NEW YORK STATE | Department of Health

Commissioner's Medical Grand Rounds

Partners: Albany School of Public Health
Medical Society of the State of New York
New York Chapter of the American College of Physicians
New York Empire State Medical Association
Nurse Practitioner Association
New York State Society of Physician Assistants
New York State Osteopathic Medical Society
Associated Medical Schools of New York
Community Health Care Association of New York State
Greater New York Hospital Association
New York State Public Health Association
Primary Care Development Corporation
IPRO

Pain Management and Medical Marijuana

Jose M David, MD FAAFP

Clinical Professor, Albany Medical College
Family Physician, Dincer & David Medical Group

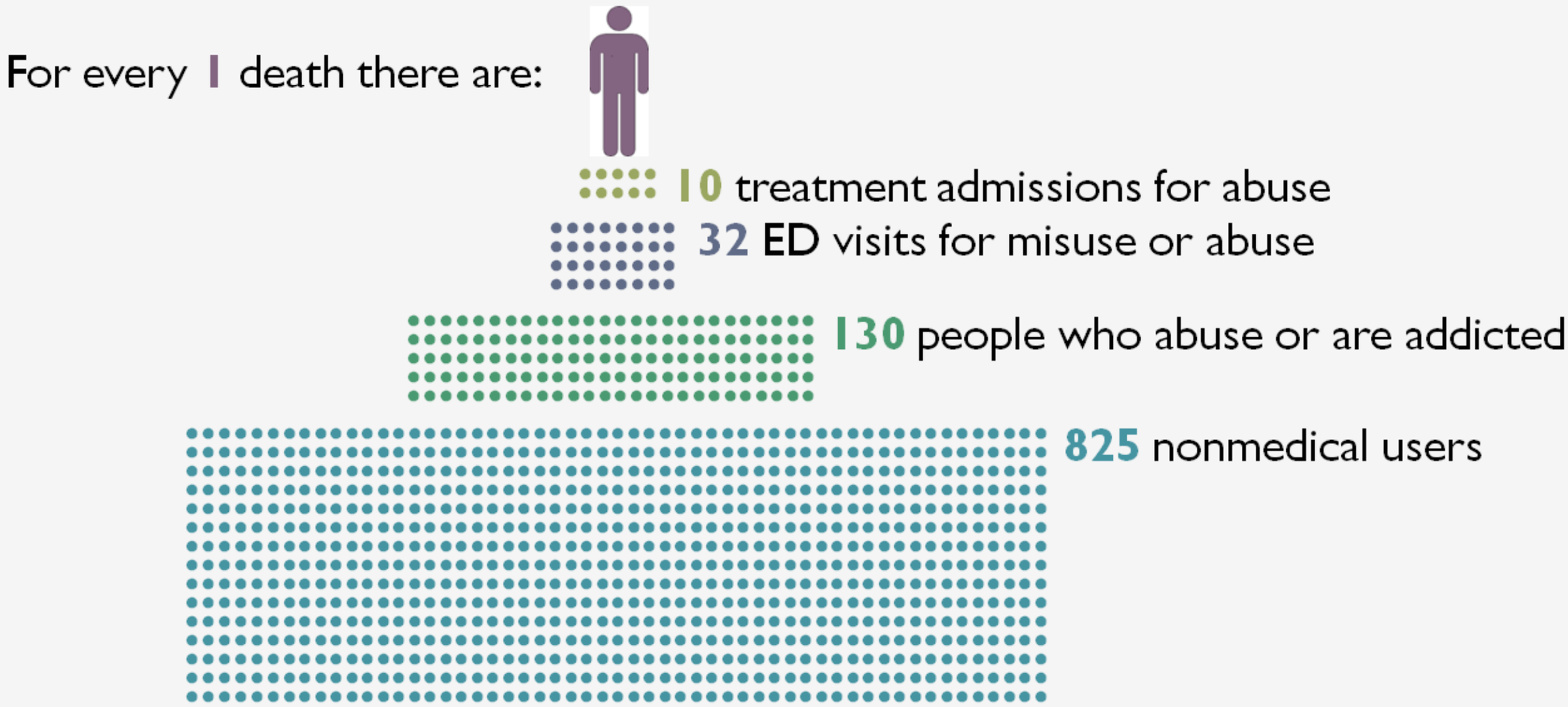
Flushing Hospital Medical Center— Medical Science Building
4500 Parsons Blvd., Flushing, NY 11355
October 30, 2017 6:30 p.m. — 8:30 p.m.

Learning Objectives

- Briefly discuss the opioid epidemic
- List significant milestones with the clinical use of marijuana
- List medical conditions for medical marijuana in New York
- List the regulatory requirements to register with the medical marijuana program and certify patients for medical marijuana in New York

Widespread Abuse and Misuse of Opioids

In 2010, there were 16,000 prescription painkiller deaths



219 million opioid prescriptions dispensed in 2011

http://www.cdc.gov/homeandrecreationalsafety/rxbrief/. Accessed Jan 2014.

33,000 deaths in the USA
69,000 deaths worldwide
First 9 months of 2016 due to prescribed and illicit use of opioids

Opioids are the single most cause of death by overdose in the world: 40.8% of all deaths

Number of deaths due to prescribed marijuana or illicit marijuana = ZER0

The Opioid Epidemic is NATIONAL.

78 people die every day from heroin & opioid overdoses in the U.S.

Source: National Vital Statistics System, Mortality file

NEW YORK STATE | Office of Alcoholism and Substance Abuse Services

New York is not immune.

1,227
2013

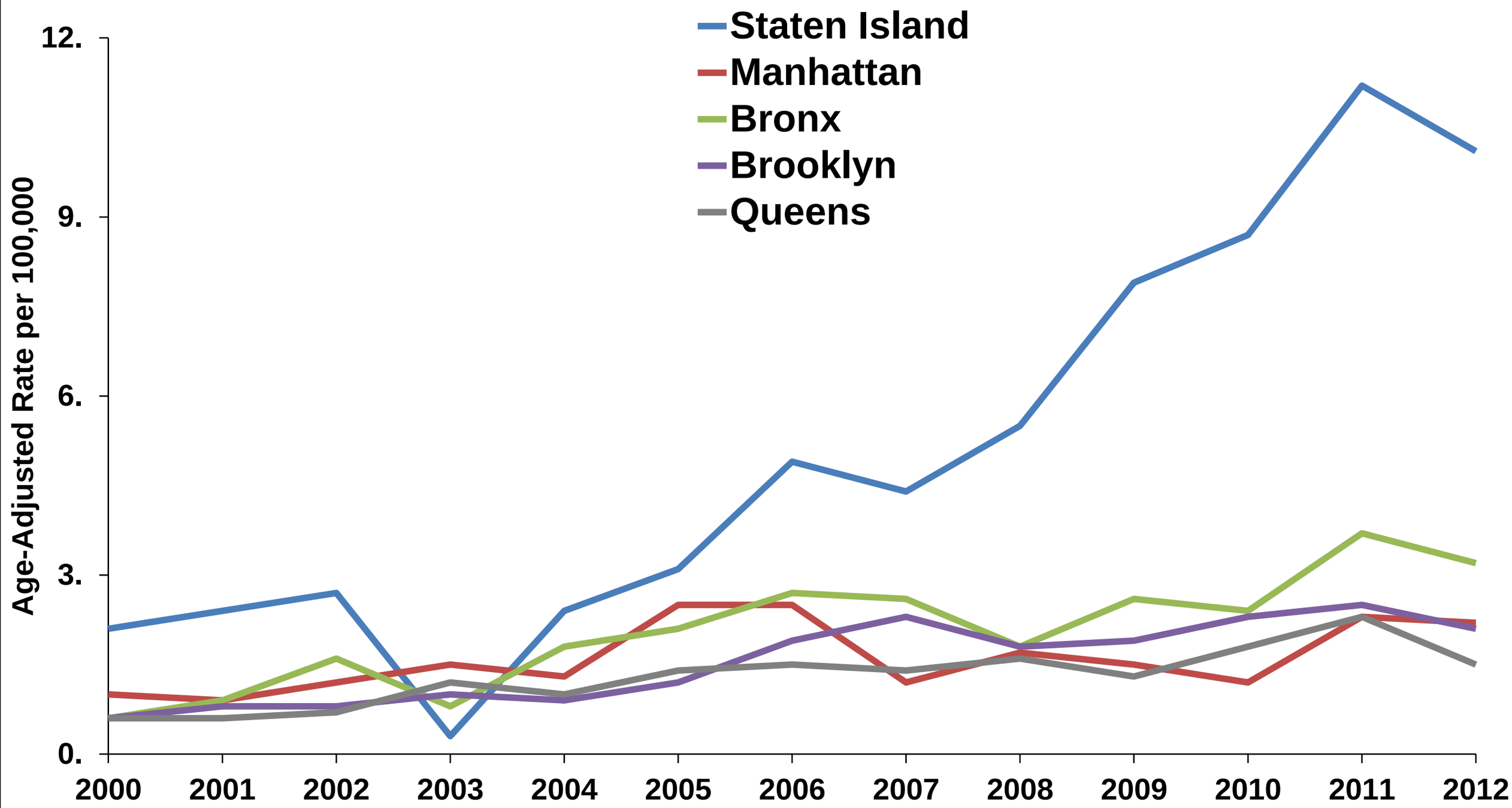
1,443
2014

NYS Heroin & Opioid Deaths

Source: NYS Department of Health

NEW YORK STATE | Office of Alcoholism and Substance Abuse Services

Increases in opioid overdose death rates are greatest in Staten Island



Source: New York City Office of the Chief Medical Examiner &
New York City Department of Health and Mental Hygiene 1999-2012

NYC Health

100

MILLION AMERICANS WITH SOME LEVEL OF CHRONIC PAIN

Prescription Opioids Serve As Gateway Drugs to Heroin

- **259 Million Opioid prescriptions were written in 2012**
- **2.6 Million Americans are addicted to opioid painkillers**
- **The US makes up 4.6 % of the world's population and consumes 81% of the world supply of oxycodone**
- **4 out of 5 heroin users started on prescription opioids**

HOW TO WE COMPARE TO OTHER COUNTRIES

How does hydrocodone demand in the US compare to other nations?

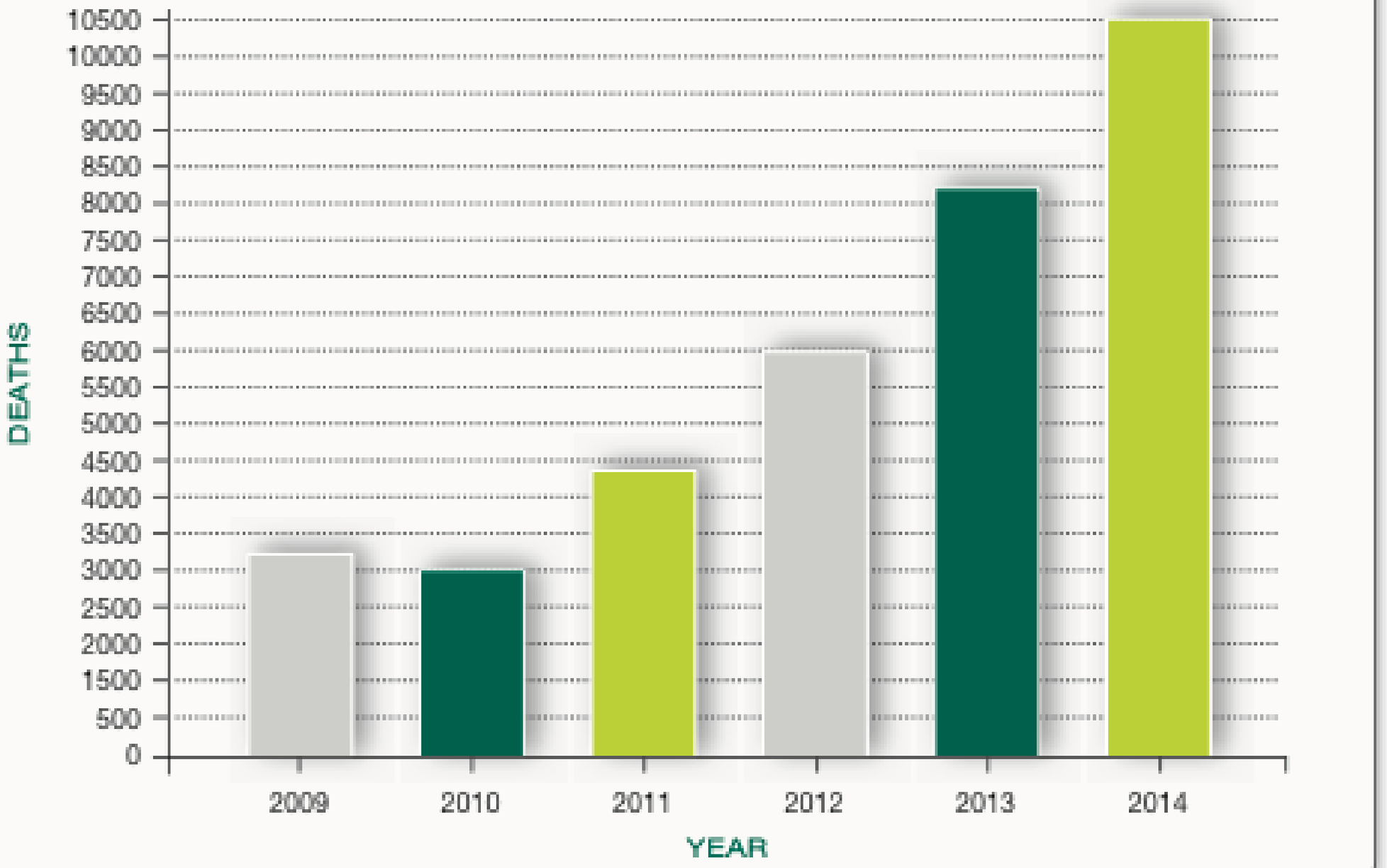
- Demand in Britain, France, Germany, Italy (combined population 264 million persons): 3,237 grams a year

- Demand in US (population 319 million persons): 27,400,000 grams a year

(Manchikati, Pain Physician, 2012)


‘Diseases of despair’ plague rural U.S.
‘You can get heroin quicker ... than you can get a pizza’
(iStock)

FIGURE 1: Heroin Deaths by Year, United States, 2009-2014



FENTANYL: The New Player in Town

FENTANYL, a synthetic opioid, is 50 times more potent than Heroin and 100 times more potent that Morphine

Credit: NHSP Forensic Lab/Bruce Taylor

We have a NEW ENEMY!! And its not CNN or the media

NEW YORK STATE | Office of Alcoholism and Substance Abuse Services

What We Are Doing For This Opioid Epidemic ?

1. **Mandatory Prescriber Education**
2. **Opioid Prescribing Guidelines**
3. **Eliminating Pill Mills**
4. **Prescription Drug Monitoring Programs**
5. **Increased Access to Naloxone**
6. **Availability of Opioid Use Disorder Treatment**

of the U.S. *(U.S. DEPARTMENT OF JUSTICE, DRUG ENFORCEMENT ADMINISTRATION, 2015)*

DEA National Forensic Laboratory Information System (NFLIS) found

states having 100 or more reports. *(U.S. DEPARTMENT OF JUSTICE, DRUG ENFORCEMENT ADMINISTRATION, 2015)*

October 2015. (GORNER, NICKEAS, & SOBOL, 2016)

FIGURE 2:

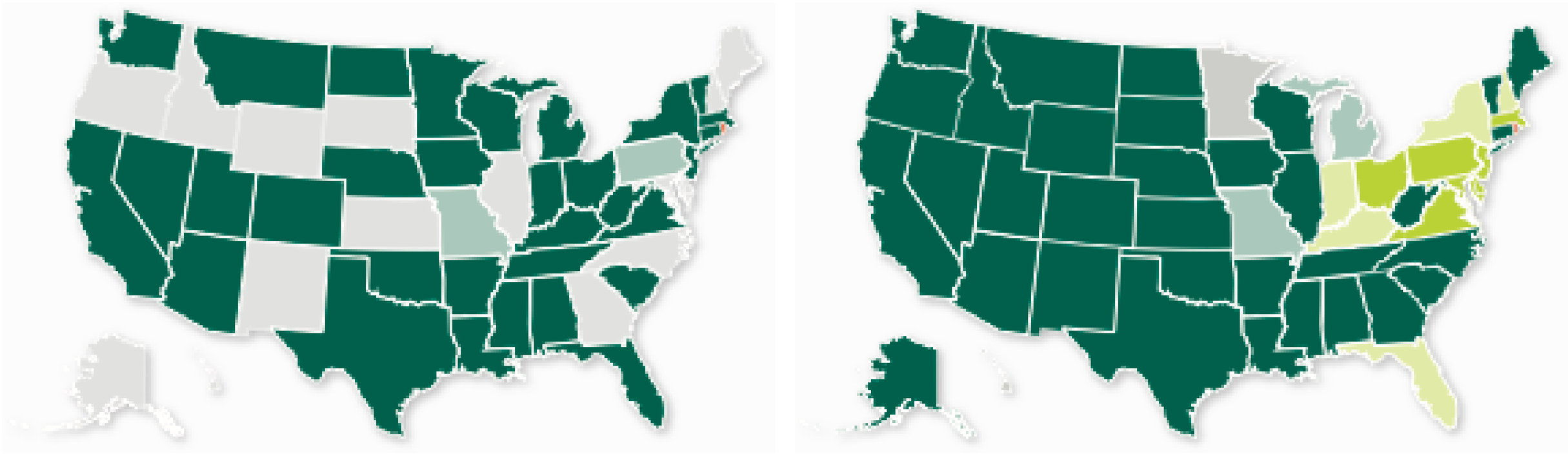
2009 Fentanyl Reports in NFLIS by State,

January - June 2009

FIGURE 3:

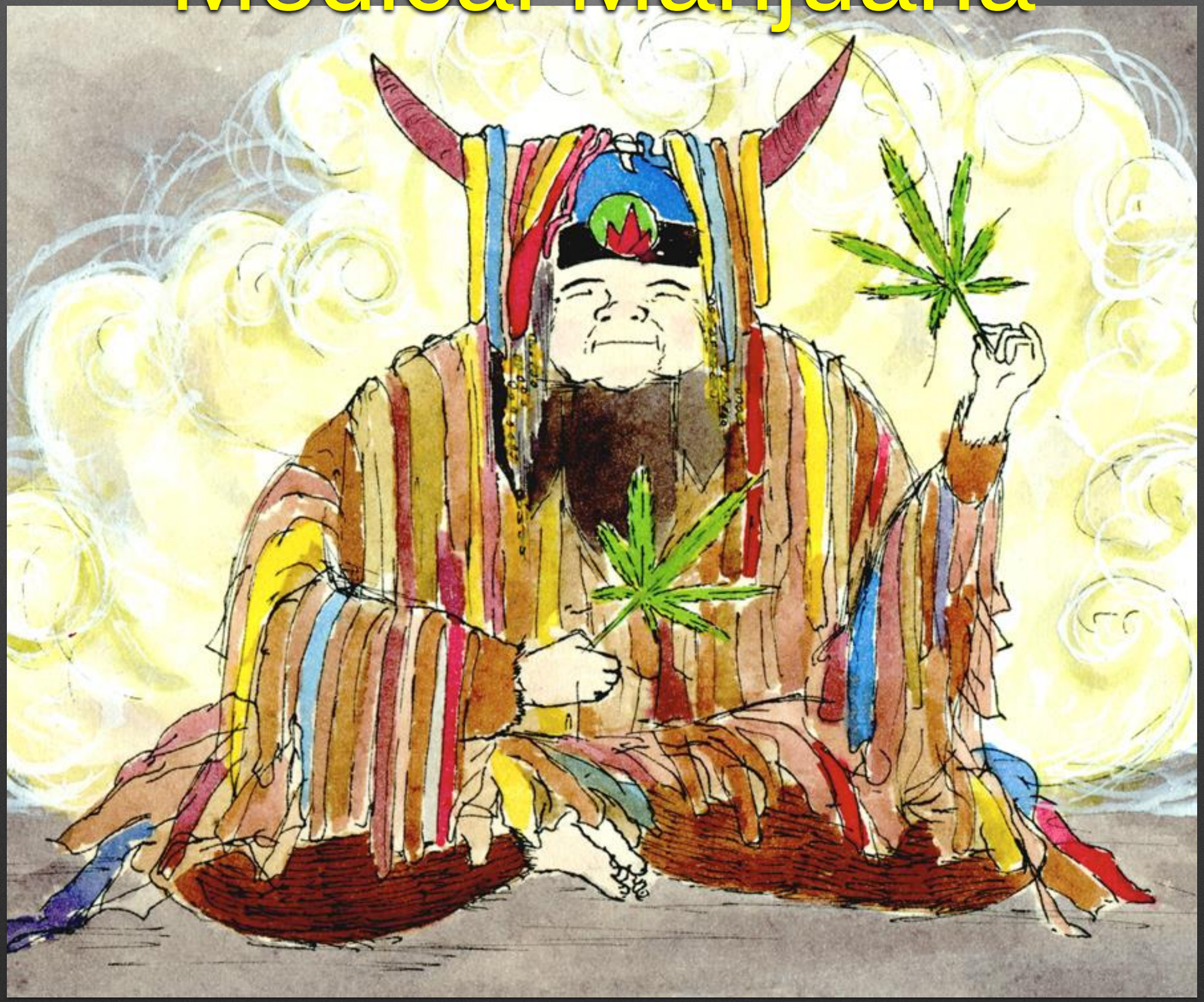
2014 Fentanyl Reports in NFLIS by State,

January - June 2014

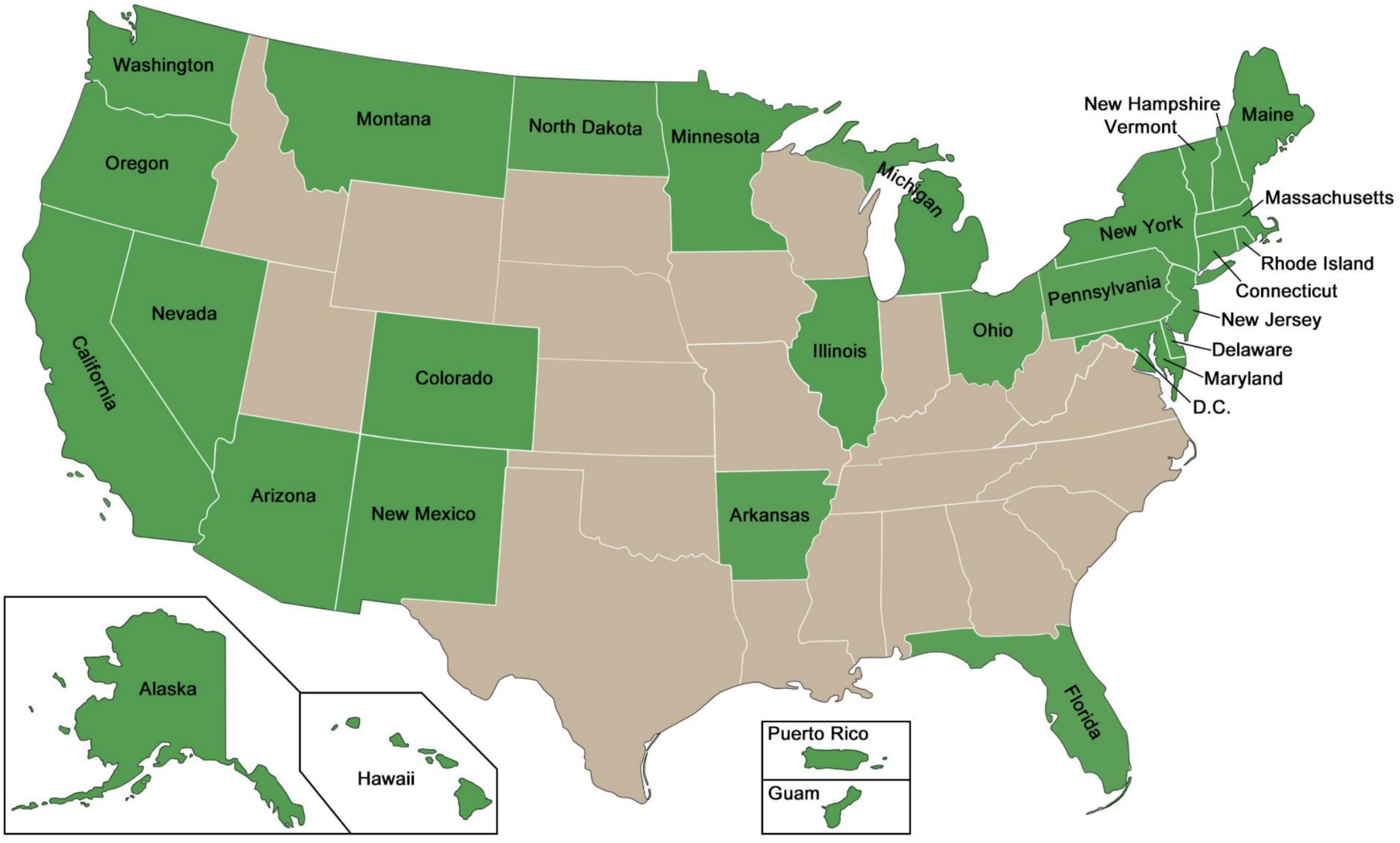


Then what non-opiate medication can we use for our chronic pain patients ?

Medical Marijuana



States and Territories in Which Cannabis is Legal for Medical Purposes



Money Morning

4 hrs ·

Popular story: Marijuana stocks in 2017 could skyrocket if these three states legalize marijuana.

Marijuana Stocks in 2017 Could Soar When These Next States Legalize

MONEYMORNING.COM | BY JACK DELANEY

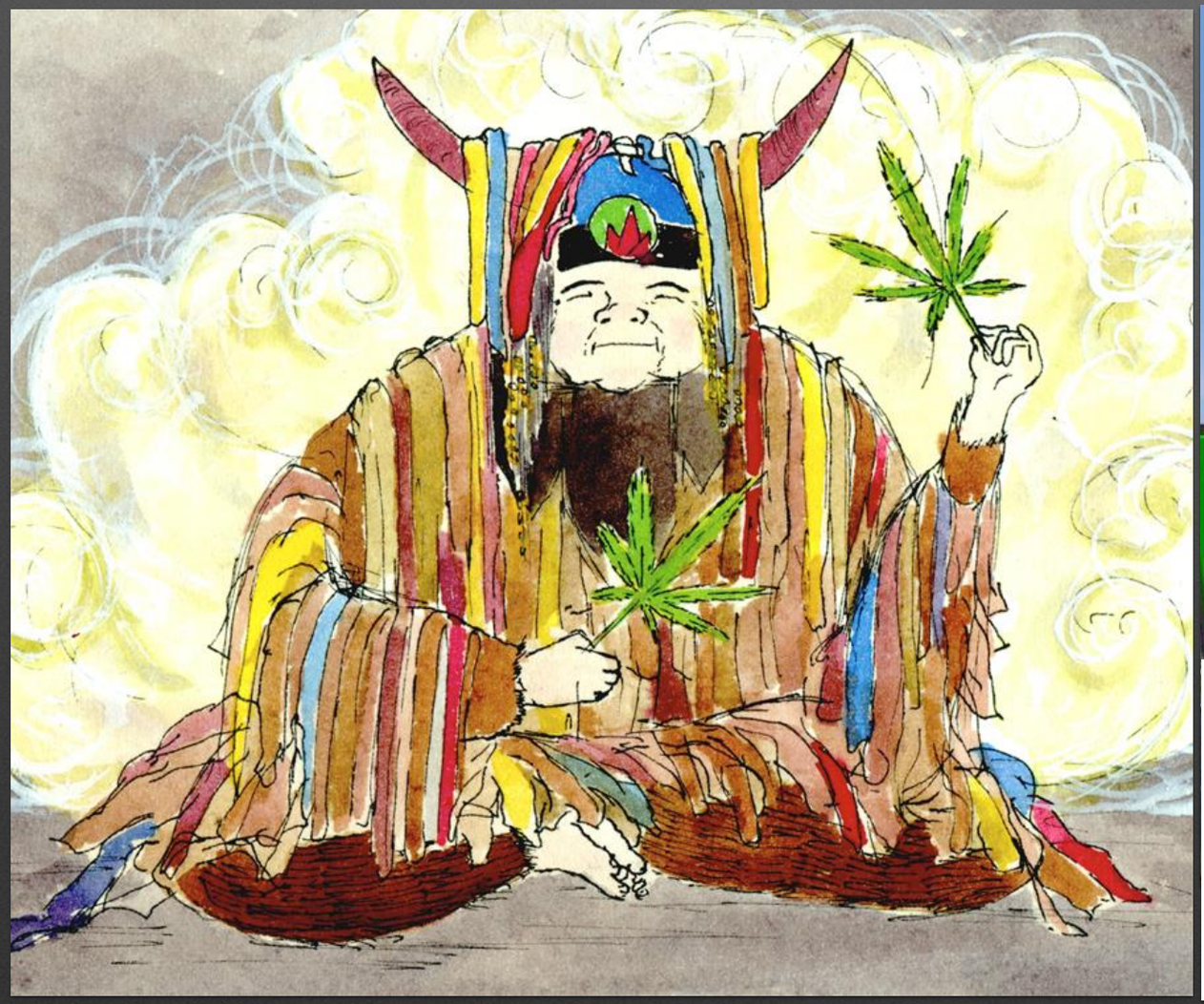
29 States Legalized Medical Marijuana including the District of Columbia

16 States Decriminalized Marijuana Use

8 States allow Recreational Marijuana Use

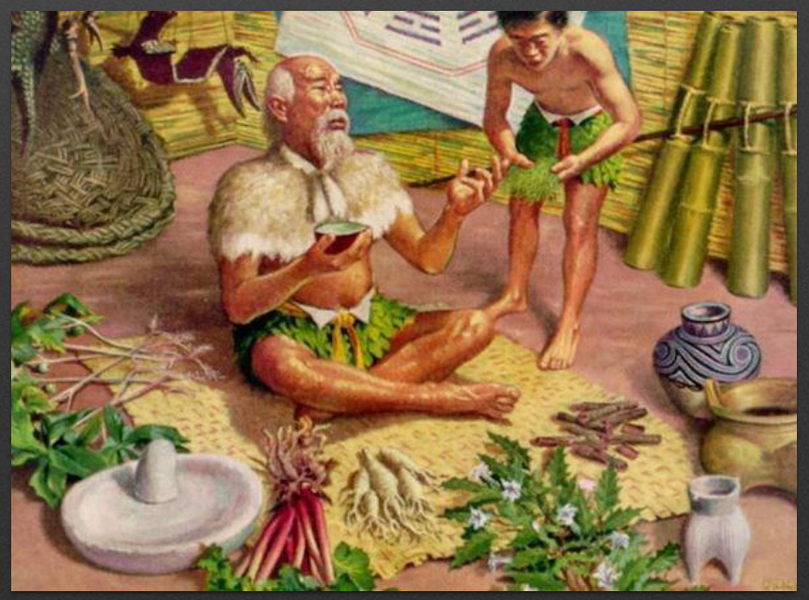

HOLLYWEED

Medical Marijuana
The Milestones



The History

The earliest dated reference to marijuana was made in Chinese literature. Emperor Fu Shi in 2900 referred to the Chinese hemp as “ Ma” and in 2737 BC, Emperor Shen Nung was said to have discovered its healing properties to treat rheumatism, gout and malaria.



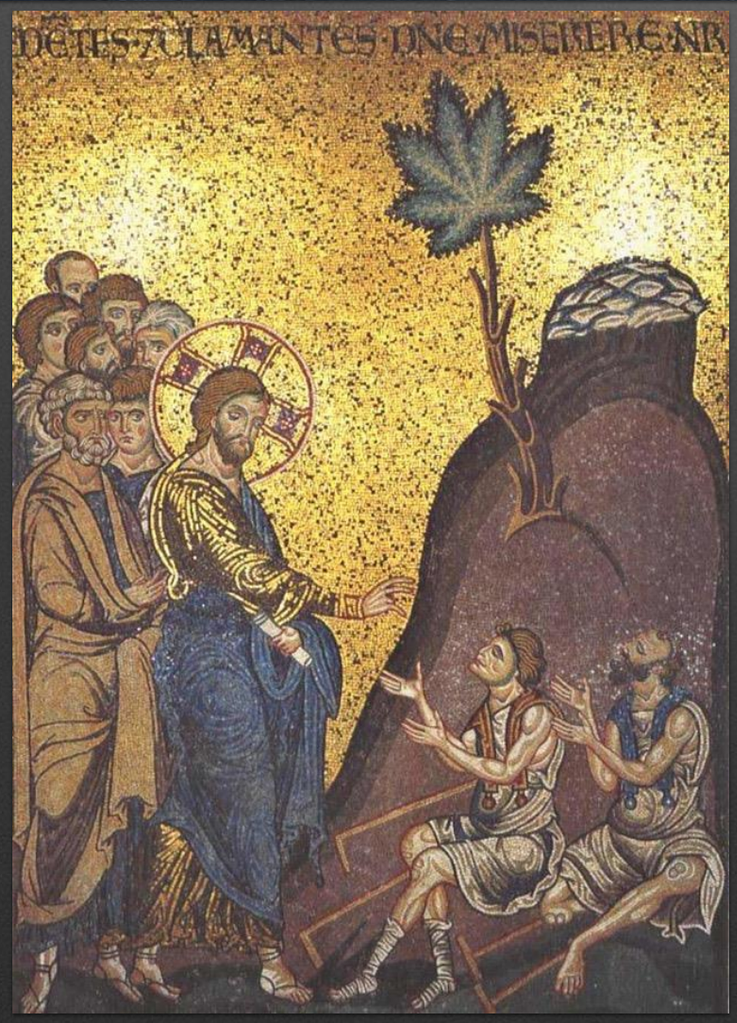
The History

1500 AD. The discovery of the Ebers Papyrus in Ancient Egypt, provided the oldest complete medical textbook and this has mentioned cannabis as treatment for gonorrhea, inflammation of the mucous membranes, pain, etc.

The History

1000 BC, BHANG was a popular drink in India, by combining milk and cannabis. It was used for many ailments but mostly for its anesthetic properties. In 600 BC, it was used to cure leprosy.

The History



Cannabis was used in Ancient Greece. In 30 AD, it was also alleged that Jesus Christ used an anointing oil made from olive oil, spices, herbs that was called kaneh-bosm, which was actually cannabis.

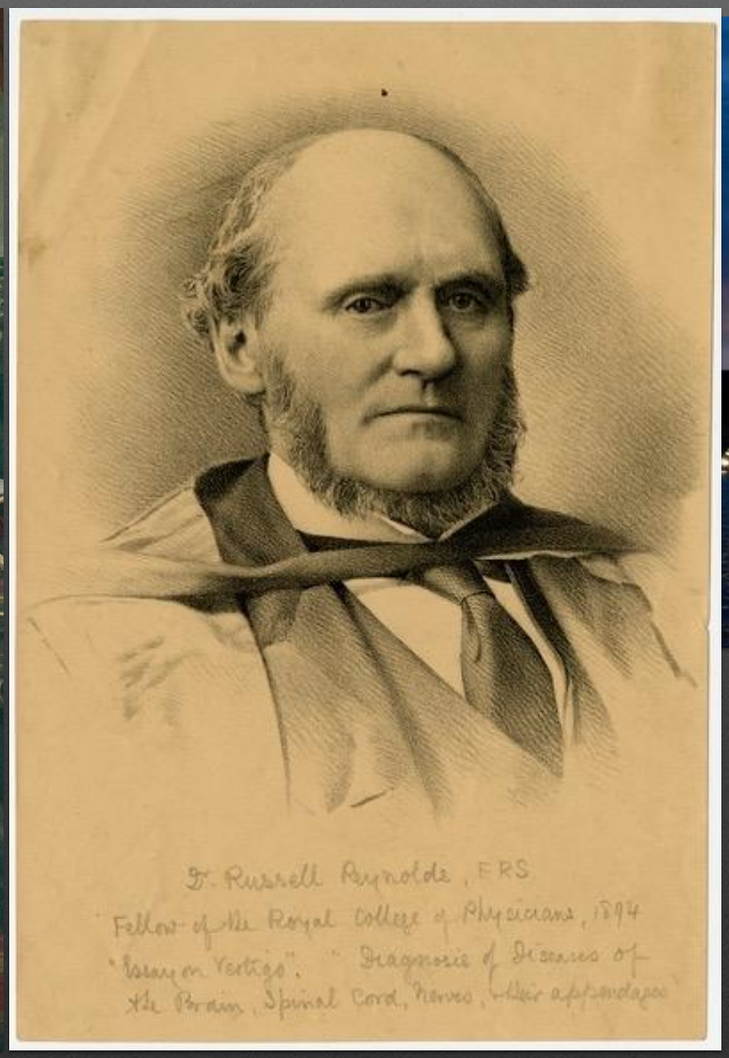
The History

The Jamestown settlers from England brought cannabis to the USA in 1611 AD and was used to treat from depression to gout. George Washington in 1750 AD, grew hemp for 30 years at his Mt Vernon plantation. He was intrigued by the plant's medicinal properties so he concentrated his efforts on the production of plants with high THC content.

The History

In 1890, Sir John Russell Reynolds, neurologist, and personal physician of Queen Victoria prescribed a cannabis tincture for the menstrual cramps of the Queen. In the issue of The Lancet Reynolds wrote “ When pure and administered carefully, (cannabis) is one of the most valuable medicine we possess.’’

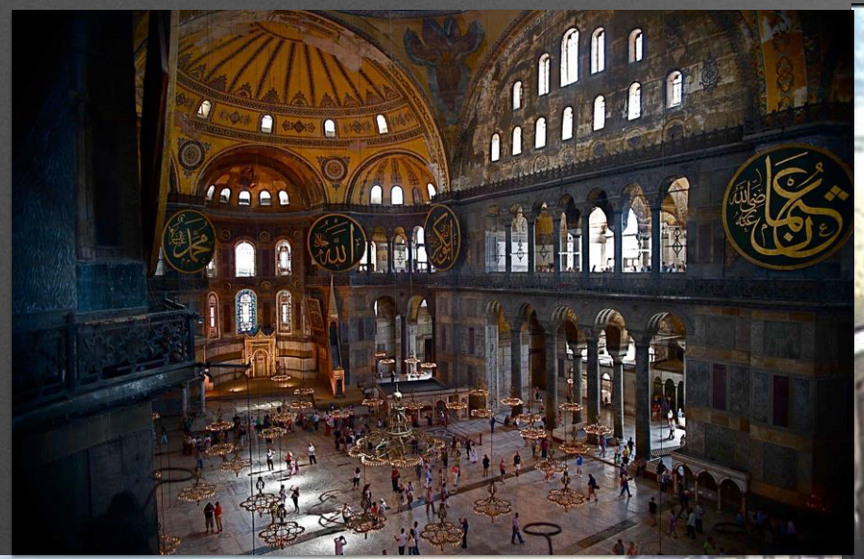
Reynolds was then the president of the British Medical Association and in 1890 published in Lancet his 30 years of experience with cannabis using it for migraines, neuralgia and dysmenorrhea.



Reynolds, Russell. Therapeutic and Toxic Effects of Cannabis Indica. Lancet 1 (March 22, 1890). 637-638 Reprinted on Mikuriya 1973. 145-149

1876: Hash Reaches America

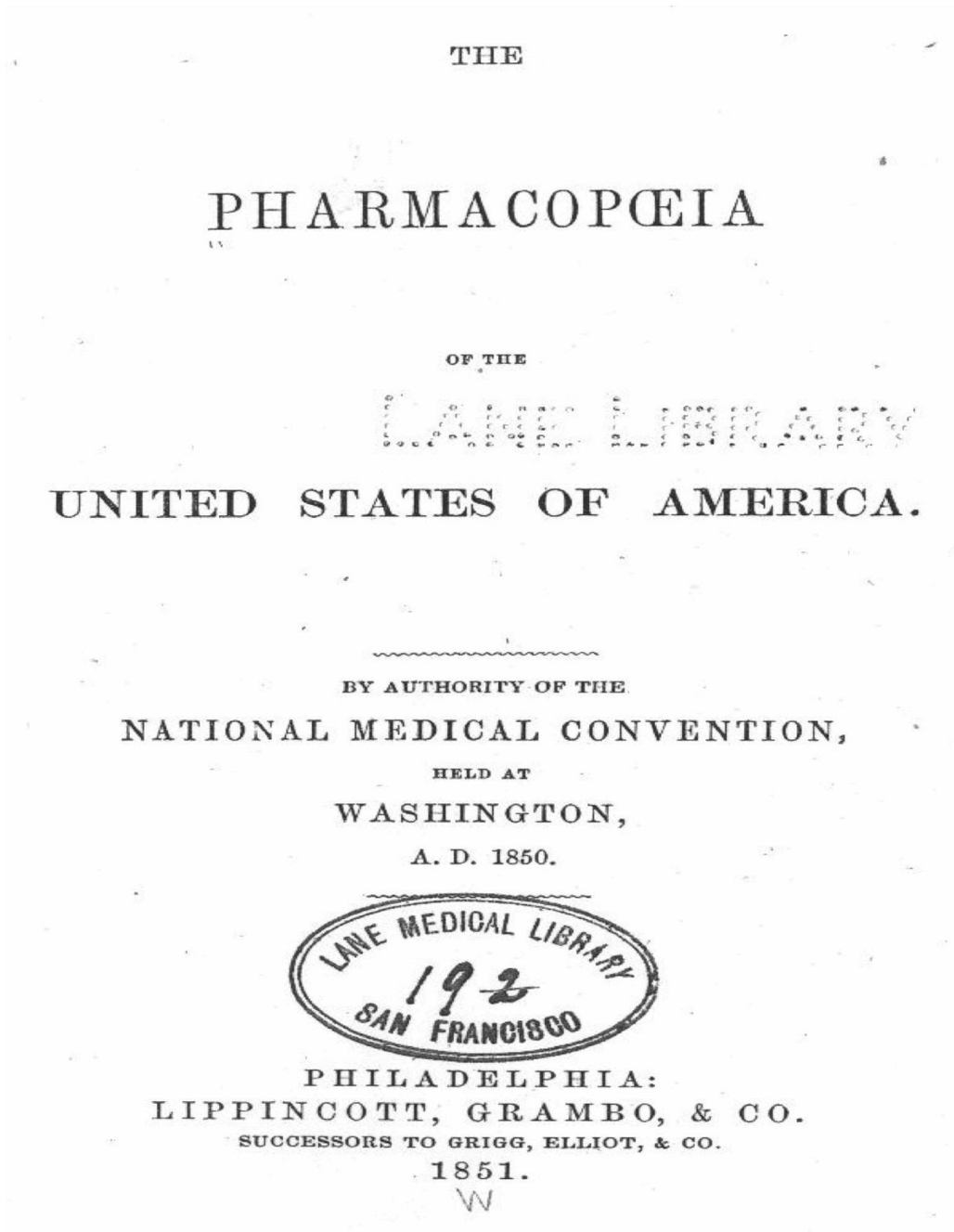
World Fairs and International Expositions featured Turkish Hashing Smoking Exhibit which became popular with the Americans



US Pharmacopeia 1851

- **Cannabis**
  - **Alcoholism**
  - **Neuralgia**
  - **Opiate Addiction**
  - **Insanity**
  - **Convulsive disorders**
  - **Gout**

- **Antiquecannabis book.com**



THE

PHARMACOPŒIA

OF THE

UNITED STATES OF AMERICA.

BY AUTHORITY OF THE

NATIONAL MEDICAL CONVENTION,

HELD AT

WASHINGTON,

A. D. 1850.

PHILADELPHIA:

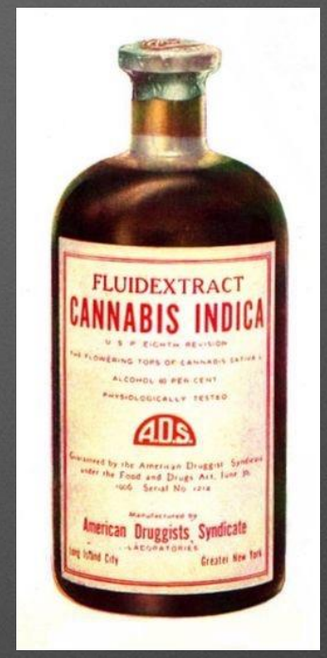
LIPPINCOTT, GRAMBO, & CO.

SUCCESSORS TO GRIGG, ELLIOT, & CO.

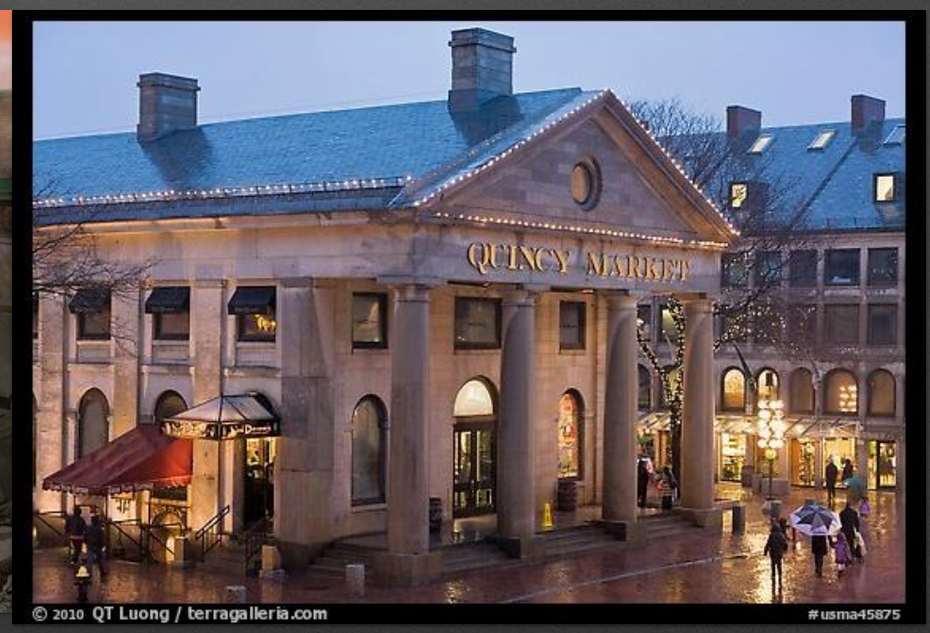
1851.

The Prohibition Era

Massachusetts First State To Outlaw Cannabis – 1911AD, NY followed in 1914.



The prohibition era began in the USA in earnest in 1910 and as well as banning alcohol, cannabis began to be outlawed in many states. Massachusetts was the first to take the step in 1911 and various states followed shortly after. The move was made in order to prevent future use and misuse of the drug rather than because of existing widespread use. Further states followed the same pattern into the 1920s.



The tax was imposed on physicians prescribing cannabis, retail pharmacist selling cannabis and medical cannabis cultivations/manufacturing.

This law was repealed by the Controlled Substances Act of 1970.

Marijuana vs Hemp

Marijuana and Hemp

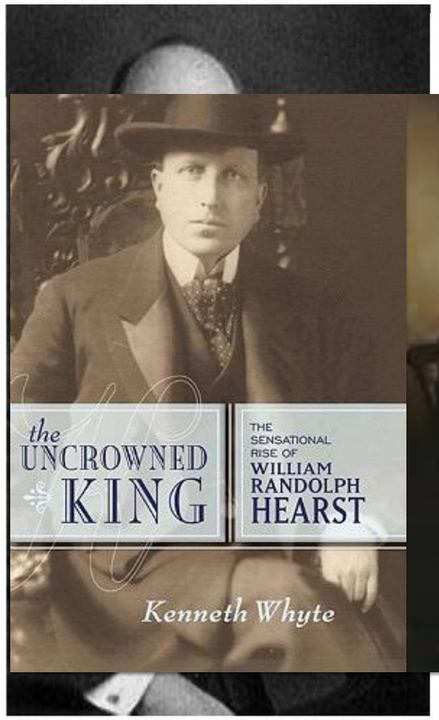
- ***Same genus – Cannabis***
- ***Same species – Sativa***

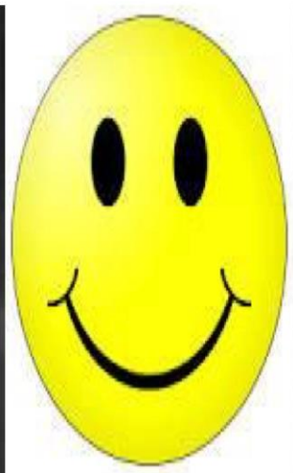
THC content

- ***Hemp - 0.3%***
- ***Marijuana - 6-20%***

The POLITICS (1896-1937)…
…and the changing of a name
Hemp to Marijuana

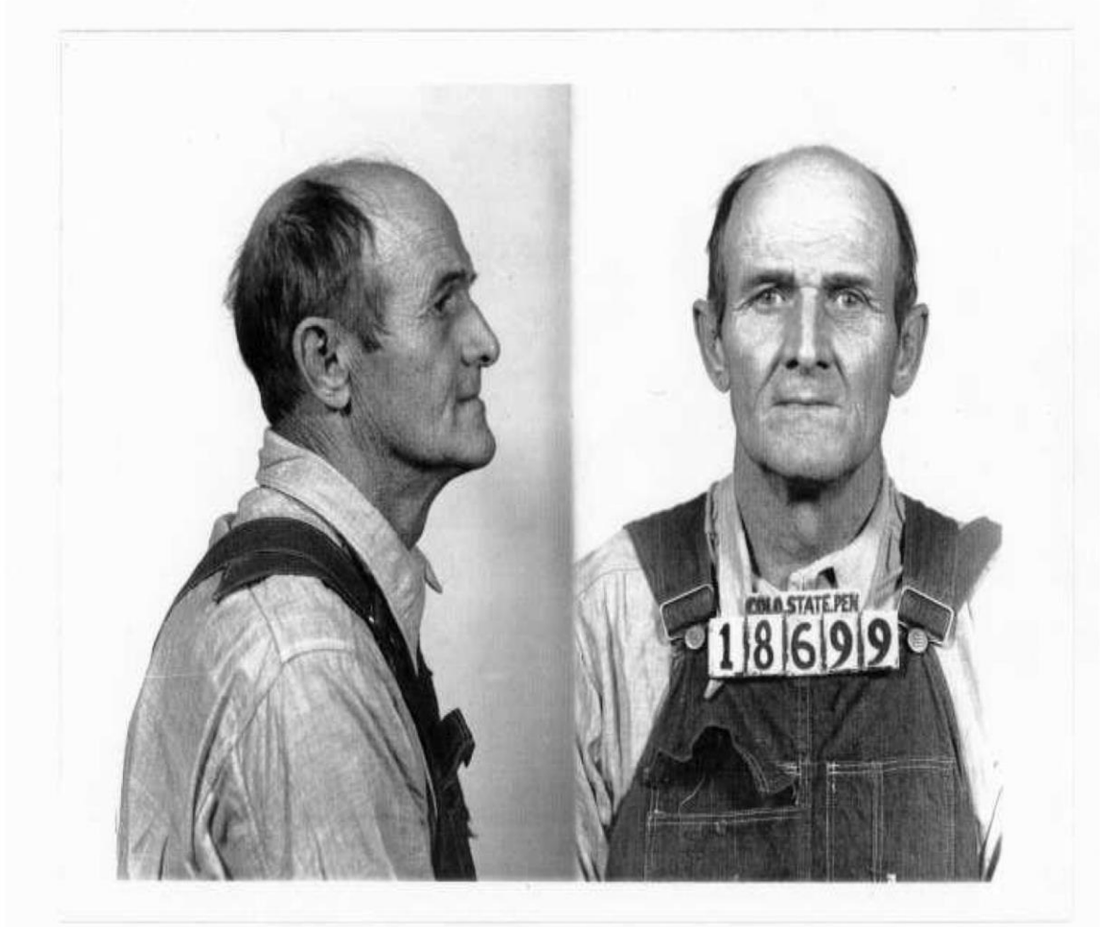
VS.





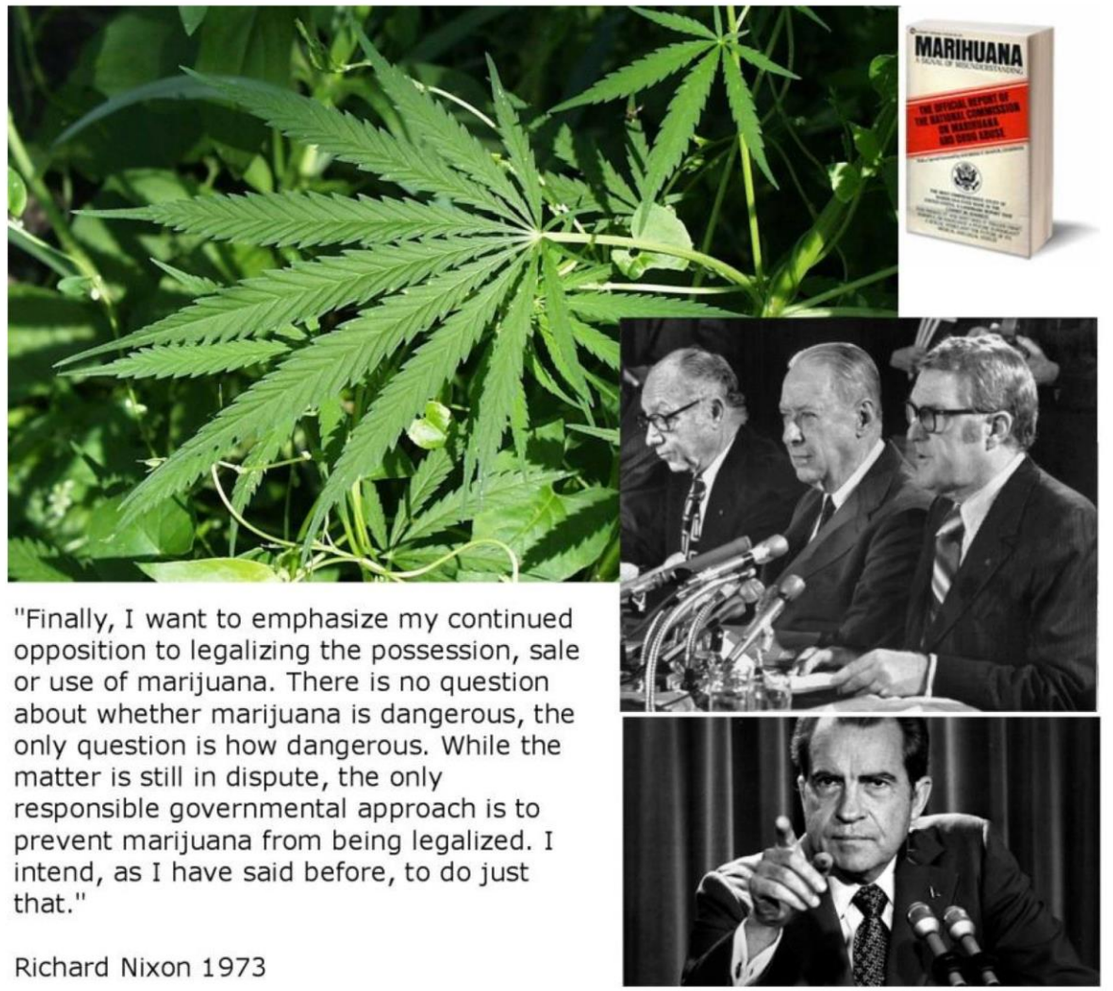
Outlaw and Regulation of Marijuana

- 1931 – 29 states outlawed marijuana
- All 48 states enacted laws to regulate marijuana
- Mr. Samuel L. Caldwell
  - 4 years of hard labor



Controlled Substance Act 1970

- **Congress passes the CSA**
- **<u>Marijuana</u>**
  - ***"No Accepted Medical Use"***
  - **Classified as Schedule 1 until further studies completed**
  - **Schafer Commission**



"Finally, I want to emphasize my continued opposition to legalizing the possession, sale or use of marijuana. There is no question about whether marijuana is dangerous, the only question is how dangerous. While the matter is still in dispute, the only responsible governmental approach is to prevent marijuana from being legalized. I intend, as I have said before, to do just that."

Richard Nixon 1973

Two US Food and Drug Administration (FDA)- approved cannabinoids : Drorabinol (Marinol) and Nabilone (Cesamet)

In 1985, FDA approved Marinol for nausea and vomiting associated with cancer chemotherapy, for appetite stimulation in wasting illnesses i.e. HIV or cancer if conventional therapies did not work.

Marinol

California : First State to Legalize Cannabis for Medicinal Use – 1996

Scientists discovered the cannabinoid receptors in the brain in 1990 and in 1996 California legalized the medicinal use of marijuana. Oregon followed suit two years later in 1998 along with Alaska and Washington.

2003 - Canada became the first country in the world to offer medical marijuana for pain

Conflicts & Controversies

1. Federal vs State Laws

The Department of Justice (DOJ) is responsible for enforcing the Controlled Substances Act of 1970 which banned and criminalized marijuana. In 2014, Congress passed the Continuing Resolution Omnibus Spending Bill that prevents the DOJ, including the FBI from interfering with state medical marijuana laws.

2. Banking Laws

Federally regulated banks are prohibited by law to open accounts for state licensed marijuana companies. Some companies just open bank accounts with state chartered institutions.

3. Tax Laws

An illegal business is subject to tax on its income in the same manner as any legal business would be and is entitled to the same business deductions as are available to a legal business. However, ordinary and business deductions under Section 280 E — are disallowed.

The business owner will be taxed on its gross income and may not deduct what are clearly business expenses, such as rent and employee salaries

Medical Marijuana in New York State

03-26-2013	Assemblyman Gottfried introduces the Bill
06-19-2014	Approved by the House and the Senate
06-24-2014	Delivered to Governor Andrew Cuomo
07-05-2014	Signed in law by Governor Andrew Cuomo. This is referred to the Compassionate Care Act to provide a comprehensive, safe and effective medical marijuana program that meets the needs of the New Yorkers.
7-31-2015	Five organizations awarded registrations to manufacture and dispense medical marijuana.
01-07- 2016	Official start date for the program with 10 clinical conditions allowed for medical marijuana.
11-29-2016	Nurse practitioners included as practitioners
03-15-2017	Physician assistants included as practitioners
03-22-2017	Chronic Pain was added as a qualifying clinical condition for medical marijuana
08-1-2017	Five additional registered organizations were approved

10-17-2017 Registered patients: 33,283
Certified Practitioners: 1, 274

Rohrabacher, Farr Hail Medical Marijuana Amendment

Dec 16, 2014 | Press Release

WASHINGTON – Reps. Dana Rohrabacher and Sam Farr, bo
congressional colleagues for including their co-sponsored m
final passage over the weekend of the government funding
President Obama's desk.

The amendment would require the federal government to respect state sovereignty over medical marijuana, depriving the Department of Justice of taxpayers' dollars to prevent states from carrying out their medical marijuana laws. Thirty-two states and the District of Columbia are listed in the amendment as having legalized marijuana or its ingredients for medical purposes.

The bipartisan amendment had a dozen co-signers – six Republicans and six Democrats.

Rohrabacher, a Republican who represents coastal Orange County, said, "The enactment of this legislation will mark the first time in decades that the federal government has curtailed its oppressive prohibition of marijuana and has instead taken an approach to respect the many states that have permitted the use of medical marijuana to some degree."

Farr, a Democrat who represents California's Central Coast, said, "When the House first passed this measure back in May we made headlines; today we made history," said Farr. "The federal government will finally respect the decisions made by the majority of states that passed medical marijuana laws. This is a great day for common sense because now our federal dollars will be spent more wisely on prosecuting criminals and not patients."

Congress Passes Three Month Budget Continuation – Marijuana Protections Included

by Justin Strekal, NORML Political Director

September 11, 2017

Comments

In a quick deal between President Trump and Congress, a three-month budget continuing resolution will be in effect until December 8, 2017, maintaining current spending levels.

While this seems mundane (it is), it is important for marijuana policy because it guarantees a temporary extension of the Rohrabacher-Blumenauer protections for lawful medical marijuana programs from Attorney General Jeff Sessions.

In context, this comes on the heels of the House Rules Committee, led by prohibitionist Representative Pete Sessions (R-TX), blocking multiple amendments related to marijuana from receiving consideration by the full House earlier this week, thus ending their consideration for the 2018 House CJS Appropriates bill.

Amendments included: ending the federal incentive to revoke drivers licenses from those charged with marijuana offenses; protections for states that have implemented hemp programs; a reduction in fundin for the DEA's cannabis eradication program; expanded access to researchers; protections for banks to provide services to marijuana businesses; allowing the District of Columbia to implement adult-use sales, and expanded protections to the eight states that have outright legalized marijuana.

Definition of Serious Condition

Patients with one of the following severe debilitating or life-threatening conditions:

- Cancer
- Chronic Pain (added 3/22/2017)
- HIV positive status or AIDS
- Amyotrophic Lateral Sclerosis (ALS)
- Parkinson's Disease
- Multiple Sclerosis
- Spinal cord damage with objective indication of intractable spasticity
- Epilepsy
- Inflammatory Bowel Disease
- Neuropathies
- Huntington's Disease

AND

Definition of Serious Condition

- The condition is clinically associated with cachexia, severe or chronic pain, severe nausea, seizures or severe or persistent muscle spasms.

- The Commissioner of Health may add other serious conditions.

Definition of Serious Condition

Chronic Pain (Effective 3/22/2017) is defined as:

- Any severe debilitating pain that degrades health and functional capability;

- the patient has contraindications and experienced intolerable side effects or has failed one or more therapeutic options; and

- there is documented medical evidence of such pain having lasted three months or more beyond onset or the practitioner reasonably anticipates such pain to last three or more months be beyond onset.

Marijuana as Medicine

DrugFacts

Revised April 2017

Español PDF (813KB)

What is medical marijuana?

More DrugFacts

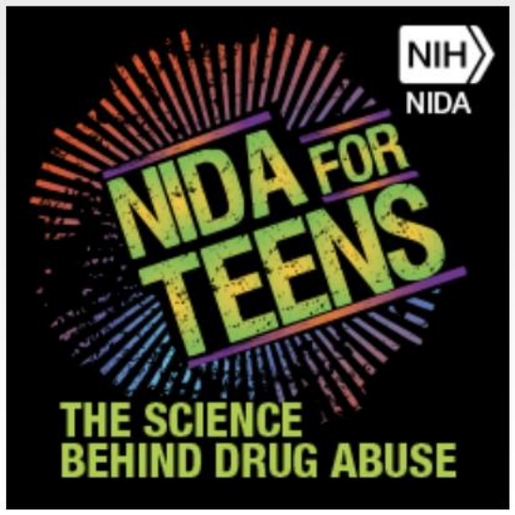
- Health Effects of Specific Drugs
- Effects of Drug Abuse
- Survey Data
- Prevention and Treatment

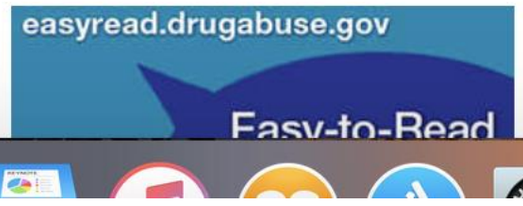
Photo by ©Shutterstock.com/Atomazul

The term *medical marijuana* refers to using the whole, unprocessed marijuana plant or its basic extracts to treat symptoms of illness and other conditions. The U.S. Food and Drug Administration (FDA) has not recognized or approved the marijuana plant as medicine.

Cite this article

Additional Drug Facts





The Evidence

Literature search from 1948 to January 2016 using MEDLINE
Searched terms: cannabis, cannabinoids, tetrahydrocannabinol, with limits used : administration, dosage, therapeutic trial or clinical trial

562 articles

The Evidence

40 clinical trials of marijuana and cannabinoids published - strongest evidence so far for its use for chronic pain, neuropathic pain and spasticity associated with multiple sclerosis.

MS patients claims at least 20% reduction in symptoms - data from studies done in 11 countries.

Benbadis, S.R. et al. Medical Marijuana in Neurology. Expert Review of Neurotherapeutics. Vol 14 No 12 pp.1453-1465. 2014.

The American Academy of Neurology (AAN) published evidence based guidelines that recommended an oral cannabis extract containing both THC and cannabidiol as having the highest level of empirical support as treatment for spasticity and pain associated with MS.

Yadav V, Bever C Jr, Bowen J et al. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis: report of the guideline development subcommittee of the American Academy of Neurology. Neurology. 2014: 82 (12): 1083-1092.

The Evidence

AAN also published a systematic review of medical marijuana as a treatment for neurological disorders and suggested *Nabiximols,* a oromucosal spray containing both THC and cannabidiol, as effective in treating spasticity, central pain and urinary dysfunction associated with MS.

Dronabinol - is also an effective treatment for spasticity and central pain associated with MS.

Yadav V, Bever C Jr, Bowen J et al. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis: report of the guideline development subcommittee of the American Academy of Neurology. Neurology > 2014: 82(12) : 1083-1092.

Center for Behavioral Health Statistics and Quality. National Survey on Drug Use and Health. Rockville MD: Substance Abuse and Mental Health Services Administration, 2013.

More than 150 peer reviewed studies

High Quality Randomized Controlled Clinical Trials About Efficacy of Cannabis on Pain

- Wilsey B, et al. A Randomized placebo-controlled, crossover trial of cannabis cigarettes in neuropathic pain. J Pain 9:506-521, 2008
- Ellis RJ, et al. Smoked medical cannabis for neuropathic pain in HIV: A randomized, crossover clinical trial. Neuropsychopharmacology 34: 672-680, 2009
- Wallace MS et al. Efficacy of inhaled cannabis on painful diabetic neuropathy. J Pain 16: 616-627, 2015
- Ware MA, et al. Smoked cannabis for chronic neuropathy pain: A randomized controlled trial. CMAJ 182: E694-E701, 2010
- Abrams DI, et al. Cannabis in painful HIV-associated sensory neuropathy: A randomized controlled trial. Neurology 68: 515-521, 2007

“Effective therapeutic options for patients living with chronic pain are limited”

- A systematic review of 18 randomized controlled trials (RCTs) with a total of 766 participants with chronic non-cancer pain found that 15/18 trials showed a significant analgesic effect of cannabinoids, compared to placebo.
- Conditions studied included neuropathic pain, “chronic pain”, rheumatoid arthritis, fibromyalgia and central pain in multiple sclerosis.
- No serious adverse events were reported

Lynch and Campbell, Br J Clinical Pharmacology, 2011

- Patients are far less likely to become addicted to opiate pain relievers in jurisdictions that permit medical marijuana (Data compiled by RAND Corp in 2015)

- Opioid-related overdose deaths fell 20% in the first year following implementation of legalized marijuana. Declined by as much as 33% by the 6th year. (JAMA, 2014)

- States with medical cannabis laws had a 24.8 % lower mean annual overdose mortality rate compared with states without medical cannabis laws (Bachhuber, 2014)

SYNERGY WITH OPIOIDS

Individuals with chronic pain requiring opioids (musculoskeletal, post-traumatic, arthritic, peripheral neuropathy, cancer, fibromyalgia, migraine, MS, sickle cell disease, TOS).

Table 1 Participant characteristics

	Morphine group	Oxycodone group
n	10	11
Women	4	6
Caucasian	8	9
Mean age (range)	42.9 (33–55)	47.1 (28–61)
Mean opioid dose (mg) (range)	62 Twice daily (10–200)	53 Twice daily (10–120)
Mean pain score day 1 (95% CI)	34.8 (29.4, 40.1)	43.8 (38.6, 49.1)

CI, confidence interval.

Table 2 Pain by study day

		Day 1	Day 5	Difference	Percentage change
	n	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Overall	21	39.6 (35.8, 43.3)	29.1 (25.4, 32.8)	−10.7 (−14.4, −7.3)	−27.2 (−45.5, −8.9)
Morphine	11	34.8 (29.4, 40.1)	24.1 (18.8, 29.4)	−11.2 (−16.5, −6.0)	−33.7 (−63.8, −3.5)
Oxycodone	10	43.8 (38.6, 49.1)	33.6 (28.5, 38.6)	−10.3 (−14.8, −5.8)	−21.3 (−47.0, 5.3)

CI, confidence interval.

Synergistic effects with opioids, providing pain relief with lower opioid doses and with less side effects. Did not change opioid blood levels.

(Abrams, 2011)

PATIENTS WITH CHRONIC PAIN SUCCESSFULLY SUBSTITUTE MEDICAL CANNABIS FOR OPIOIDS

- Online survey of 244 medical cannabis patients with chronic pain to examine whether medical cannabis changed individual patterns of opioid use
- N=184 analyzed
- Found that cannabis was associated with
  - Decrease in opioid use (64%)
  - Improved quality of life (45%)

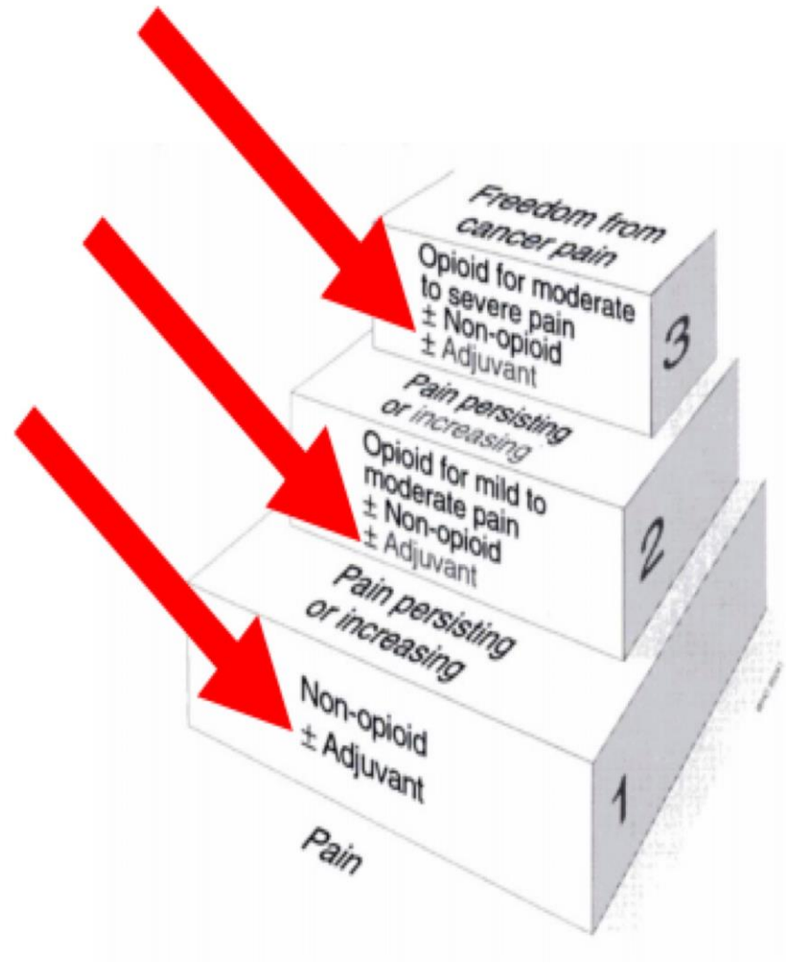
Medication type	Use before initiation of cannabis (n/N)	Use after initiation of cannabis (n/N)
Opioids	119/184 (65%)	33/184 (18%)
NSAIDs	115/184 (62%)	38/184 (21%)
Disease-modifying antirheumatic drugs (DMARDs)	15/184 (8%)	3/184 (2%)
Anti-depressants	72/184 (39%)	25/184 (14%)
Serotonin–norepinephrine reuptake inhibitors (SNRIs)	13/184 (7%)	3/184 (2%)
Selective serotonin reuptake inhibitors (SSRIs)	34/184 (18%)	8/184 (4%)
Other	69/184 (38%)	40/184 (22%)

NOTE. Study participants reported using fewer medication classes of all categories after initiation of cannabis.

(Boehnke, Journal of Pain, 2016)

CANNABIS IS A BENEFICIAL ADJUVANT ON ALL STEPS OF ANALGESIC LADDER

- Synergistic actions between cannabinoids and opioids can lower dose of opioids needed to control pain
- Cannabis-based medicine containing both THC and CBD appears to be more effective and better tolerated than synthetic THC (dronabinol)
- Modified WHO analgesic ladder includes cannabinoids as adjuvant medications that may be considered at all steps of treatment of cancer or other chronic pain [1]



(Vargas-Schaffer, Can Fam Phys, 2010)

Two Anecdotal Cases

Michael is 64 years old WM, dx in 2012 with Stage IV Glioblastoma. Had Sx and chemoradiation with low dose Temodar. He has been smoking marijuana to help his occasional headaches and done very well. No recurrence of the tumor.

Stacie is 55 years old with WF with chronic abdominal pain from adhesions, irritable bowel syndrome, GERD, etc and she stopped going to GI since none of the medications helped. She found something better which worked - smoking marijuana. Now she is on medical marijuana.

Psychiatric Adverse Effects

Meta-analysis of 31 studies involving 112,000 individuals has found a positive association between anxiety disorder and cannabis usage

Multiple studies shows modest increment in the risk of developing depression. It might also increase the severity and duration of maniac symptoms with bipolar disorder.

K.K.Kedzior and L.T. Laeber. A positive association between anxiety disorders and cannabis use or cannabis use disorders in the general population—a meta-analysis of 31 studies. BMC Psychiatry, Vol 14, No 1, article 136, 2014.

Lev-Ran, S. et al. The association between cannabis use and depression: a systematic review and meta-analysis of longitudinal studies. Psychological Medicine. Vol 44. No. 4 pp 797-810. 2014

Degenhardt, L et al. Exploring the association between cannabis use and depression. Addiction. Vol 98. No 11. pp 1493-1504. 2003.

Marmorstein, N.R. et al. Explaining associations between cannabis use disorders in adolescence and later major depression: a test of the psychosocial failure model. Addictive Behaviors. Vol 36 No 7 pp.773-776.
2011.

Psychiatric Adverse Effects

Cannabis usage is associated with a twofold increment in the risk of acquiring schizophrenia and corresponding fourfold increase in the risk of psychosis. Studies show global, positive and disorganized schizo-typical personality traits and *elevated risk of suicide* in those with or without psychosis.

Arseneault, L et al. Causal association between cannabis and psychosis: examination of the evidence. The British Journal of Psychiatry. Vol 184. pp 110-117. 2004

Large, M. et al. Cannabis use and earlier onset of psychosis: a systematic meta-analysis. Archives of General Psychiatry. Vol 68, No 6, pp 555-561. 2011

Van der Meer, F.J. et al. “ Cannabis use in patients at clinical risk of psychosis: impact on prodromal symptoms and transition to psychosis. Current Pharmaceutical Design. Vol 18. No 32 pp 5036-5044. 2012.

Szoke, A. et al. Association between cannabis use and schizo-typical dimensions—a meta-analysis of cross-sectional studies. Psychiatry Research, Vol 219. No 1 pp 58-66, 2014.

Serafini, G. et al. Can cannabis increase the suicide risk in psychosis ? A Critical review/ Current Pharmaceutical Design. Vol 18. No 32. pp 5165-55187. 2012

Other Medical Adverse Effects

Cannabis Induced Arteritis

Nahas, G. Cannabis Arteritis. the New England Journal of Medicine. Vol 284, No 2 Article 1113. 1971

Thomas, G et al. Adverse cardiovascular, cerebrovascular, and peripheral vascular effects of marijuana inhalation: what cardiologist need to know. The American Journal of Cardiology, Vol 113. No 1, pp. 187-190. 2014

Cannabis Induced Posterior Circulation Stroke

Wolff, V et al. Cannabis use, ischemic stroke, and multifocal intracranial vasoconstriction: a prospective study in 48 consecutive young patients. Stroke. Vol 42. No 6, pp. 1778-1780. 2011

Chronic Cough, bullous emphysema, and COPD

Tashkin, D. P. Airway effects of marijuana, cocaine and other inhaled illicit agents/ Current Opinion in Pulmonary Medicine.Vol 7, No 2 pp 43-61. 2001

Taskin, D. P. Pulmonary complications of smoked substance abuse. Western Journal of medicine. Vol 152, No 5 5 pp 525-530. 1990.

Cannabis Hyperemesis Syndrome

Galli, J. et al. Cannabinoid Hyperemesis Syndrome. Current Drug Abuse Reviews.Vol 4 No 2, pp 241-249. 2011

Adipose tissue insulin resistance, pancreatitis

Muniyappa, R. et al. Metabolic Effects of Chronic Cannabis smoking. Diabetes Care. Vol 36 No 8, pp 2415-2422. 2013

Grant, P et al. A case of cannabis-induced pancreatitis. Journal of the Pancreas. Vol 5 No1 pp. 31-33. 2004

Other Adverse Effects of Marijuana

- Impaired short term memory
- Impaired motor coordination
- Poor judgement
- High risk for motor vehicle crash
- Paranoid ideations, psychotic symptoms
- Highly Addictive - causes problems in work, school or relationships in about 9% of adults and 17 % of adolescent users
- Associated with anxiety, depression and psychotic illness, poor school performance, lower income usually with increased likelihood of requiring socioeconomic assistance, unemployment, criminal behavior and decreased satisfaction with LIFE.
- Regular use also prone to respiratory infections and chronic bronchitis
- May cause myocardial infarctions, stroke, and peripheral vascular disease

Marijuana and Public Health

Language: English (US)

Marijuana is the most commonly used illegal drug in the United States, with 22.2 million users. Other common names for marijuana are weed, pot, or cannabis.[a]

We know that marijuana use may have a wide range of health effects on the body and brain.

We have **strong** evidence that marijuana use may lead to:

- Addiction.[b]
- Breathing problems, including inflammation of the airways and symptoms of chronic bronchitis, such as daily cough and phlegm.
- Short-term declines in memory, attention, and learning.
- Increased risk of poisoning among children.
- Increased risk for low birth weight in babies when a mother uses during her pregnancy [PDF 229KB].
- Increased risk for psychosis or schizophrenia.

Learn about the health effects of marijuana.

We have **some** evidence that marijuana use may also lead to:

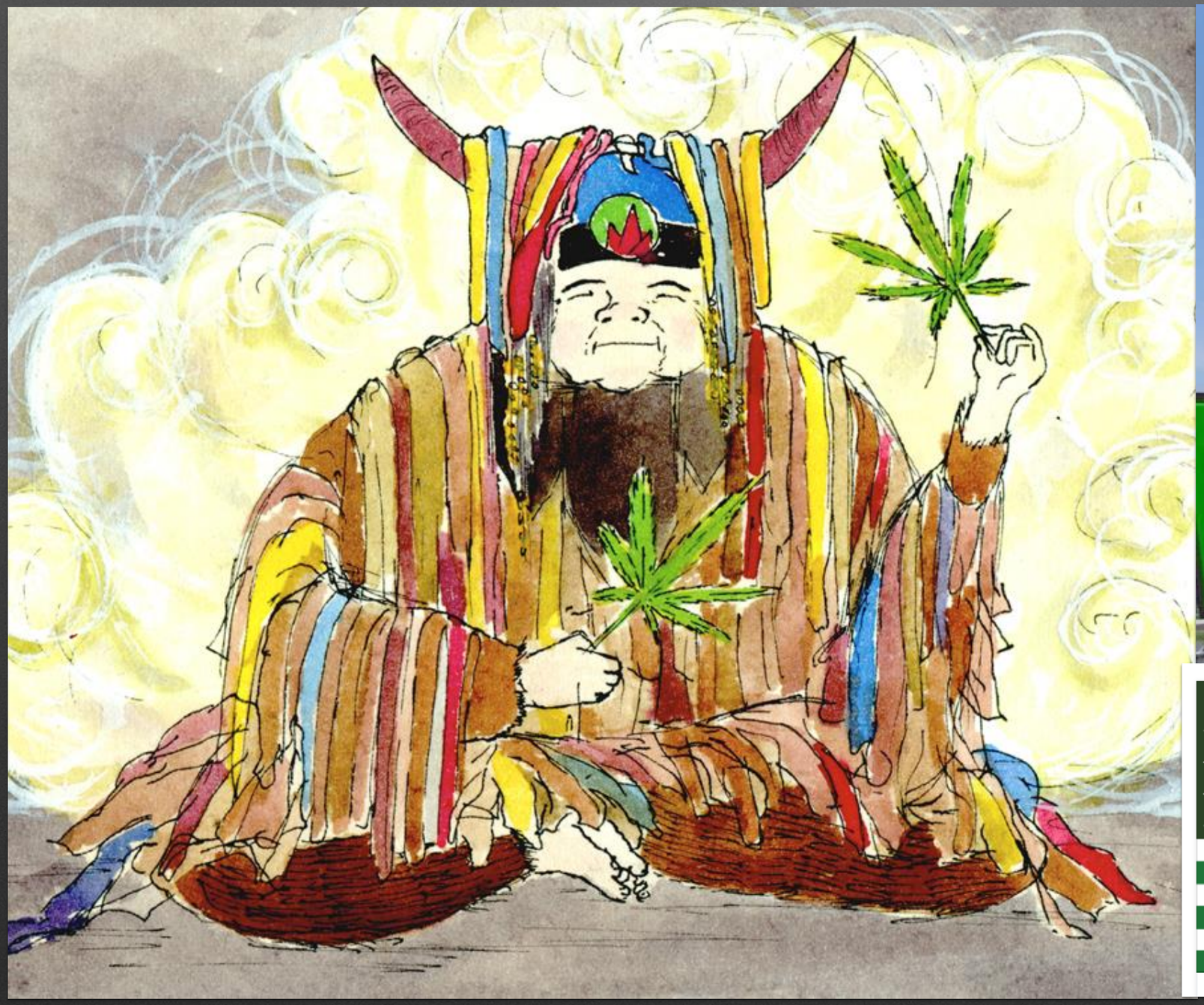
- Increased risk for some types of cancer.

HEALTH EFFECTS

Information on diseases and public health problems related to marijuana use.

Medical Marijuana

The Regulatory Requirements in New York State



Marijuana Stocks in 2017 Could Soar When These Next

New York State Medical Marijuana Program Overview

Physicians

Educate

Doctor completes approved online course and submits completion certificate to NYSDOH.

Register Online

Doctor registers online using the Health Commerce System.

Certify

Doctor can now issue certifications to patients with qualifying medical conditions.

Patients

Register Online

Certified patient or designated caregiver register online.

Receive ID Card

Patient and caregiver receive registry ID cards.

Purchase

Patient or caregiver purchases medical marijuana from a NYS registered organization's dispensing facility.

Dispensing Facilities are found across New York State. All are registered and regulated by the Department of Health, and all products are tested for quality assurance.

Medical marijuana is only available in smoke-free forms. This ensures the safest delivery methods for patients.

NEW YORK STATE | Department of Health

For more information https://www.health.ny.gov/regulations/medical_marijuana/

Practitioner Registration

- Licensed, in good standing as a physician and practicing medicine, as defined in article one hundred thirty one of the Education Law, in New York State; **or**

- certified, in good standing as a nurse practitioner and practicing, as defined in article 139 of the Education Law, in New York State; **or**

- licensed, in good standing as a physician assistant and practicing in New York State, as defined in article 131-B of the Education Law, under the supervision of a physician registered with the program.

Practitioner Registration

- Practitioners must be qualified to treat patients with one or more of the serious conditions in the Compassionate Care Act;
- Have completed a department-approved course on the medical use of marijuana.

NYSDOH Approved Four- Hour Course:

1. The Answer Page - Online course, $249. www.theanswerpage.com/new-york-state-practitioner-education- medical-use-marijuana.

2. The Medical Cannabis Institute - Online course, $229. https://themedicalcannabisinstitute.org/scc-nys-landing-page/

Content includes, but is not limited to, the following:

1-pharmacology of marijuana
2-contraindications, side effects, adverse reactions
3-overdose prevention
3-drug interactions, dosing, routes of administration
4-risks and benefits, warnings and precautions
5-abuse and dependence
6-other components that the DOH commissioner adds.

Successful completion of either approved course will provide CME credits.

Pharmacists working in dispensing facilities are required to take the same course.

Do you have patients who may benefit from medical marijuana?

This brochure provides information on how practitioners qualify for the program, how to register with the New York State Department of Health (NYSDOH) and how to certify your patients.

Which practitioners are qualified to participate?

Practitioners interested in participating in the Medical Marijuana Program must meet the following criteria:

- Be a physician, nurse practitioner or physician assistant licensed by, and in good standing with, New York State. Physician assistants must be under the supervision of a physician who is registered with the program.
- Be qualified to treat patients with one or more of the following severe, debilitating diseases: cancer, HIV/AIDS, amyotrophic lateral sclerosis (ALS), Parkinson's disease, multiple sclerosis, spinal cord injury with spasticity, epilepsy, inflammatory bowel disease, neuropathy, chronic pain* and Huntington's disease.

* Chronic Pain is defined as any severe debilitating pain that the practitioner determines degrades health and functional capability; where the patient has contraindications, has experienced intolerable side effects, or has experienced failure of one or more previously tried therapeutic options; and where there is documented medical evidence of such pain having lasted three months or more beyond onset, or the practitioner reasonably anticipates such pain to last three months or more beyond onset.

What steps do I need to take before I can certify patients?

If you meet the qualifications and are interested in participating, you must take these steps:

1. **Complete a NYSDOH-approved four-hour online course** – The current course providers are TheAnswerPage and The Medical Cannabis Institute.
   - The following topics are covered in the courses: the pharmacology of marijuana, contraindications, side effects, adverse reactions, risks and benefits, warnings and precautions, and abuse and dependence.
   - Successful completion of the course will provide CME, AMA PRA Category 1 or ACPE credits. Additional information and links to the courses are available on the NYSDOH web page: https://www.health.ny.gov/mmp/

2. **Register with the NYSDOH Medical Marijuana Program** –

1. Log into the Health Commerce System, https://commerce.health.state.ny.us/
2. Select "All Applications" from the My Content dropdown menu,
3. Click the "M" tab, find the Medical Marijuana Data Management System (MMDMS) application in the list, and click the green and white "+" icon in the "Add/Remove" column to add the MMDMS application.
4. After selecting the MMDMS application, practitioners will be prompted to enter information required in order to complete the registration process.

Once registered, how do I certify patients?

Once you are registered, you can begin certifying patients. For each patient you certify, you must first:

- **Be qualified to treat the patient's serious condition;**
- **Determine whether the patient meets the requirements for certification (see https://www.health.ny.gov/mmp/);**
- **Have the patient under your continued care for their serious condition(s);**
- **Review past treatments and determine that the patient is likely to receive therapeutic or palliative benefit from medical marijuana; and**
- **Consult the Prescription Monitoring Program Registry.**
- **Access the Medical Marijuana Data Management System** electronically on the NYSDOH Health Commerce System (HCS) to certify patients. You will need to enter the following information:
  - Patient's demographic information;
  - At least one of the eligible severe debilitating or life-threatening condition(s), **AND** an accompanying condition or symptom; and
  - Dosing recommendations for the patient.
- **Submit the certification, print and sign it and provide it to the patient.** A copy of the certification must be placed in the patient's medical record.

Registered Organizations - Manufacturing

- Dosage forms permitted:
  - liquid or oil preparations for metered oromucosal or sublingual
    administration or administration per tube;
  - metered liquid or oil preparations for vaporization; and
  - capsules for oral administration.

- Maximum of 10mg total THC per single dose

- Smoking of marijuana is expressly prohibited by the Compassionate Care Act.
- Edibles prohibited in 10 NYCRR §1004.11 (g)(5).

The Approved Registered Organizations

- **Citiva Medical**
- **Fiorello Pharmaceuticals**
- **New York Canna**
- **Pallia Tech New York**
- **Valley Agriceuticals**
- **MedMen (Bloomfield Industries)**
- **Columbia Care**
- **Etain**
- **PharmaCann**
- **Vireo Health**

Registered Organizations - Dispensing

- Dispensing facilities are required to have a pharmacist with an active NYS pharmacist license on the premises and directly supervising the activity within the facility.
- 30-day supply limitation (unless the certified patient has exhausted all but a seven day supply provided pursuant to a previously issued certification).
- Pharmacist must consult the PMP Registry prior to dispensing to verify the 30 day supply is not exceeded.

Proposed Regulations To Improve Medical Marijuana Program

- Expand variety of products i.e. topical, lotions, ointments, patches, solid and semi-solid products, chewable and effervescent tablets, lozenges
- Non-smokable forms of ground plant material will be permitted
- Streamline manufacturing requirements
- Allow prospective patients and practitioners to enter dispensing facility to speak with registered organization representative
- Allow other people besides designated caregivers to accompany patients to the dispensing facility
- Shortened required practitioner educational course i.e. two -hours only can be an option

My Thoughts, A Summary

1. **We have an opioid epidemic and we are running out of options to treat pain.**

2. **Insurance companies want us to keep prescribing addicting medications like oxycodone rather than using less potent medications like Buprenorphine to treat pain or addictions.**

3. **Medical Marijuana has been shown to effective for chronic pain. Marijuana does not kill patients. No case of overdose has been been reported. Medical Marijuana works also synergistically with opioids.**

4. **Marijuana can be addicting and several literature have cited psychiatric side side effects, decline in cognitive functions, etc. I suggest patients who will get registered with the medical marijuana program should get a good addiction screening and psychiatric evaluation. Get a baseline urine drug tests.**

5. **If at all possible, avoid prescribing medical marijuana for patients under 25 years old (American Society of Addiction Medicine recommendation).**

My Thoughts, A Summary

6. **Studies show that states which legalized marijuana has lowered its opioid overdose rates by 24.8 % (Bachhuber, JAMA 2014).**

7. **Look at all the evidence with caution. We still lack enough comparison studies, randomized trials to consistently prove its superiority.**

8. **30 million Americans are using Marijuana. Recent Gallup poll, 60 % of Americans approve legalization of marijuana. Legislators have voted consistently to stop the Department of Justice from interfering into the states that legalized marijuana.**

9. **Choose wisely. It is not for everybody or everyone with pain.**

10. **We, as medical providers, should continue to educate our patients and our community. We should be well-versed and should always be a good resource for alternative therapies available for our patients including medical marijuana especially if the benefits outweigh the risks.**