enforcement and | | | | | | | | |
| result in criminal prosecution. | | | | | Date | | | |
| Signature of Laregiver. | | | | | Date. | | | |

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Physician Certification Form

Michigan Medical Marijuana Program www.michigan.gov/mmp (517) 284-6400

This certification must be completed and signed by a <u>medical doctor or doctor of osteopathic medicine and surgery who holds an active</u> <u>license to practice in the State of Michigan.</u>

| Section A: Certifying Physician Information (AS IT APPEARS ON MEDICAL LICENSE) (REQUIRED) | | | | | | | |
|---|-------------------|---|---|--|--|--|--|
| 1. Legal First Name | 2. Middle Initial | | 3a. Legal Last Name | a 3b. Suffix (Jr., Sr., etc.) | | | |
| | | | | | | | |
| 4a. Full Mailing Address | | | 4b. Apartment/Sui | te/Lot # | | | |
| | | | | | | | |
| 5. City | 6. State | 2 7. Zip Code | | 8. Telephone Number | | | |
| | | | | | | | |
| 9. Michigan Physician License Number | (enter | only 10 digits) | | | | | |
| □M.D | | _ | | | | | |
| Section B: Patient Information (| NAME A | | | | | | |
| 10. Legal First Name | | 11. Middle Initial | 12a. Legal Last Nan | ne 12b. Suffix (Jr., Sr., etc.) | | | |
| | | | | | | | |
| 13. Date of Birth (MM/DD/YYYY) | | | | | | | |
| | | | | | | | |
| Section C: Patient's Debilitating M | | ., | • | | | | |
| This patient has been diagno (A minimum of one box mu | | | _ | • • | | | |
| | ч. — | | t one or the rollow | | | | |
| Category A | _ | egory B | 1: d: | Category C Post Traumatic Stress Disorder | | | |
| ☐ Cancer | | hronic or debilita dical condition o | iting disease or r its treatment tha | | | | |
| Glaucoma | - 1 | duces 1 or more | | Obsessive Compulsive Disorder Arthritis | | | |
| ☐ HIV Positive | | Cachexia or Was | ting Syndrome | | | | |
| □ AIDS | | Severe and Chro | nic Pain | Rheumatoid Arthritis | | | |
| ☐ Hepatitis C | | Severe Nausea | | Spinal Cord Injury Colitis | | | |
| ☐ Amyotrophic Lateral Sclerosis | | Seizures (Includi | ng but not limited | 1 — | | | |
| ☐ Crohn's Disease | | to those charact | eristic of epilepsy) | Ulcerative Colitis | | | |
| ☐ Agitation of Alzheimer's Disease | – | Severe and Persi | | Parkinson's Disease | | | |
| ☐ Nail Patella | | | g but not limited | Tourette's Syndrome | | | |
| | - 1 | sclerosis) | eristic of multiple | Autism | | | |
| | | Scici OSIS) | | Chronic Pain | | | |
| | | | | Cerebral Palsy | | | |
| Section D: Certification, Signature | and f | Date (RFOLLIRFO) |) | | | | |
| By signing below, I attest that the information entered on this certification is true and accurate. I attest that I am in compliance with the Michigan Medical Marihuana Act and associated administrative rules and have a bona fide physician-patient relationship with this patient. I attest that I have completed a full assessment of the patient's medical history and current medical condition, including a relevant, in-person, medical evaluation. Further, I attest that in my professional opinion, the patient is likely to receive therapeutic or palliative benefit from the medical use of marijuana to treat or alleviate the debilitating medical condition identified above or symptoms associated with that condition. | | | | | | | |
| Signature of Physician: | | | | Date: | | | |



Michigan Medical Marijuana Program

Application/Renewal Instructions and Checklist

www.michigan.gov/mmp (517) 284-6400

Michigan Medical Marijuana Program

Application for Registry Identification Card

FOR MINOR APPLICANTS ONLY

Instructions

- This application is for a person who is under 18 years of age and a resident of Michigan.
- Type or print legibly when completing the application.
- The original signed Application Form and both Physician Certification Forms must be submitted to the MMMP.
- Keep a copy of all documents submitted for your records.
- Make checks or money orders payable to: State of Michigan-MMMP.
- · Do not include other forms, fees, or documentation in the envelope.
- · Mail only one complete application and all required documentation (see below) in one envelope to:

Michigan Medical Marijuana Program P.O. Box 30083 Lansing, MI 48909

| <u>Checklist</u> |
|---|
| Minor Application Form for Registry Identification Card Any use of white-out on or alterations to the Minor Application Form will result in the denial of your application. |
| Minor Application Fee: \$85 (\$60 patient fee and \$25 caregiver fee required) |
| Proof of Michigan Residency Parent or legal guardian must a submit copy of his or her valid Michigan driver license or personal identification card. If the minor patient has a valid Michigan driver license or personal identification card, please submit a copy with the application. The copies must be clear and legible. |
| Copy of proof of parentage or legal guardianship (i.e.,birth certificate, court order, etc.) |
| Two Physician Certification Forms Two Physician Certification Forms must be completed and signed by two separate physicians. Each physician must be a medical doctor or doctor of osteopathic medicine and surgery who holds a current license to practice in the State of Michigan. Any use of white-out on or alterations to either Physician Certification Form will result in the |

denial of your application.



| For Official Use Only \$85 Application Fee Received |
|--|
| |
| |
| |

Application Form for Registry Identification Card MINOR APPLICANTS ONLY

| WINON AFFEICANTS ONET | | | | | | |
|---|------------------|----------|-------------------|------------|---|--|
| Section A: Patient Information (NAME AS IT APPEARS ON ID OR PROOF OF PARENTAGE) (REQUIRED) | | | | | | |
| 1Legal First Name | 2.Middle Initial | | 3a. Legal Las | t Name | 3b. Suffix (Jr., Sr., etc.) | |
| | | | | | | |
| 4. Patient Registry ID Card Number (For Renewals Only) | 5. Date | of Bir | th (MM/DD/YYY) | n | | |
| P | | | | | | |
| 6a. Mailing Address | | | | | Ch. Annahurana/Suitas/Laa# | |
| ou. maining routiess | | | | | 6b. Apartment/Suite/Lot# | |
| 7.6% | | | | | | |
| 7. City | | 8.St | | 9. Zip Co | de | |
| | | | MI | | | |
| 10. Telephone Number (optional) | | | | | | |
| | | | | | | |
| | | | | | | |
| The parent or legal guardian liste | d in Se | ctio | n C mus | t serv | e as the patient's | |
| caregiver and possess the minor | nation | t'e n | nedical r | mariiu | ana nlants | |
| caregiver and possess the minor | patient | . 5 11 | ileulcai i | mariju | ana piants. | |
| | | | | | | |
| Section C: Parent or Legal Guardian Information (| NAME AS IT | APPEA | ARS ON ID) (RE | QUIRED |) | |
| 11. Legal First Name | 12. Middle | Initial | 13a. Legal La | st Name | 13b. Suffix (Jr., Sr., etc.) | |
| | | | | | | |
| 14. Caregiver Registry Card ID Number (For Renewals On | ly) 15. Dat | e of Bi | rth (MM/DD/YY) | YY) | 16.Gender (used for conviction history | |
| C | | | | | only) Male Female | |
| 17a Mailing Address | | | | | 17h Apartment/Suite/Lot# | |
| 17a. Mailing Address 17b. Apartment/Suite/Lot# | | | | | | |
| | | | | | | |
| 18. City | | | tate | 20. Zip C | ode | |
| | | | MI | | | |
| 21. Telephone Number (optional) | | | | | | |
| | | | | | | |
| 22. Other Names Used by Parent or Legal Guardian (Nick | knames, mai | den na | ames etc. Use | a separate | piece of paper if you need more space.) | |
| | | | | | | |
| | | | | | | |
| Section D: Parent/Legal Guardian Signature & Date | (REQUIRED |)) | | | | |
| l attest the information I provided is true and accurate a | nd that I wil | Leomr | oly with the re | auiromon | ets of the Michigan Medical Marihuana | |
| Act (Initiated Law 1 of 2008, MCL 333.26421 et seq.) and | | • | • | • | _ | |
| felony convictions that disqualify me from serving as a p | | | | | | |
| in this application to perform a criminal background ch | | | | | | |
| enforcement and result in criminal prosecution. I authorize includes the information contained in the form completed | | | | - | | |
| mended the mornidation contained in the form completed | of my certif | 7 m 6 Pi | ., sicion, to the | | meaned manually rogistii. | |
| Signature of Parent/Legal Guardian: | | | | | Data | |
| Jigilature or Parent/Legal Guardian. | | | | | Date: | |

MMP 3500-4 (Rev. 5/19) Page 2 of 5



Declaration of Person Responsible for MINOR Patient

DECLARATION BY PARENT OR LEGAL GUARDIAN (REQUIRED)

To be signed and completed by patient's parent or legal guardian

This Declaration of Person Responsible form must be completed and submitted with the MINOR application packet.

Only the parent or legal guardian can serve as the primary caregiver for a minor patient. A copy of proof of parentage or legal guardianship (i.e. birth certificate or court order, etc.) must be submitted with a Minor Application or the application will be denied.

I declare each of the below statements is true and accurate:

- The patient's physicians have explained to the patient and me the potential risks and benefits of the medical use
 of marijuana.
- · I consent to the patient's medical use of marijuana.
- · I agree to serve as the patient's designated caregiver.
- I agree to control the acquisition, dosage, and frequency of the medical use of the marijuana by the patient.

| | - medical disc of the manyaging by the periods | | | | | | |
|--|--|--|--|--|--|--|--|
| Section E: Parent or Legal Guardian Declaration: (REQUIRED) | | | | | | | |
| I attest the information provided is true and accurate and that I will comply with the requirements of the Michigan Medical Marihuana Act (Initiated Law 1 of 2008, MCL 333.26421 et seq.) and associated administrative rules. I understand that falsified or fraudulent information may be reported to law enforcement and result in criminal prosecution. | | | | | | | |
| Signature of Parent/Legal Guardian: X | Date: | | | | | | |

MMP 3500-4 (Rev. 5/19) Page 3 of 5



Michigan Medical Marijuana Program www.michigan.gov/mmp

(517) 284-6400

Physician Certification Form #1 for Minor Patient

This certification must be completed and signed by a <u>medical doctor or doctor of osteopathic medicine and surgery who holds an active license to practice in the State of Michigan.</u>

| Section A: Certifying Physician Information (NAME & LICENSE NUMBER AS IT APPEARS ON MEDICAL LICENSE) (REQUIRED) | | | | | | | |
|---|---------------------------------|---|-------------------------------------|---------------------------------|--|--|--|
| 1. Legal First Name | al First Name 2. Middle Initial | | 3a. Legal Last Name | 3b. Suffix (Jr., Sr., etc.) | | | |
| | | | | | | | |
| 4a. Full Mailing Address | | | 4b. Apartment/Sui | te/Lot # | | | |
| | | | | | | | |
| 5. City | 6. State | 7. Zip Code | | 8. Telephone Number | | | |
| | | - | | | | | |
| 9. Michigan Physician License Number | lantar | only 10 digits) | | | | | |
| | | | | | | | |
| □M.D | | | | | | | |
| Section B: Patient Information (| NAME A | | | | | | |
| 10. Legal First Name | | 11. Middle Initial | 12a. Legal Last Nan | ne 12b. Suffix (Jr., Sr., etc.) | | | |
| | | | | | | | |
| 13. Date of Birth (MM/DD/YYYY) | | | | | | | |
| | | | | | | | |
| Section C: Patient's Debilitating M | | | - | | | | |
| This patient has been diagno | | | _ | | | | |
| (A minimum of one box mu | st be c | hecked in at leas | t one of the follow | ring categories.) | | | |
| Category A | Cat | egory B | | Category C | | | |
| ☐ Cancer | | hronic or debilita | _ | Post Traumatic Stress Disorder | | | |
| Glaucoma | - 1 | | r its treatment tha | Obsessive Compulsive Disorder | | | |
| ☐ HIV Positive | _ | | of the following: | — ☐ Arthritis | | | |
| AIDS | - 1 | ☐ Cachexia or Wasting Syndrome ☐ Rheumatoid Arthritis | | | | | |
| | | | Spinal Cord Injury | | | | |
| Hepatitis C | | Severe Nausea | | Colitis | | | |
| Amyotrophic Lateral Sclerosis | | - | ng but not limited | ■ Inflammatory Bowel Disease | | | |
| Crohn's Disease | | | eristic of epilepsy) | Ulcerative Colitis | | | |
| ☐ Agitation of Alzheimer's Disease | , , – | Severe and Persi | istent Muscle ig but not limited | Parkinson's Disease | | | |
| ☐ Nail Patella | | | eristic of multiple | ☐ Tourette's Syndrome | | | |
| | | sclerosis) | eristic of multiple | Autism | | | |
| | | , | | Chronic Pain | | | |
| | | | | Cerebral Palsy | | | |
| Section D: Certification, Signature, | and F | Sate (DECLIIDED) | | La Cerebrai Paisy | | | |
| | | | | | | | |
| By signing below, I attest that the information entered on this certification is true and accurate. I attest that I am in compliance with the Michigan Medical Marihuana Act and associated administrative rules and have a bona fide physician-patient relationship with this patient. I attest that I have completed a full assessment of the patient's medical history and current medical condition, including a relevant, in-person, medical evaluation. Further, I attest that in my professional opinion, the patient is likely to receive therapeutic or palliative benefit from the medical use of marijuana to treat or alleviate the debilitating medical condition identified above or symptoms associated with that condition. | | | | | | | |
| Signature of Physician: | | | | Date: | | | |



Physician Certification Form #2 for Minor Patient

Michigan Medical Marijuana Program www.michigan.gov/mmp

(517) 284-6400

This certification must be completed and signed by a <u>medical doctor or doctor of osteopathic medicine and surgery who holds an active license to practice in the State of Michigan.</u>

| Section A: Certifying Physician Information (NAME & LICENSE NUMBER AS IT APPEARS ON MEDICAL LICENSE) (REQUIRED) | | | | | | |
|---|---------|--|----------------------|--|--|--|
| 1. Legal First Name | | 2. Middle Initial | 3a. Legal Last Name | a 3b. Suffix (Jr., Sr., etc.) | | |
| | | | | | | |
| 4a. Full Mailing Address | | | 4b. Apartment/Sui | te/Lot # | | |
| | | | | | | |
| 5. City | 6. Stat | e 7. Zip Code | | 8. Telephone Number | | |
| | | | | | | |
| 9. Michigan Physician License Number | (ente | er only 10 digits) | | | | |
| □M.D | | | | | | |
| Section B: Patient Information (| NAME | | | | | |
| 10. Legal First Name | | 11. Middle Initial | 12a. Legal Last Nan | ne 12b. Suffix (Jr., Sr., etc.) | | |
| | | | | | | |
| 13. Date of Birth (MM/DD/YYYY) | | | | | | |
| | | | | | | |
| Section C: Patient's Debilitating M | ledica | al Condition(s) <i>(R</i> | EQUIRED) | | | |
| This patient has been diagno | | | | | | |
| (A minimum of one box mu | st be | checked in at leas | t one of the follow | ring categories.) | | |
| Category A | _ | tegory B | | Category C | | |
| ☐ Cancer | | chronic or debilita | | ☐ Post Traumatic Stress Disorder | | |
| Glaucoma | - 1 | edical condition o oduces 1 or more | r its treatment tha | ^t ☐ Obsessive Compulsive Disorder | | |
| ☐ HIV Positive | _ | Cachexia or Was | | ☐ Arthritis | | |
| □ AIDS | - 1 | Severe and Chronic Pain | | | | |
| ☐ Hepatitis C | | Severe Nausea | Spinal Cord Injury | | | |
| Amyotrophic Lateral Sclerosis | | | ng but not limited | Colitis | | |
| ☐ Crohn's Disease | - | | eristic of epilepsy) | Initialification y bower bisease | | |
| Agitation of Alzheimer's Disease | | Severe and Persi | | Ulcerative Colitis | | |
| Nail Patella | • | | g but not limited | Parkinson's Disease | | |
| ☐ Nali Patella | | | eristic of multiple | ☐ Tourette's Syndrome | | |
| | | sclerosis) | | Autism | | |
| | | | | Chronic Pain | | |
| | | | | ☐ Cerebral Palsy | | |
| Section D: Certification, Signature | , and | Date (<i>REQUIRED</i>) | | | | |
| By signing below, I attest that the information entered on this certification is true and accurate. I attest that I am in compliance with the Michigan Medical Marihuana Act and associated administrative rules and have a bona fide physician-patient relationship with this patient. I attest that I have completed a full assessment of the patient's medical history and current medical condition, including a relevant, in-person, medical evaluation. Further, I attest that in my professional opinion, the patient is likely to receive therapeutic or palliative benefit from the medical use of marijuana to treat or alleviate the debilitating medical condition identified above or symptoms associated with that condition. | | | | | | |
| Signature of Physician: Date: | | | | | | |

The Legalization of Marijuana in Colorado: *The Impact*Volume 5

UPDATE

September 2018

Rocky Mountain High Intensity Drug Trafficking Area



REPORT AVAILABLE AT:

www.RMHIDTA.org

(Click on the "Reports" tab)

PREPARED BY THE ROCKY MOUNTAIN HIDTA STRATEGIC INTELLIGENCE UNIT SEPTEMBER 2018

Executive Summary

Purpose of Report Update:

RMHIDTA has published annual reports every year since 2013 tracking the impact of legalizing recreational marijuana in Colorado. The purpose is to provide data and information so that policy makers and citizens can make informed decisions on the issue of marijuana legalization. This year (2018) RMHIDTA elected to provide an update to the 2017 Volume 5 report rather than another detailed report.

Section I: Traffic Fatalities & Impaired Driving

- Since recreational marijuana was legalized, marijuana related traffic deaths increased 151 percent while all Colorado traffic deaths increased 35 percent
- Since recreational marijuana was legalized, traffic deaths involving drivers who tested positive for marijuana **more than doubled** from 55 in 2013 to 138 people killed in 2017.
 - \circ This equates to one person killed every 2 ½ days compared to one person killed every 6 ½ days.
- The percentage of all Colorado traffic deaths that were marijuana related increased from 11.43 percent in 2013 to 21.3 percent in 2017.

Section II: Marijuana Use

- Colorado past month marijuana use shows a **45 percent increase** in comparing the three-year average prior to recreational marijuana being legalized to the three years after legalization.
- Colorado past month marijuana use for ages 12 and older is ranked 3rd in the nation and is 85 percent higher than the national average.

Section III: Public Health

- The yearly rate of emergency department visits related to marijuana **increased 52 percent** after the legalization of recreational marijuana. (2012 compared to 2016)
- The yearly rate of marijuana-related hospitalizations **increased 148 percent** after the legalization of recreational marijuana. (2012 compared to 2016)
- Marijuana <u>only</u> exposures more than <u>tripled</u> in the five-year average (2013-2017) since Colorado legalized recreational marijuana compared to the five-year average (2008-2012) prior to legalization.

Section IV: Black Market

- RMHIDTA Colorado Task Forces (10) conducted **144 investigations** of black market marijuana in Colorado resulting in:
 - o **239** felony arrests
 - o 7.3 tons of marijuana seized
 - o 43,949 marijuana plants seized
 - o 24 different states the marijuana was destined
- The number of highway seizures of Colorado marijuana **increased 39 percent** from an average of 242 seizures (2009-2012) to an average of 336 seizures (2013-2017) during the time recreational marijuana has been legal.
- Seizures of Colorado marijuana in the U.S. mail system has **increased 1,042 percent** from an average of 52 parcels (2009-2012) to an average of 594 parcels (2013-2017) during the time recreational marijuana has been legal.

Section V: Societal Impact

- Marijuana tax revenue represent approximately nine tenths of one percent of Colorado's FY 2017 budget.
- Violent crime **increased 18.6 percent** and property crime **increased 8.3 percent** in Colorado since 2013.
- 65 percent of local jurisdictions in Colorado have banned medical and recreational marijuana businesses.

Section IV: Marijuana Industry

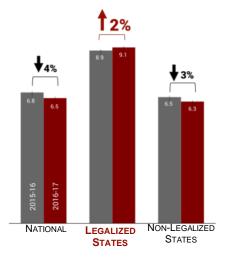
- According to the Marijuana Policy Group, Market Size and Demand for Marijuana in Colorado 2017 Market Update:
 - o "From 2014 through 2017, average annual adult use flower prices fell 62.0 percent, from \$14.05 to \$5.34 per gram weighted average."
 - "Adult use concentrate prices fell 47.9 percent, from \$41.43 to \$21.57 per gram."
 - o "The average THC content of all tested flower in 2017 was 19.6 percent statewide compared to 17.4 percent in 2016, 16.6 percent in 2015 and 16.4 percent in 2014."
 - o "The average potency of concentrated extract products increased steadily from 56.6 percent THC content by weight in 2014 to 68.6 percent at the end of 2017."
- As of June 2017, there were 491 retail marijuana stores in the state of Colorado compared to 392 Starbucks and 208 McDonald's.



YOUTH AND LEGALIZED MARIJUANA

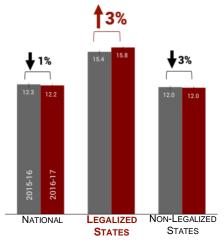
YOUTH MARIJUANA USE CONTINUES TO RISE IN STATES THAT HAVE LEGALIZED.

PAST MONTH USE AMONG 12-17 YEAR-OLDS



NSDUH State Estimates, 2016-17

PAST YEAR USE AMONG 12-17 YEAR-OLDS



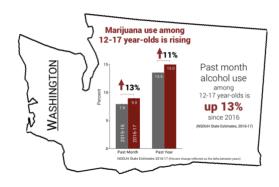
ed delta between years [(New-Old)/Old] NSDUH State Estimates, 2016-17

REGULATED MARKETS ONLY INCREASE EXPOSURE AND PROMOTE THE NORMALIZATION OF YOUTH MARIJUANA USE.

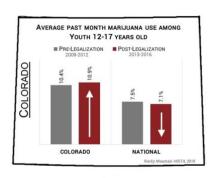
Who started using marijuana more than 3 years ago

have been diagnosed with **CANNABIS USE DISORDER** in the past 12 months.

Han et al., 2018







VAPING CONCERNS ARE NOT LIMITED TO E-CIGARETTES - MARIJUANA CAN BE VAPED TOO.

Substance Abuse and Mental Health Services Administration. (2018, December). State Data Tables and Reports From the 2016-2017 NSDUH. Retrieved December 6, 2018, from https://www.samhsa.gov/data/nsduh/state-reports-NSD

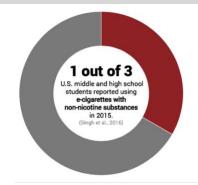
NSDUH-2017

Han, B., Compton, W. M., Blanco, C., & Jones, C. M. (2018). Time since first cannabis use and 12-month prevalence of cannabis use disorder among youth and emerging adults in the United States. Addiction.

Oregon-Idaho HIDTA. (2018, August 1). An Initial Assessment of Cannabis Production, Distribution, and Consumption in Oregon 2018 – An Insight Report*. The report analyzes marijuana production, distribution and consumption in Oregon from socio-economic, public health and law enforcement perspectives. Retrieved from https://initanmi.org/category/reports/
Rocky Mountain HIDTA. (2018, September). The Legalization of Marijuana in Colorado: The Impact, Vol. 5, Update. Retrieved September 14, 2018, from https://initianmi.org/category/reports/

Colorado: The impact, Vol. o, Opdate: Rentieved September 14, 2018, non-https://mhidta.org/files/DZDF/FINAL-Volume 5 UPDATE 2018,pdf
Singh T, Kennedy S, Marynak K, Persoskie A, Melstrom P, King BA. Characteristics of electronic cigarette use among middle and high school students: United States, 2015. MMWR Morb Mortal Wkly Rep. 2016;65(5051): 1425-1429. doi:10.1558/smmwr.mm655051a2 Borodovsky JT, Lee DC, Crosier BS, Gabrielli JL, Sargent JD, & Budney AJ (2017).

US cannabis legalization and use of vaping and edible products amont youth. Drug and alcohol dependence, 177, 299-306.



THE CREATORS OF JUUL ALSO OWN A MARIJUANA VERSION, PAX ERA.



Youth living in states with legalized marijuana laws are more likely to vape. This likelihood is increased as a function of dispensary density and length of legalization.



MARIJUANA LEGALIZATION:

QUICK FACTS

IN 2017 THERE WERE 8,300 NEW MARIJUANA USERS EACH **M**ARIJUANA IS DAY: ROUGHLY 1.200 MORE THAN THERE WERE IN 2016.3

PAST YEAR INITIATES IN 2017 AMONG THOSE 12 YEARS AND OLDER RX PAIN RELIEVERS Rx Tranquilizers THOSE 12 AND OLDER REPORTING FIRST TIME DRUG USE LAST YEAR (NSDUH, 2017)

Regular use of marijuana is linked with increased risk of developing cannabis use disorder, higher rates of mental illness and higher rates of co-substance abuse with alcohol, among other drugs4.

THERE ARE 2X AS MANY DAILY OR NEAR DAILY MARIJUANA USERS THAN THERE WERE JUST A DECADE AGO.³

ADDICTIVE & HARMFUL

ENDORSED BY:

- WORLD HEALTH ORGANIZATION (2016)¹
- NATIONAL ACADEMY OF SCIENCES (2017)2
- NATIONAL INSTITUTES OF HEALTH
- AMERICAN SOCIETY FOR ADDICTION MEDICINE
- AMERICAN MEDICAL ASSOCIATION
- AMERICAN ACADEMY OF PEDIATRICS
- AMERICAN ACADEMY OF CHILD ADOLESCENT **PSYCHIATRY**

Not this... ~5-25% THC

BUT THIS...

~20-95% THC



DABBING



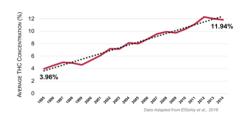






Not your WOODSTOCK WEED

A STUDY ON THE WASHINGTON MARKET SHOWED AVERAGE THC LEVELS OF 20% IN FLOWER PRODUCTS AND 70% IN EXTRACTS FOR INHALATION IN 2016.7











"Epidemiological studies have clearly established that acute cannabis impairment increases the risk of motor vehicle accident involvement, including fatal collisions."

-AMERICAN JOURNAL OF PUBLIC HEALTH, 2017

IN COLORADO, DRUGGED DRIVING WENT FROM KILLING ROUGHLY ONE PERSON EVERY 6.5 DAYS TO NOW EVERY 2.5 DAYS, SINCE LEGALIZATION WAS PASSED.8

leath (NSDUH). Retineved October 2, 2018, from https://www.samhsa.gov/data/rsduh/reports-detailed-tables-2017-NSDUH leineo and cornelistes of DSM-5 cannabis used sicroter, 2012-2018; fromings from the National Epidemiologis Gurvey on Actobrol and Related Conditions—III. American Journal of Psychiatry, 173(6), 588-59 otency over the last 2 decades (1995–2014); analysis of current data in the United States. Biological psychiatry, 79(7), 613-619. ses for Canade, (LRCUG): a narrative review of evidence and recommendations. Canadian Journal of Public HealthRevue Canadienne de Santé'e Publique, 324-327. data. Retineved September 14, 2018, from https://minds.doi.org/10.07FFINIAL-Volumes-UpDATE-2018.pdf.

learnaboutsam.org



MARIJUANA & OTHER DRUGS: A LINK WE CAN'T IGNORE

A 2017 STUDY OF over 30,000 American adults demonstrated that marijuana users were more than twice as likely to move on to abuse prescription opioids – even when controlling for age, sex, race/ethnicity, other substance use disorders, any mood or anxiety disorder, prior nonmedical opioid use, and family history of drug use disorder, alcohol use disorder, depression, and antisocial personality disorder. (1) Similarly, the CDC also says that marijuana users are three times more likely to become addicted to heroin.(2)

And according to the seminal 2017 National Academy of

Sciences report, "There is moderate evidence of a statistical association between cannabis use and the development of substance dependence and/or a substance abuse disorder for substances including alcohol, tobacco, and other illicit drugs."(3)

RECENT STUDIES WITH animals also indicate that marijuana use is connected to use and abuse of other drugs. A 2007 Journal of Neuropsychopharmacology study found that

rats given THC later self-administered heroin as adults, and increased their heroin usage, while those rats that had not been treated with THC maintained a steady level of heroin intake.(4)

Another 2014 study found that adolescent THC exposure in rats seemed to change the rodents' brains, as they subsequently displayed "heroin-seeking" behavior. Youth marijuana use could thus lead to "increased vulnerability to drug relapse in adulthood."(5)

The National Institutes of Health says that research in this area is "consistent with animal experiments showing THC's ability to 'prime' the brain for enhanced responses to other

drugs. For example, rats previously administered THC show heightened behavioral response not only when further exposed to THC, but also when exposed to other drugs such as morphine—a phenomenon called cross-sensitization."(6)

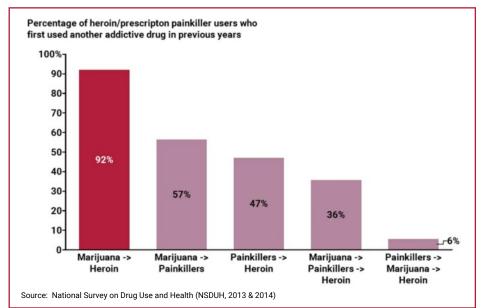
ADDITIONALLY, THE MAJORITY of studies find that marijuana users are often polysubstance users, despite a few studies finding limited evidence that some people substitute marijuana for opiate medication. That is, people generally do not substitute marijuana for other drugs. Indeed, the National Academy of Sciences report found that

"[C]annabis use, even among adults with moderate to severe pain, was associated with a substantially increased risk of nonmedical prescription opioid use...."

-The American Journal of Psychiatry (2017)

"with regard to opioids, cannabis use predicted *continued* opioid prescriptions 1 year after injury... Finally, cannabis use was associated with reduced odds of achieving abstinence from alcohol, cocaine, or polysubstance use after inpatient hospitalization and treatment for substance use disorders" [emphasis added].(7)

Moreover, a three-year 2016 study of adults also found that marijuana compounds problems with alcohol. Those who reported marijuana use during the first wave of the survey were more likely than adults who did not use marijuana to develop an alcohol use disorder within three years.(8) Similarly, alcohol consumption in Colorado has increased slightly since legalization.(9)



- Olfson M., et al. Cannabis Use and Risk of Prescription Opioid Use Disorder in the United States. Am J Psychiatry 2017. https://doi.org/10.1176/appi.ajp.2017.17040413.
- Centers for Disease Control. Today's heroin epidemic Infographics more people at risk, multiple drugs abused. CDC, 7 July 2015.
- National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on the Health Effects of Marijuana: An Evidence Review and Research Agenda ("2017 NAS Report").

 Ellgren, Maria et al. "Adolescent Cannabis Exposure Alters Opiate
- Ellgren, Maria et al. "Adolescent Cannabis Exposure Alters Opiate Intake and Opioid Limbic Neuronal Populations in Adult Rats." Neuropsychopharmacology 32.3 (2006): 607–615.
- Stropponi, Serena et al. Chronic THC during adolescence increases the vulnerability to stress-induced relapse to heroin seeking in adult rats. European Neuropsychopharmacology Volume 24, Issue 7 (2014), 1037 1045.
- 6. "Is marijuana a gateway drug?" National Institute on Drug Abuse. Jan. 2017. See also Panlilio LV, Zanettini C, Barnes C, Solinas M, Goldberg SR. Prior exposure to ThC increases the addictive effects of nicotine in rats. Neuropsychopharmacol Off Publ Am Coll Neuropsychopharmacol. 2013;38(7):1198-1208; Cadoni C, Pisanu A, Solinas M, Acquas E, Di Chiara G. Behavioural sensitization after repeated exposure to Delta 9-tetrahydrocannabinol and cross-sensitization with morphine. Psychopharmacology (Berl). 2001;158(3):259-266.
- 7. 2017 NAS report.
- Weinberger AH, Platt J, Goodwin RD. Is cannabis use associated with an increased risk of onset and persistence of alcohol use disorders? A three-year prospective study among adults in the United States. Drug Alcohol Depend. February 2016.
- Rocky Mountain HIDTA Investigative Support Center Strategic Intelligence Unit. The Legalization of Marijuana in Colorado: The Impact, Volume 4. Sept. 2016 (citing CO Department of Revenue).