MEDICAMENT

MEDICAL MARIJUANA RESEARCH NEWSLETTER

FALL 2024

WELCOME TO MEDICAMENT,

the Consortium for Medical Marijuana Clinical Outcomes Research's quarterly newsletter.

The Consortium, founded by the State of Florida, conducts, disseminates, and supports research on the use and effects of medical marijuana on patient outcomes.

In the Fall 2024 issue of MEDICAMENT:

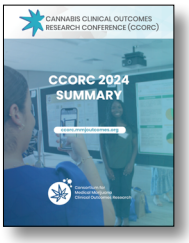
- CCORC
- Research Grants Program
- MEMORY Updates
- Join the Cannabis Working Group
- Medical Marijuana & Me (M^3) Updates
- Evidence and Research Updates
- Journal Corner
- Get Involved in Research

Consortium for Medical Marijuana Clinical Outcomes Research

To learn more about the Consortium and our programs, visit us at mmjoutcomes.org.

SAVE THE DATE: CCORC 2025

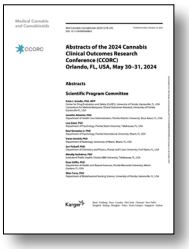
CCORC 2024 Summary Available Now



CCORC 2024 was held May 30th and 31st in Orlando, FL featuring keynote lectures, poster sessions, and more. Did you miss CCORC 2024?

Read the summary brochure here >

CCORC 2024 Proceedings and Abstracts Published



The proceedings and abstracts for CCORC 2024 have been published in Medical Cannabis and Cannabinoids, the official journal of the Consortium.

Read CCORC 2024 proceedings here >

Read CCORC 2024 abstracts here >

STAY IN TOUCH FOR CCORC UPDATES

2025 RESEARCH GRANTS PROGRAM

Request for Proposals Released for the 2025 Cycle

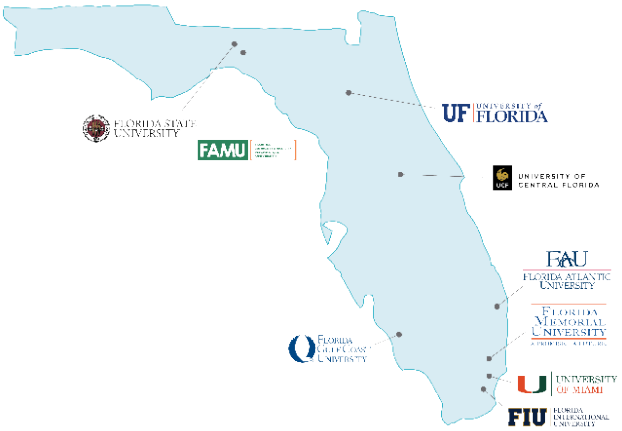
Consortium for
Medical Marijuana
Clinical Outcomes Research

2025 REQUEST FOR PROPOSALS

The Consortium for Medical Marijuana Clinical Outcomes Research (Consortium) provides awards to support clinical and translational research related to Medical Marijuana (MMJ) to investigators within member institutions.

Research proposals focused on the clinical outcomes of MMJ use, effect of MMJ use in reducing opioid dependence, routes of administration, interactions of MMJ with other drugs/medications, public health outcomes of cannabis laws and regulations, evaluating components of MMJ/cannabis, and mitigation of the risks of cannabis use are encouraged.

The research grant award mechanism will consider fully developed research studies that generate novel evidence, as well as studies intended to facilitate the collection and/or analysis of preliminary data that will support future extramural funding applications.



LETTER OF INTENT DEADLINE FEB 3RD, 2025

VISIT MMJOUTCOMES.ORG/RESEARCH FOR DETAILS ON THE RESEARCH GRANTS PROGRAM

2024 CONSORTIUM GRANT AWARDEES AND THEIR PROJECT NARRATIVES & ANTICIPATED IMPACTS

Six new awards along with two second year renewals were made in the 2024 Grants Program. The awarded researchers are from four Consortium-member institutions.

Effects of acute cannabis smoke exposure on respiration after cervical spinal cord injury in rats

PI: Erica Dale, PhD
University of Florida

Project Narrative: More than half of traumatic spinal cord injuries (SCI) occur at the cervical level, leading to respiratory compromise or failure. Cannabis has recently been shown to enhance motor output in neural systems such as that for locomotion however the effects of cannabis on the motor neuron networks responsible for breathing have not been explored. Previous research by this team has shown multiple known cellular pathways that lead to synaptic strengthening of the motor neurons responsible for controlling breathing, including the serotonergic system. Cannabis may also be neuroprotective and can facilitate synaptic transmission via modulation of the mammalian serotonin system. This study proposes to measure respiratory output during cannabis smoke exposure in rats with cervical spinal cord injury.

Anticipated Impact: With cannabis activating the prime receptors for neuroplasticity in the respiratory control network, this study proposes that respiratory motor output will facilitate motor output to enhance breathing capacity and thus, dramatically improve quality of life for those living with spinal cord injury. In addition, cannabis is used by upwards of 30% of people living with spinal cord injury with reported benefits being anywhere from pain management and self-medication for depression to improved motor and sensory functions. It is imperative to understand the effects of cannabis use on breathing function.

Medical Cannabis Use among Pregnant and non-Pregnant Women of Reproductive Age

PI: Panagiota Kitsanta, PhD
Florida Atlantic University

Project Narrative: In the United States, medical cannabis (MC) use among pregnant and non-pregnant women of reproductive age (WRA) is increasing. However, there is scarce research detailing the specific uses of MC in this population. The objectives for this study include: (1) identifying the medical conditions for which MC is utilized as well as quantifying MC dosage, product types, and administration routes across pregnant and non-pregnant WRA; (2) investigating MC's impact on the use of controlled substances, including opioids used for pain management; and (3) assess the occurrence of adverse events associated with MC use.

Anticipated Impact: This study addresses significant research gaps in the understanding of medical cannabis (MC) potential risks, benefits, and the policies and clinical practice guidelines for this population. The results of this study have the potential to inform patient care and policymaking and foster a deeper understanding of MC's public health implications.

Development of Cannabinoid Treatments to Ameliorate Methamphetamine Use Disorder

PI: Habibeh Khoshbouei, PhD, PharmD
University of Florida

Project Narrative: Increasing efforts are made to develop treatments for methamphetamine use disorder. Agonist replacement medications such as oral dosage forms of d-amphetamine and methylphenidate have shown promise in reducing methamphetamine relapse by increasing basal dopamine levels, but they have abuse potential. Alternatively, the endocannabinoid system modulates the activity of dopaminergic neurons through other mechanism(s). The CB1R agonist Δ9-Tetrahydrocannabinol (THC) increases firing activity of dopamine neurons and enhances dopamine synthesis. Although interactions between cannabinoid receptors and increased dopamine transmission are reported, their properties for methamphetamine relapse have been scarcely investigated. This study assesses the hypothesis that in freely behaving mice, THC reduces methamphetamine regulation of VTA dopamine neurons and striatal dopamine transmission.

Anticipated Impact: The results are two-fold: revealing THC regulation of VTA dopamine neuronal activity, striatal dopamine release, their correlation with behavioral responses, and their contribution to methamphetamine reinstatement. We predict THC could increase VTA dopamine neuronal activity that increases striatal dopamine levels that potentially facilitate drug extinction and reduce drug reinstatement.

Medical Cannabis Use and Cardiovascular Health in a Vulnerable Population of Medicaid Patients

PI: Earl Morris, PharmD, MPH, PhD
University of Florida

Project Narrative: This project aims to fill a critical gap in understanding the cardiovascular effects of medical cannabis by leveraging linked data from the Florida Medical Marijuana Use Registry and Medicaid claims. Given the increasing use of medical cannabis in Florida, there is a vital need to better understand trends and correlates for its use among Florida residents with cardiovascular disease. By examining trends in cannabis use among patients with cardiovascular conditions and assessing associated risks, this study will provide crucial insights into the safety of medical cannabis in a vulnerable population.

Anticipated Impact: The findings are expected to significantly inform clinical and policy decision-making by clarifying the cardiovascular risk associated with medical cannabis use, particularly in individuals with pre-existing conditions. Output from this project will help set priorities for future research into the cardiovascular risk profile of medical cannabis, will provide novel evidence to healthcare providers for making more informed treatment decisions, and will guide policymakers in crafting regulations that ensure safer medical cannabis use.

Role of CBD and Full Spectrum CBD in Diabetes Induced Peripheral Neuropathy

PI: Mandip Sachdeva, PhD
Florida A&M University

Project Narrative: Diabetic peripheral neuropathy (DPN) is a prevalent and debilitating complication of diabetes mellitus, marked by the progressive loss of sensory function in the lower extremities. Although our understanding of diabetes has significantly advanced in recent decades, existing treatments for DPN provide only partial symptomatic relief and do not prevent disease progression. This project hypothesizes that cannabidiol (CBD), either as a standalone treatment or within a full-spectrum CBD formulation, can alleviate DPN symptoms—such as pain, numbness, and tingling—thereby improving sleep quality, mood, and overall quality of life in diabetic patients. The study aims to evaluate the effectiveness of these treatments, monitor patient responses to cannabinoid supplements versus placebo, and identify any issues with patient compliance or study design.

Anticipated Impact: Currently, there are limited treatment options for DPN, and no systematic clinical study has directly compared the effects of orally administered CBD isolate with full-spectrum CBD. This trial aims to observe a significant reduction in DPN symptoms over the 6-week treatment phase and to determine whether the addition of hemp extract alters patient outcomes. By assessing CBD as a single agent versus full-spectrum CBD, this study will provide a crucial baseline for future research on combination therapies or cannabis derivatives.

Comparative evaluation of cannabinoids and opioids for treating chronic pain in aged subjects

PI: Niall Murphy, PhD
University of Florida

Project Narrative: Treating chronic pain in the elderly is challenging due to a poor understanding of how advanced age affects physiology and drug action. In this project, we will test the analgesic potency of marijuana constituents in aged animals, seeking evidence that cannabidiol (CBD) particularly may present itself as a safer alternative to other analgesics, e.g., opioids, for treating pain in the elderly.

Anticipated Impact: Finding safe and efficacious analgesics for treating pain in the elderly is a high priority, particularly given the rise in aged populations. Results from the current study aim to address this need by seeking evidence to support using marijuana constituents as an alternative and safer pain treatment for the elderly.

Effects of inhaled THC/CBD combinations on age-related cognitive impairment

PI: Barry Setlow, PhD
University of Florida

Project Narrative: THC may hold potential for remediating cognitive deficits in older adults; however, it is not clear how other cannabinoids found in cannabis (particularly CBD) interact with THC to affect cognition in this age group. Using well-validated rodent models of cognitive function in combination with a translationally-relevant route of administration (vaping), this project will determine how CBD influences the ability of THC to remediate age-related deficits in several forms of memory.

Anticipated Impact: Many of the qualifying conditions for medical cannabis in Florida occur predominantly in older adults and are frequently accompanied by cognitive impairments. THC may hold potential for addressing cognitive deficits in this population, but because it is often used in combination with other cannabinoids such as CBD, it is important to determine how such cannabinoid mixtures influence the cognitive outcomes of THC use. This project will enable rapid experimental assessment of the impact of CBD on THC's effects on cognition in aged subjects, which could inform the clinical use of cannabinoid mixtures.

Effects of a hemp-derived cannabidiol and cannabidiolic-acid oral extract on resting-state electroencephalography and neuropathic pain in people with spinal cord injury

PI: Eva Widerström-Noga, DDS, PhD, FASIA
University of Miami

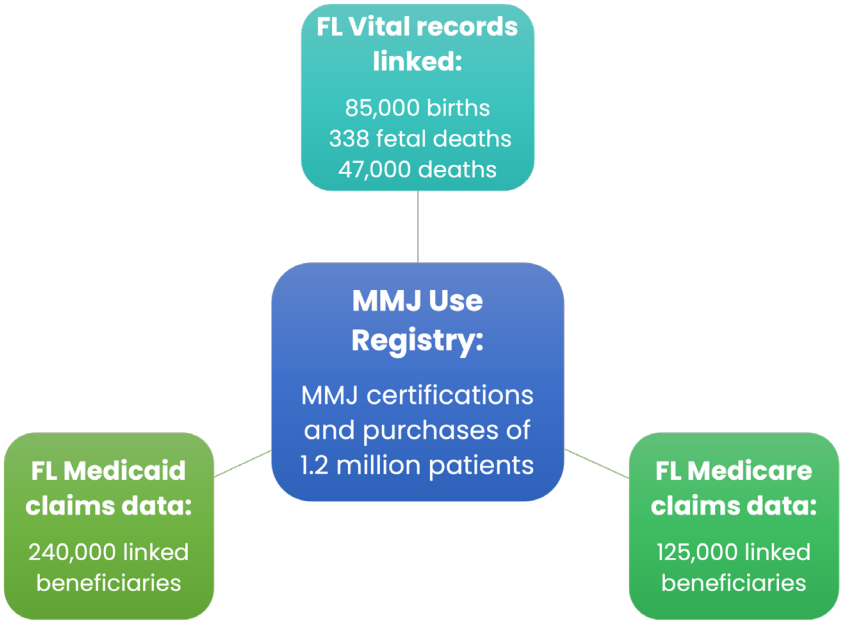
Project Narrative: Neuropathic pain affects a majority of those with spinal cord injuries (SCI), and current treatments are often limited in their effectiveness. Those who experience neuropathic pain after SCI often report positive effects of cannabis on their pain, which has generated an increased research interest around the use of cannabinoids as potential analgesic treatments. This research is expected to improve the understanding of the effects and underlying mechanisms of cannabis and cannabinoids on SCI-related neuropathic pain and thus provide a basis for larger clinical trials and ultimately clinical translation.

Anticipated Impact: No studies to date have examined the acute effects of oral CBD/CBD-A on neuropathic pain intensity and unpleasantness, and electroencephalogram (EEG) resting state power in people with spinal cord injuries. This study provides a unique opportunity to determine if a single CBD/CBD-A dose produces analgesic effects and if these changes can be verified by neuroelectric correlates. If successful, the outcomes of this study will facilitate the development of larger, high-quality clinical trials to evaluate the long-term effects of cannabinoid treatments on neuropathic pain and quality of life in people with spinal cord injuries.

MEMORY UPDATES

MMUR Database Now Linked with CMS Medicare

A linkage between the Medical Marijuana Use Registry (MMUR) and a sample of national Medicare data has been performed, allowing for a unique glimpse into medical marijuana use in about 125,000 Medicare beneficiaries. Older adults represent a population of individuals in which medical marijuana use is rapidly increasing, outpacing use in younger adults. This linkage will permit the study of the safety and effectiveness of medical marijuana in a population more vulnerable to the side effects of and drug-drug interactions with medical marijuana, relative to younger adults due to increased disease and medication burden.



Linked beneficiaries were an average age of 65.5 years, and almost half were between the ages of 65 and 74 years, at the time they were first certified to receive medical marijuana. Female Medicare beneficiaries (52.7%) had slightly greater representation than male beneficiaries (47.3%).

Read more about MEMORY >

Ongoing Studies Using MEMORY Data

Pediatric Patients Using Medical Marijuana in Florida

Nicole Smolinski

Objective: To describe the characteristics of patients 19 and under who are certified for MMJ. This includes looking at certification rates by county across the state, yearly rates of certifications, and describing reasons for certification (i.e., qualifying conditions) along with dispensing information.

Medical marijuana use and the risk of motor vehicle crashes among Medicaid insured medical marijuana patients in Florida

Sebastian Jugl

Objective: To investigate the relationship between medical marijuana use and the risk of motor vehicle crashes among Medicaid insured medical marijuana patients in Florida.

Persistence in Medical Marijuana Use Among Certified Residents in the State of Florida

Priyanka Kulkarni

Objective: To evaluate the persistence in medical marijuana use among certified residents in the State of Florida and the predictors thereof.

Adjunctive Medical Cannabis Treatment and Opioid Dose Reduction

Priyanka Kulkarni

Objectives: To evaluate the effect of medical cannabis initiation on opioid dose reduction among patients with chronic non-cancer pain.

Delta-9-THC Daily Doses of Patients Dispensed Medical Marijuana: A Cross-Sectional Study of Florida's Medical Marijuana Use Registry

Matthew Muschett

Objective: To describe trends and patterns in estimated daily doses of medical marijuana of a population of medical marijuana users in Florida.

Physician-Reported Adverse Events in Medical Marijuana Users in Florida's Medical Marijuana Use Registry

Matthew Muschett

Objective: To describe adverse events reported by physicians who recommend medical marijuana, and characterize patterns of adverse event reporting in Florida's MMUR.

ANNOUNCING: THE CANNABIS WORKING GROUP

Join the Next Meeting on November 21st, Welcoming Dr. Omayma Alshaarawy for Discussion and Q&A

The Consortium invites researchers to participate in the Cannabis Working Group, a dynamic and collaborative initiative designed to foster dialogue and knowledge sharing among experts at all levels across the US. Our mission is to advance understanding of the safety and effectiveness of cannabis as a medicine, investigate epidemiological trends, and examine its public health implications.

The group will meet via Zoom on Thursdays every other week from 1:00 to 2:00 PM Eastern time.

The group will engage in manuscript discussions, host informal seminars with authors, and provide support for developing cannabis-related manuscripts and applications.

On November 21st, we are thrilled to welcome Dr. Omayma Alshaarawy, Assistant Professor in the Department of Family Medicine at Michigan State University. Dr. Alshaarawy will share her experience conducting epidemiological studies focused on cardiovascular outcomes, followed by a Q&A session where you can engage directly with her findings.

If you are interested in attending, please email mmj.outcomes@cop.ufl.edu for Zoom access.

MEDICAL MARIJUANA & ME UPDATE

Study Data Access Now Available to Researchers

Researchers from Consortium-member institutions now have the opportunity to access data from a cohort of medical marijuana patients in the Medical Marijuana & Me (M^3) Study. This includes:

- **Cross-sectional survey data:** The data summarize information on utilization patterns and health outcomes from 632 current MMJ users.
- **Longitudinal survey data:** The data summarize information on utilization patterns and health outcomes from 602 new MMJ users. Survey data were collected at baseline before they initiated MMJ, 3 months, and 9 months.

These data are available for researchers addressing questions within the following suggested domains (among others):

- Comorbidities
- Concurrent Medication Use
- Concurrent Substance Use
- Demographic Characteristics of the Study Participants
- MMJ Products and Use Patterns
- MMJ-Related Side Effects
- Perceived Effects on Physical and Mental Health
- Reasons for Using MMJ

To read more about the study protocol, research scope and measures, click here.
To request data access, please reach out to mmj.outcomes@cop.ufl.edu. More information is available at mmjoutcomes.org/m3study

EVIDENCE AND RESEARCH ANNOUNCEMENTS

New Publication from Consortium-Affiliated Researchers: Reasons for Use and Perceived Effects of Medical Cannabis from A Cross-Sectional Statewide Survey

Medical Cannabis and Cannabinoids

Registered Report – Results (Stage 2)

Med Cannabis Cannabinoids 2024;7:138–148
DOI: 10.1159/000540593

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Published online: July 30, 2024

Reasons for Use and Perceived Effects of Medical Cannabis: A Cross-Sectional Statewide Survey

Ruba Sajdeya[a, b] Sebastian Jugl[b, c] Yan Wang[a, b] Juan G. Perez[a, b] Sophie Maloney[a, b] Catalina Lopez-Quintero[a, b] Amie J. Goodin[b, c] Almut G. Winterstein[b, c] Robert L. Cook[a, b]

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Keywords
Medical cannabis · Medical marijuana · Marijuana as a therapeutic · Cannabis use behaviors

Abstract
Introduction: Medical cannabis (MC) is available upon certification for one of several qualifying conditions in Florida, USA. Previous studies suggested that some people seek cannabis for medical conditions/symptoms beyond those legally permitted. However, data remain limited on patient motives for seeking MC and their experiences around its impact on their health. We aimed to compare reported qualifying conditions for MC certification with the most frequently self-reported reasons for using MC while assessing the alignment between the two and understanding the perceived impacts of MC on self-reported conditions and symptoms. ***Methods:*** We conducted a cross-sectional study using survey data from the Medical Marijuana and Me (M^3) Data Bank of individuals receiving MC in Florida, USA, in 2022. Participants were recruited via convenience sampling from nine MC clinics/clinic networks across Florida and were asked to fill out an online survey. The study measures included sociodemographic variables, self-reported health conditions, self-reported main reasons for using MC, self-reported qualifying conditions for MC certification, and self-reported perceived impact of MC on health conditions. We cross-tabulated reported qualifying conditions and reasons for MC use and reported the perceived impact per condition. ***Results:*** A total of 632 participants completed the survey, of whom 396 (62.66%) were female and 471 (74.53%) were non-Hispanic white. The median (IQR) age was 45 (35, 58). The most frequently reported qualifying conditions were post-traumatic stress disorder (PTSD) (n = 187, 29.59%), a condition not on the qualifying conditions list (n = 175, 27.69%), medical conditions of the same kind/comparable to those listed (n = 140, 22.15%), and chronic nonmalignant pain (n = 62, 25.63%). The top ten most frequently reported reasons for using MC were anxiety (n = 383, 60.60%), chronic pain (n = 278, 43.99%), depression (n = 252, 39.87%), PTSD (n = 220, 34.81%), headaches/migraine (n = 134, 21.20%), fibromyalgia (n = 67, 10.60%), attention-deficit hyperactivity disorder (ADHD) (n = 59, 9.34%), bipolar disorder (n = 53,

Karger
OPEN ACCESS

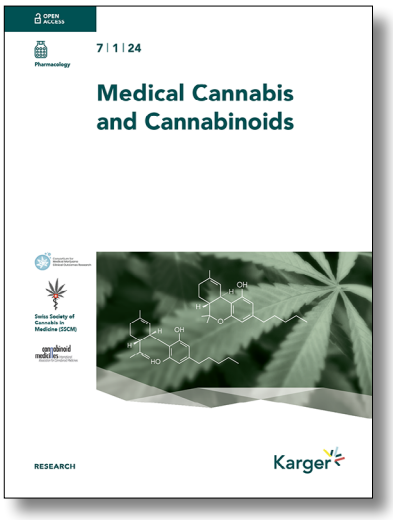
In a recently published paper, Consortium-affiliated researchers delve into the reasons for use and perceived effects of medical cannabis using cross-sectional survey data from the Medical Marijuana and Me (M^3) study. This includes data from a cohort of 632 current medical marijuana users.

The top reported qualifying conditions were post-traumatic stress disorder (PTSD), medical condition of the same kind or comparable to the others listed, and chronic nonmalignant pain. The top ten self-reported reasons for using medical cannabis were anxiety, chronic pain, depression, PTSD, headaches/migraine, fibromyalgia, attention-deficit hyperactivity disorder (ADHD), bipolar disorder, high blood pressure, and cancer.

Read the full article here >

JOURNAL CORNER

Updates from Karger, publisher of the Consortium's official journal



Medical Cannabis and Cannabinoids is the official journal of the Consortium, offering an international forum to investigate cannabis safety and effectiveness when used for medical purposes. This series in the newsletter, Journal Corner, provides updates, information and resources from the journal publisher, Karger.

New Article Type: Registered Reports

Not long ago, Karger introduced a new article type in the journal – Registered Reports, which consist of two papers – 1) the study protocol and analysis plan and 2) a full research article:

- Registered Report – Protocol (Stage 1)
- Registered Report – Results (Stage 2)

Registered Reports are part of the Open Science movement, which advocates, among other aspects, transparency in research planning and analysis. The protocol undergoes peer-review and if accepted, the author group receives a conditional acceptance for their results paper provided they adhere to the published protocol.

The first complete set of the Registered Reports was published in *Medical Cannabis and Cannabinoids* from the Consortium:

- Protocol of a Combined Cohort and Cross-Sectional Study of Persons Receiving Medical Cannabis in Florida, USA: The Medical Marijuana and Me (M3) Study | Medical Cannabis and Cannabinoids | Karger Publishers
- Reasons for Use and Perceived Effects of Medical Cannabis: A Cross-Sectional Statewide Survey | Medical Cannabis and Cannabinoids | Karger Publishers

Find out more about Open Science here and about Registered Reports here.
Visit the journal's Author Guidelines for more information about submitting a Registered Report.

Medical Cannabis and Cannabinoids at a Glance

- Official journal of the Consortium for Medical Marijuana Clinical Outcomes Research
- Consortium members are eligible for an **APC discount of 50%** on accepted articles
- Open Access
- Indexed in PMC, DOAJ, Scopus
- CiteScore: 6.0

For more information or questions about *Medical Cannabis and Cannabinoids*, visit the journal website or contact: Alan Tootle, Publication Manager, a.tootle@karger.com.

GET INVOLVED IN RESEARCH

CARMMA: Changing the way we collaborate across the state of Florida

The Connect and Advance Research for Medical Marijuana Analysis (CARMMA) Database is accessible to researchers, physicians, and industry collaborators.

Anyone interested in engaging in medical marijuana research is invited to register in CARMMA to find collaborators.

ANNOUNCEMENTS: OPPORTUNITY FOR COLLABORATION

Dr. Lewis Jassey (medical marijuana certifying physician) and Angerlyk Frytz (clinical research consultant) have de-identified dataset (demographics, medical conditions, marijuana chemotype and cannabinoid ratios, delivery methods, dosing, frequency of use, and concomitant medication use) from 4,000 medical marijuana patients across 24 U.S. states with active medical cannabis programs.

They are seeking research collaborators interested in drafting manuscripts and potentially writing grant proposals. If you are interested, you can reach Dr. Jassey at (516) 236-5599, drlewisjassey@gmail.com, or Angerlyk at (203) 710-6194, angerlyk.frytz@axismundicrc.com.

Have news or feedback to share? Let us know!

Share your Consortium-related research and news through our submission form.

Share your comments on our newsletter through our feedback form.

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Read previous MEDICAMENT issues.

Consortium for Medical Marijuana Clinical Outcomes Research