



Supporting Parents & Children in
Greater Lee's Summit since 1986

What is Marijuana

Marijuana



Photo by Robert F. Bukaty/Associated Press

What is Marijuana Made Of?

More than 400 chemical compounds.

Two primary compounds are:

- THC
delta-9-tetrahydrocannabinol

A psychoactive compound that makes you “high”

Potency between 14.5 – 30% in plant form (~ 4% in 1980s)

- CBD
cannabidiol

A non-psychoactive compound

It is NOT a single substance.

These are important distinctions in understanding today’s marijuana.

Is Marijuana Medicine

Is Marijuana Medicine?

- The Controlled Substances Act (CSA) lists marijuana as a Schedule I substance, meaning federal law designates it as having no medical accepted use, a high risk of abuse, and a lack of accepted safety for use under medical supervision.
- The FDA has not approved marijuana as a safe and effective drug for any indication.
- But.....

FDA Approved

Synthetic Cannabinoids

Marinol[®]

Gesamet[®]

Doctors can prescribe

In FDA Studies

Purified Cannabinoids

Sativex[®]

Epidiolex[®]

**Other purified
cannabinoids**

**Doctors can administer
to patients in studies**

Is Marijuana Medicine?

FDA medications:

- Standardized for purity, potency and dosage

Marijuana and its forms:

- Vary in purity, potency and dosage

To be considered a legitimate medicine, a substance must have well-defined and measurable ingredients that are consistent from one unit to the next.

Source: National Institute s of Health

Why are we legislating medicine instead of using the FDA process?

Is Marijuana Medicine?

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- Filled at dispensaries

States do not have to limit the location, hours or number of pharmacies in an area.

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- Prescriptions are NOT taxed in MO

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- Filled at dispensaries
- Doesn't come with patient insert
- MO bills/petitions tax marijuana

Why are we legislating medicine instead of using the FDA process?

Is Marijuana Medicine?

Researchers Samuel Wilkinson and Deepak D'Souza explain in *the Journal of the American Medical Association* that medical marijuana is considerably different from all other prescription medications in that

“[e]vidence supporting its efficacy varies substantially and in general falls short of the standards required for approval of other drugs by the US Food and Drug Administration (FDA).”

Is Marijuana Medicine?

“Because regulatory standards of the production process vary by state, the composition, purity, and concentration of the active constituents of marijuana are also likely to vary. This is especially problematic because unlike most other prescription medications that are single active compounds, marijuana contains more than 100 cannabinoids, terpenoids, and flavonoids that produce individual, interactive, and entourage effects.”

Is Marijuana Medicine?

“[T]he evidence for use in other conditions—including posttraumatic stress disorder, glaucoma, Crohn’s disease, and Alzheimer disease—relies largely on testimonials instead of adequately powered, double-blind, placebo-controlled randomized clinical trials. For most of these conditions, medications that have been subjected to the rigorous approval process of the FDA already exist.”

Examples of National Group Positions

- American Medical Association
- American Academy of Pediatrics
- American Academy of Family Physicians
- American College of Pediatricians
- American Academy of Child and Adolescent Psychiatry
- American Society of Addiction Medicine
- American Epilepsy Society
- American Glaucoma Society
- American Academy of Ophthalmology
- National Comprehensive Cancer Network
- American Cancer Society
- National Multiple Sclerosis Society
- Narcotics Enforcement Officers Association

General Consensus

- More research
- Use the FDA process
- Better medicines may already be available

'Medical Marijuana' → Recreational?

- **SJR 29** – Creates a right to access medical marijuana.

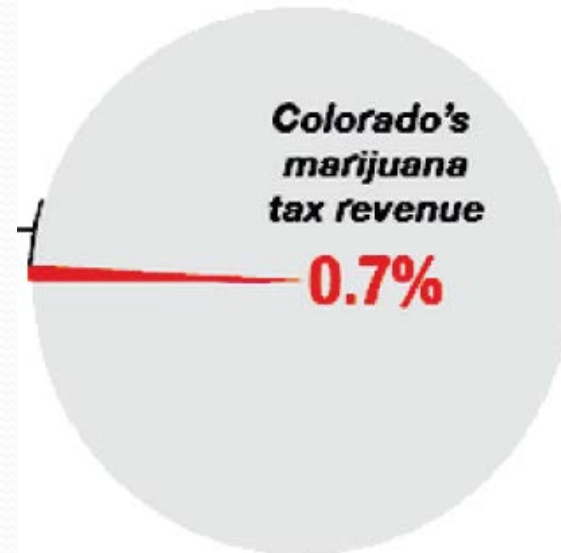
Bill sponsor Sen. Jason Holsman, D-Kansas City, said the complete prohibition on marijuana was an “unsustainable and unwinnable” war.

Holsman said he favored legalizing, regulating and taxing marijuana **but that medical marijuana was an incremental step to move the law forward.**

Lessons from Other States

Marijuana Revenue in CO

- The \$76 million the state collected in legal marijuana taxes and fees in 2014 wasn't "worth it."
~ Colorado Attorney General Cynthia Coffman
- "You do not legalize for taxation. It is a myth. You are not going to pave streets. You are not going to be able to pay teachers. **The big red herring in the whole thing that the tax revenue will solve a bunch of crises. But it won't.**"
~ Andrew Freedman, Director of Marijuana Coordination for the state of Colorado

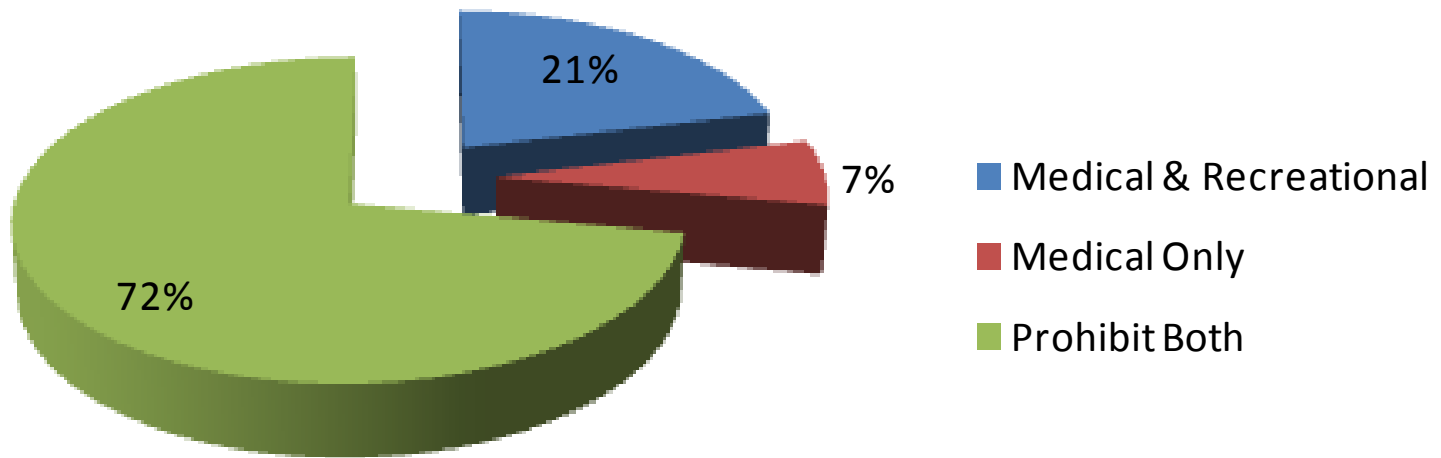


Colorado's forecasted general fund revenue for FY 2015

gazette.com/editorial-federal-report-shows-damning-and-deadly-trends/article/1559389 9/17/15

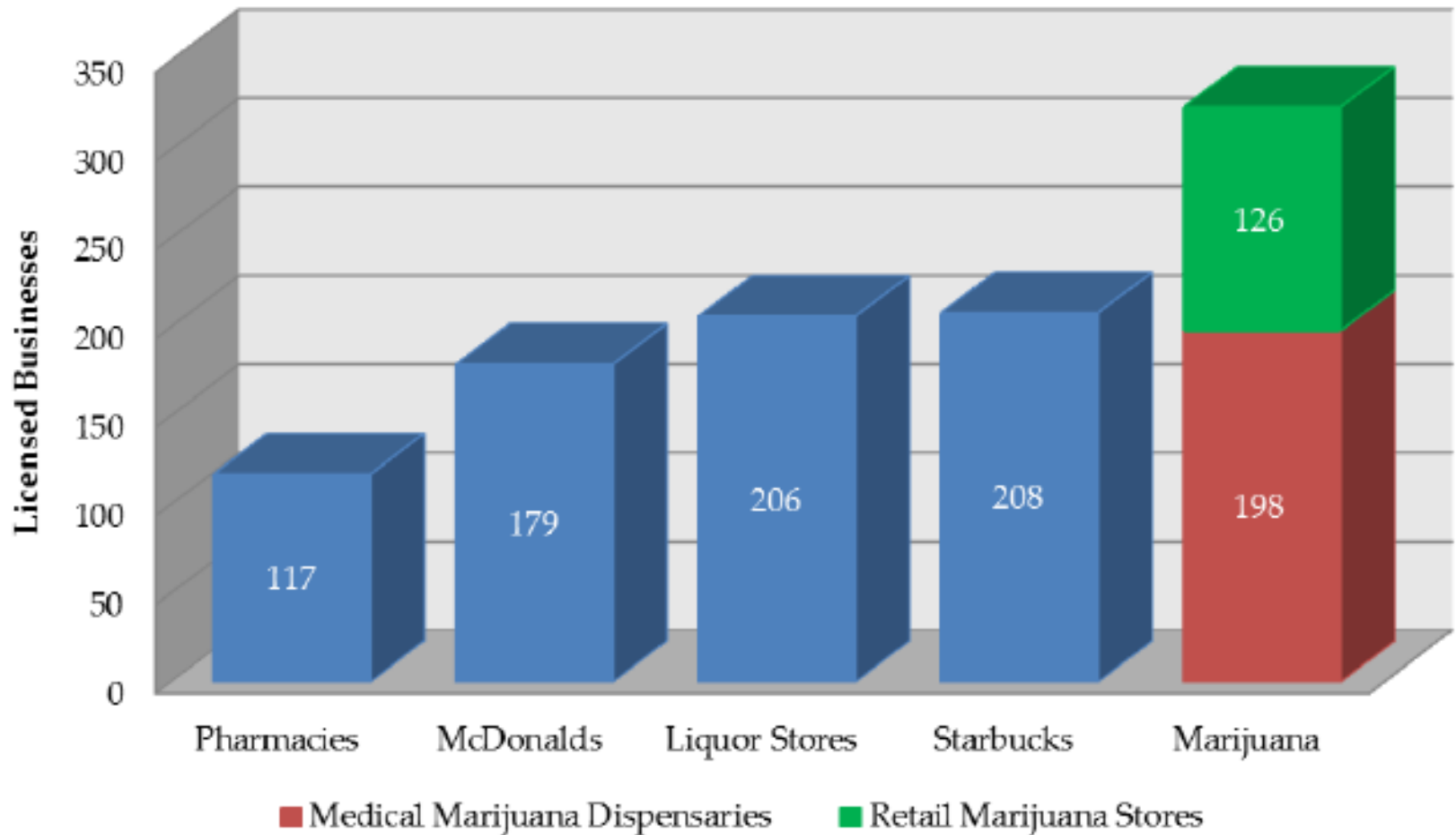
Local Option in CO

Colorado Jurisdictions



Source: Colorado Department of Revenue 2015

Denver Business Comparisons, January 2015



SOURCE: Colorado Department of Revenue; Starbucks Coffee Company, Corporate Office Headquarters; McDonalds Corporation, Corporate Office Headquarters

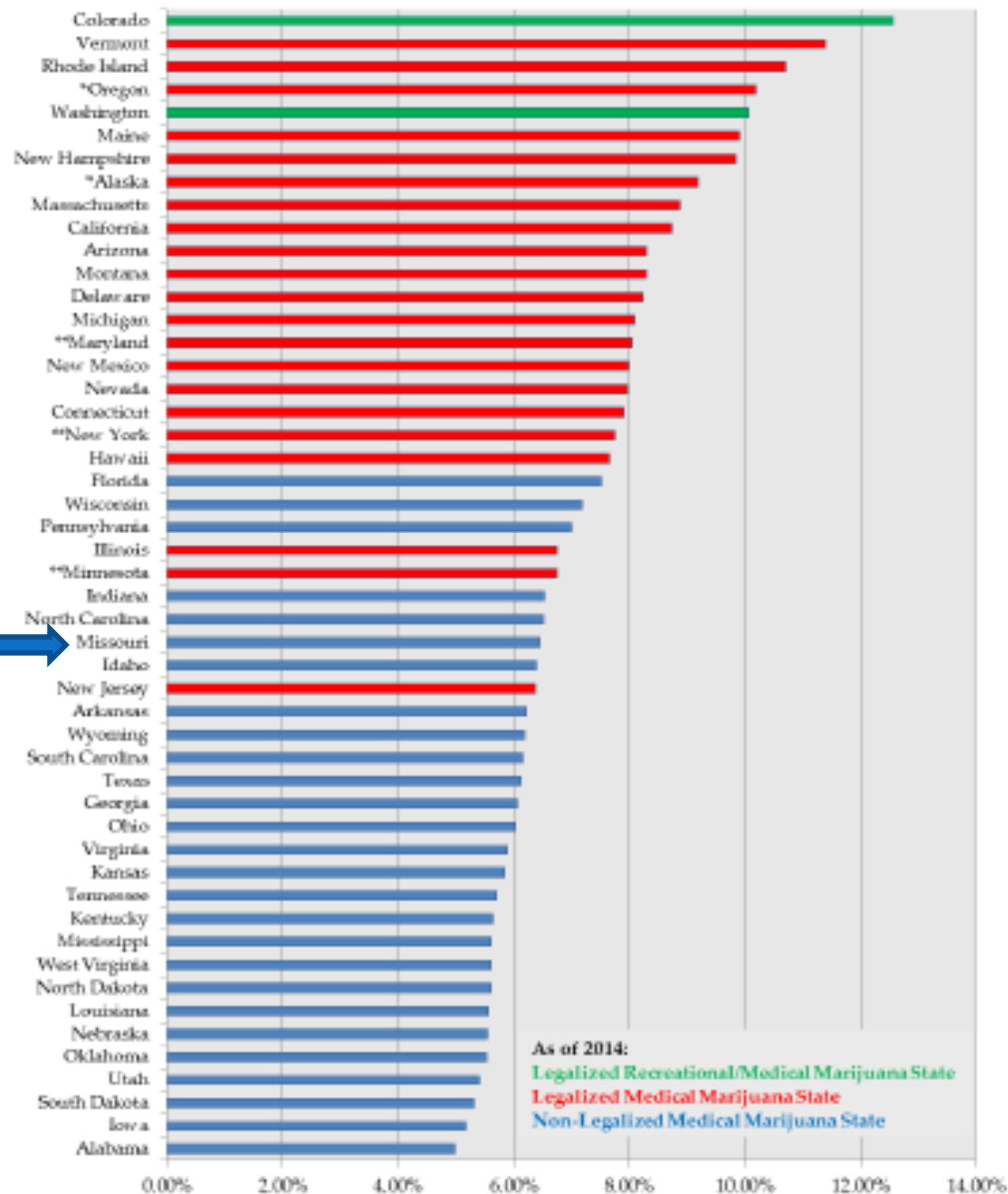
Marijuana Edibles & Marketing



More than half of the daily sales for dispensaries in Colorado come from concentrates, primarily in edible cannabis products - *Denver Post's Cannabist*



Past Month Usage by 12 to 17 Years Old, 2013/2014



SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2013 and 2014

NOTE:

*Oregon and Alaska voted to legalize recreational marijuana in November 2014

**States that had legislation for medical marijuana signed into effect during 2014

Costs to Employers

Michigan

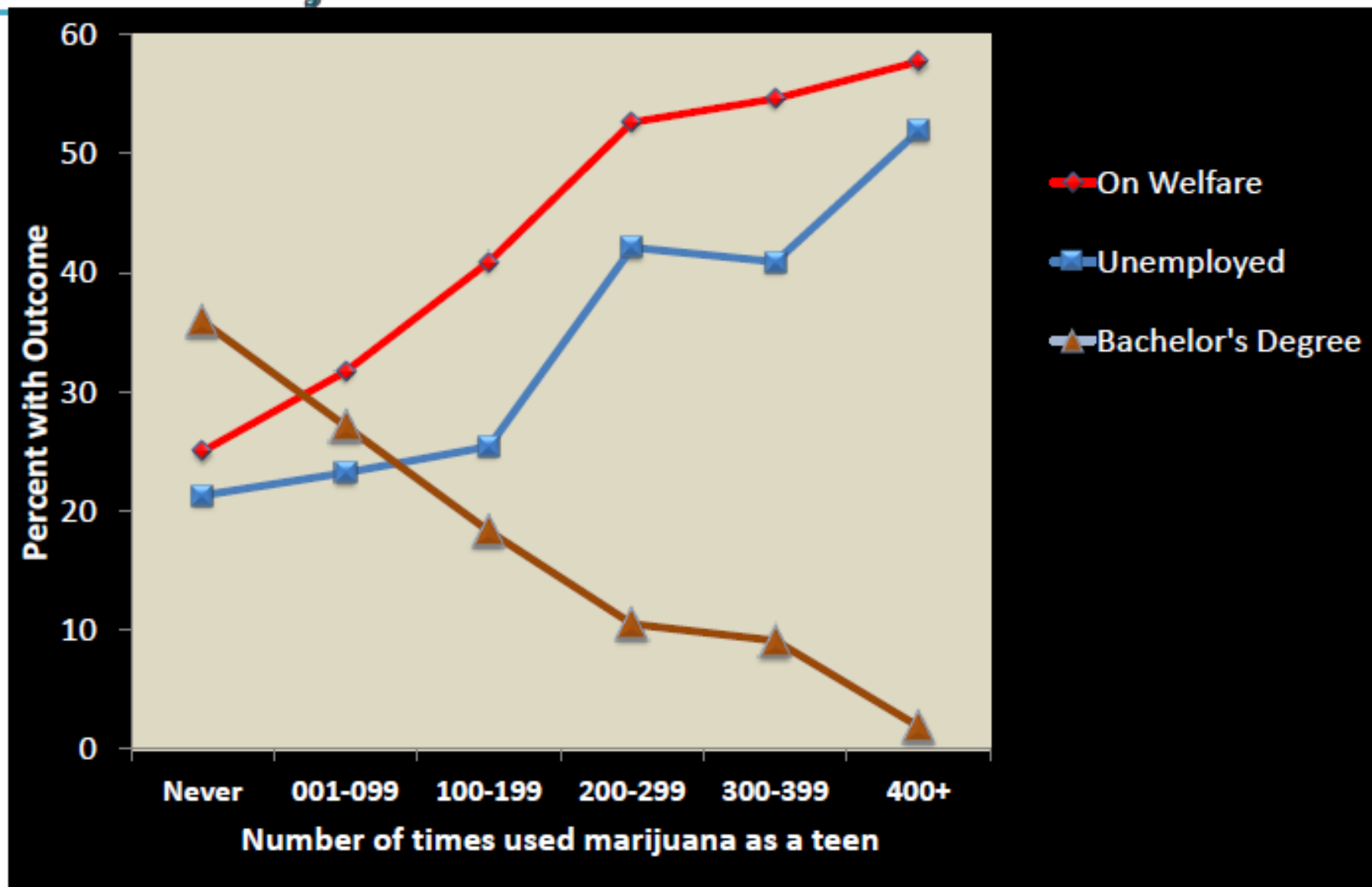
- Requires unemployment compensation to employees fired for failing drug tests if using marijuana under the Michigan Medical Marijuana Act

New Mexico

- Requires employer coverage of medical marijuana as part of workers' compensation benefits

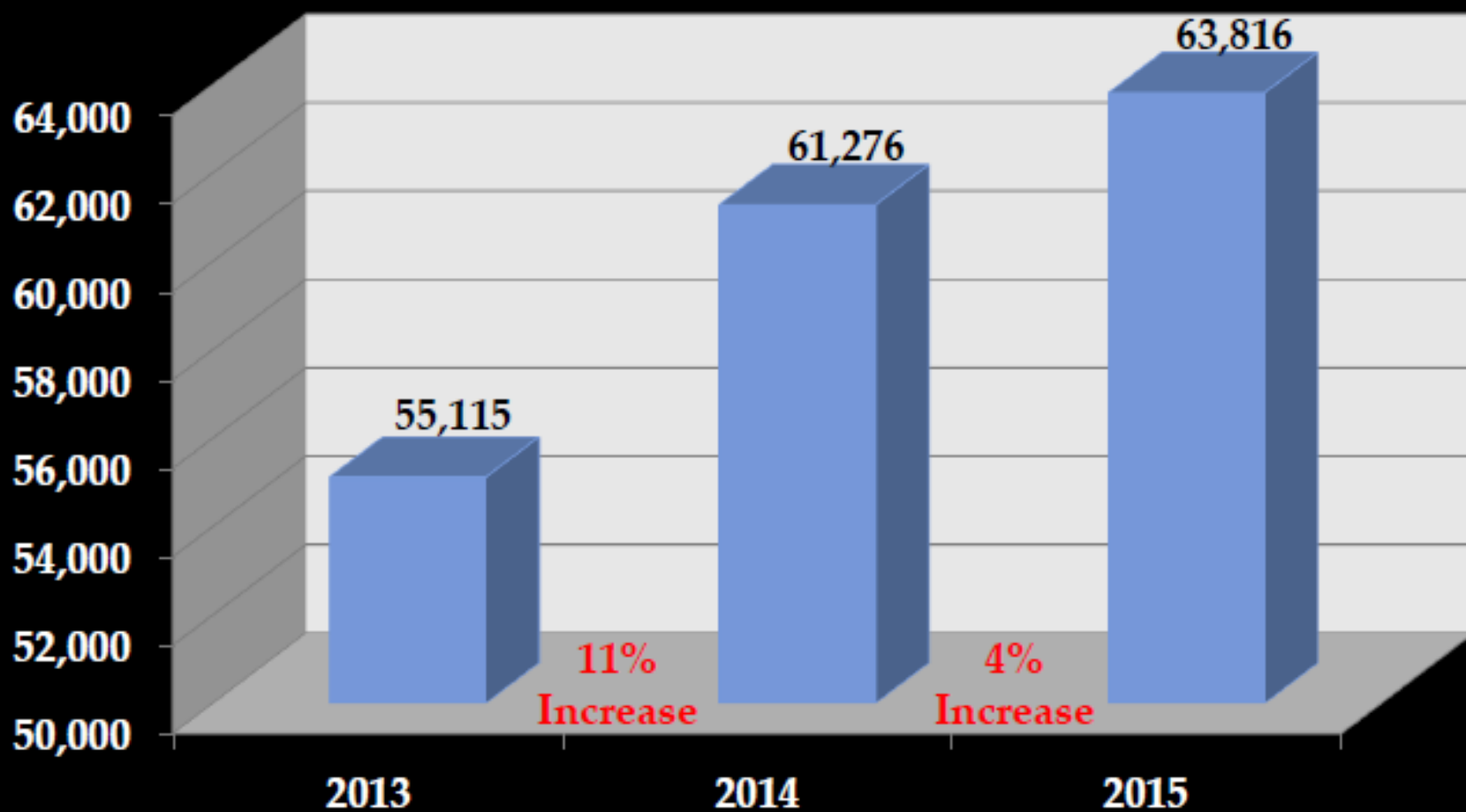
Motivation

Teen Marijuana Use Affects Adult Motivation



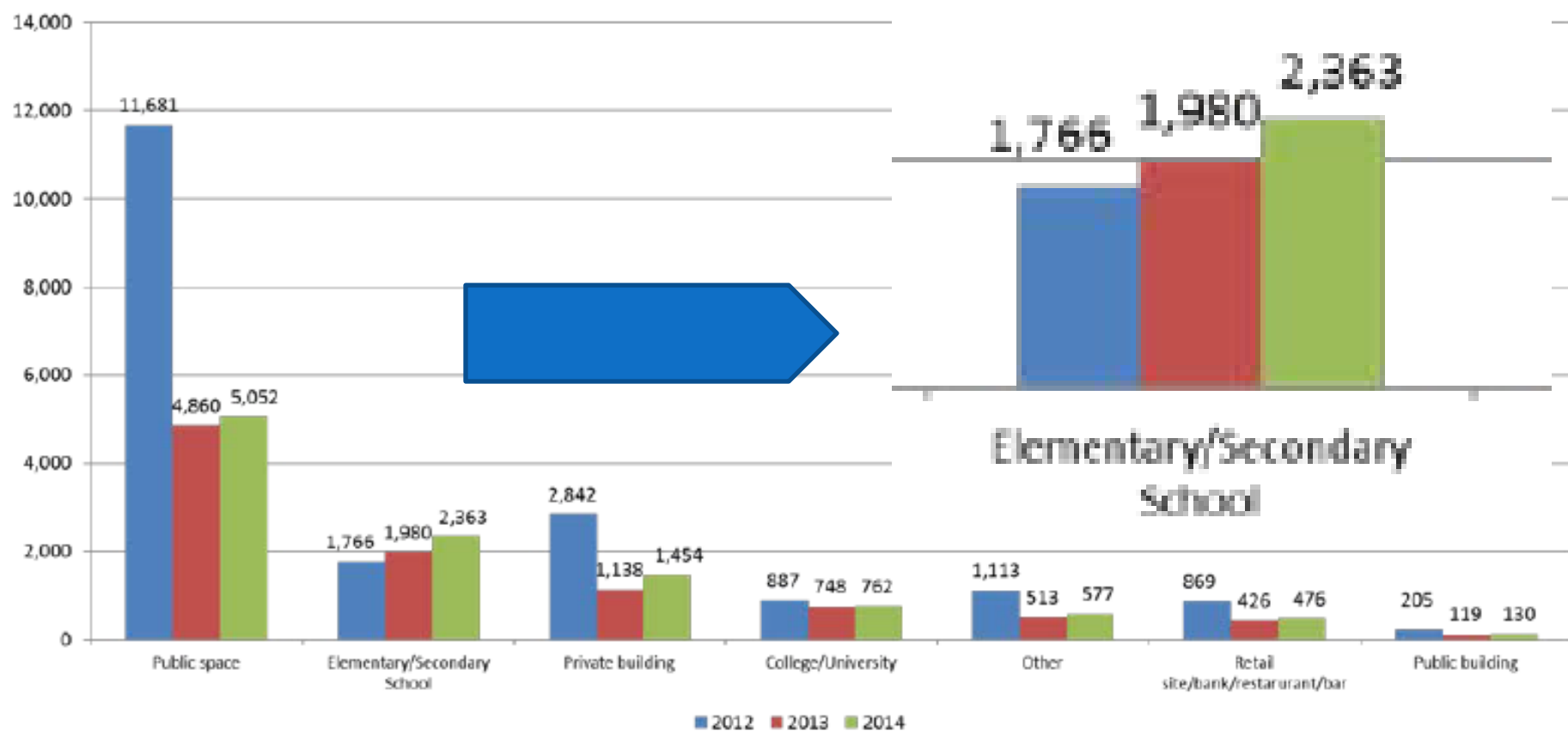
Source: Fergusson and Boden , *Addiction*, 103, pp. 969-976, 2008.

All Reported Crimes in Denver



Reported offenses using the National Incident Based Reporting System (NIBRS) definitions in the City and County of Denver, January 9, 2015

Figure 1. Marijuana offenses, by location type, 2012–2014



Source: Colorado Bureau of Investigation, National Incident-Based Reporting System data.

Schools as Dispensaries

In 2015, New Jersey required schools to accommodate student medical marijuana use.

In January 2016, Auburn, Maine approved a policy to allow students to have medical marijuana under certain conditions.

Colorado is considering a law requiring schools to allow nurses or parents to administer medical marijuana.

What Medical Marijuana Looks Like



Colorado Medical Marijuana



No difference between growing, harvesting and processing of “medical” versus retail marijuana



Marijuana in Missouri

What Is Allowed Now in Missouri?

Decriminalization 2014

- Possession of 10 grams or less of cannabis will be punishable by a fine only (effective 1/1/17).

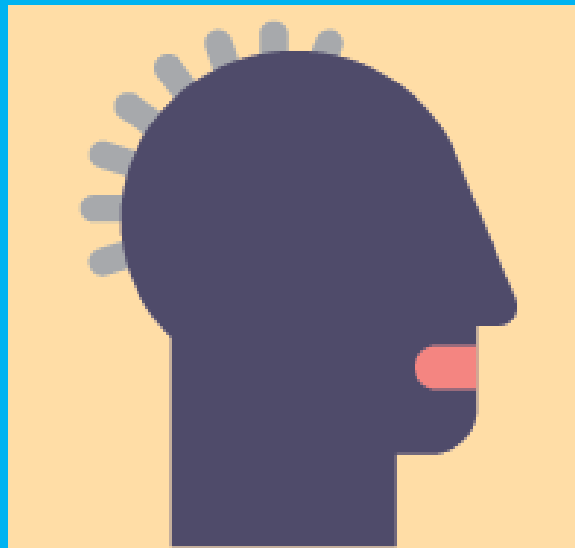
Legalization 2014

- CBD permitted for those with intractable epilepsy



PROTECTING OUR YOUTH

MARIJUANA IN MISSOURI



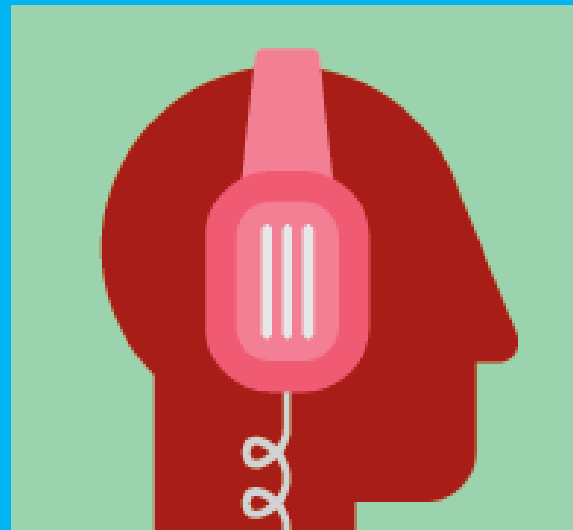
IT CAN BE ADDICTIVE

- 1 in 6 youth who start using marijuana become addicted.

National Institutes of Health/NIDA
2014

- People who begin using marijuana before the age of 18 are 4 to 7 times more likely to develop a marijuana use disorder than adults.

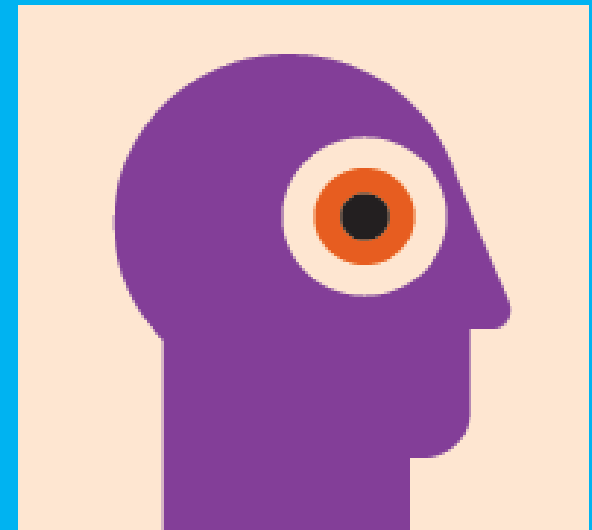
University of Minnesota 2007



AGE OF INITIATION IS CRITICAL

- 1 in 5 (21.2%) high school seniors report using marijuana in the past month. Close to 6% of high school seniors report daily use of marijuana.

Monitoring the Future Survey 2014

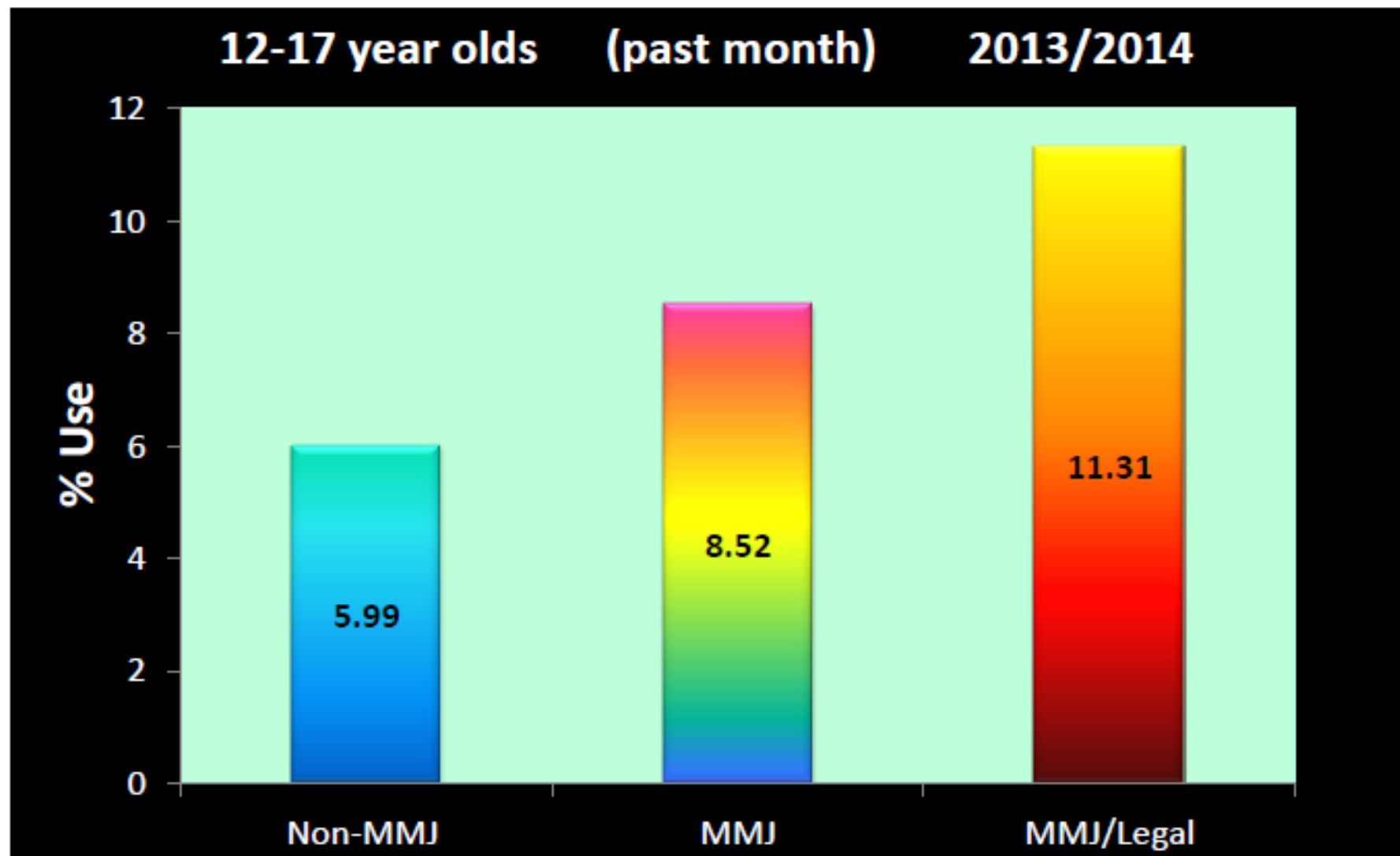


ACCESS CAN INCREASE USE

- Youth marijuana use is highest in states with medicinal or legalized marijuana.

SAMHSA 2013

Marijuana Status and Youth Marijuana Use in U.S.



Source: NSDUH, 2014, Issued 2015

marijuana

MISSOURI

U.S.

AVERAGE AGE OF FIRST USE:

13.88

13.94

LAST 30 DAYS USE:

7.6%

7.2%

LIFETIME USE:

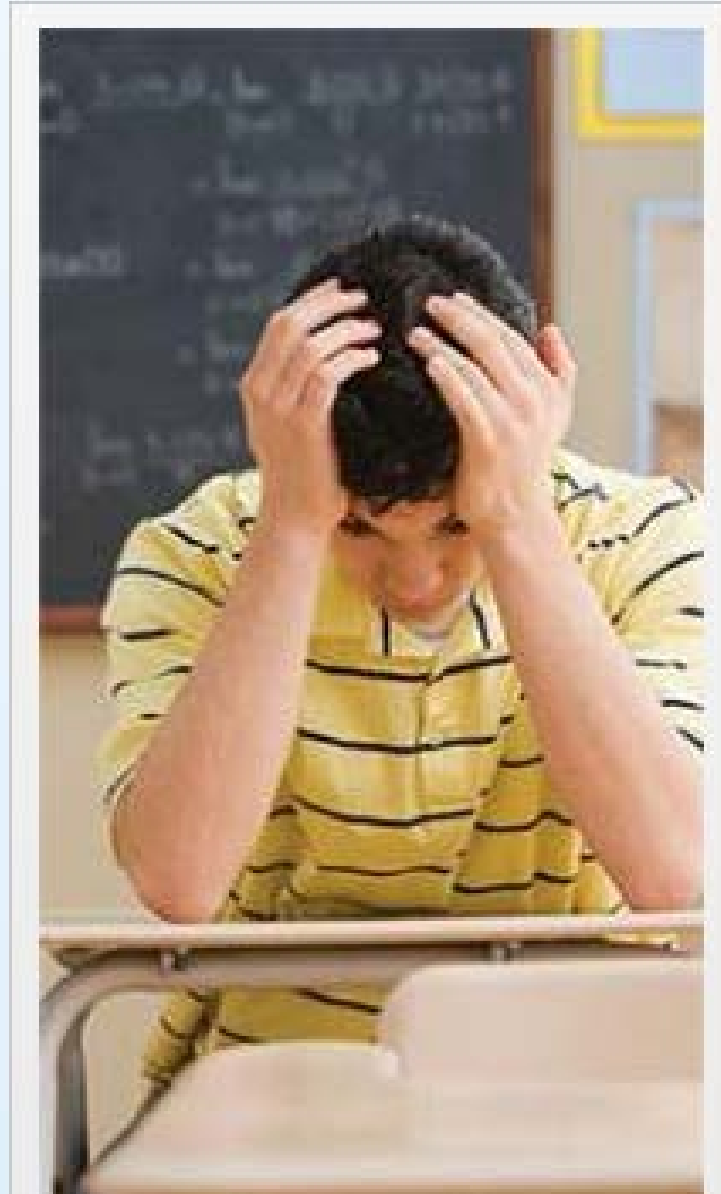
15.2%

17.0%

Adverse Consequences of Marijuana Use

Acute (present during intoxication)

- Impaired short-term memory
- Impaired attention, judgment, and other cognitive functions
- Impaired coordination and balance
- Increased heart rate
- Anxiety, paranoia
- Psychosis (uncommon)



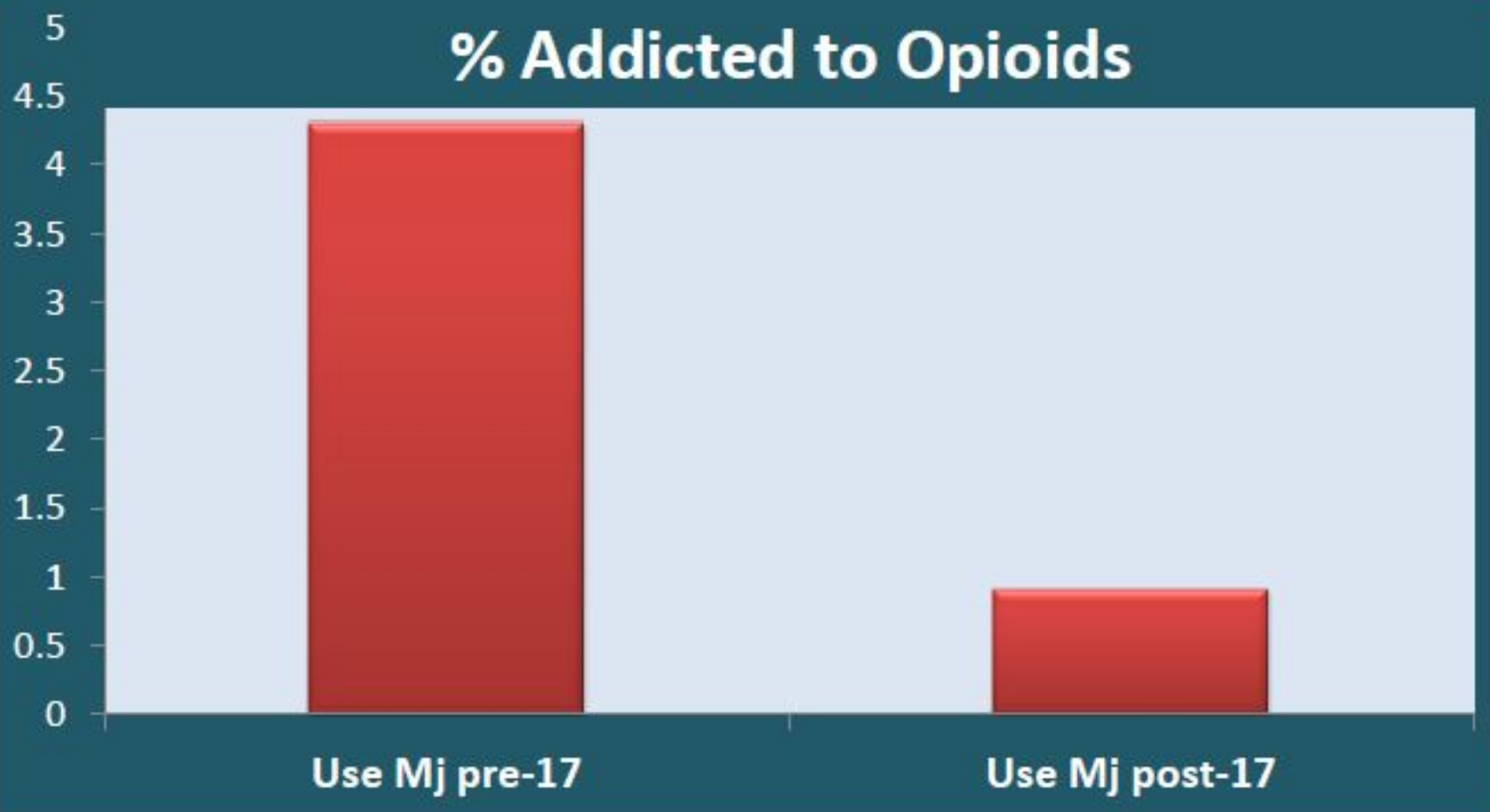
Persistent (lasting longer than intoxication, but may not be permanent)

- Impaired learning and coordination
- Sleep problems

Long-term (cumulative effects of repeated use)

- Potential for marijuana addiction
- Impairments in learning and memory with potential loss of IQ*
- Increased risk of chronic cough, bronchitis
- Increased risk of other drug and alcohol use disorders
- Increased risk of schizophrenia in people with genetic vulnerability**

Marijuana Use Primes Brain to “Like” Opioids: Children at Risk



Michael T. Lynskey; Andrew C. Heath; Kathleen K. Bucholz JAMA, January 22/29, 2003—Vol 289, 427-433

Keeping
Missouri Kids



Safe

MO Groups that Oppose Marijuana Legalization in Any Form

- City of Ballwin
- City of Chesterfield
- City of Clarkson Valley
- City of Ellesville
- City of Eureka
- City of Jefferson
- City of Wildwood
- Missouri Narcotics Officers Association
- Missouri Association of Prosecuting Attorneys
- National Council on Alcoholism and Drug Dependence
- Missouri Sheriffs Association
- Missouri Police Chiefs Association

Join us!

See the full list of 45+ groups/cities at
actmissouri.org/advocacy/resolution-to-reduce-marijuana-related-problems/
(list as of 5/1/16)



Additional Research

Response to Parents of Children with Epilepsy

- “[A]rtisanal "high CBD" oils resulted in no significant reduction in seizures in the majority of patients and in those for whom the parents reported improvements, these improvements were not associated with improvement in electroencephalograms (EEGs), the gold standard monitoring test for people with epilepsy.
- Additionally, in 20% of cases reviewed seizures worsened with use of cannabis and in some patients there were significant adverse events.
- ~ **Amy Brooks-Kayal, M.D., a Colorado pediatrician, 2015 President of the American Epilepsy Society, March 22, 2015**

Response to Parents of Children with Epilepsy

- "We've seen children that have had rather severe reactions while on medical marijuana products," said **Amy Brooks-Kayal, M.D., a Colorado pediatrician who is [the 2015] president of the American Epilepsy Society.** "We don't know if that's from the medical marijuana product or something else, because it wasn't done in a controlled setting."

Dr. Brooks-Kayal supports the clinical trials underway now across the country, and advises parents not to treat their sick children with cannabis oil until clinical trials are complete. As of now, would Dr. Brooks-Kayal recommend to the parents of her young patients that they treat their children with medical marijuana?

- "I would, only if they were doing it as part of a clinical trial. I would not if I could not guarantee the family the quality and safety of the product that they were using, and if they weren't being carefully observed as part of a clinical trial," she said. "There's no question that this treatment is not without risks. There's no question that it does not work for every child. And what we really need to do is complete the good clinical research studies that will get us the answers -- about which children are going to benefit from this, how should we give it, what do we need to be concerned about, and to make sure that we know that the product that we are giving to people with epilepsy is the highest quality and consistent product that they can get. I don't think we have those answers at this point."

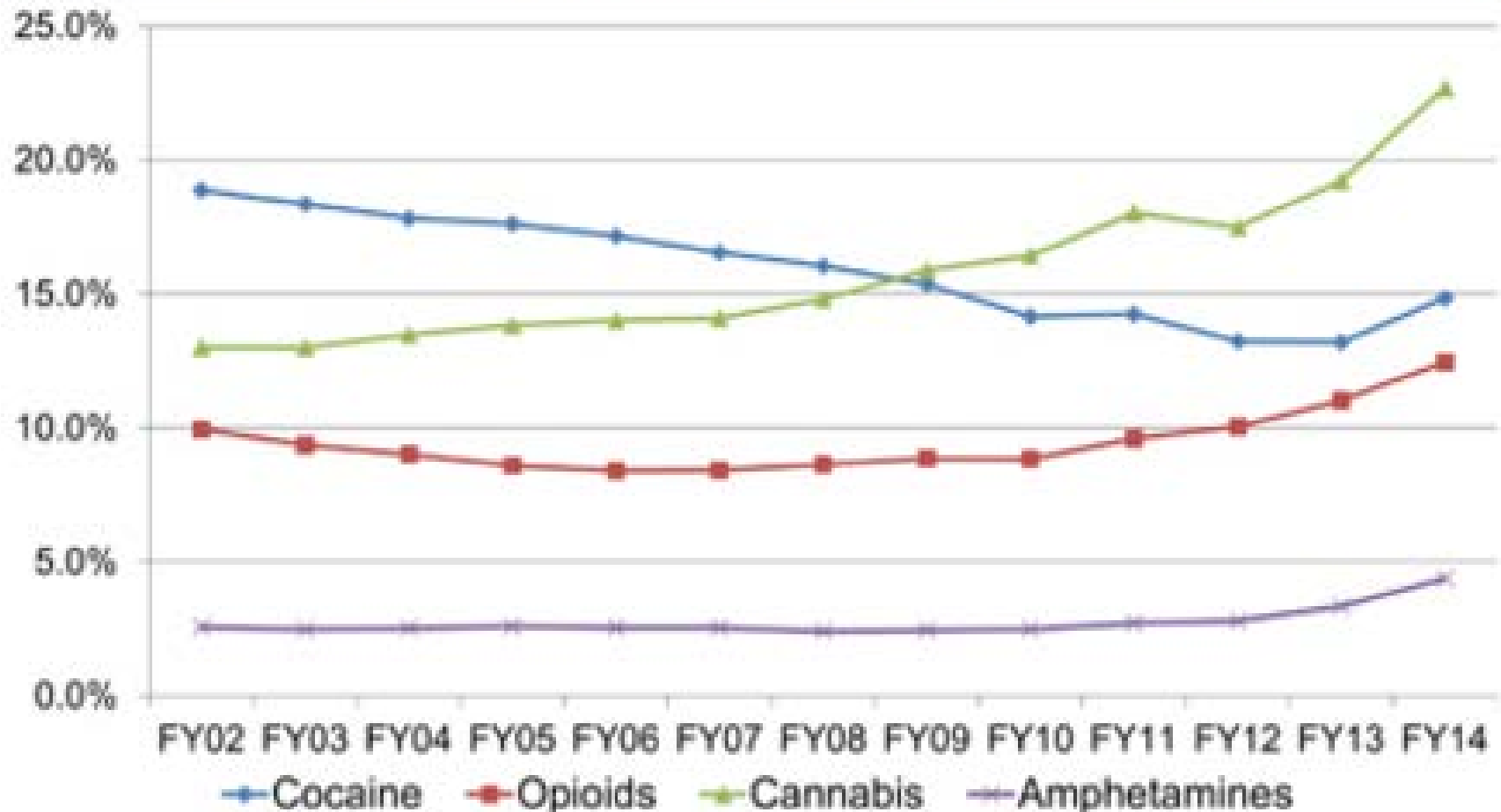


U.S. Department
of Veterans Affairs

Marijuana as a Treatment for PTSD

The belief that marijuana can be used to treat PTSD is limited to anecdotal reports from individuals with PTSD who say that the drug helps with their symptoms. There have been no randomized controlled trials, a necessary "gold standard" for determining efficacy. Administration of oral CBD has been shown to decrease anxiety in those with and without clinical anxiety (18). This work has led to the development and testing of CBD treatments for individuals with social anxiety (19), but not yet among individuals with PTSD. With respect to THC, one open trial of 10 participants with PTSD showed THC was safe and well tolerated and resulted in decreases in hyperarousal symptoms (20).

Trends in Rates of Past-Year SUD Diagnoses by Drug among Veterans with PTSD & SUD Diagnoses Treated in VA Health Care



Marijuana Compared with Alcohol

Marijuana Effects Persist

MARIJUANA

- THC dissolves in fat; cleared slowly
- IMMEDIATE EFFECTS: up to 6 hours
- SUB-ACUTE EFFECTS: can last 6 - 20 days
- LONG-TERM EFFECTS: more than 20 days
- Even if not using now, learning ability may be compromised for several days

ALCOHOL

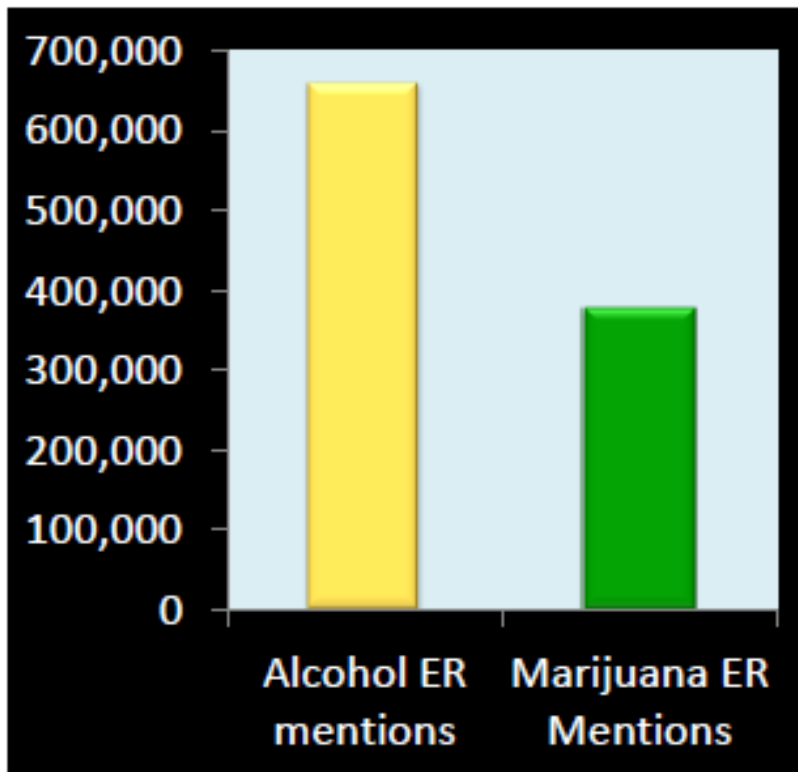
- Alcohol dissolves in water: quickly cleared
- IMMEDIATE EFFECTS: no effects or intoxication depends on amount consumed
- One drink clears the body within ~3 hours
- SUB-ACUTE EFFECTS: do not persist longer than 24 h
- LONG-TERM EFFECTS: depends on how much, how frequently used

Sources: Hall W & Degenhard L (2009). Adverse health effects of non-medical cannabis use. *Lancet*, 374:1383-1391. Jager and Ramsey, 2008

Marijuana Compared with Alcohol

Emergency Department Mentions: Higher Proportion of Marijuana Users Compared with Alcohol users

Numbers of ED Mentions



Ratio of ED Mentions: % of Users

