

Medical Marijuana: The Move to Schedule II

David Deitz, MD, PhD
David Deitz & Associates

AIS
2018
30th Anniversary



Today's discussion

- ◆ Does medical marijuana actually treat anything?
- ◆ What are the workplace issues?
- ◆ What are the interactions with opioids?
- ◆ What is likely to happen?

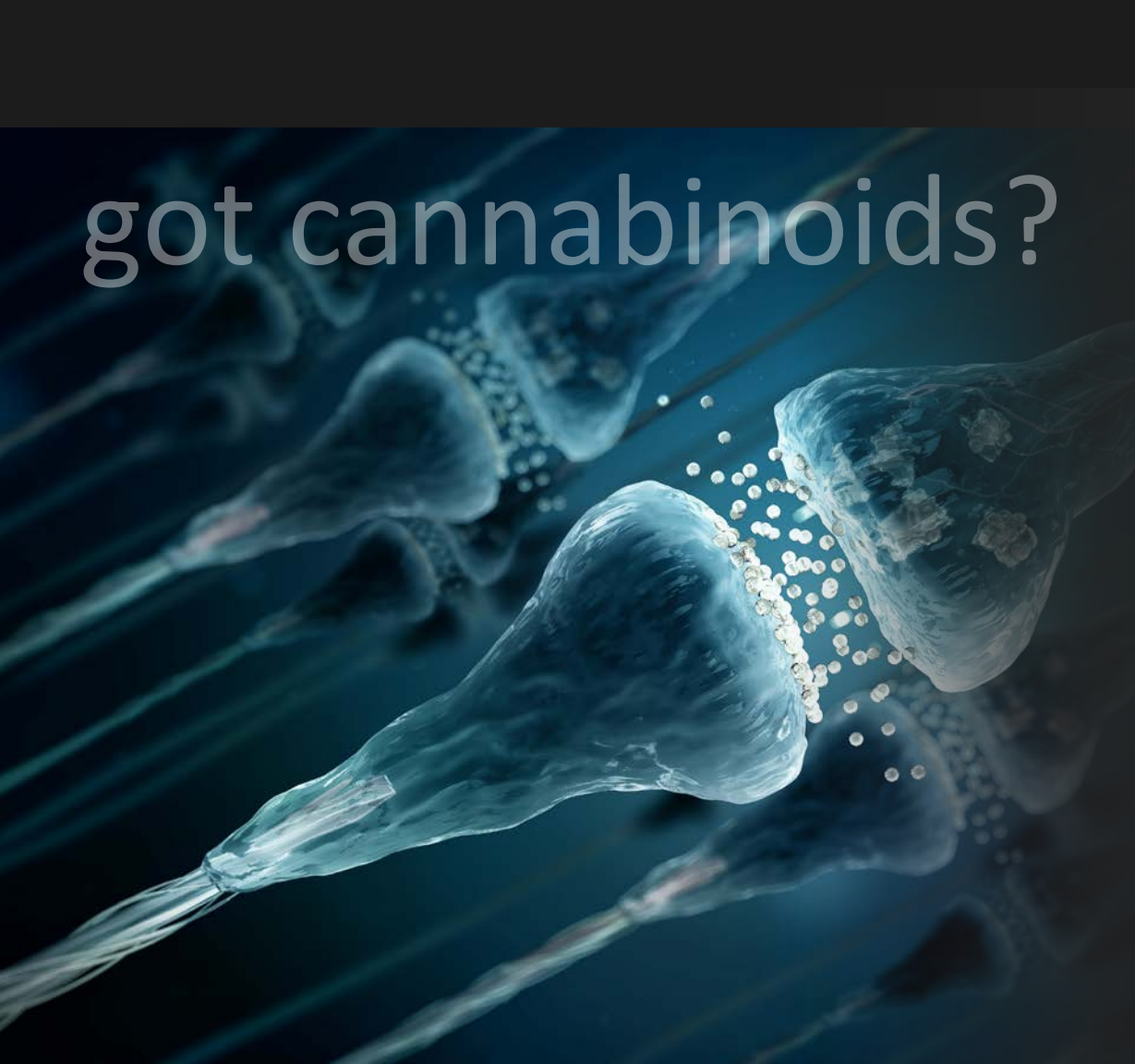
Two common and divergent perspectives:

- ◆ Marijuana has minimal medicinal value, and is primarily used by those seeking to get high
- ◆ Marijuana is a wonder drug, with limitless potential and many uses for multiple conditions

Neither of these perspectives is correct.

A few basics

- ◆ “Marijuana” actually includes 2 species of closely related plants, *Cannabis sativa* and *Cannabis indica*. “Cannabis” is applied to both.
- ◆ The 2 most important compounds in cannabis from a medical perspective are:
 - ◆ Tetrahydrocannabinol (THC)
 - ◆ Cannabidiol (CBD)
- ◆ THC, CBD and similar compounds in cannabis are referred to as cannabinoids.
- ◆ Cannabinoids act on human physiology via a variety of widely distributed receptors, referred to as the endocannabinoid system (ECS)



got cannabinoids?

THC:

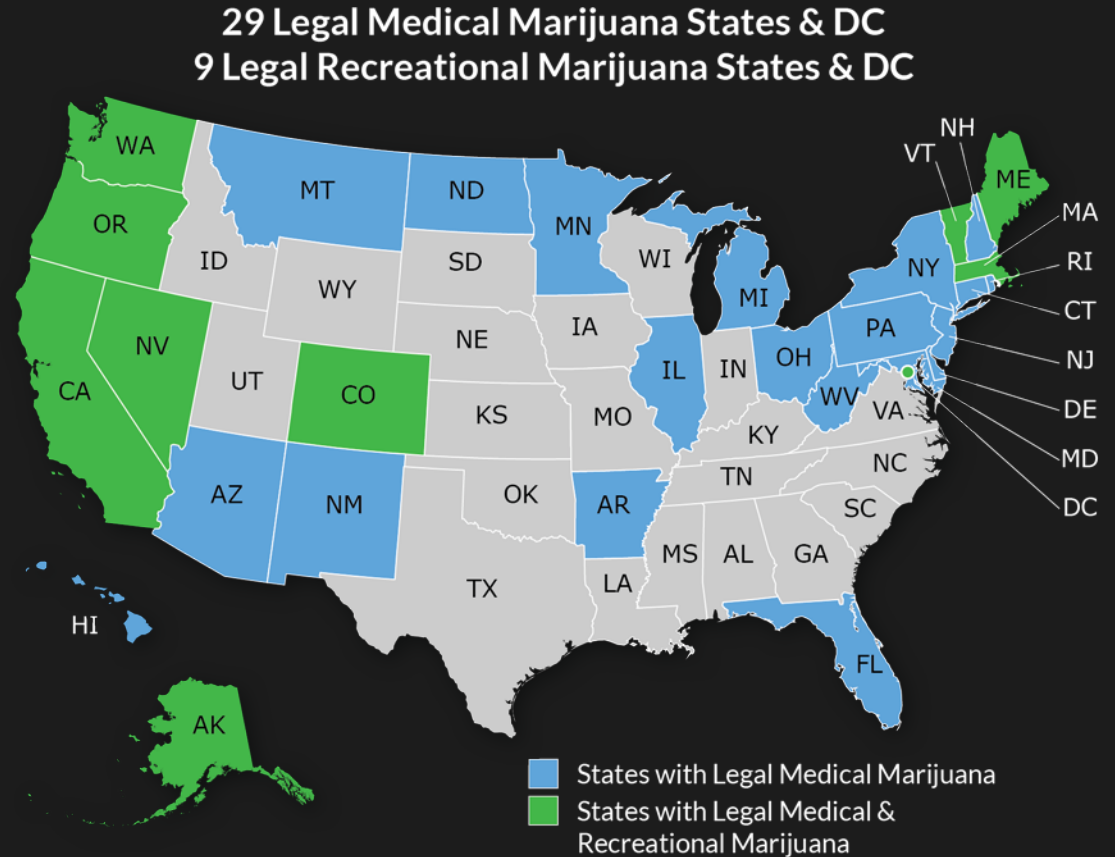
- Acts primarily on central nervous system (CNS)
- Euphoria, appetite
- Other receptors in muscle, GI tract

CBD:

- It's complicated
- Multiple CNS receptors
- Reduced anxiety, inflammation, others

Recreational vs. Medical Marijuana

- Terms are both regulatory and legal constructs
- “Medical marijuana” has no scientific meaning
- Recreational user goal is euphoria; other CNS effects, but medicinal users may employ same strains
- While CBD is thought to account for some medical benefits, THC is likely involved also (e.g., chronic pain)



Cannabis: The State of the Science

National Academy of Sciences, Engineering and Medicine (NASEM) – January 2017

- ◆ Comprehensive review conclusions
- ◆ “Substantial” evidence of benefit:
 - ◆ Chronic pain
 - ◆ Nausea & vomiting due to chemotherapy
- ◆ “Limited” or “Moderate” evidence for benefit:
 - ◆ Anxiety
 - ◆ Short-term sleep loss
 - ◆ Appetite/weight loss due to HIV/AIDS
- ◆ Other studies outside of NASEM have shown benefits for seizure control

Why don't we know more?

- Marijuana has been classified as a Schedule I drug by the FDA for over 50 years. This has created several limitations on medical research, including:
 - Difficulty in obtaining necessary permits and grants to perform human trials.
 - Societal and legal disincentives for researchers and patients to do studies.
 - Requirements that researchers must use a single strain of marijuana grown by the US Department of Agriculture. This strain is not representative of strains available in dispensaries in states where the use of marijuana is legal under various scenarios.

Is cannabis beneficial for work-related injuries?

- ◆ Chronic pain – passive treatment
- ◆ Anxiety
- ◆ Spasticity related to spinal cord injury
- ◆ Others (e.g., PTSD, TBI) all inconclusive
- ◆ Important to note that cannabis is not primary treatment for any of these conditions
- ◆ Return to work, given euphoric and other side effects, is problematic

Cannabis and the workplace

- ◆ Workplace safety is primary concern
- ◆ NASEM review found “insufficient evidence to support or refute a statistical association between cannabis use ... and occupational accidents or injuries”
- ◆ Multiple legal issues, depending on state

Some recent data from Colorado:

Prevalence of cannabis use among workers in last 30 days, by industry

Occupation	Age-Adjusted Prevalence of Current Marijuana Use
Installation, Maintenance and Repair	20.3
Farming, Fishing and Forestry	17.3
Construction and Extraction	12.2
Transportation and Material Moving	10.4
Management	17.9



Data from: Smith R, Hall KE, Etkind P, Van Dyke M. Current Marijuana Use by Industry and Occupation — Colorado, 2014–2015. MMWR Morb Mortal Wkly Rep 2018;67:409–413. DOI: <http://dx.doi.org/10.15585/mmwr.mm6714a1>.

Cannabis, opioids and pain

Cannabis may have 2 distinct beneficial effects on opioid use:

1. Use of cannabis as an adjunct to other pain treatments may have an “opioid-sparing” effect
2. Cannabidiol and possibly other cannabinoids may be useful adjuncts in the management of opioid addiction

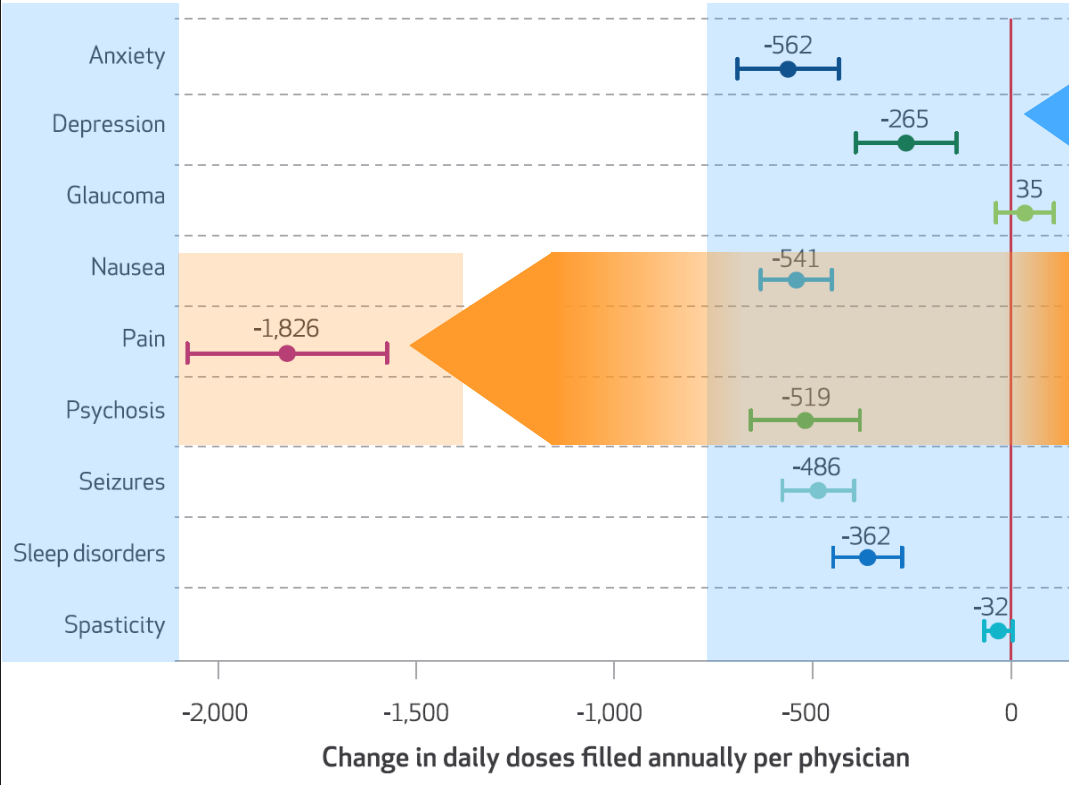
Physicians in states with legal marijuana prescribe fewer opioids

- Series of analyses of public data by Ashley and David Bradford
- Data show consistent reductions in opioid use for Medicare and Medicaid patients where marijuana is legal



EXHIBIT 3

Average numbers of daily doses filled for prescription drugs annually per physician in states with a medical marijuana law, by condition categories studied, compared to the average numbers in states without a law



Rxs for several conditions reduced where MM legal

Reduction in Rx was the largest

- Analyses in progress show significant reductions in mortality
- Projected 2014 cost savings for Federal programs alone could have been \$3.4 billion

Cannabidiol may also help manage addictive behaviors

- ◆ Limited human data
- ◆ Research limited by Schedule I status

Science & Society

Cannabidiol: Swinging the Marijuana Pendulum From 'Weed' to Medication to Treat the Opioid Epidemic

Yasmin L. Hurd

Where is this likely going?

- ◆ More studies
- ◆ Public is convinced cannabis should be permitted in a variety of contexts
- ◆ Move from Schedule I to III or IV to allow for more permissive use



As of January 2018:

- ◆ 58% of voters support legalization of marijuana
 - ◆ 79% among voters 18-34
- ◆ 91% support legalization of medical marijuana
- ◆ 70% oppose enforcement of federal laws in states that have legalized medical or recreational marijuana

In summary (for now)

- ◆ We know shockingly little about a drug that has had medicinal use for 4,000 years, but that is likely to improve over the next few years
- ◆ There is evidence of benefit from cannabis for a variety of conditions
- ◆ There is strong public support for continued use of medical (and in many states) recreational cannabis
- ◆ Employers and policymakers will need to continue to adapt as benefits and harms of wider use of cannabis become clearer