

# CANNABIS AS MEDICINE

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**Field to Healed™**

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# CANNABIS AS A MEDICINE IN HISTORY

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- 2900 BC first recorded reference to cannabis' medical use, Chinese Emperor Fu Hsi
- 1840 William O'Shaughnessy brings cannabis to England from India back for cramps, muscle spasms, and convulsions from epilepsy
- 1850 cannabis added to the United States Pharmacopeia
- 1937 Congress passes Marihuana Tax Act, de facto prohibition, despite the American Medical Association's opposition
- 1942 cannabis removed from U.S. Pharmacopeia



# CANNABIS AS A MEDICINE IN HISTORY

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- 1970 Congress enacts Controlled Substances Act, provisionally classifies cannabis as Schedule I
- 1988 DEA Judge Francis Young recommends re-scheduled cannabis
  - “Marijuana, in its natural form, is one of the safest therapeutically active substances known to man. By any measure of rational analysis marijuana can be safely used within a supervised routine of medical care.”
- 1990 National Institute of Mental Health discovers cannabinoid receptor system
- 1996, California becomes first state to pass a workable medical cannabis law
  - 36 other states have since followed
  - Several countries, including Israel and Canada allow medical cannabis

# BARRIERS TO STUDYING CANNABIS' BENEFITS

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- Cannabis' Schedule I status
- Uniquely arduous approval process
  - 7 years to *start* a Phase 2 trial, compared to one year for other medications
- Poor quality of federal cannabis, which is currently a monopoly
- Lack of a study drug which can eventually be converted into prescription medicine
- Expense: \$1 billion for the research leading to approval for Epidiolex ~~or~~ a single product

These factors prevent the ~~large scale~~ clinical trials that would be needed for federal approval.

# CANNABIS RESEARCH INTO CHRONIC PAIN



# CANNABIS RESEARCH: CHRONIC PAIN

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- In 2017, after reviewing more than 10,000 scientific abstracts published since 1999, the National Academies of Sciences, Engineering, and Medicine released a meta-analysis on cannabis on the health impacts of cannabis.
- It found substantial or conclusive evidence (the highest level) that cannabis is beneficial to treat chronic pain.

# SELECT STUDIES: CHRONIC PAIN

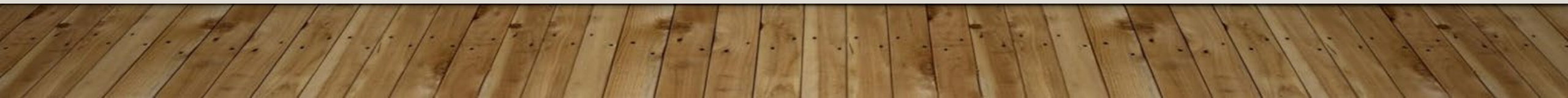
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In a clinical trial for patients suffering from HIV-associated sensory neuropathy, smoked marijuana produced an average 34% reduction in pain and was well tolerated.

*Donald Abrams, et al., "Cannabis in Painful HIV-associated Sensory Neuropathy: A Randomized Placebo Controlled Trial," Neurology 68, no. 7 (2007): 5-12.*

Randomized trial found that "a single inhalation of 25 mg of 9.4% tetrahydrocannabinol herbal cannabis three times daily for five days reduced the intensity of pain, improved sleep and was well tolerated."

*Mark Ware, et al., "Smoked cannabis for chronic neuropathic pain: a randomized controlled trial," Canadian Medical Association Journal (2010):600-1.*





# CANNABIS RESEARCH: SPASTICITY

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In its systematic review of relevant research conducted from 1999 through 2016, the National Academies authors state, “There is substantial evidence that oral cannabinoids are an effective treatment for improving patient-reported multiple sclerosis spasticity symptoms.”

*National Academies of Sciences, Engineering, and Medicine. 2017. The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research. Washington, DC: The National Academies Press*

# NAUSEA AND VOMITING

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Data from a series of state-sponsored clinical trials of marijuana in the 1970s and 1980s found, “Patients who smoked marijuana [for relief of nausea and vomiting caused by cancer chemotherapy] experienced 70- 100% relief from nausea and vomiting.”

*Richard Musty and Rita Rossi, “Effects of Smoked Cannabis and Oral Tetrahydrocannabinol on Nausea and Emesis After Cancer Chemotherapy: A Review of State Clinical Trials,” Journal of Cannabis Therapeutics 1, no. 1 (2001):563*

# CANNABIS IS A FAR SAFER THAN OPIOIDS

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- Cannabis has not been shown to cause any fatal overdoses
- In 2019 alone, more than 14,000 Americans died of prescription opiates
- These numbers have been steadily increasing every year since 2010



# MEDICAL CANNABIS CAN BE AN EXIT DRUG

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- Pain patients often reduce or eliminate their use of opioids with medical cannabis
  - A survey of chronic pain patients in Michigan found medical cannabis “was associated with a 64% decrease in opioid use”
  - A study found enrolling in New Mexico’s state’s medical cannabis program made pain patients significantly “more likely either to reduce daily opioid prescription dosages between the beginning and end of the sample period (83.8 percent versus 44.8 percent) or to cease filling opioid prescriptions altogether (40.5 percent versus 3.4 percent).”
  - A 2016 study found a 48% reduction in patients’ opioid use after 3 months of medical cannabis

# OTHER MEDICATION HAVE SERIOUS RISKS

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- Benzodiazepines — used as an anticonvulsants in spasticity patients, among other things. 12,290 deaths in 2020 alone (NIH).
- Insulin- dosing insulin is tricky when changings brands or if injected
- Over-the-Counter Drugs — Acetaminophen (Tylenol) in 2016, 360 deaths and 60,000 hospitalized with overdose complications
- NSAIDS such as aspirin are responsible for 11% of drug hospitalizations

# SERIOUS ILLNESSES IMPOSE A TREMENDOUS COST

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- Chronic pain costs the nation up to \$635 billion each year in medical treatment and lost productivity (National Academies of Sciences, 2011)
- 50% of chronic pain patients consider suicide to escape the pain
- Each year, more than 1 in 1,000 people with epilepsy die from Sudden Unexpected Death in Epilepsy (SUDEP)

# MOST DOCTORS SUPPORT MEDICAL CANNABIS

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- In 2013 the New England Journal of medicine released a poll of 1,446 doctors and asked if the doctors would recommend cannabis — 76% of the doctors agreed they would.
- A 2021 Lister Hill Center for Public Health Policy at University of Alabama-Birmingham poll of 450 doctors in Alabama found 69.5% agree:
  - Strongly agree: 39.3%
  - Agree: 21.1%
  - Somewhat agree: 9.1%

# HEALTH & MEDICAL ORGANIZATIONS SUPPORTING MEDICAL CANNABIS

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- British Medical Association
- The American Academy of HIV Medicine
- The American Nurses Association (ANA)
- The American Public Health Association
- Epilepsy Foundation
- The Lymphoma Foundation of America
- The National Association for Public Health Policy
- The National Nurses Society on Addictions
- National Multiple Sclerosis Society





# WHY WE NEED STATE ACTION ON MEDICAL CANNABIS

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- Medical cannabis works and is safer than many pharmaceuticals — patients should be allowed the medical freedom to use it.
- There is no sign of federal movement, other than not interfering with states' programs
  - Since 2015, a federal budget rider has prohibited DOJ interference with state programs
- There is widespread, bipartisan support for medical cannabis
  - Voters in Arkansas, Mississippi, Utah, and North and South Dakota have approved initiatives

# WHY STATES SHOULD ACT ON MEDICAL CANNABIS

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- Patients will continue to suffer, and use much more harmful pharmaceuticals, if states do not make medical cannabis available
- Patients should not have to go to the illicit market to meet their medical needs
  - Illicit cannabis isn't lab tested, and has no dosage or product control
  - Patients risk robbery and arrest on the illicit market
- States have shown they can create well-regulated programs to provide safe, medical access under a doctor's guidance

# TOPICALS TINCTURES & INHALERS



# THANK YOU

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For further questions:

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# Cannabis as an effective treatment for chronic pain

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- [https://journals.lww.com/pain/fulltext/2019/04000/an\\_experimental\\_randomized\\_study\\_on\\_the\\_analgesic.11.aspx](https://journals.lww.com/pain/fulltext/2019/04000/an_experimental_randomized_study_on_the_analgesic.11.aspx)
- <https://www.nationalacademies.org/news/2017/01/health-effects-of-marijuana-and-cannabis-derived-products-presented-in-new-report>

# Data on pharmaceuticals deaths

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- <https://www.apha.org/topics-and-issues/prescription-drug-overdose>
- <https://nida.nih.gov/drug-topics/trends-statistics/overdose-death-rates>
- <https://medicalmarijuana.procon.org/deaths-from-marijuana-vs-fda-approved-drugs/-drugdeathchart>

# Additional Studies

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- **Cannabinoids for Medical Use** A Systematic Review and Meta-analysis

<https://jamanetwork.com/journals/jama/fullarticle/2338251>

- **High -Frequency Medical Cannabis Use Is Associated With Worse Pain  
Among Individuals With Chronic Pain**

<https://pubmed.ncbi.nlm.nih.gov/31560957/>

# Additional Studies

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- **Cannabinoid -opioid interaction in chronic pain**

<https://pubmed.ncbi.nlm.nih.gov/22048225/>

- **A Cross -Sectional Survey of Medical Cannabis Users: Patterns of Use and Perceived Efficacy**

<https://pubmed.ncbi.nlm.nih.gov/28861489/>



# Cannabis Efficacy: Multiple Sclerosis Clinical Trials

Study Code	Study Details	Key Efficacy Result	P-value	Reference
<b>Phase II (Randomised, Double-Blind, Placebo Controlled Studies)</b>				
GWN19902	Symptoms of MS and other nervous system conditions (n=25)	Improvement in Spasticity (VAS)	<0.05	Wade DT et al. Clin Rehab. 2003
GWMS0001	MS Symptoms (n=160)	Improvement in Spasticity (VAS)	0.001	Wade DT et al. Multiple Sclerosis 2004
<b>Phase III (Randomised, Double-Blind, Placebo Controlled Studies)</b>				
<b>X</b> GWCL0403	MS, Spasticity (n=337)	Improvement in Spasticity (NRS)	0.22 0.035 (PP)	Collin C et al. Neurol Res. 2010
GWMS0106	MS, Spasticity (n=189)	Improvement in Spasticity (NRS)	0.048	Collin C et al. Eur J Neurol. 2007
GWSP0604	MS, Spasticity (n= (A) -572, (B) -241)	Improvement in Spasticity (NRS)	p=0.0002	Novotna J et al. Eur J Neurol 2011
GWSP0702	MS, Spasticity (n=36) <i>Randomised Withdrawal Study Design</i>	Time to treatment failure (NRS)	p=0.013	Notcutt W et al. Multiple Sclerosis 2011
GWSP1172	MS Spasticity (n=121) 12 month RCT	GIC	P<0.0001	ECTRIMS 2013
<b>Long Term Extension Studies (Open Label)</b>				
GWMS0001	Open label extension study (n=137)	Long term efficacy(NRS)	N/A	Wade DT et al. Mult Scler 2007
GWEXT0102	Open label extension study (n=507)	Long term efficacy(NRS)	N/A	

# Additional Studies

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- **Safety and Efficacy of Medical Cannabis Oil for Behavioral and Psychological Symptoms of Dementia: An -Open Label, Add -On, Pilot Study**

<https://pubmed.ncbi.nlm.nih.gov/26757043/>

- **Do medical marijuana laws reduce addictions and deaths related to pain killers?**

<https://www.sciencedirect.com/science/article/abs/pii/S0167629617311852>

# Additional Studies

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- **Anticancer mechanisms of cannabinoids**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4791144/>

- **Real life Experience of Medical Cannabis Treatment in Autism: Analysis of Safety and Efficacy**

<https://pubmed.ncbi.nlm.nih.gov/30655581/>

# Additional Studies

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- **Smoked cannabis for chronic neuropathic pain: a randomized controlled trial**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2950205/>

- **The role of cannabinoids in the treatment of cancer**

<https://pubmed.ncbi.nlm.nih.gov/31950844/>