

Marijuana Legalization: The Impact

Town Hall Meeting
October 5, 2015

The Hancock County Community Partnership

The Hancock County Opiate Task Force

Hancock County Alcohol, Drug Addiction
and Mental Health Services Board

How will marijuana legalization
affect you, your community, and
those you care about?

Welcome, Introductions, and Purpose

John Stanovich

Chair, Hancock County Opiate Task Force

Assistant Dean, College of Pharmacy, University of Findlay

Current Ballot Initiatives

Zachary Thomas, OCPS I
*Director of Wellness and Education,
Hancock County ADAMHS*

Issue 3

Grants a monopoly for the
commercial production and sale of
marijuana for recreational and
medical purposes

Proposed Constitutional Amendment

Issue 3

- * Endow exclusive rights for commercial marijuana growth, cultivation, and extraction to self-designated landowners who own ten predetermined sites.

Issue 3

- *Permit retail sale of recreational marijuana at approximately 1,100 locations statewide.

Issue 3

- * Legalize the production of marijuana-infused products, including edible products, concentrates, sprays, ointments and tinctures

Issue 3

- * Allow each person, 21 years of age or older, to grow, cultivate, use, possess, and share up to 8 ounces of usable homegrown marijuana plus four flowering marijuana plants
- * Allow each person, 21 years of age or older, to purchase possess, transport, use, and share up to 1 ounce of marijuana for recreational use
- * Authorize the use of medical marijuana by any person, regardless of age, who has a certification for a debilitating medical condition

Issue 3

- * Prohibit marijuana establishments within 1,000 feet of a house of worship, public library, public or chartered school, day-care, or playground
- * However, after a certain date, a new facility cannot force a preexisting marijuana establishment to relocate

Issue 3

- *Prohibit any local or state law, including zoning laws, from being applied to prohibit the development or operation of marijuana facilities

Issue 3

- * Create a special tax rate limited to 15% on gross revenue on marijuana production, and a special tax rate limited to 5% on gross revenue of each retail marijuana store
- * Revenues from the tax go to a municipal and township government fund, a strong county fund, and the marijuana control commission fund

Issue 3

- * Create a marijuana incubator in Cuyahoga County to promote growth and development of the marijuana industry and locate marijuana testing facilities near colleges and universities

Issue 3

- * Limit the ability of the legislature and local governments from regulating the manufacture, sales, distribution, and use of marijuana and marijuana products
- * Create a new state government agency called the marijuana control commission

Issue 3 – Local Implications, Questions, and Concerns

- * Unlimited number of medical marijuana dispensaries allowed
- * Allowances for medical use carry broad interpretation
- * Up to 7 marijuana retail stores in Hancock County
- * Exponentially increases access to marijuana by youth, particularly through marijuana-infused products
- * Complicates drug-free work place rules

Issue 3 – Local Implications, Questions, and Concerns

- * Creates a constitutional monopoly for the commercialization of marijuana
- * Increase in the pervasiveness of marijuana
- * Marijuana edibles with high concentrations of THC
- * Overlooks established procedures of approving medications
- * Many who have reported use of illicit drugs also report previous use of marijuana

The amount of marijuana allowed for possession would provide an opportunity for an individual to be

**continuously intoxicated,
twenty-four hours a day for
108 days.**

Issue 2

- *Prohibit any petitioner from using the Ohio Constitution to grant a monopoly, oligopoly, or cartel for their exclusive financial benefit or to establish a preferential tax status

Issue 2

- * Prohibit any petitioner from using the Ohio Constitution to grant a commercial interest, right, or license that is not available to similarly situated persons or nonpublic entities

Issue 2

- *Require the bipartisan Ohio Ballot Board to determine if a proposed constitutional amendment violates the prohibition above

Issue 2

- * Prohibit from taking effect any proposed constitutional amendment appearing on the November 3, 2015 General Election ballot that creates a monopoly, oligopoly, or cartel for the sale, distribution, or other use of any federal Schedule I controlled substance

Issue 2

- *The Ohio Supreme Court has original, exclusive jurisdiction in any action related to the proposal

Consequences of Marijuana Legalization in Colorado

Mark Miller

*Chair, Community Awareness Committee, Opiate Task Force
Hancock County Prosecuting Attorney*

Impact of the Legalization of Marijuana for Medical and Recreational Purposes In Colorado

Colorado

Medical marijuana legalized in 2000

- * Colorado has two primary medical marijuana laws. Colorado's first and oldest medical marijuana law is a constitutional amendment passed by voters in 2000 authorizing patients and their caregivers to possess, cultivate, and use medical marijuana. Colorado's second medical marijuana law enacted in the summer of 2010 established the Colorado Medical Marijuana Code, C.R.S. 12-43.3-101 *et seq.*, which creates a dual licensing scheme that regulates medical marijuana businesses at both the state and local level.

Recreational use of marijuana was legalized in 2012

- * You must be 21 years old to purchase, possess or use marijuana or marijuana products. It is illegal to give or sell retail marijuana to minors.

Perspective

- **Colorado...**

- ✓ **Medical Marijuana Centers = 497**

- ✓ **Recreational Marijuana Stores = 369**

- ✓ **Starbucks Coffee = 405**

- ✓ **McDonalds = 227**

Colorado

Marihuana is not just about smoking. 2.85 million unites of marijuana – infused foods and beverages were sold in Colorado in 2014.

Source: Colorado Department of Revenue

The marijuana focused private equity firm, privateer Holdings, in partnership with the descendants of Bob Marley have created a multinational cannabis brand named “Marley Natural”.

There was no mention of these branded marijuana products, candies, beverages or advertising practice in the course of the political campaigns to legalize marijuana.

Source: Smart Approaches to Marijuana, Lessons After Two Years of Marijuana Legalization (Short Report issued January 5, 2015)

Marijuana Edibles



Infused Products



MARIJUANA USE

85,000 – The number of Colorado adults who are 21 and older using marijuana regularly (at least once a month) = 9% of Colorado population.

23% of the marijuana users in Colorado consume marijuana daily

Source: The Cannabist.com: \$573 million in pot sales: Here are 12 stats that define the year in marijuana, accessed June 2015, Published: December 26, 2014, 3:29 PM

MEDICAL MARIJUANA USE

115,467 – number of medical marijuana patients as of 12/31/2014.

93% reporting “severe pain” as their condition for a license.

Only 5% reported cancer, AIDS and glaucoma as the medical condition. (2% reported seizures)

Source: Colorado Department of Public Health and Environment, “Medical Marijuana Registry Program Update (as of March 31, 2015)”

MEDICAL MARIJUANA USE

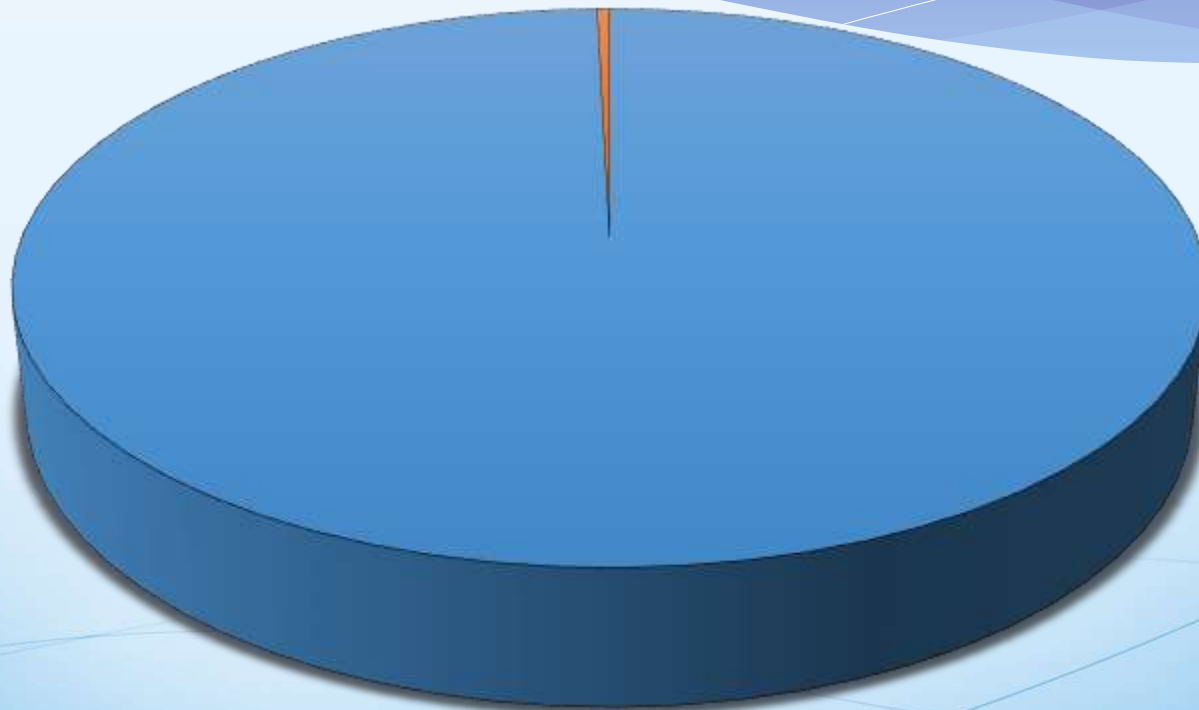
	Pharmacies	Marijuana dispensaries
Denver	198	117
Colorado Springs	98	91

TAX REVENUE

Tax revenue from legal recreational marijuana may be far less than anticipated. In Colorado tax revenues from legal recreational marijuana sales were anticipated to be 70 – 100 million dollars with the first 40 million designated for the rebuilding of Colorado's schools

Source: Thomas Halleck, "Colorado's Tax Income from Legalizing marihuana is Less Than Expected, It still Might Have to Give it Back," International Business Times, Feb. 11, 2015 and Tony Nitti, "Understanding the Impact of Legalized Recreational Marijuana on State Tax Revenue," Forbes, Sept. 24, 2015.

Colorado General Fund Revenue



■ Everything Else ■ Marijuana

TAX REVENUE

Ohio's 5% tax rate would be lower than the tax rate for beer, wine or cigarettes.

Ohio CPAs came out with an opinion that marijuana farms and retail establishments would be exempt from all state taxes because the amendment clearly states they would be liable for "local" taxes while not mentioning "state of Ohio" taxes.

TAX REVENUE

Illegal marijuana is still cheaper than legal marijuana sold at a dispensary which is taxed at more than 27%

About 23% of the estimated marijuana users in Colorado have a medical card. Claims vary whether this number is growing or remaining steady. It is believed the reason this number is so high is because the cost of a medical card is \$15 and, unlike recreational marijuana's high tax rate, the tax on medical marijuana is only 2.9%

CRIME

Though there has been no overall pot-fueled crime wave, crimes in the city and county of Denver increased 10% from 2013-2014.

Crimes against persons increased 15.1%

Crimes against property decreased 3%

Crimes against society increased 23%

Source: National Incident Based Reporting System definitions in the
City and County of Denver, September 11, 2015

CRIME

In the city and county of Denver some trends possibly related to marijuana include:

Disorderly conduct is up 51%

Drug violations are up 12%

Public Drunkenness is up 53%

Source: Denver Police Department

City leader in Vail, Colorado banned recreational marijuana stores, citing the increase in crime and panhandling in other Colorado towns that do allow sales, as a major factor in their ban.

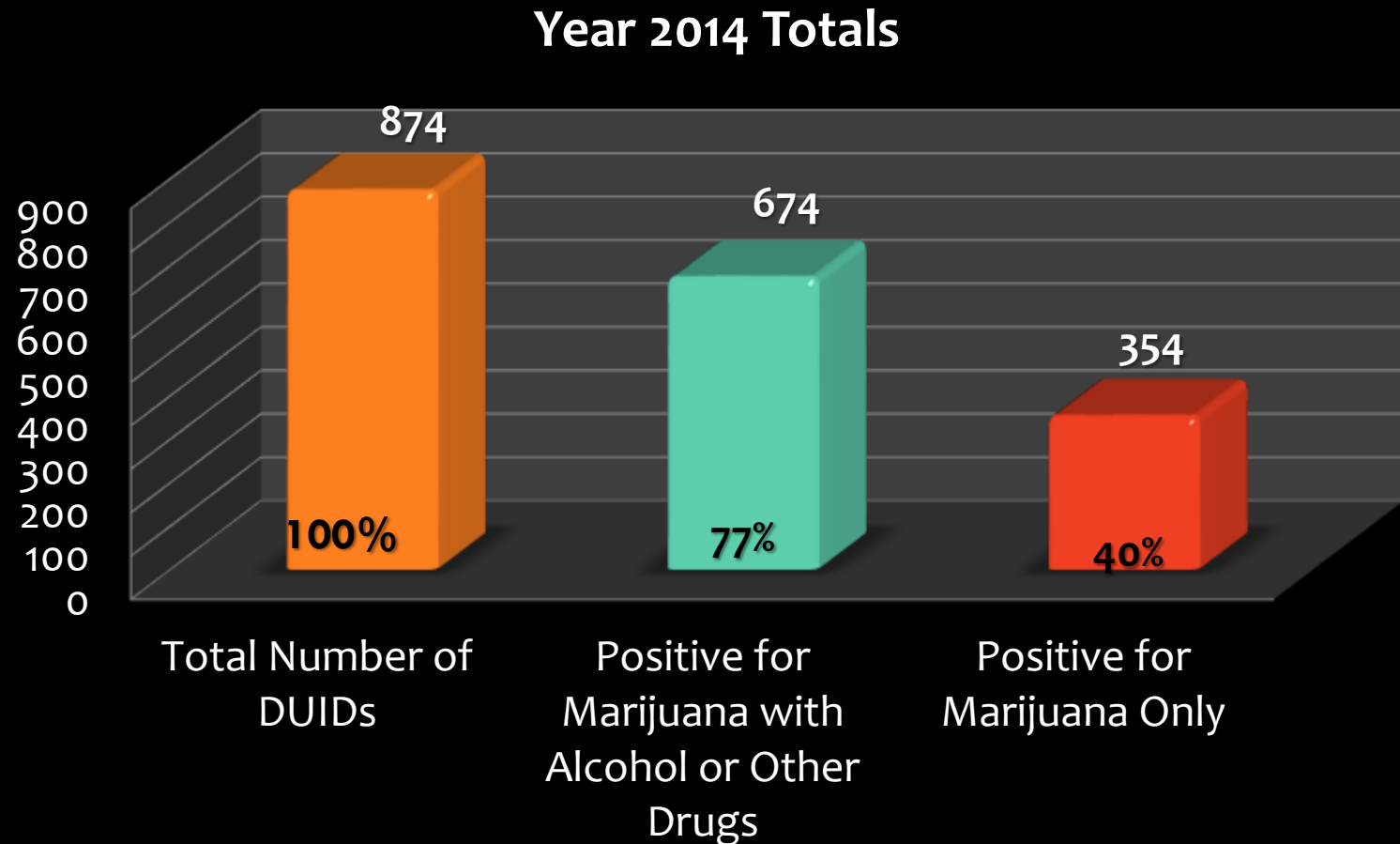
Source: Matt Kroschel, CBS4 Mountain Newsroom, August 14, 2015, "Panhandling For Pot? Increase may be Linked to Recreational Marijuana," <http://denver.cbslocal.com/2015/08/14/panhandling-for-pot-increase-may-be-linked-to-recreational-marijuana/>, accessed August 14, 2015

CRIME

- **In 2014, there was a 32% increase in marijuana-related traffic deaths (marijuana present in a toxicology report) in just one year.**
- **Colorado marijuana related traffic deaths increased 92% from 2010 -2014. During this same time period all traffic deaths only increased 8%**
- **Colorado State Patrol DUID Program, started in 2014 indicated 41% of the DUID offenses involved only marijuana impairment.**

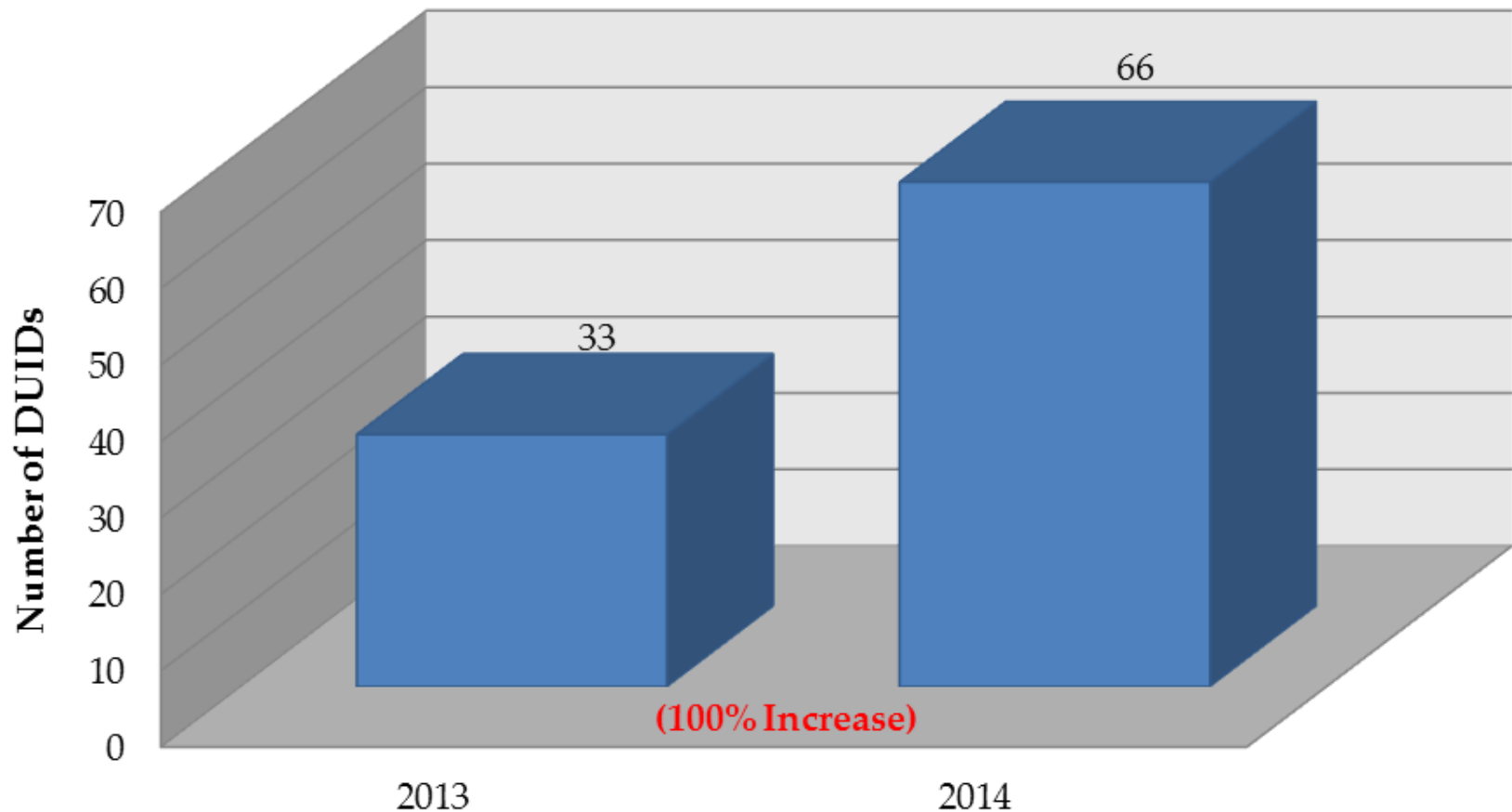
Source: National Highway Transportation Safety Administration, Fatality Analysis Reporting System (FARS) and the Legalization of Marijuana in Colorado: The Impact, Rocky Mountain High Intensity Drug Trafficking Area vol. 3 September, 2015

DUID – Colorado State Patrol



SOURCE: Colorado State Patrol, 2014

Denver Police Department Number of DUIDs Involving Marijuana

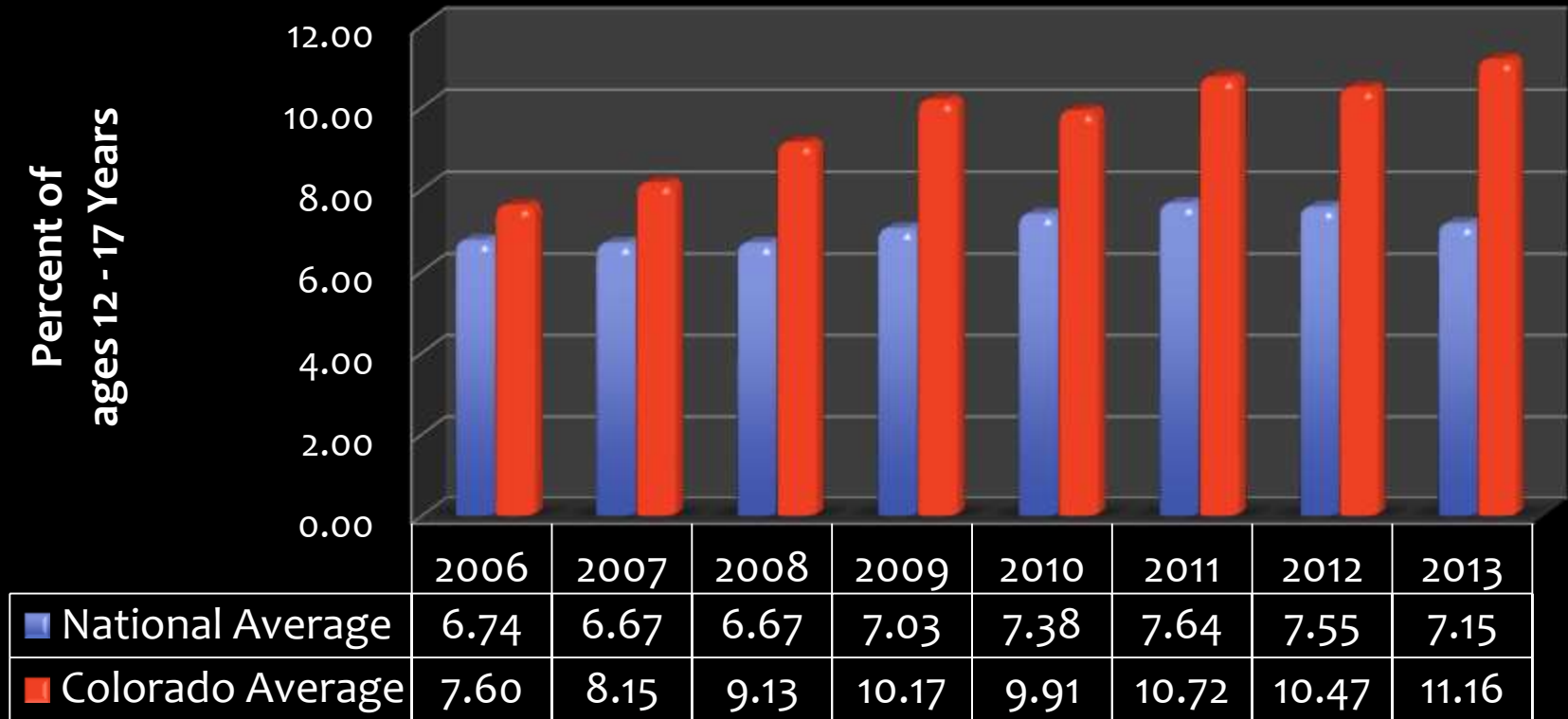


Teens and Marijuana



Marijuana Use in Youth

Youth (Ages 12 to 17 Years) Past Month Marijuana Use National vs. Colorado



Ohio

7.61 7.53 7.36

SOURCE: U.S. Dept. HHS, SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2012 and 2013

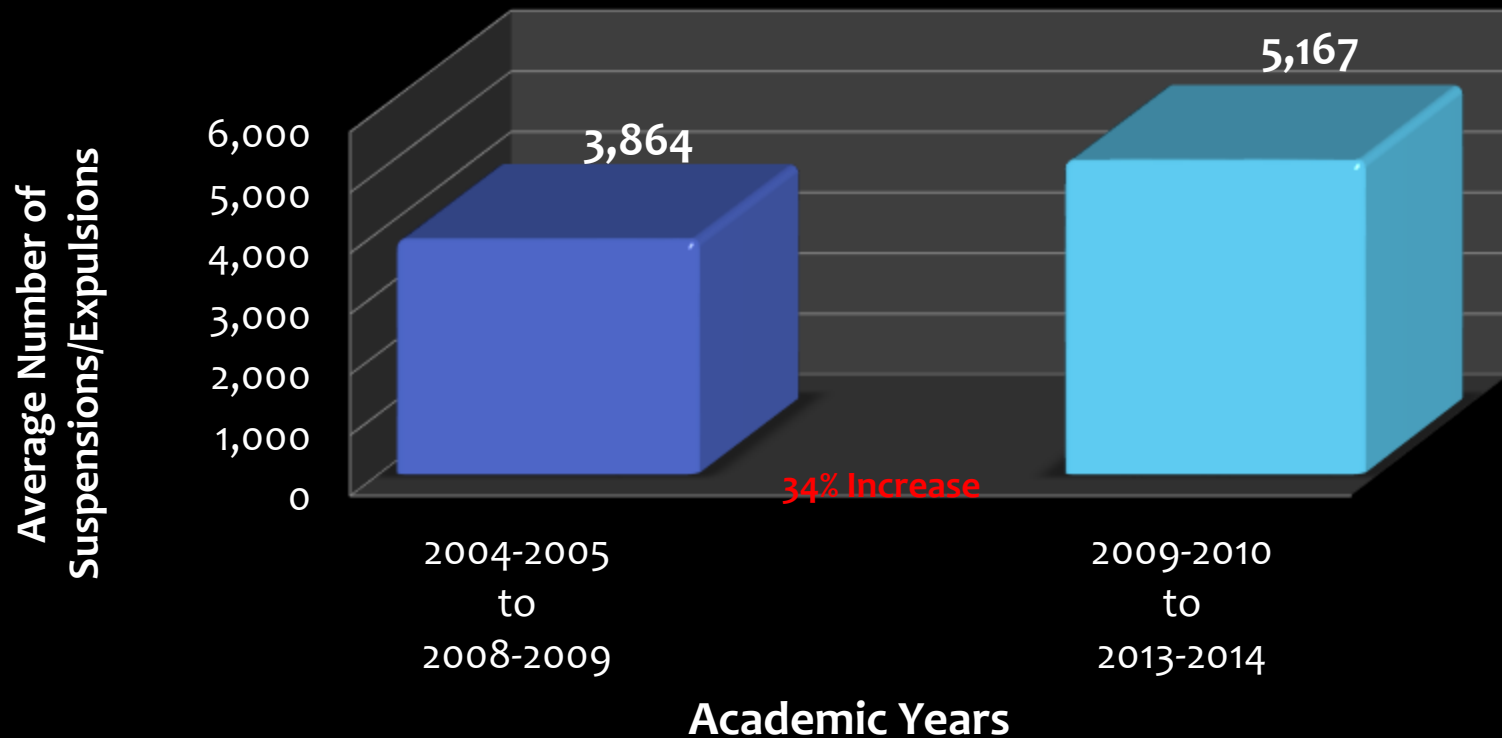
MARIJUANA AND CHILDREN

There was a 34% increase in Drug-related suspensions and expulsions in Colorado for academic school years 2008/2009 to 2012/2013

Source: Colorado Department of Education, Suspension/Expulsion Statistics (School Years 2005-2013). Accessed July 2014

High School Discipline

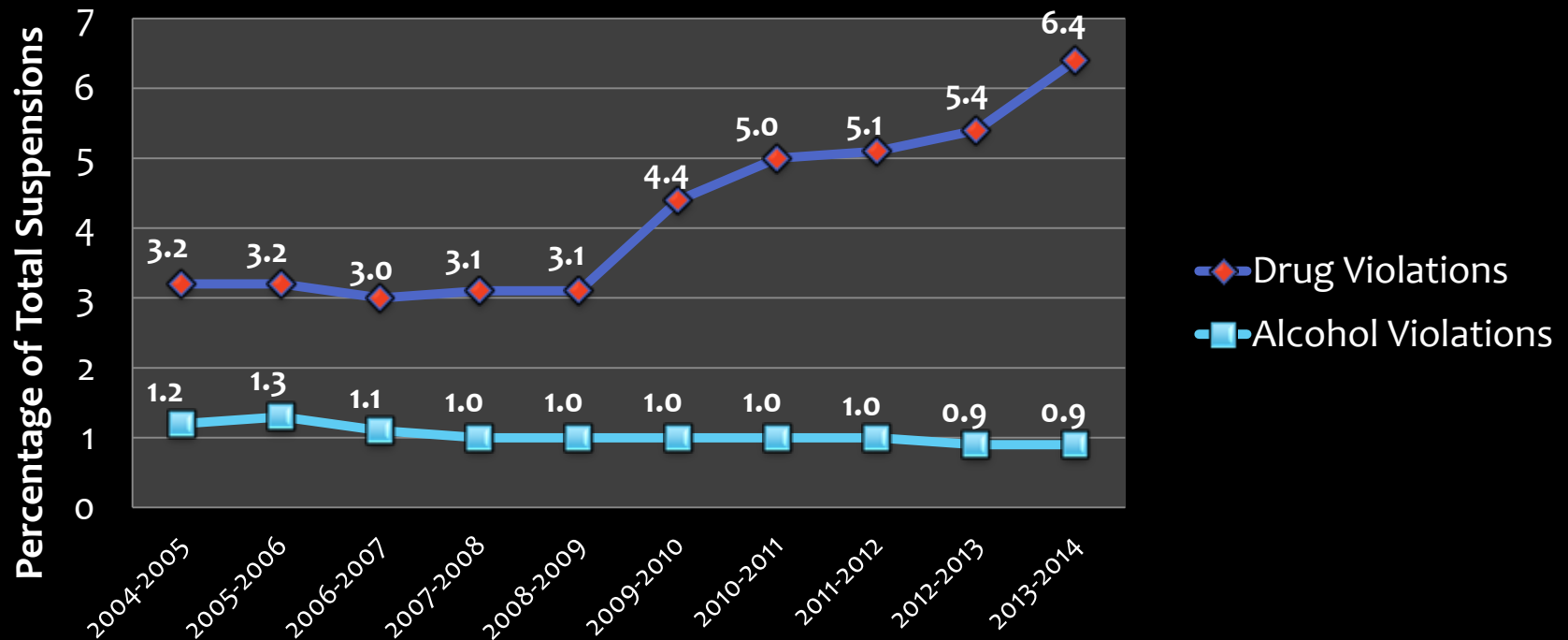
Average Drug-Related Suspensions/Expulsions



SOURCE: Colorado Department of Education, 10-Year Trend Date: State Suspension and Expulsion Incident Rates and Reasons

High School Discipline

**Percentage of Total Suspensions in Colorado from
2004 - 2014 School Years**



SOURCE: Colorado Department of Education, 10-Year Trend Data: State Suspension and Expulsion Incident Rates and Reasons

MARIJUANA AND CHILDREN

Arrests for marijuana use in Denver public schools increased by 6% between 2013 and 2014

Teen admission to treatment for marijuana use at the Arapahoe House treatment network in Colorado increased by 66 % between 2011 and 2014

Source: Smart Approaches to Marijuana, Lessons After Two Years of Marijuana Legalization. (Short report issued January 5, 2015)

MARIJUANA AND CHILDREN

A study from the University of Colorado Anschutz Medical Campus in Aurora, Colorado revealed that 74% of teens in treatment for substance abuse were using someone else's diverted medical marijuana

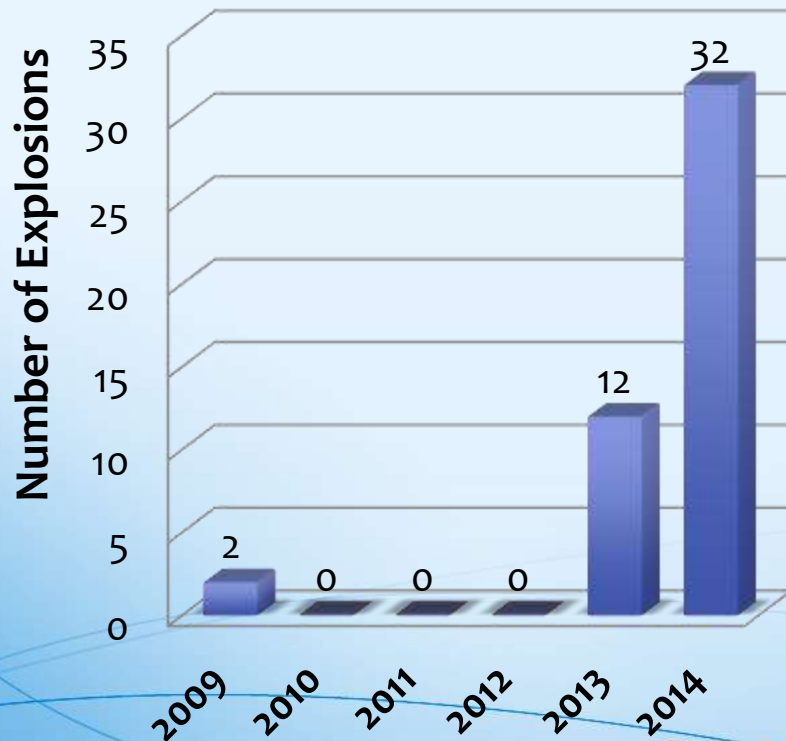
Source: Journal of the American Academy of Child and Adolescent Psychiatry, July 31, 2012 new release, "Diverted Medical Marijuana Use Common Amount Teens: Study," accessed August 3, 2013

Other Related Data from Colorado

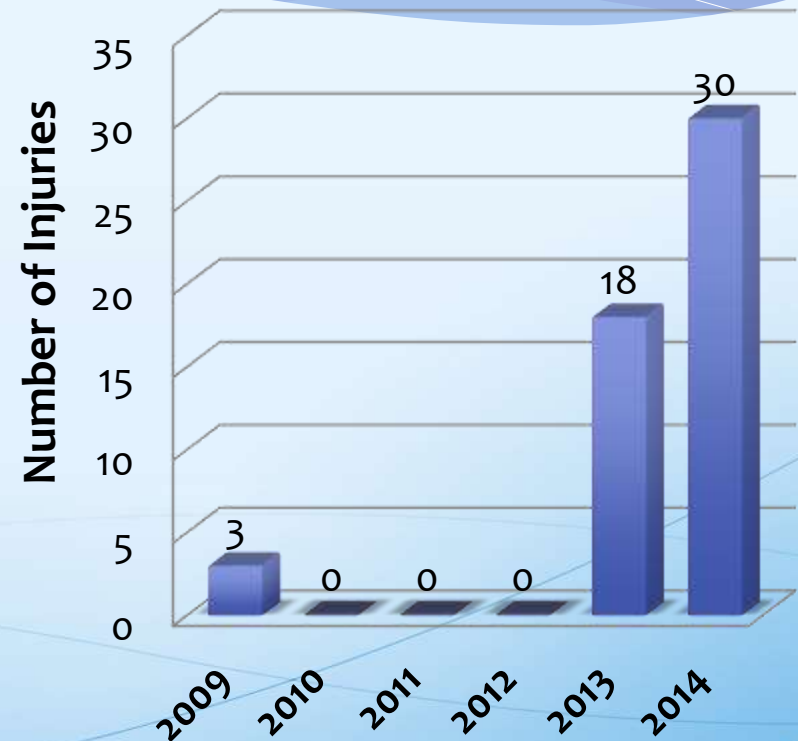
- ❖ There are no records on how many homeless people traveled to Colorado because of legalization of marijuana. However, homeless shelters are seeing an influx in people using their services.
- ❖ Denver city officials quarantined marijuana plant at 11 grow facilities in May of 2015, based on fear that the plants were contaminated with pesticides.
- ❖ Of Colorado's 321 local jurisdictions, 228 (71%) prohibit any type of medical or recreational marijuana business.
- ❖ Colorado has become a leading exporter of marijuana to all other states.

THC Extraction Labs

Explosions



Injuries



SOURCE: Rocky Mountain HIDTA Investigative Support Center

THC Extraction Lab Explosion



6745 West Mississippi
(East of Pierce)
Lakewood, Colorado
303.934.9750 • MEDICAL ONLY



MILAGRO • 1181 County Rd 308
(Exit 234 off I-70)
Dumont, CO
726.379.3672

Mind • Body • Spirit
WELLNESS CLINIC

mbtwellnessclinic.com • OPEN 7 days a week • ATM on site

***STOP BY ON YOUR WAY UP
THE MOUNTAIN FOR ALL YOUR
RECREATIONAL NEEDS!***

SHOW YOUR SKI PASS AND RECEIVE
A \$1.00 JOINT
WITH PURCHASE!





A CUT OFF THE TOP

Your Hydroponic and Bio-Organic Specialists. MMC

TAILGATE SPECIAL

BRING IN YOUR BRONCOS TICKET OR WEAR YOUR BRONCOS GEAR ON GAME DAY AND GET A
FREE PRE-ROLL WITH PURCHASE, OR 10% OFF YOUR VAPE PEN REFILL!

MUST PRESENT AD, OFFER VALID 10/5/14 ONLY.

\$280 2 OZs

SELECT STRAINS.

WHILE SUPPLIES LAST. SOME RESTRICTIONS MAY APPLY. SEE US FOR DETAILS.

\$150 1 OZ

SELECT STRAINS.

WHILE SUPPLIES LAST. SOME RESTRICTIONS MAY APPLY. SEE US FOR DETAILS.



LIGHTSHADE
THE DIFFERENCE IS NIGHT AND DAY

40% OFF
WAX & SHATTER



OFFER VALID ONLY THROUGH SEPTEMBER, OR WHILE SUPPLIES LAST.
OFFER CAN NOT BE COMBINED WITH OTHER DISCOUNTS.

We accept credit cards! No one under the age of 21 permitted.

www.LIGHTSHADE.com

303.448.8107 | 3950 HOLLY ST. | DENVER, CO | 80207
720.974.7220 | 11975 E. 40TH AVE. | DENVER, CO | 80231

Polling

Oct. 2014 Gallup Poll

	Favor Legalized	Oppose Legalized	Unsure
2013	58%	39%	3%
2014	51%	47%	2%

Physiological Effects of Marijuana Use

Barbara Wilhelm, R.N.

Chair, Medical Committee, Opiate Task Force

*Deputy Health Commissioner,
Findlay City Health Department*

The Physiology of Marijuana Use

- * Cannabis Sativa
- * Smoked, Eaten, Vaporized, or Brewed
- * Intoxicating Ingredient: THC
- * Potency Is Increasing from less than 1% in the 70's to 3-4% in the 90's to 13% today.

Brain's Chemical

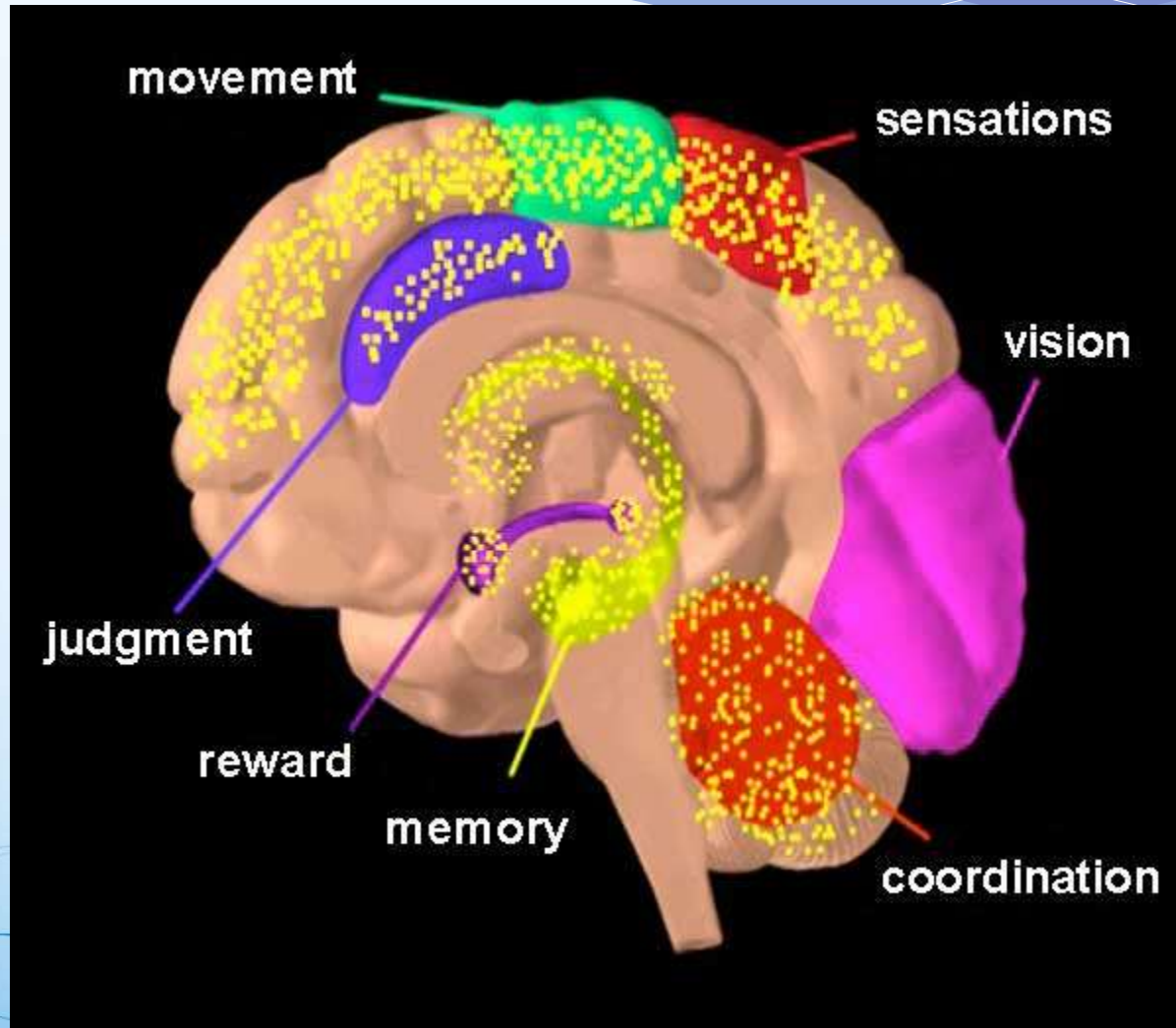


Anandamide

Drug



THC



Effects of Marijuana

- * Altered senses (auditory and visual)
- * Altered sense of time
- * Changes in mood
- * Impaired body movement & coordination
- * Difficulty with thinking and problem solving
- * Impaired learning & memory
- * Trouble concentrating
- * Hallucinations

Effects of Marijuana

- * Temporary paranoia
- * Depression
- * Anxiety
- * Increased appetite
- * Red eyes
- * Dry mouth
- * Sleep disruption
- * Increased heart rate
- * Breathing problems
- * Reproductive problems

Is Marijuana Addictive?

- * Contrary to common belief, marijuana can be addictive.
- * Research suggests that about 1 in 11 users becomes addicted increasing among those who start as teens (to about 17 percent, or 1 in 6) and among people who use marijuana daily (to 25-50 percent).
- * Withdrawal symptoms include agitation, anxiety, insomnia and irritability.

Additional Impacts

- * In 2014 when retail marijuana businesses began operating:
 - 29% increase in the # of marijuana related emergency room visits in 1 year
 - 38% increase in the number of marijuana related hospitalizations in 1 year

Marijuana Use and Youth

Statistically significant association between levels of marijuana use at age 14-21 and:

- Lower levels of degree attainment by age 25
- Lower income level at age 25
- Higher welfare dependence
- Higher unemployment
- Lower levels of relationship satisfaction
- Lower levels of life satisfaction

Edibles



Resources

- * Potency Monitoring Project; Journal of Forensic Science, Volume 55, Issue 5, September 2010.
- * Casual Marijuana Use Linked to Brain Abnormalities, Breiter et al Journal of Neuroscience, April 16, 2014.
- * National Institute on Health, NIH, U.S. National Library of Medicine, David Merrill M.D. Columbia University, September 8, 2013.
- * National Institute on Drug Abuse, Bethesda Maryland, *Research Reports: Marijuana*, June 2015.
- * Meier et al (2012) Persistent cannabis users show neuropsychological decline from childhood to mid life. Proceedings of the National Academy of Sciences
- * Marijuana's Impact on Mental Health and Learning, Drug Free Action Alliance www.drugfreealliance.org
- * Cannabis Use and Later Life Outcomes, Fergusson and Boden, Addiction June 2008
- * Youth and Marijuana Use- Impacts on Brain, Development and Public Safety Drug Free Action Alliance www.drugfreealliance.org
- * The Legalization of Marijuana in Colorado: The Impact Published by Rocky Mountain High Intensity Drug Trafficking Area Program Vol.3/September 2015

Marijuana for Medical Purposes

Michael Milks, Ph. D.

*Professor of Pharmaceutical Sciences,
The University of Findlay*

Marijuana Plant



Cannabis sativa

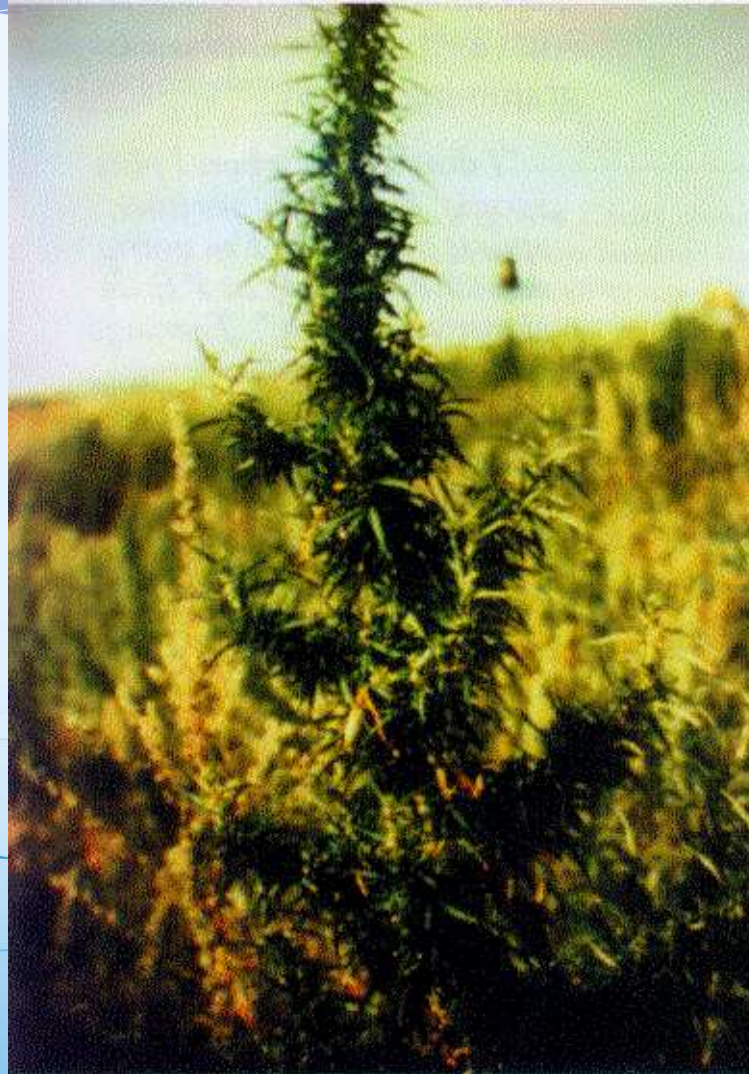
Leaves



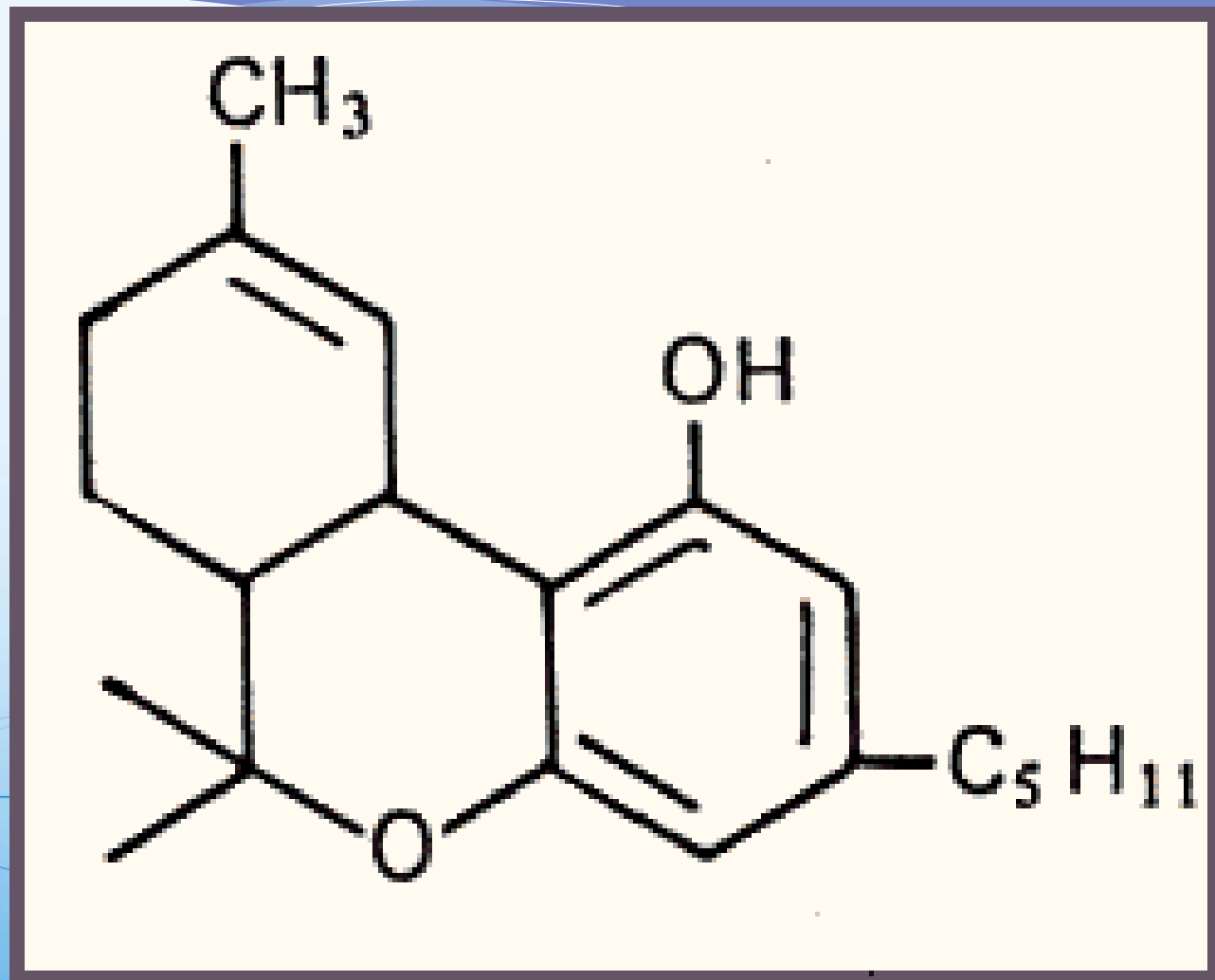
Cannabis indica



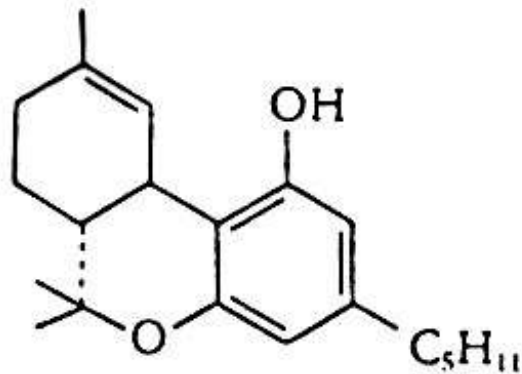
Cannabis ruderalis



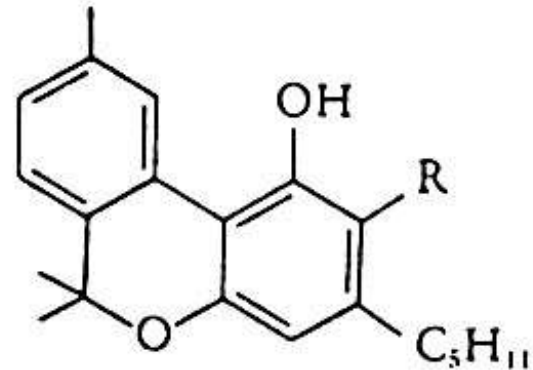
Tetrahydrocannabinol (Δ^9 -THC)



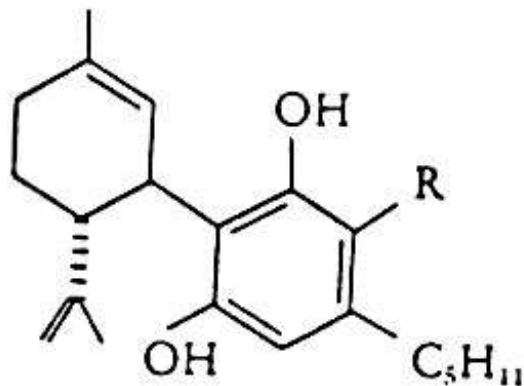
THC and Metabolites



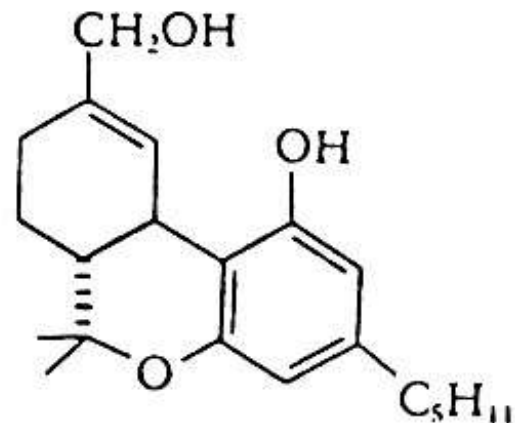
Δ-9-THC



Cannabinol



Cannabidiol



11-Hydroxy-Δ-9-THC

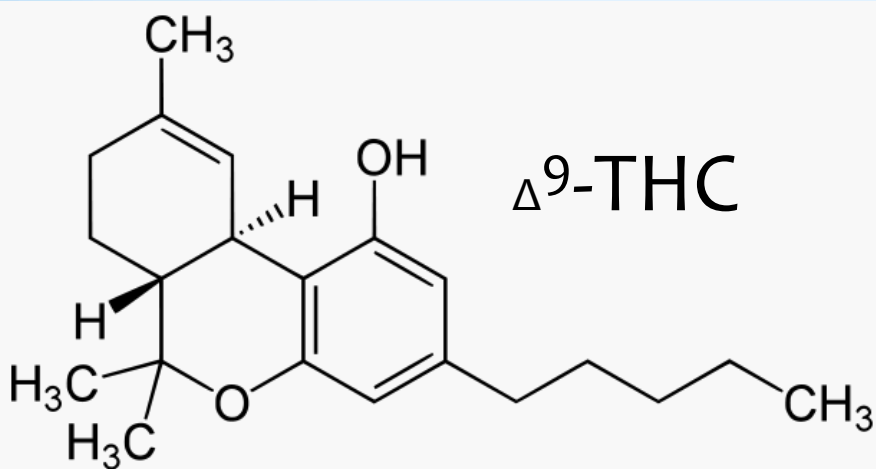
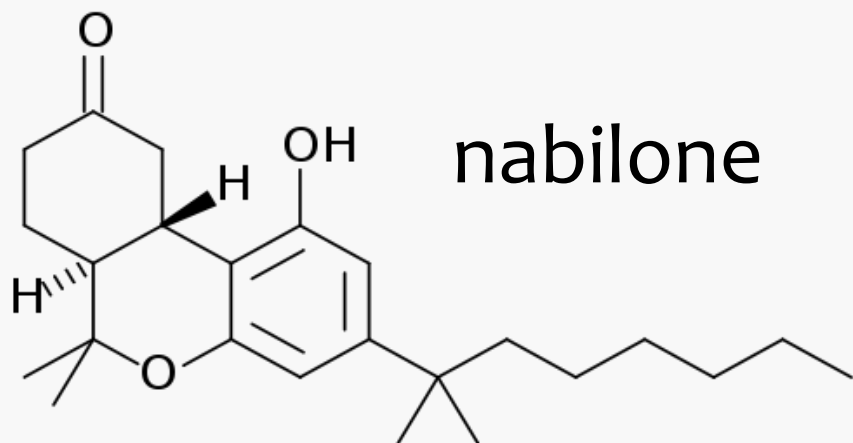
Marinol[®] (dronabinol = synthetic Δ^9 -THC)



Marinol[®] (C-III)

- FDA approved for:
 - Anorexia associated with weight loss in patients with AIDS
 - Nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments

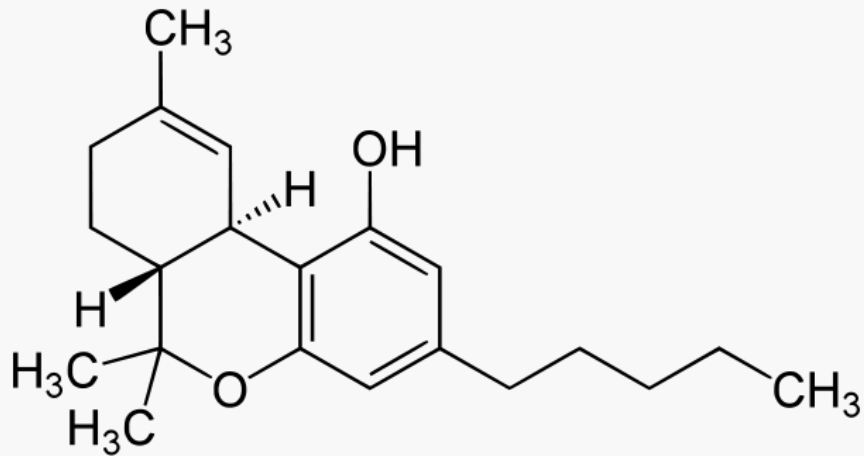
Cesamet[®] (nabilone)



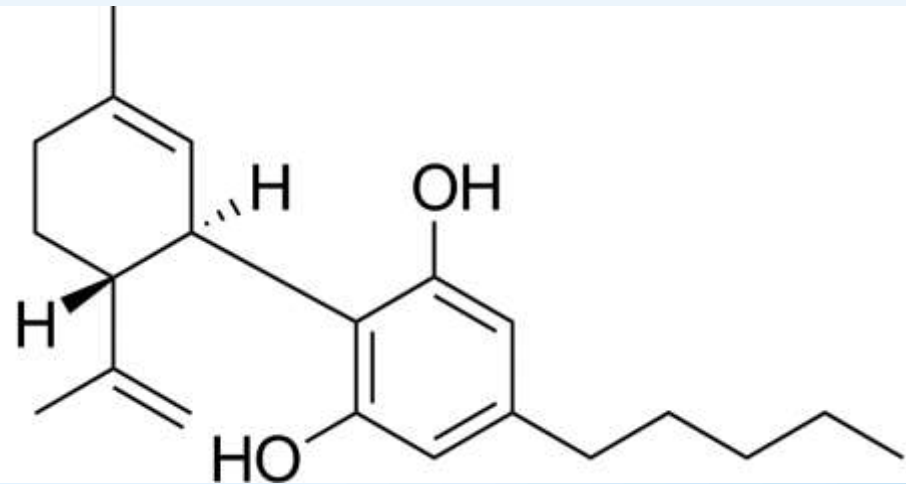
Cesamet[®] (nabilone) (C-II)

- FDA approved for:
 - Nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments
- “Off-Label” Use
 - Huntington disease chorea (American Academy of Neurology guidelines support short-term use of nabilone based on a small short-term controlled trial)

Sativex[®] (nabiximols) (C-I)



tetrahydrocannabinol (Δ9-THC)



cannabidiol (CBD)

GW Pharmaceuticals

Cambridge CB24 9BZ

United Kingdom (Schedule IV)

(Schedule II in Canada)

Sativex[®] (nabiximols) (C-I)

Home | Sativex

Sativex

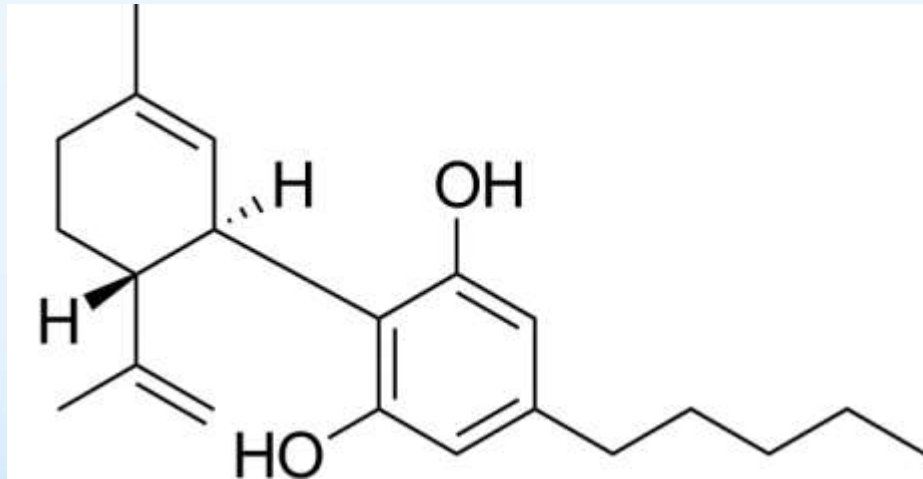
Sativex[®] is a cannabinoid medicine for the treatment of spasticity due to multiple sclerosis which is also in development in cancer pain...

Sativex[®] has now been launched in 15 [countries](#) (including the UK, Spain, Italy and Germany) and approved in a further 12.



Sativex[®] is undergoing “Fast Track” Phase III trials in the USA for **cancer pain**, and no regulatory application has been made for MS spasticity.

Epidiolex[®] (cannabidiol) (C-I)



Cannabidiol (CBD)

FDA has granted Orphan Drug designation granted for Epidiolex[®] in Dravet & Lennox-Gastaut syndromes (pediatric epilepsy), and “Fast Track” designation for Dravet Syndrome.

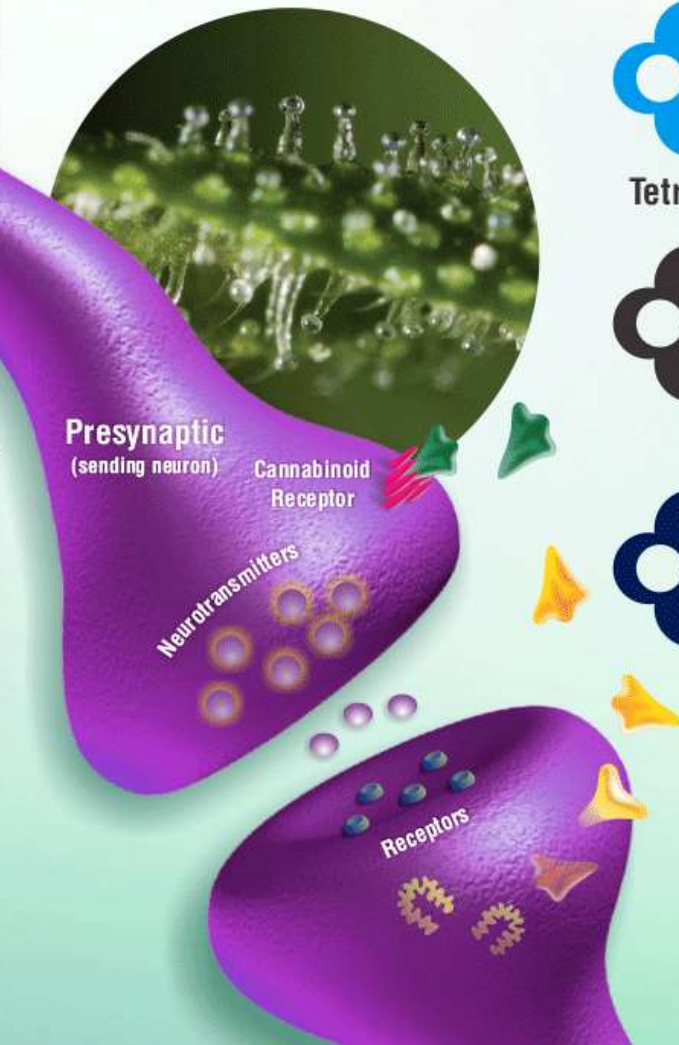
Epidiolex[®] (cannabidiol) (C-I)



- consists of more than 98 percent CBD, trace quantities of some other cannabinoids, and zero THC
- Epidiolex[®] is a viscous liquid that comes in a bottle with a syringe dropper.

The Human Endocannabinoid System

CBD, CBN and THC fit like a lock and key into existing human receptors. These receptors are part of the endocannabinoid system which impact physiological processes affecting pain modulation, memory, and appetite plus anti-inflammatory effects and other immune system responses. The endocannabinoid system comprises two types of receptors, CB1 and CB2, which serve distinct functions in human health and well-being.



Tetrahydrocannabinol



Cannabidiol



Cannabinol

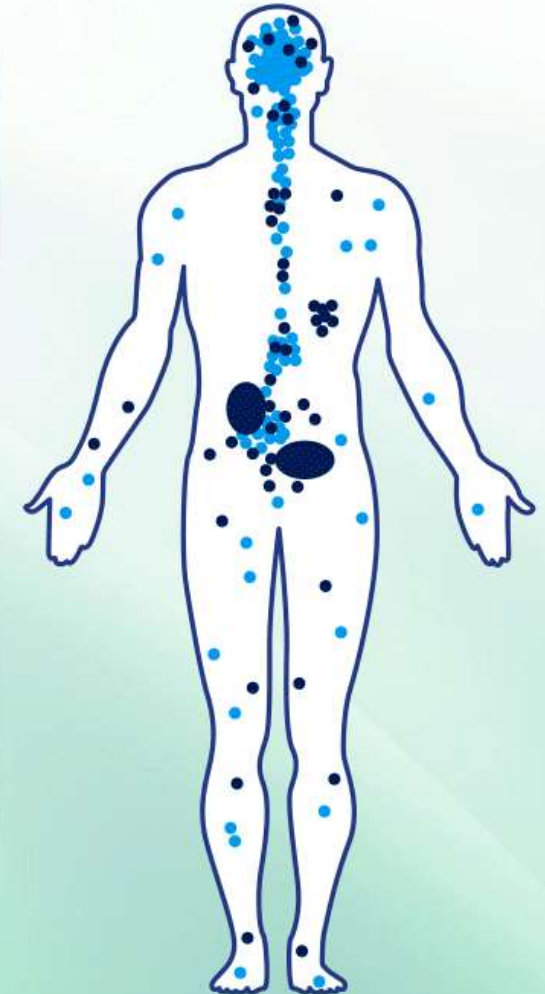


CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.

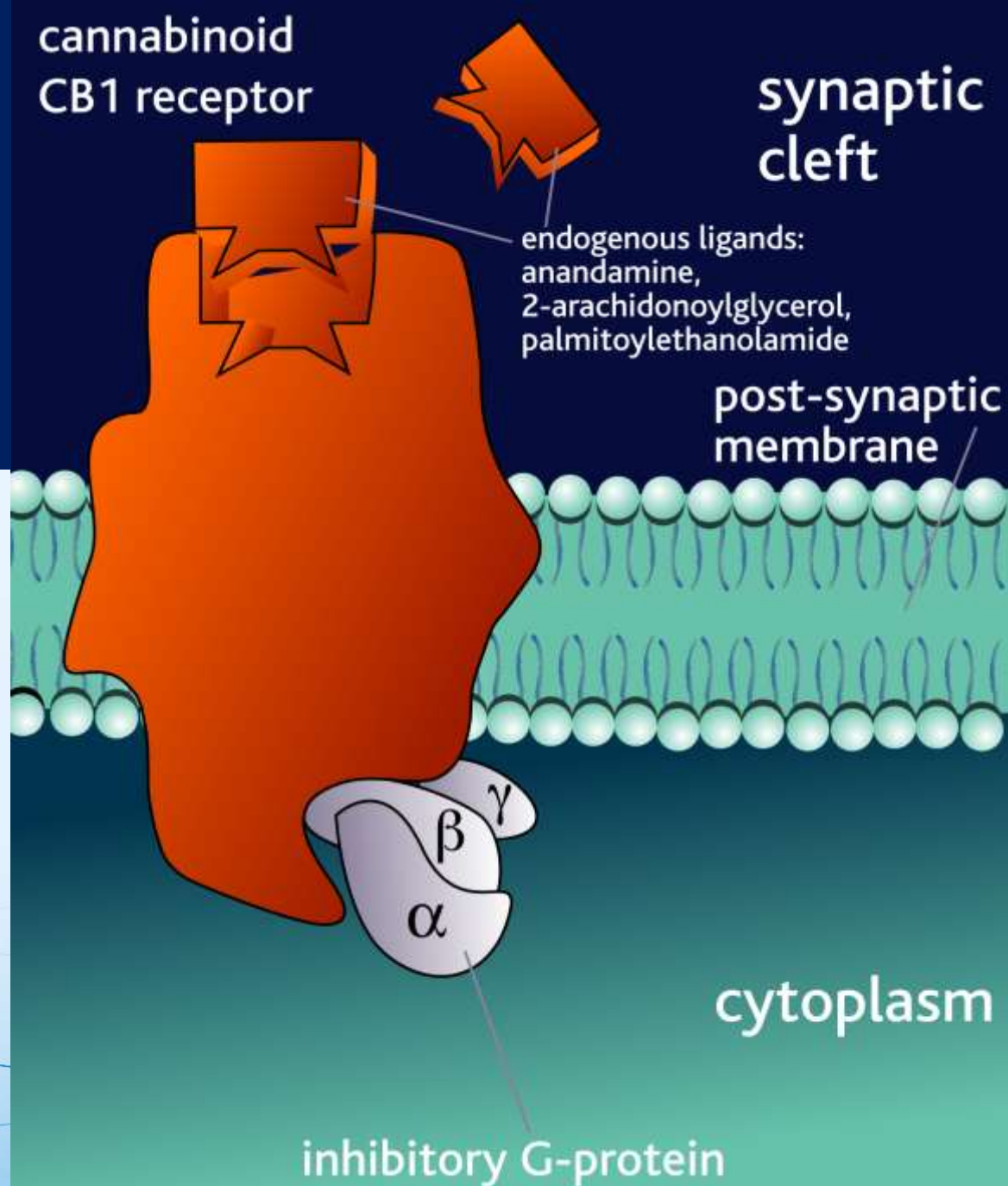


CB2 receptors are mostly in the peripheral organs especially cells associated with the immune system.

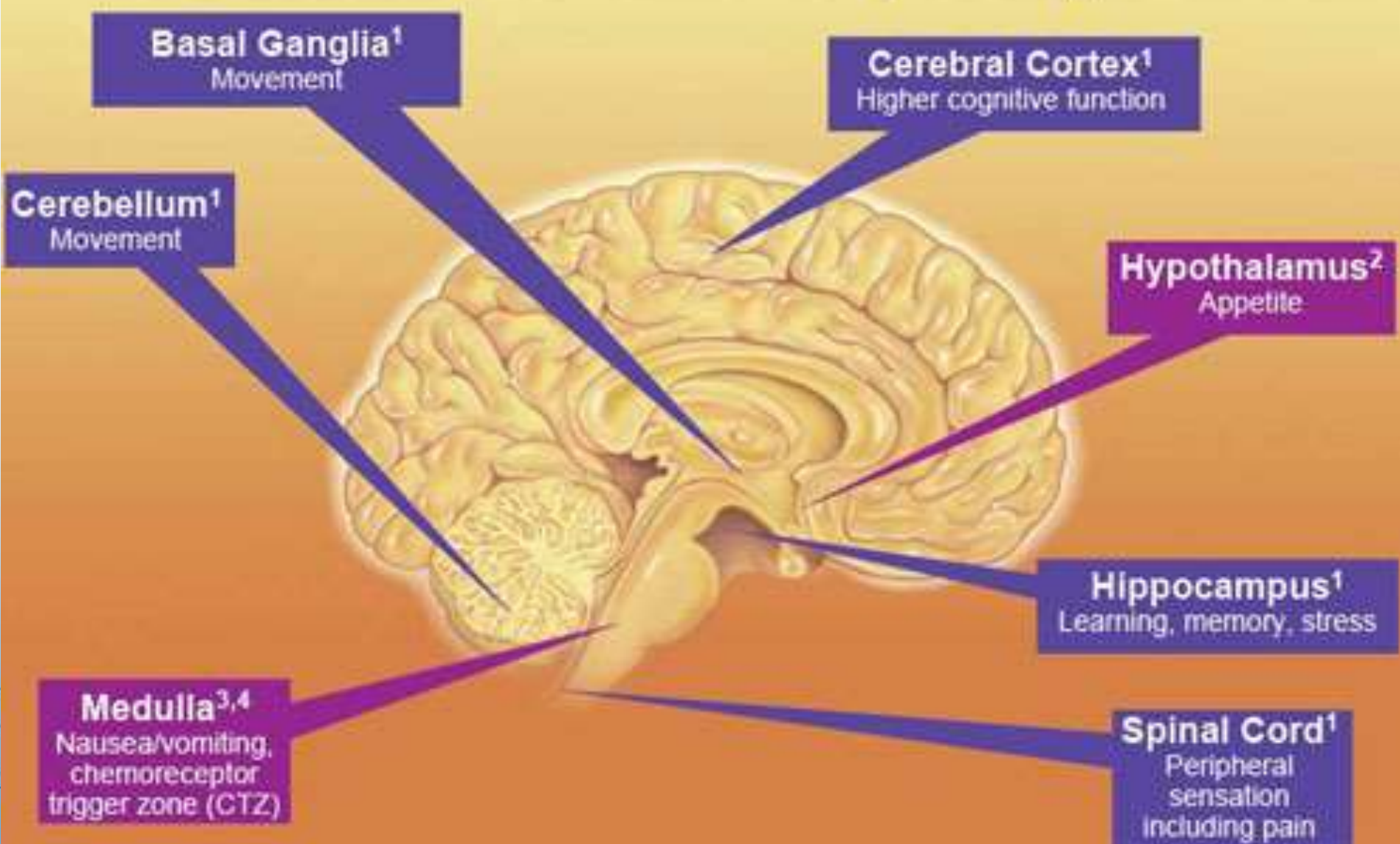
Receptors are found on cell surfaces



Cannabinoid CB1 Receptor



Concentrations of CB₁ receptors



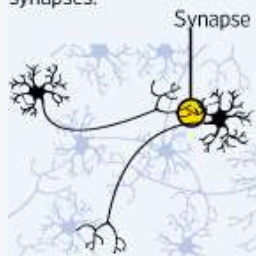
1. Joy JE, et al, eds. Marijuana and Medicine: Assessing the Science Base. Washington, DC: National Academy Press, 1999:33-81. 2. Martin BR, et al. *J Support Oncol*. 2004;2(4):305-316. 3. Grotenhemien F. *Curr Drug Targets CNS Neurol Disord*. 2005;4(5):507-530. 4. Navan RM, et al. *Expert Opin Emerg Drugs*. 2006;11(1):137-151.

How Marijuana Affects the Brain

THC, a key ingredient in marijuana, attaches to cannabinoid receptors throughout the body. Several areas of the brain have high densities of these receptors, which helps explain the different effects of the drug.

How the receptors work

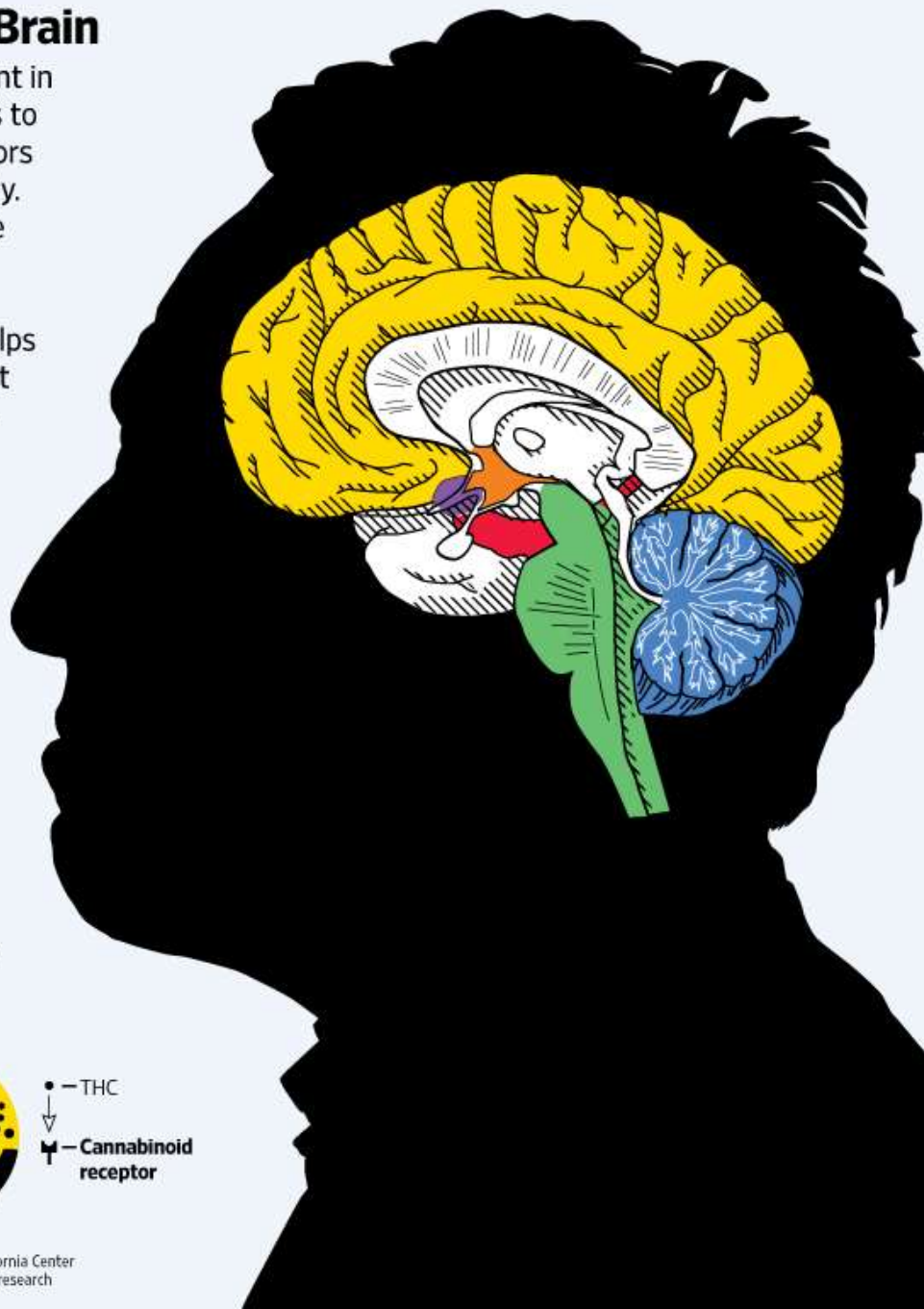
Nerve cells communicate by passing chemical messages across contact points called synapses.



The most active ingredient in marijuana, THC, attaches to cannabinoid receptors and modifies nerve action.



Sources: Igor Grant, University of California Center for Medicinal Cannabis Research; WSJ research



Some areas with high concentrations of cannabinoid receptors:

Corresponding effects of marijuana:

Cerebral cortex

Plays a role in memory, thinking, perceptual awareness and consciousness

Altered consciousness; perceptual distortions; memory impairment; occasional delusions and hallucinations

Hypothalamus

Governs metabolic processes such as appetite

Increased appetite

Brain stem

Controls many basic functions including arousal, the vomiting reflex, blood pressure and heart rate

Nausea relief; rapid heart rate; reduced blood pressure; drowsiness

Also plays a role in pain sensation, muscle tone and movement

Pain reduction; reduced spasticity; reduced tremor

Hippocampus

Is key to memory storage and recall

Impairment in memory

Cerebellum

Governs coordination and muscle control

Reduced spasticity; impaired coordination

Amygdala

Plays a role in emotions

Anxiety and panic in some cases; reduced anxiety and blocking of traumatic memories in other cases; reduced hostility

Maryanne Murray/WSJ

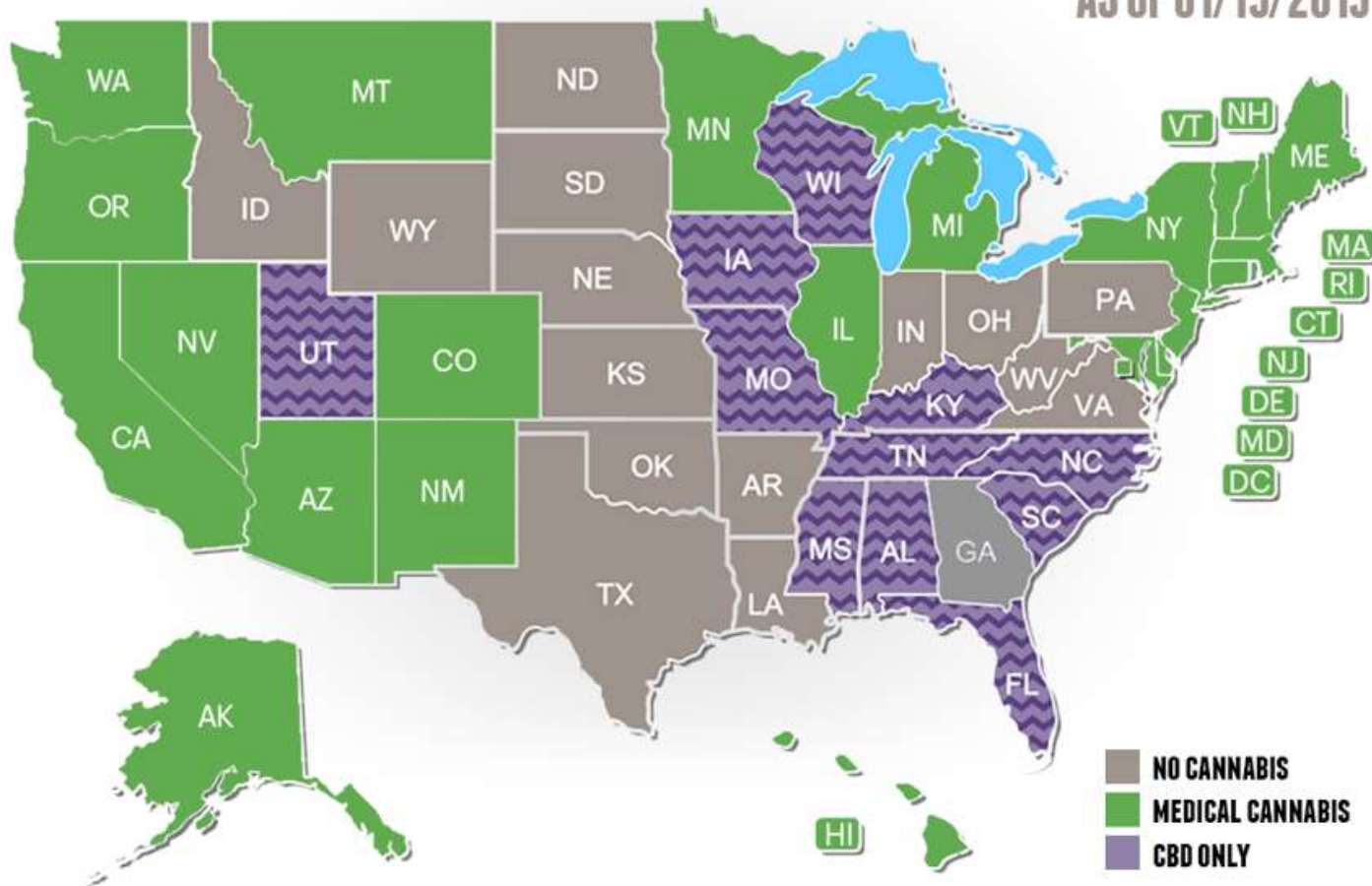
Compassionate Care Act



Medical Marijuana

23 MEDICAL CANNABIS STATES

AS OF 01/15/2015



Medical Marijuana



Potential Therapeutic Uses of Medical Marijuana

Compassionate Care Act

- Cancer
- HIV/AIDS
- Multiple sclerosis
- ALS (Lou Gehrig's Disease)
- Epilepsy

Safety and Efficacy of Medical Marijuana

Koppel BS, Brust JC, Fife T, Bronstein J, Youssof S, Gronseth G, Gloss D (April 2014). "Systematic Review: Efficacy and safety of medical marijuana in selected neurologic disorders: Report of the Guideline Development Subcommittee of the American Academy of Neurology". *Neurology* 82 (17): 1556–63

Safety and Efficacy of Medical Marijuana *(Neurology 82 (17): 1556–63)*

- 34 medical studies
- Only 8 were considered Class I research quality (randomized clinical trial)
- EFFECTIVE:
 - Spasticity
 - centrally-mediated pain and painful spasms
- ALL other neurological claims were deemed “inconclusive” or “ineffective”

Safety and Efficacy of Medical Marijuana

Whiting PF, Wolff, RF, Deshpande S, Di Nisio M, Duffy S, Hernandez AV, Keurentjes JC, Lang S, Misso K, Ryder S, Schmidlkofer S, Westwood M, Kleijnen J. (June 2015) "Cannabinoids for Medical Use: A Systematic Review and Meta Analysis ". JAMA 313(24): 2456–73

Safety and Efficacy of Medical Marijuana (*JAMA* 133 (24): 2456–73)

- 79 medical studies (randomized clinical trials)
- EFFECTIVE:
 - **moderate** quality evidence
 - chronic pain
 - spasticity

Safety and Efficacy of Medical Marijuana (JAMA 133 (24): 2456–73)

- EFFECTIVE:
 - **low** quality evidence
 - nausea and vomiting (chemo)
 - weight gain in HIV infection
 - sleep disorders
 - Tourette syndrome

Safety and Efficacy of Medical Marijuana (JAMA 133 (24): 2456–73)

- INEFFECTIVE or INCONCLUSIVE:
 - psychosis
 - glaucoma
- INCREASED RISK of short-term ADVERSE EFFECTS (dizziness, dry mouth, nausea, fatigue, somnolence, euphoria, vomiting, disorientation, drowsiness, confusion, loss of balance, and hallucination)

Components of Marijuana Smoke

T A B L E 9 . 1

A comparison of the components of marijuana and tobacco smoke

Component	Marijuana	Tobacco
Carbon monoxide (mg)	17.6	20.2
Carbon dioxide (mg)	57.3	65.0
Ammonia (micrograms)	228.0	178.0
Acetaldehyde (micrograms)	1200.0	980.0
Acetone (micrograms)*	443.0	578.0
Benzene (micrograms)*	76.0	67.0
Toluene (micrograms)*	112.0	108.0
THC (tetrahydrocannabinol) (micrograms)	820.0	—
Nicotine (micrograms)	—	2850.0
Napthalene (nanograms)	3000.0	1200.0

Compassionate Care Act

- **Carcinogenic**
 - NY and MN have banned medical marijuana administration via **smoking**

Conclusions



- Some medical/scientific support for limited compassionate use of cannabinoids
- Careful consideration of risk/benefit ratio (i.e. justification of use *in lieu* of other medication)

Questions & Answers

John Stanovich

Chair, Opiate Task Force

Assistant Dean, College of Pharmacy , University of Findlay

Resources

- * Smart Approaches to Marijuana (SAM):
<https://learnaboutsam.org/>
- * Drug Free Action Alliance (DFAA):
<https://www.drugfreeactionalliance.org/marijuana>
- * Your Path To Health (ADAMHS):
<http://www.yourpathtohealth.org/marijuana-information/>
- * Zach Thomas, *Director of Wellness and Education* (ADAMHS): zthomas@yourpathtohealth.org

Thank You

For Additional Questions:

zthomas@yourpathtohealth.org

419-424-1985

www.yourpathtohealth.org