

MEDICAL MARIJUANA IN ARKANSAS

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PRESENTATION OVERVIEW

- Review of current state of cannabis legalization nationwide
- Profile of current Arkansas Medical Marijuana (MMJ) program
- Who participates in MMJ program?
- What conditions are individuals qualifying with?
- What products are purchased? How much? How frequently?
- How many physicians certify individuals?
- Is there evidence of integration into traditional clinical practice?
- Is there evidence of clinical impact on select conditions?



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CANNABIS LEGALIZATION & NATIONWIDE USE

- 38 states, D.C., and 4 U.S. territories have legalized marijuana
 - 14 states, including Arkansas, restrict use for medical purposes
 - MMJ use has risen from 1.2% of population in 2013 to 2.5% in 2020
- Federal restrictions on MMJ in the U.S. Controlled Substances Act classify it as a Schedule I drug (no accepted medical use)
 - Dept. of Justice considering moving to Schedule III at FDA request
- Clinical research limited due to federal restrictions
 - No large-scale assessments or clinical trials
 - National calls for research into MMJ potential benefits and/or harms

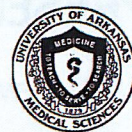


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RESULTS FROM THE FIRST NIH-FUNDED POPULATION BASED STUDY OF MEDICAL MARIJUANA

*Using Linked Health Data to Assess Impact on
Healthcare Utilization, Opioid Use, and Health System
Costs of Medical Marijuana in Arkansas*

NIDA Award Number: PAR-19-064



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MEDICAL MARIJUANA RESEARCH TEAM

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MEDICAL MARIJUANA PROGRAM IN ARKANSAS

- Authorized by constitutional amendment in 2016, first dispensary opened in May 2019
- 38 dispensaries and 105,752 active cards, as of Aug. 5*
- Participation process
 - Patient submits form signed by state-licensed physician (1st visit in person) to Department of Health
 - State-issued card authorizes purchases from licensed dispensaries for 12 months (renewable annually)
 - Cardholder may purchase equivalent of 2.5 oz. of “useable cannabis flower” every 2 weeks
 - Highly regulated cultivation and dispensary oversight
 - 18 qualifying symptoms and conditions



* Source: Arkansas Department of Health

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QUALIFYING SYMPTOMS AND CONDITIONS

- ALS
- Alzheimer's Disease
- Arthritis, Severe
- Cachexia
- Cancer
- Crohn's Disease
- Fibromyalgia
- Glaucoma
- Hepatitis C
- HIV/AIDS
- Intractable Pain
- Muscle Spasms
- Nausea, Severe
- Peripheral Neuropathy
- Post-Traumatic Stress Disorder (PTSD)
- Seizures
- Tourette Syndrome
- Ulcerative Colitis



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DATA SOURCES

Arkansas Healthcare Transparency Initiative data included:

- Arkansas Medical Licensure Data
- Medical Marijuana Qualification Data
 - Including qualified conditions, certifying physicians
- Medical Marijuana Dispensary Data
 - Including products, frequency, amount of THC
- Arkansas All-Payer Claims Database (APCD)
 - Including enrollment data, medical claims diagnoses, service dates, physician identification

No identifiable personal information was utilized

- *Studies conducted under UAMS IRB Protocol supervision*



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WHO IS LIKELY TO BE MMJ CERTIFIED?

Demographic	Demographic Category	AR Adult Population % of Total (2,227,606)	MMJ Cardholders % of Total (76,907)
Age	18-44	44.6%	49.0%
	45-64	32.1%	37.4%
	65 and Older	23.3%	13.6%
Gender	Female	51.6%	52.9%
	Male	48.4%	47.1%
Race	Black	15.4%	9.2%
	Hispanic	6.5%	2.2%
	Other	0.9%	1.9%
	White	77.2%	86.7%

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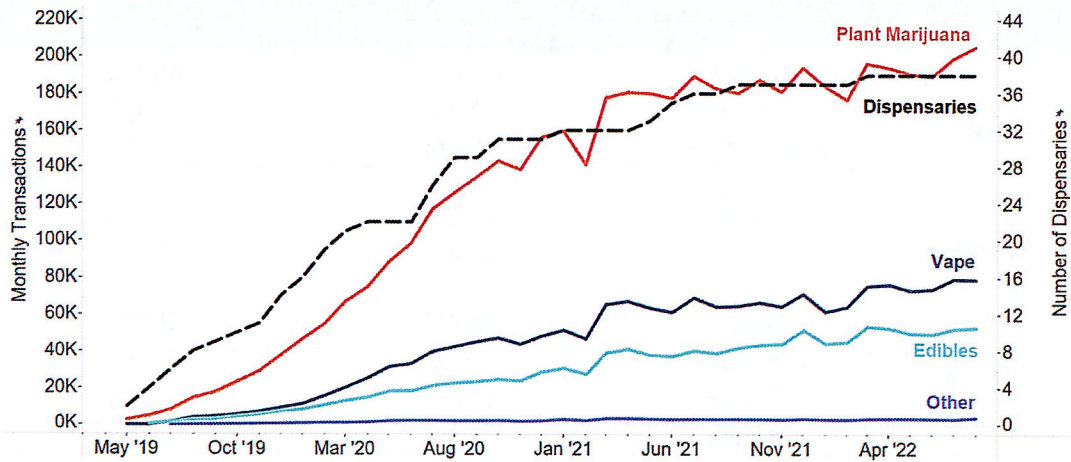
WHAT ARE QUALIFYING CONDITIONS? (2021)

- 76,907 individuals with 98,755 qualifying conditions
 - 20.7% with 2 or more
 - 39,002 (50.7%) with at least 1 of 3 pain conditions

PTSD	32,241 (41.9%)	Glaucoma	969 (1.3%)
Intractable Pain	30,627 (39.8%)	Hepatitis C	845 (1.1%)
Severe Arthritis	11,310 (14.7%)	Crohn's Disease	484 (0.6%)
Peripheral Neuropathy	5,553 (7.2%)	Ulcerative Colitis	458 (0.6%)
Fibromyalgia	4,707 (6.1%)	HIV/AIDS	414 (0.5%)
Muscle Spasms	3,549 (4.6%)	Cachexia	330 (0.4%)
Cancer	2,995 (3.9%)	Tourette Syndrome	110 (0.1%)
Severe Nausea	2,362 (3.1%)	Alzheimer's Disease	81 (0.1%)
Seizures	1,693 (2.2%)	ALS	27 (0.0%)

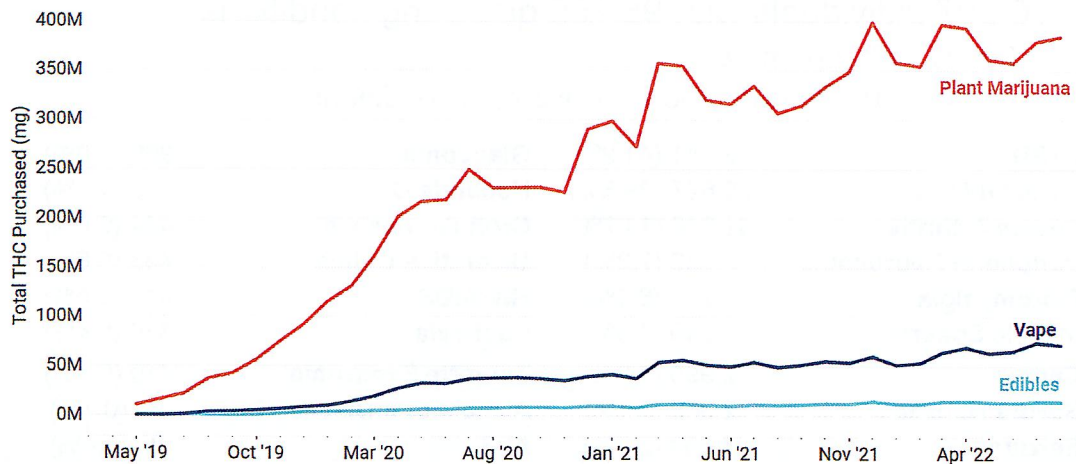
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TRENDS IN NUMBER OF TRANSACTIONS BY PRODUCT TYPE AND DISPENSARY OPENINGS



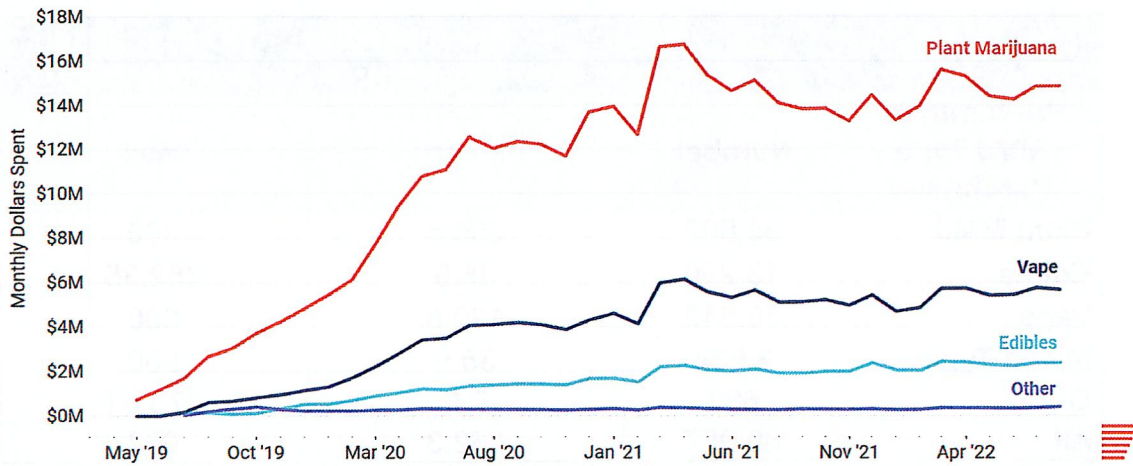
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THC PURCHASED PER MONTH BY PRODUCT TYPE, MAY 2019–AUGUST 2022



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DOLLARS SPENT PER MONTH ON MMJ BY PRODUCT TYPE, MAY 2019–AUGUST 2022

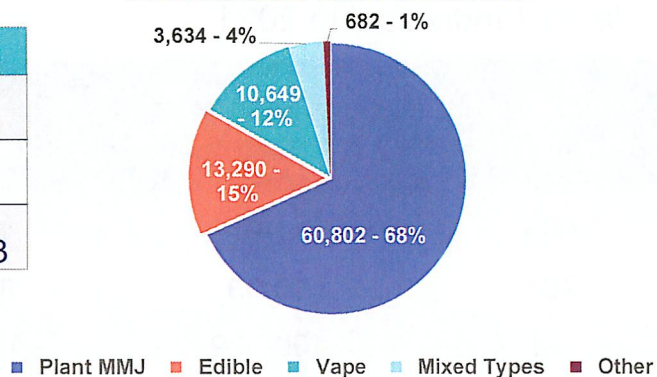


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MEDICAL MARIJUANA PURCHASING CHARACTERISTICS

	Mean
Mean THC (mg) Purchased per Day	162.3
Mean Transaction Days per Year	33.3
Mean Expenditures per Year	\$3,343

PREDOMINANT MMJ PURCHASED



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MMJ PURCHASING CHARACTERISTICS BY PREDOMINANT TYPE PURCHASED

		THC Purchased per Day (mg)	THC Purchased per Day (mg)
Predominant MMJ Type Purchased	Number	Mean	Max
Plant MMJ	60,802	206.6	900
Edible	13,290	35.5	752.35
Vape	10,649	120.8	900
Mixed Types	3,634	35.9	900
Other	682	7.9	273.01
All	89,057	162.3	900



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HOW MANY PHYSICIANS CERTIFY INDIVIDUALS?

- Of 6,871 actively licensed physicians, 860 (12.5%) certified at least 1 individual in 2021

Number of Physicians	Number of Qualified Individuals per Physician	Total Individuals	Percentage of Qualified Individuals
506	1-9	1,440	4%
285	10-99	8,625	22%
62	100-999	15,687	40%
7	1,000+	13,180	34%



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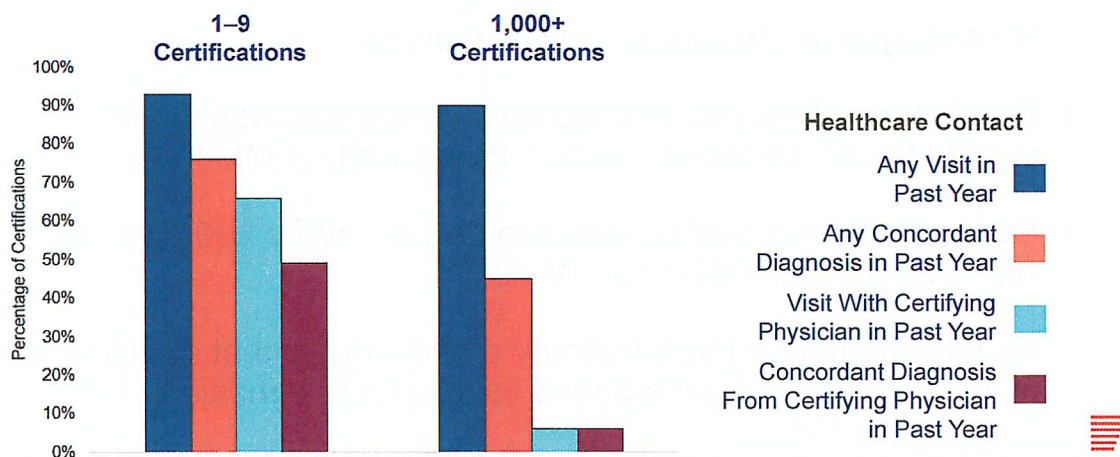
IS THERE EVIDENCE OF INTEGRATION OF MMJ USE INTO TRADITIONAL CLINICAL PRACTICE?

- 38,929 (50.6%) of 76,907 qualified individuals in 2021 were identified with 12 months of continuous enrollment in APCD before certification
- Outcomes of interest
 - 92% of qualified individuals had any paid claim with a physician visit
 - 62% of qualified individuals had any paid claim with a physician visit with a concordant diagnosis
 - 32% of qualified individuals had a paid claim with a physician visit with certifying physician
 - 27% of qualified individuals had concordant diagnosis with certifying physician on a paid claim



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VARIATIONS IN HEALTHCARE CONTACT BY NUMBER OF PHYSICIAN CERTIFICATIONS



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IS THERE EVIDENCE OF CLINICAL IMPACT ON SELECT CONDITIONS? PTSD FIRST EXAMINED

- Individuals with claims-based diagnosis of PTSD were grouped into MMJ consumers and non-consumers
- Users and non-users were tightly matched on demographic, insurance type, and prior clinical, prescription, utilization, cost information (2,455 matched pairs) prior to MMJ uptake
- Outcomes between MMJ users, non-users were examined for:
 - Differences in ER visits
 - Differences in hospitalizations
 - Changes in medication use (antidepressants, benzodiazepines)
 - Changes in outpatient visits



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MMJ IMPACT ON PTSD HEALTHCARE UTILIZATION

- No changes in prescription use observed
- Differences observed with increased hospitalizations and slightly fewer outpatient visits in those without MMJ use
- Suggested 4 hospitalizations avoided for every 100 patients with diagnosed PTSD using MMJ
- No information on large majority of individuals that qualified for PTSD but lacked claims-based validation of condition



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ADDITIONAL QUESTIONS BEING EXPLORED

- Examination of individuals with pain diagnoses
 - Healthcare utilization
 - Opioid use patterns – substitution of MMJ, avoidance of high dose
- Examination for increases in cannabis use disorder, substance use disorder diagnoses
- Assessments for population health impacts including
 - ER, hospitalization utilization
 - Motor vehicle accidents
 - Deaths
- Purchasing patterns associated with outcomes



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MAJOR FINDINGS

- Over 3% of AR adults certified to purchase MMJ
- Purchasers, on average: visit a dispensary every 11 days, purchase 162 mg of THC per day, spend \$3,343 per year
 - Edibles represent far lower avg. THC consumption than flower or vape
 - If consumed, THC far exceeds existing clinical recommendations
- Of licensed AR physicians, 12.5% have certified individuals
 - Most appear to have clinically cared for individual; 7 certified 34% of those qualified, with limited evidence of patient-physician relationship
- Early findings for individuals with PTSD may show benefit
- Longer term assessments for pain, adverse outcomes, and substance use disorder underway



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OF NOTE: AR MMJ FLOWER THC EQUIVALENTS AVAILABLE FOR PURCHASE EVERY 14 DAYS

Formulation	Unit	Weight	THC	Units	Max THC
Flower (2.5oz)	1 flower	70 g	14 g	1 flower	14 g
Gummies	1 gummy	10 mg	0.1 g per 10-pack	700 packs (7,000 gummies)	70 g
Vape	Cartridge	500 mg	0.4 g	140 500-mg cartridges	56 g
		1 g	0.8 g	70 1-g cartridges	



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POLICY CONSIDERATIONS FOR MMJ PROGRAM

- Strengthen required documentation for patient-physician relationship in certification process
- Integrate certification into Prescription Drug Monitoring Program to inform clinicians of patient qualification, potential use
- Strengthen anti-diversion messaging and enforcement
- For clinicians, consider integrating MMJ screening into visit
- Consider using total THC amount for purchase limits, as opposed to 'equivalent flower weight'
- Anticipate major federal research funding if moved to Schedule III in the Controlled Substances Act



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