A Cornerstone of Cannabis Research

- **Longest-running** clinical cannabis research center in the United States
- Founded in 2000 via California Senate Bill 847
- Extensive **cannabis research portfolio**
  - Completed 11 clinical studies, including the first of smoked cannabis in over 20 years
  - 21 current studies, including 18 clinical trials
- Rich **biospecimen and data repository** enabling cross-study and future scientific investigations
- Investigators with **cannabis/cannabinoid research expertise**, and integration with the larger **UC San Diego** research and clinical resource

**Policy Involvement**

Advice to policy-makers at all levels:

- **International** (e.g., Canada, Mexico, Thailand)
- **Federal/National** (e.g., FDA hearing on CBD, House Veterans Affairs Committee, advising legislators, consultation with other States)
- **State** (e.g., Blue Ribbon Commission on Marijuana Policy, Medical Board of California, Veterinary Board, California Highway Patrol, Office on Traffic Safety, Bureau of Cannabis Control, various Legislative offices)
- **Local** (e.g., county supervisors, mayors, councils, law enforcement)

**Funding**

CMCR funding comes from a variety of sources (National Institutes of Health, State of California, Foundation support)

**Key Findings**

- THC improves spasticity in multiple sclerosis and neuropathic pain
- High doses of THC aren’t needed to see a benefit, in fact, high doses may exacerbate pain
- Users self-titrate when smoking, which may offset the effects of plant material with higher amounts of THC
Center for Medicinal Cannabis Research
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**Studies**
Randomized-controlled trials, observational and mechanistic studies in the following areas:
- **Completed**: Multiple sclerosis*, neuropathic and experimental pain (7 studies)*, essential tremor, driving impairment
- **Current**: Severe autism, early psychosis*, alcohol dependence*, rheumatoid arthritis*, sleep disorders*, anorexia nervosa*, effects of CBG*, metabolic syndrome*, migraine, bipolar disorder, alexithymia, HIV-related antiretroviral pharmacokinetics, neuropathic pain, inflammation, cognition, cannabis/alcohol effects on driving
  
  *Funded by CMCR Grants Program

**CMCR Grants Program**
- Using funds provided by California Proposition 64, CMCR issues funds annually for studies in California to evaluate the efficacy and adverse effects of cannabis and cannabinoids
- Committed $4.2 million in funding to 7 studies since 2019

**CMCR Reference Lab**
Established in 2021, serves as an independent reference laboratory for validation of results from licensed cannabis testing laboratories

**CMCR Resources**
- **Regulatory Expertise**: Federal, State, institutional IRB (human subjects)
- **Clinical Research Expertise**: Study design, statistical analysis, outcome selection, specimen collection, cross-study standardization enabling data aggregation
- **Study Participant Registry**: A registry of individuals who are interested in participating in cannabis research, including healthy controls and individuals with a variety of health conditions
- **Data Management and Information Systems**: Web-based data management and reporting, hardware/software resources, enabling of big data analysis
- **Specimen Collection, Processing and Storage**: Blood, oral fluid, breath, spinal fluid, urine, stool; specimen repository (24-hour temperature monitoring), custom web-based inventory system
- **Toxicology Services**: Mass-spectrometry to evaluate cannabis metabolites in human samples and tissues; plans to develop capability to evaluate plant and other products
- **Facilities and Equipment**: Negative pressure rooms (inhaled cannabis), driving simulation rooms, clinical exam rooms, cognitive testing equipment

**In-House Investigative Expertise**
- Psychiatry
- Pain medicine
- Neurosciences
- Neurology
- Toxicology
- Neuropsychology
- Pharmacology
- Translational science
- Public health and safety (e.g. driving)

**UC San Diego Extended Resources**
Nested within UC San Diego, one of the top research institutions in the country, CMCR has access to additional experts and patient populations across a broad range of disciplines

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