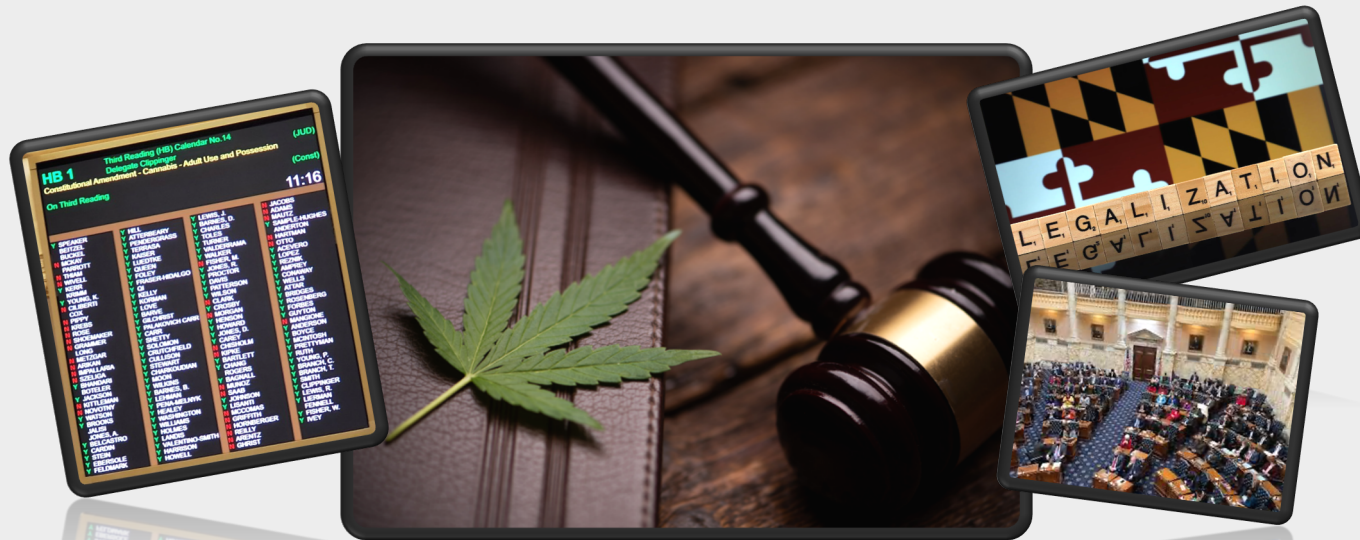




A Catalyst for  
**GROWTH  
& PROGRESS**

# Monthly Meeting June 2022



## “Insights into the Cannabis Industry in Maryland”

# Greater Hagerstown Committee Cannabis Discussion



Ananda Medical Practice

Leigh Vinocur MD, MS FACEP  
June 2022

## Leigh Vinocur MD, MS FACEP

- Board-certified emergency physician with one of the first master's degrees in the country in medical cannabis science and therapeutics
- Chief Medical Officer of Ananda Medical Practice and Consulting which focuses on educating patients, healthcare providers and cannabis industry professionals with the most up-to-date evidence-based training programs on medical cannabis science and therapeutics
- Member of the Society of Cannabis Clinicians and on the scientific advisory committee for the National Cannabis Industry Association
- A regular contributor to the Hearst publication GreenState, with a monthly column "Ask Dr. Leigh" answering their readers cannabis related questions and co-host of a cannabis education podcast for clinicians on RadioMD, called Cannabis Grand Rounds



# Cannabis as Medicine



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# The Endocannabinoid System-ECS

*“The endocannabinoid system is essential to life, and it relates messages that affect how we relax, eat, sleep, forget and protect”*

Dr. Vincenzo Di Marzo

- ECS is a biological regulatory system that modulates our nervous, endocrine and immune systems to help maintain homeostasis
- Role in brain affects cognition, motor control, emotional responses and motivated behaviors
- Role in the body affects immune system, peripheral and autonomic nervous system as well as the gastrointestinal nervous system



1988 - Discovery of Cannabinoid receptors-lock

1992 - Discovery of Endocannabinoids-key

# Endocannabinoid Deficiency

*“Can this concept explain therapeutic benefits of cannabis in migraine, fibromyalgia, irritable bowel syndrome and other treatment-resistant conditions?”*

Dr. Ethan Russo

Clinical endocannabinoid deficiency CECD - this deficiency or dysfunction is implicated in the following medical conditions:

- Autism
- Migraines
- Fibromyalgia
- Irritable bowel syndrome
- Schizophrenia
- Neurodegenerative diseases such as Parkinson's and Huntington's disease
- Anorexia
- Seizure disorders
- Anxiety and depression
- Obesity
- Multiple sclerosis
- Failure to thrive
- Chronic motion sickness



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# ECS Dysfunction in Epilepsy

- **Compelling scientific evidence that ECS dysfunction can lead to seizures**

[Eur J Pharmacol. 2007 Mar 8; 558\(1-3\): 52–59.](#)

Published online 2006 Nov 22. doi: [10.1016/j.ejphar.2006.11.030](#)

PMID: 1

## Endocannabinoids block status epilepticus in cultured hippocampal neurons

[Comparative Study](#) > [Epilepsia](#). 2010 May;51(5):768–72.

[Laxmikant S. Deshpande](#),<sup>a</sup> [Robert E. Blair](#),<sup>a</sup> [Julie M. Ziobro](#),<sup>a</sup> [Sompong Sombati](#),<sup>a</sup> [Billy R. Martin](#),<sup>b</sup> [Robert J. DeLorenzo](#)<sup>a,b,c,\*</sup> doi: [10.1111/j.1528-1167.2009.02334.x](#). Epub 2009 Oct 8.

## Cerebrospinal fluid levels of the endocannabinoid anandamide are reduced in patients with untreated newly diagnosed temporal lobe epilepsy

[Andrea Romigi](#)<sup>1</sup>, [Monica Bari](#), [Fabio Placidi](#), [M Grazia Marciani](#), [Marilena Malaponti](#), [Federico Torelli](#), [Francesca Izzi](#), [Chiara Prosperetti](#), [Silvana Zannino](#), [Francesca Corte](#), [Carlo Chiaramonte](#), [Mauro Maccarrone](#)

> [J Neurosci](#). 2008 Mar 19;28(12):2976–90. doi: [10.1523/JNEUROSCI.4465-07.2008](#).

## Downregulation of the CB1 cannabinoid receptor and related molecular elements of the endocannabinoid system in epileptic human hippocampus

[Anikó Ludányi](#)<sup>1</sup>, [Loránd Eross](#), [Sándor Czirják](#), [János Vajda](#), [Péter Halász](#), [Masahiko Watanabe](#), [Miklós Palkovits](#), [Zsófia Maglóczky](#), [Tamás F Freund](#), [István Katona](#)




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# ECS Dysfunction Autism Spectrum Disorder

Short report | [Open Access](#) | [Published: 12 March 2018](#)

## Plasma anandamide concentrations are lower in children with autism spectrum disorder

[Debra S. Karhson](#) , [Karolina M. Krasinska](#), [Jamie Ahloy Dallaire](#), [Robin A. Libove](#), [Jennifer M. Phillips](#),  
[Allis S. Chien](#), [Joseph P. Garner](#), [Antonio Y. Hardan](#) & [Karen J. Parker](#)

[Molecular Autism](#) **9**, Article number: 18 (2018) | [Cite this article](#)

Research | [Open Access](#) | [Published: 30 January 2019](#)

## Lower circulating endocannabinoid levels in children with autism spectrum disorder

[Adi Aran](#) , [Maya Eylon](#), [Moria Harel](#), [Lola Polianski](#), [Alina Nemirovski](#), [Sigal Tepper](#), [Aviad Schnapp](#),  
[Hanoch Cassuto](#), [Nadia Wattad](#) & [Joseph Tam](#)

[Molecular Autism](#) **10**, Article number: 2 (2019) | [Cite this article](#)



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# Clinical Effects of Phytocannabinoids

## THC

Binds well and interacts with CB1 in the brain and central nervous system

- Psychoactive – “High”
- Sedating/relaxing
- Pain Reducing
- Stops Nausea and Vomiting
- Stimulates Appetite
- Induces Sleep
- Reduces Anxiety and Depression
- Anti-tumoral effects

## CBD

Does not bind to either CB1 or CB2 receptors well but binds and interacts with non-cannabinoid receptors

- Not Psychoactive – No “High”
- Alerting in Low Doses
- Reduces Pain
- Relaxes Muscle Spasms
- Potent Anti-inflammatory
- Stops Nausea and Vomiting
- Reduces Anxiety and Depression
- Reduces psychotic thoughts
- Anti-oxidant
- Anti-convulsant
- Neuro-protectant
- Anti-tumoral Effects



# Most Commonly Treated Condition

## Chronic Pain

- Over 66% of cannabis patients use it for chronic pain, whether it is inflammatory pain from arthritis or neuropathic pain from diseases such as diabetes or multiple sclerosis or spinal cord injury
- There have been some randomized controlled trials published in the National Academy of Science in 2017 that showed cannabis can reduce pain by 40%
- A 2019 observational health study found arthritis was the top reason people used cannabis, with back pain the second most common reason and 79% of people reported it helped reduce their pain



# What Happens After Adult-Use Legalization



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# Colorado as a Case Study

- Legalizations passed 2012 market opened in 2014
- Slight decrease in medical registrations from 111K down to 81K
- 2018 report from Colorado Division of Criminal Justice no change in marijuana use in teens
- Same report found an increased in DUI by 19%
- American Journal of Public Health study from 2017 opioid deaths decreased



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# Medical and Safety Considerations after Adult-Use Legalization



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# Medical concerns with Adult-Use

- Cannabis comparison as a recreational substance
- Accidental pediatric exposures
- Impaired driving
- Occupational impairment and injury



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# Questions



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# Cannabis Adult Use Legalization:

## Maryland

The Greater Hagerstown Committee

June 24, 2022

Jacquie Cohen Roth, MS

Founder/CEO

CannabizMD + Tea Pad

## U.S. CANNABIS OVERVIEW

- ▶ 38 U.S. states, D.C. and four U.S. territories had legalized medical cannabis for medical use as of February 2022.
- ▶ 19 states and D.C. have legalized cannabis for adults over the age of 21.
- ▶ The majority of Americans have access to cannabis, whether medical or adult use.
- ▶ An overwhelming majority of U.S. adults (91%) say either that cannabis should be legal for medical *and* recreational use (60%) or that it should be legal for medical use only (31%). Only 8% say the drug should not be legal in any form. (Pew Research Center, April 2021)

# A ROADMAP TO MARYLAND ADULT USE LEGALIZATION

## **HB0001 Constitutional Amendment - Cannabis - Adult Use and Possession**

### **Sponsored by Delegate Luke Clippinger**

- A referendum part of the ballot to be voted on by Marylanders November 8, 2022
- The referendum cannot be vetoed by Maryland Governor Larry Hogan

## **HB0837 Cannabis Reform**

### **Sponsored by Delegate Luke Clippinger**

- Criminal justice reform
- Disparity Study
- Cannabis Public Health Advisory Council
- Cannabis Health Fund
- Small, Minority-Owned, and Women-Owned Business Fund
- Community Investment and Repair Fund
- Tax Rule 280E



*Regulatory policy is social equity policy.*

*John Hudak, PhD*

Deputy Director of the Center for Effective Public Management  
and a senior fellow in Governance Studies at the Brookings Institution.

# A MODEL FOR MARYLAND LEGALIZATION: MASSACHUSETTS

## MASSACHUSETTS



- Medical Legal: November 2012
- Adult Use Legal: December 2016
- Sales: \$120,145,116 USD
- YoY Growth: 9.41%

## MARYLAND



- Medical Legal: December 2017
- Adult Use Legal: TBD
- Sales: \$41,847,481 USD
- YoY Growth: 10.69%

## WORK TO BE DONE

- ▶ **Tax Policy**
  - Tax too high, the illicit market thrives
  - Avoid cross border movement
- ▶ **Support the Existing Medical Program**
  - Ensure no product shortages
- ▶ **Licensing Model**
  - No caps: Oklahoma
  - Ensure Social Equity Applicants Succeed

# Cannabiz

Educate ■ Build ■ Engage

CannabizMD.com



**JACQUIE COHEN ROTH, MS**

**FOUNDER/CEO**

**JACQUIE@CANNABIZMD.COM**

**410-960-4715**

Maryland Medical Cannabis Commission



# FY2021 ANNUAL REPORT



# Maryland Medical Cannabis Commission



## DIVERSITY **AMONG** OUR LICENSEES\*



**Six Grower licenses out of 21 are majority owned by a minority/  
socially disadvantaged group.**

**Fourteen Processor licenses out of 26 are majority owned by a  
minority/socially disadvantaged group.**

**Thirty-nine Dispensary licenses out of 90 are majority owned by  
a minority/socially disadvantaged group.\***

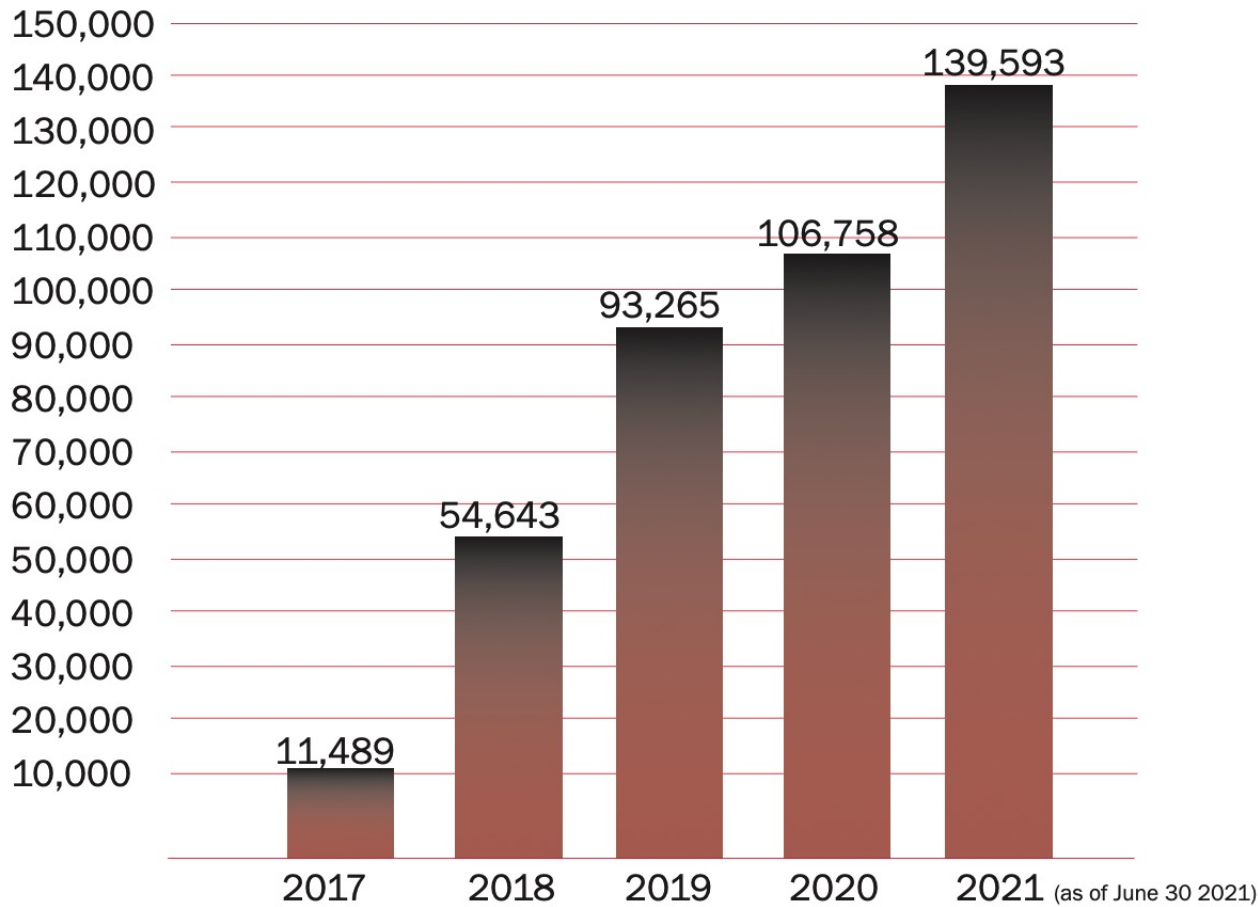
*\*For fiscal year 2021, 90 dispensaries submitted a minority status report.*

# DIVERSITY WITHIN THE MMCC

Below is a composite profile of the Commission diversity make-up based on ethnicity and gender.



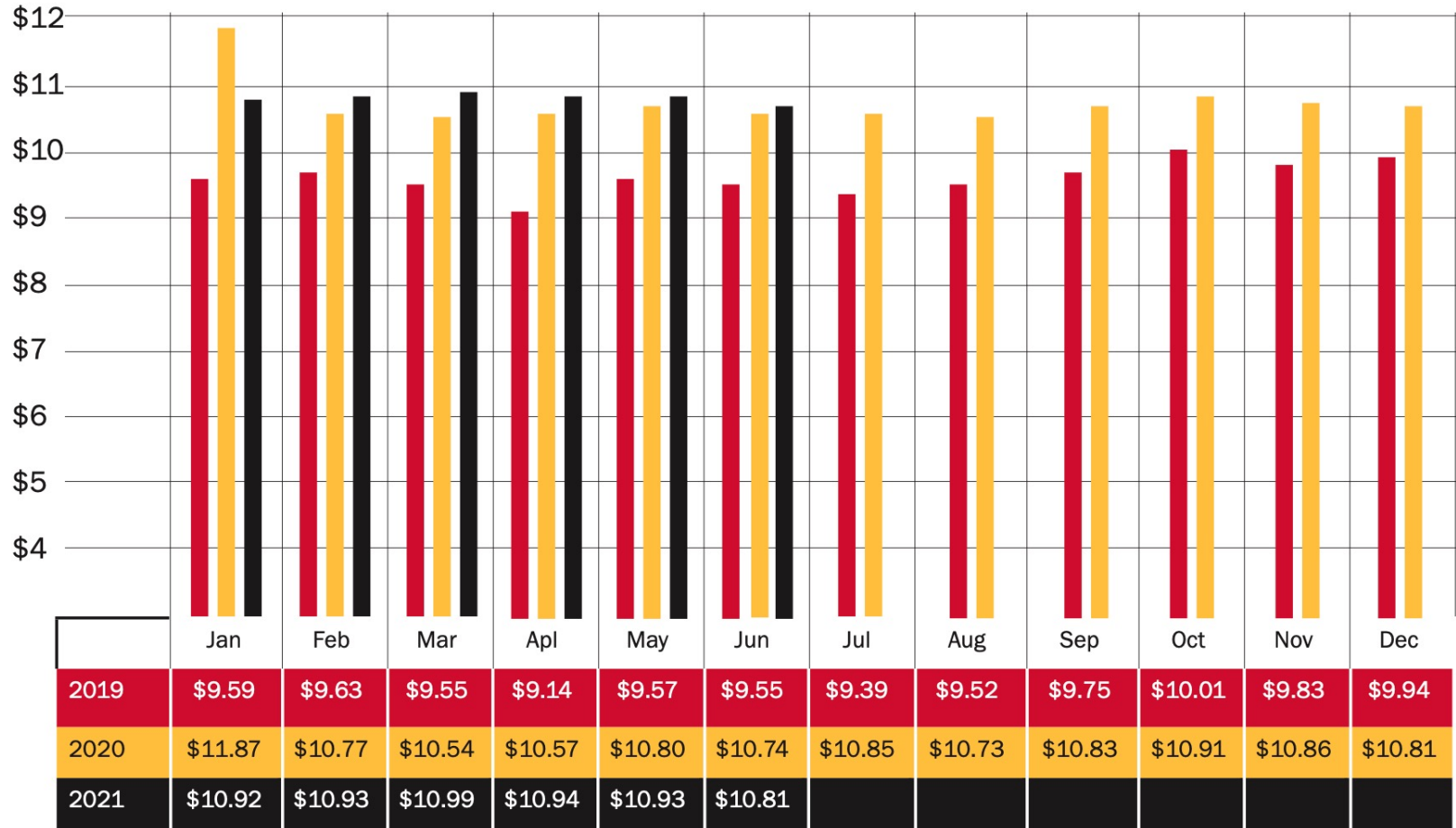
<b>Commission Ethnicity Profile</b>	<b>Caucasian</b>	<b>7</b>
	<b>African American</b>	<b>4</b>
	<b>Hispanic</b>	<b>1</b>
	<b>Asian</b>	<b>1</b>



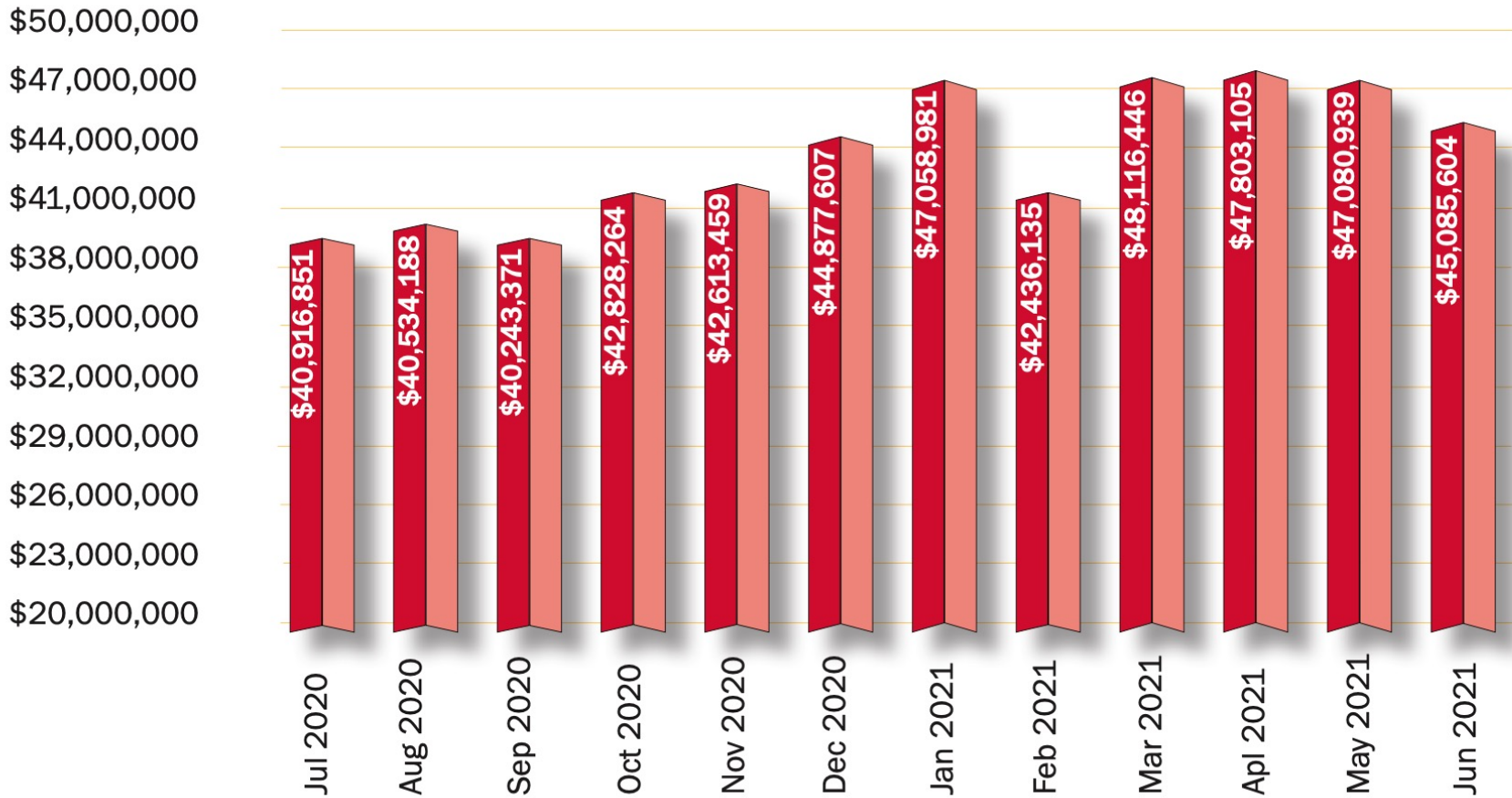
## **GROWTH**

**Medical cannabis patients are central to all aspects of the Maryland Medical Cannabis Program. FY2021 saw the number of patients continue to grow.**

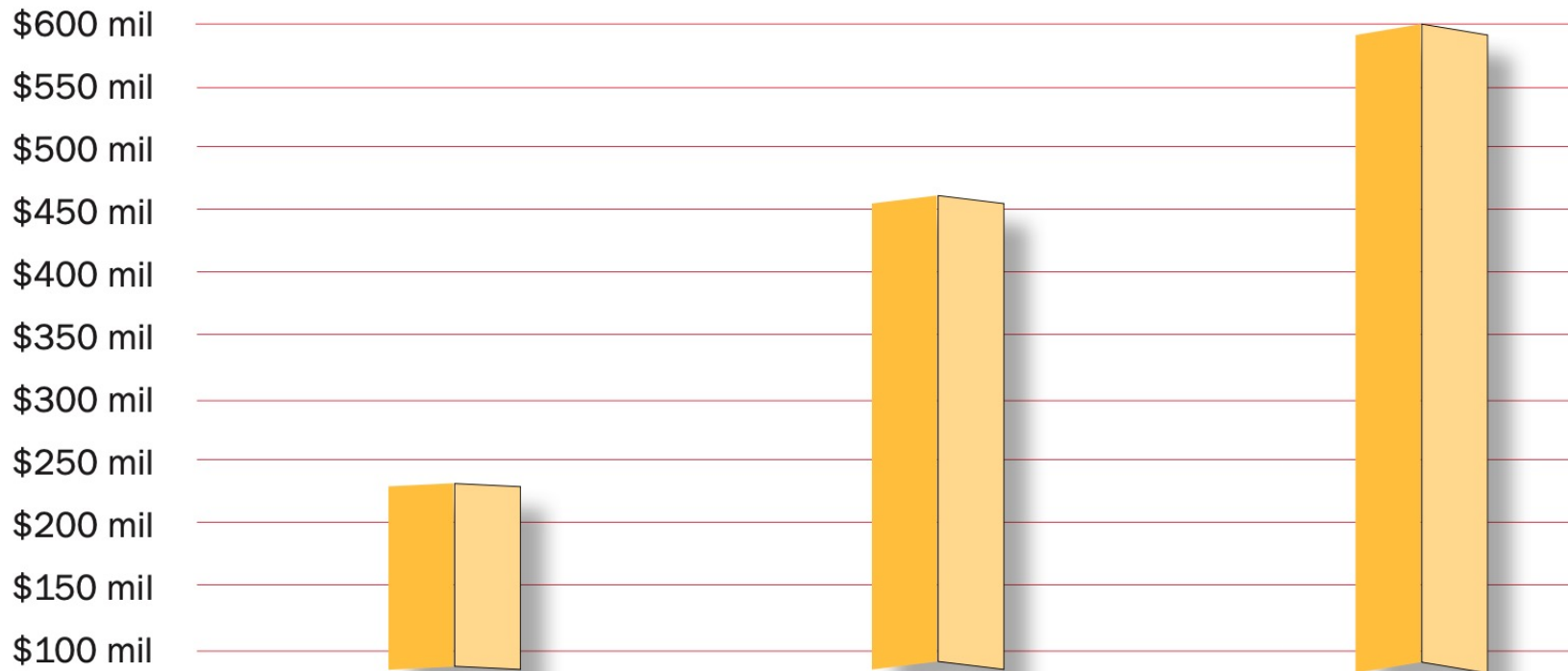
# AVERAGE PRICE PER GRAM



# MONTHLY DISPENSARY SALES



# ANNUAL DISPENSARY SALES



2019	2020	2021 (projected)
\$241,886,978	\$466,001,415	\$600,000,000