



# DE-MYSTIFYING CBD

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# DISCLAIMER

- This presentation is intended to provide educational information related to CBD history, legal information, potential medical benefits and risks. It is not a recommendation to use CBD or any CBD related product.



# OBJECTIVES

- List and review the process of obtaining a Medical Cannabis card in New Mexico
- List the key CBD clinical information and available CBD products
- Describe the known contraindications of CBD and Medical Cannabis
- Describe the role of CBD shops vs Medical Cannabis Dispensaries in New Mexico

# MEDICAL CANNABIS CARD PROCESS REVIEW

[HTTPS://NMHEALTH.ORG/ABOUT/MCP/SVCS/FAD/](https://nmhealth.org/about/mcp/svcs/fad/)

- 7.34.3.2 SCOPE: This rule governs the issuance of registry identification cards to qualified patients and primary caregivers as defined by the Lynn and Erin Compassionate Use Act.
- Cannabidiol (“CBD”) is a cannabinoid and the primary non-psychoactive ingredient found in cannabis.



# APPROVED DEBILITATING MEDICAL CONDITIONS

**Cancer**

**Glaucoma**

**Multiple sclerosis**

**Damageto the nervous tissue of the spinal cord, with objective neurological indication of intractable spasticity**

**Epilepsy**

**Positive status for human immunodeficiency virus or acquired immune deficiency syndrome**

**Admission into hospice care in accordance with rules promulgated by the department**

**Amyotrophic lateral sclerosis**

**Chrohn's disease**

**Hepatitis C infection**

**Huntington's disease**

**Body myositis**

**Inflammatory autoimmune-mediated arthritis**

**Intractable nausea or vomiting**

**Obstructive sleep apnea**

**Painful peripheral neuropathy**

**Parkinson's disease**

**Posttraumatic stress disorder**

**Severe chronic pain**

**Severe anorexia or cachexia**

**Spasmodic torticollis**

**Ulcerative colitis**

**Any other medical condition, medical treatment, or disease as approved by the department which results in pain**

# APPROVED DEPARTMENT CONDITIONS

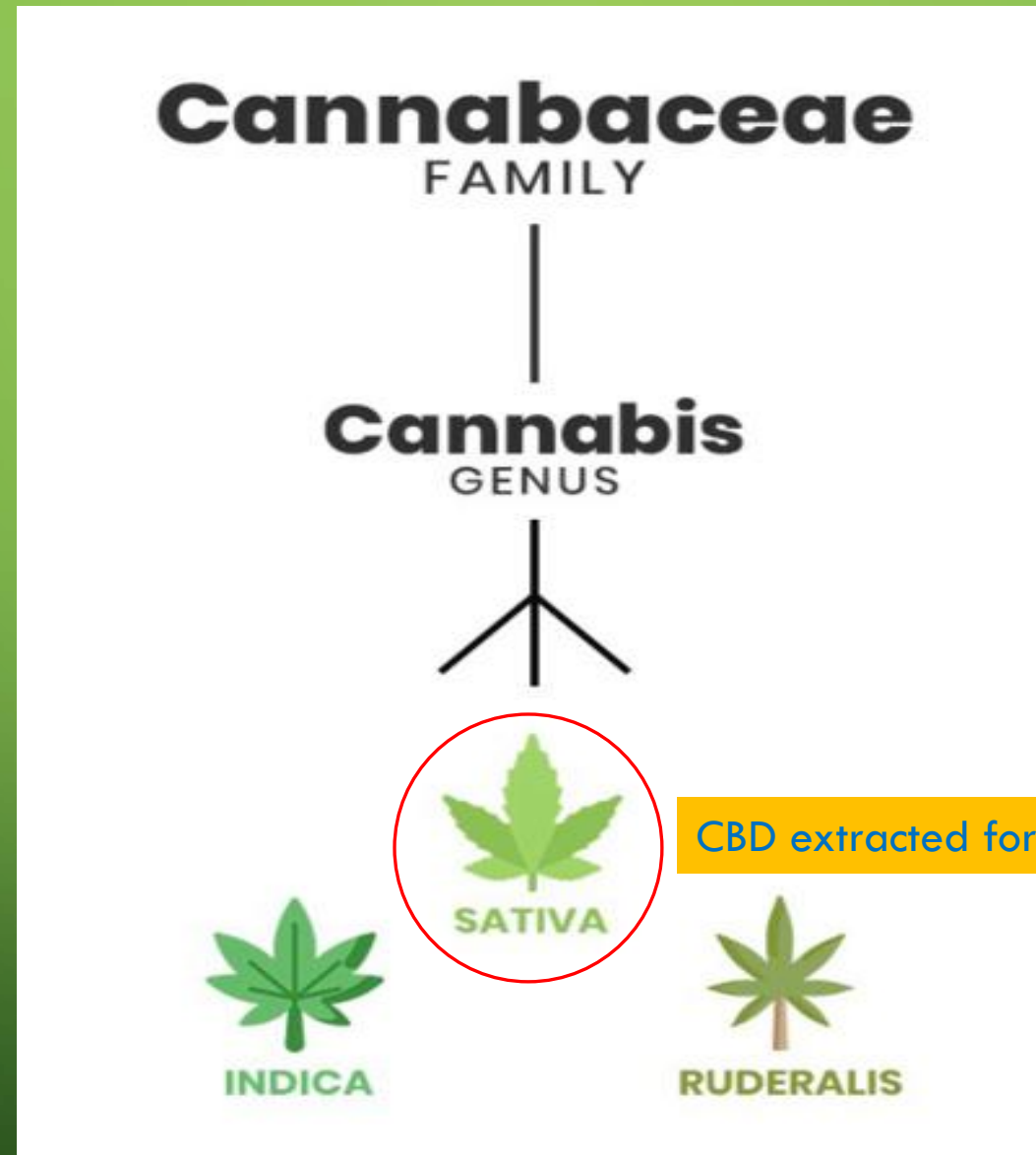
- **The department finds that the following additional qualifying conditions result in pain, suffering, or debility for which there is credible evidence that the medical use of cannabis could be of benefit, through the alleviation of symptoms, and the department accordingly approves these conditions as qualifying debilitating medical conditions for the participation of a qualified patient or primary caregiver in the medical cannabis program.**
  - **Autism**
  - **Spectrum disorder**
  - **Friedreich's ataxia**
  - **Lewy body disease**
  - **Spinal muscular atrophy**
  - **Alzheimer's disease**
  - **Opioid use disorder**
  - **Such other conditions as the secretary may approve**

# CBD BASIC TERMS & DEFINITIONS

**Cannabinoid** – a class of chemical compounds that acts on cannabinoid receptors; the active constituents of cannabis

- There are 100+ cannabinoids that have been isolated from the cannabis plant
  - **Tetrahydrocannabinol (THC)** – The psychoactive cannabinoid; responsible for the “high”
  - **Cannabidiol (CBD)** – a non-psychoactive cannabinoid

# SCIENTIFIC CLASSIFICATION



CBD extracted for this type of cannabis plant!

**HEMP**



**THC < 0.3%**

**MARIJUANA**



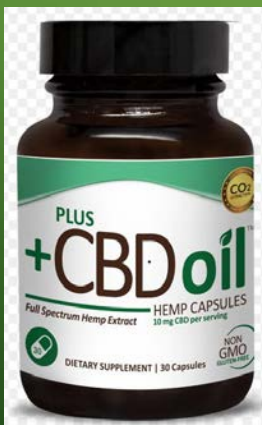
**THC > 0.3%**



# 100S OF CANNABINOIDS



CBD



THC



# CANNABIS SATIVA USES:

- CBD

- Lotions
- Rope
- Plastic composites
- Paper
  - Declaration of Independence
  - Bible
- Clothes
- Carpet
- Livestock food
- Bank notes
- Plasterboard
- Insulation



# CANNABIS REMOTE HISTORY

- 8000 BC - Asian archaeology finds
- Middle Ages - Hemp sails & rope for navy
- 1553 - King Henry VIII passes an act that requires landowners to dedicate 1/4 acre to cannabis plants
- 1619 - 1<sup>st</sup> New World (Jamestown)  
Marijuana legislation - settlers required to grow cannabis
- 1700s - A main crop at George Washington's Mount Vernon estate



# CANNIBIS RECENT HISTORY

- 1839 - Irish physician and medical researcher, William O'Shaughnessy, publishes a study on the cannabis' therapeutic effects
- 1937 - Marijuana Tax Act levies tax on many aspects of the plant product
- 1940 - American Harvard trained chemist Roger Adams isolates the CBD compound
- 1970 - United States passes the Controlled Substance Act
  - Marijuana classified as schedule I drug (abuse potential with no medical benefits)
- 2006 - Charlotte Figi born with intractable life-threatening seizures related to a rare genetic disorder - "medical marijuana" or "Charlotte's web" with low THC/high CBD suppresses her seizures
- 2018 - Epidiolex (purified CBD) receives FDA approval for rare genetic seizure disorders



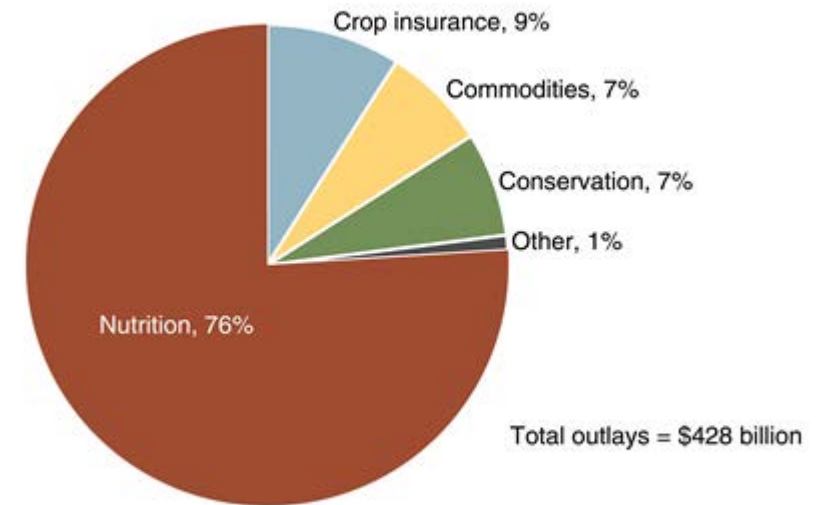
# FARM BILL (AGRICULTURAL IMPROVEMENT ACT)

## 12/20/2018



- Hemp derived CBD legalized under federal law
- Makes few major changes in agricultural and food policy
- Allowed farmers to receive payment for not growing food on a percentage of their land

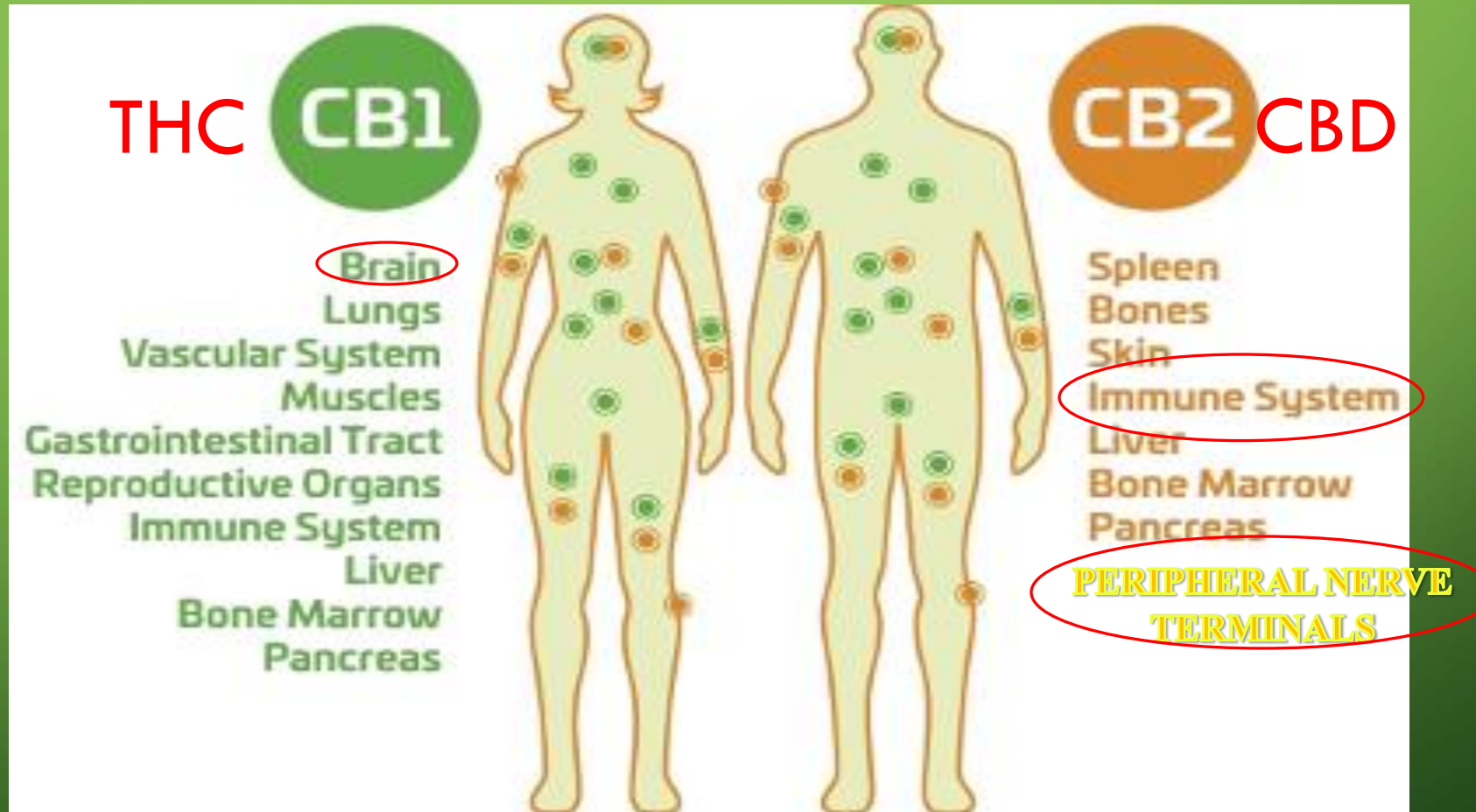
Projected outlays under the 2018 Farm Act, 2019-2023



Sources: USDA, Economic Research Service calculations based on Congressional Budget Office estimates.



# ENDOCANNABINOID RECEPTORS

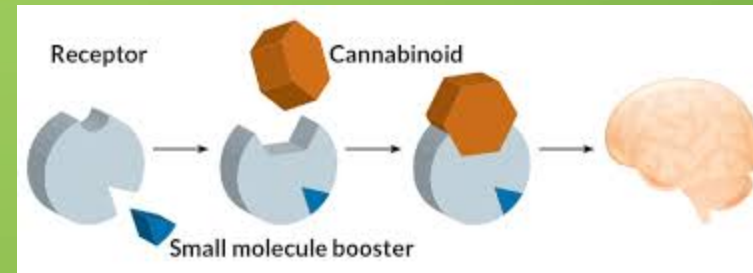


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# CBD CLINICAL INFORMATION

# CBD ALSO HAS AN AFFINITY FOR OTHER RECEPTORS:

- Dopamine
  - Emotion
  - Movement
  - Sensations of pleasure and pain
- Serotonin
  - Mood & happiness
- Opioid
  - Pain



# CBD ADMINISTRATION

- Inhalation (vape)
  - quickest onset
  - may have a greater bioavailability
- Topical application
  - lotions/creams
- Oral CBD
  - oil based capsules
  - oils/tinctures (sublingual or added to food/beverages)
- Edibles
  - gummy bears
- Transdermal skin patch

# BUYER BEWARE! (POOR REGULATION)

- Is THC in the product?
  - This could potentially result in a failed drug test
- Advertised amount?
  - 1) may have more CBD
  - 2) may have less CBD
  - 3) may have no CBD





# OPIOID OVERDOSE STATS

(US DEPT OF HHS & CDC)



- Most common cause of accidental death
- #1 killer 24 – 44 y.o.
- 130+ daily
- ~ 50,000 yearly
- 2,000,000+ estimated opioid use disorder

➤ Nearly 90% 3 year relapse rate after detox

## CBD OVERDOSE STATS

- None reported
  - i. No apparent tolerance issues
  - ii. Not addicting
  - iii. No (or minimal) CB2 receptors on the brainstem so no respiratory depression

# CBD DOSAGES



- Not established for OTC products
  - Bioavailability dependent on mode of administration
- Epidiolex (100 mg purified CBD/ml)
  - FDA approved in June 2018
  - Only approved for rare genetic seizure disorder
  - Maximum recommended dose 20 mg/kg/day
  - Recommended starting dose is much lower
  - Adjusted rates for hepatic impairment
  - Recommended monitoring of liver enzymes & bilirubin

# CBD CONTRAINDICATIONS



*The American College of Obstetricians and Gynecologists*



- Pregnant women (or women considering pregnancy) and breast-feeding mothers should avoid marijuana and CBD products.
- THC crosses the placenta and passes into milk
- THC may cause low birth weight, pre-term delivery, still birth and affect fetal brain development
- Scant studies on CBD



# CBD CONTRAINDICATIONS



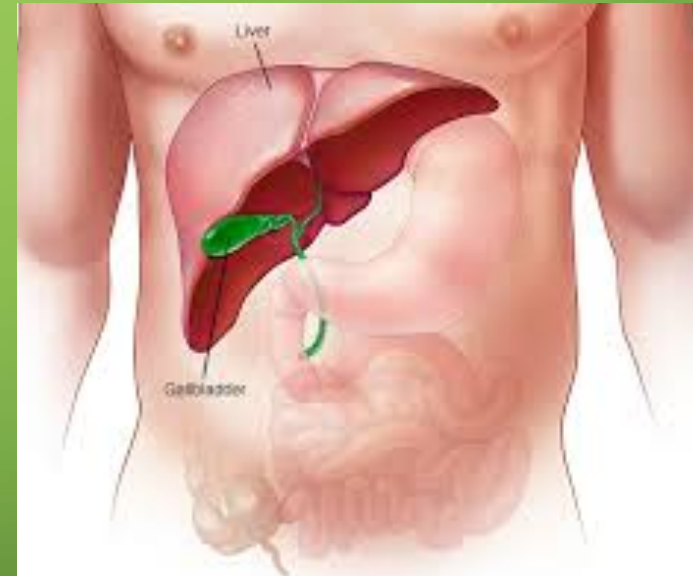


- Sedation/lethargy
- Decreased appetite
- Diarrhea
- Rash
- Sleep disorder
- Psychiatric (suicidal ideation, depression, anxiety)
- Liver toxicity
  - Long-term consequences??



# CBD DRUG INTERACTIONS

- CBD is metabolized by the liver by the Cytochrome (CYP) enzyme system
- Many drugs either “ramp up” or “ramp down” the CYP metabolic pathway which can affect CBD concentration in the blood
- CBD competes as a substrate for some of the same CYP enzymes that metabolize coumadin; coumadin blood levels elevate resulting in an increased risk of bleeding



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# MEDICAL CANNABIS DRUG INTERACTIONS

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# MEDICAL CANNABIS CONTRAINDICATIONS

# ANTECDOTAL OBSERVATIONS (NOT SCIENTIFIC STUDIES)

- Many patients have anecdotally provided unsolicited feedback that CBD helps control their pain including neuropathic pain
- CBD does not help all patients – NOT A MIRACLE DRUG
- Coumadin levels are harder to regulate while taking CBD
- No side effects reported
- Failed drug test





# TRUE OR FALSE: CBD INFUSED FOOD OR BEVERAGES ARE AGAINST THE LAW?

- The FDA defines a dietary supplement as a product taken by mouth that contains a dietary ingredient (i.e. amino acids, herbs, botanical, minerals or vitamins).
- Dietary supplements can be added to food or beverage if they comply with certain marketing rules
- CBD is not considered to be a dietary supplement but rather an active ingredient drug
- Hemp seed, hemp seed oil, and hemp seed protein were granted exceptions by the FDA in December 2018

# AAOS NOW MAGAZINE

(AMERICAN ASSOCIATION OF ORTHOPEDIC SURGEONS)

## “Cannabinoids Can Serve as Alternatives to Narcotic Pain Medication for Fracture Healing” – April 2019

- I. Animal studies suggest a possible potential benefit of faster bone fracture healing
  - CB receptors have been identified on both osteoclasts & osteoblasts and hence may enhance bone metabolism
- II. Evidence is mixed for post-operative pain management
- III. Evidence is better that CBD provides analgesia for cancer, chronic, and neuropathic pain



World Health  
Organization

- In humans, CBD exhibits no effects indicative of any abuse or dependence potential
- There is preliminary evidence that CBD may be a useful treatment for a number of other (i.e. non-seizure) medical conditions
- CBD is generally well tolerated with a good safety profile. Reported adverse effects may be the result of drug-drug interactions between CBD and patients' existing medications
- To date, there is no evidence of recreational use of CBD or any other health-related problems associated with the use of pure CBD



# U.S. FOOD & DRUG ADMINISTRATION

Primary role is to protect the public health by ensuring the safety, efficacy, security of, and labeling/marketing of human drugs and biological products effectively ensuring the safety of our nation's food supply.

- Seem to be loosely enforcing some CBD guidelines right now
- Will target grossly embellished health claims





Publicly traded company that  
supplies CBD products to CVS  
pharmacy

RECEIVED A LETTER FROM THE FDA IN JULY 2019  
REGARDING CBD TREATMENT CLAIMS RELATED TO:

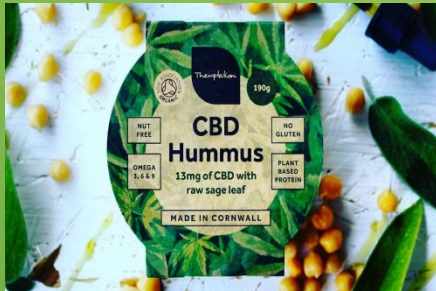
- ADHD
- Cancer
- Alzheimer's
- Parkinson's disease
- PTSD
- Depression
- Eating disorders
- Opioid withdrawal
- Claiming to be a dietary supplement

# AVAILABLE CBD PRODUCTS





# CBD CULTURE



The background is a green gradient. In the corners, there are decorative circuit-like patterns made of thin yellow lines and small circles, resembling a PCB layout.

# CBD SHOPS VS DISPENSARIES