

Lessons Learned from Medical Marijuana Legalization in Other States

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SAM promotes an evidence-based approach to marijuana policy that prioritizes public health

 SAM takes an evidence-based, scientific approach to marijuana policy that rejects the false dichotomy that we must either lock up marijuana users OR legalize pot



We are non-partisan, and work with Democrats, Republicans, and independents

Groups we have worked with include:

- American Society of Addiction Medicine
- American Academy of Pediatrics
- American Academy of Child and Adolescent Psychiatry
- Over 30 state affiliates

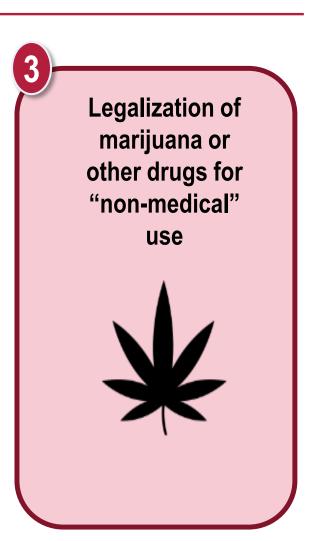
Outline

- Is Marijuana Medicine?
- 2 What Happens When A State Legalizes?
- 3 Current Regulatory Failures
- 4 Marijuana and Opioids
- 5 Conclusions

Three separate issues that often get conflated







Is marijuana medicine? It depends on how you look at the question



NO

Smoked or ingested raw marijuana is **not medicine**



YES

There are
marijuana-based
pills available to
treat illness, and
other such
medications coming
soon

? MAYBE

Additional research is ongoing into the medical properties of marijuanaderived compounds

What about Schedule I?

Smoked, whole marijuana is in S-1, which means it doesn't have medical use.

Components are S-3

YOU CAN RESEARCH S-1 drugs, and this happens every day.

Scheduling is a matter of extreme confusion Scheduling is not a "harm index"

Approved Cannabinoid Products

- Marinol® and its generics: synthetic THC in sesame oil; schedule III; nausea/vomiting in cancer chemotherapy and AIDS wasting;
- Cesamet® (nabilone): a synthetic THC analogue; schedule II;
- Epidiolex® (cannabidiol): used to treat Lennox-Gastaut Syndrome, Dravet Syndrome
- Sativex®: a botanical extract, 1:1 CBD to THC; approved in 28 countries (ex US) for spasticity in MS.

Treatment-Resistant Childhood Epilepsy: Spectrum of Rare Disorders

Many different types of epilepsy syndromes, seizures and causes, including:

FIRES

LENNOX-GASTAUT SYNDROME

3 TO 4% OF CHILDHOOD EPILEPSY¹

DRAVET SYNDROME

FPILEPSIES IN FIRST YEAR OF LIFE2

CDKL5

TUBFROUS SCLEROSIS COMPLEX

> **DOOSE SYNDROME**

> > DUP15q **SYNDROME**

> > > **SYNDROME**

GLUT 1 TRANSPORTER DEFICIENCY

ANGELMAN'S SYNDROME

> STXBP1/OHTAHARA **SYNDROME**

WEST SYNDROME (INFANTILE SPASM)

AICARDI SYNDROME

Products in Development

- Epidiolex® (GW Pharma): Dravet Syndrome (DS)/ Lennox Gastaut Syndrome (LGS) (2 studies in each, FDA APPROVAL; awaiting DEA
 - also Tuberous Sclerosis Complex (TSC);
- Synthetic CBD (Insys): DS/ LGS (Phase 1b/2a), Infantile Spasms;.
- Synthetic CBD (transdermal) (Zynerba): complex partial seizures; Phase 1.



What can't medical marijuana do?



in About Filmesses Treatable With Medical Cannabis Syndrome (SWS) Endometriosis · Epidermolysis Bullosa · Stuttering Epididymitis Epilepsy **Brain Cancer** Felty's Syndrome joint Disorder (TMJ) · Fibromyalgia Tenosynovitis · Friedreich's Ataxia G Headaches Gastritis · Genital Herpe: Glaucoma Tobacco Dependence Glioblastom . Tourette's Syndrome Multiforme (Bra Writers' Cramp Graves Disease Viral Hepatitis · Headaches, Analgesic · Headaches, Migraine Hemophilia A. · Wasting Syndrome Henoch-Schonlein · Whiplash Purpura Wittmaack-Ekborn Hepatitis C Syndrome HIV/AIDS · Writers' Cramo Huntington's Disease Hypertension Hyperventilation Hypoglycemia

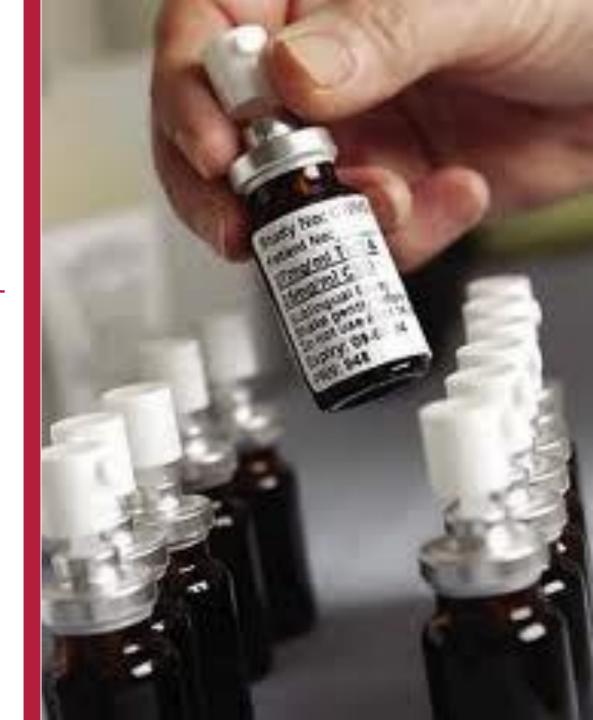




https://unitedpatientogroup.com/resources/linesses-treatable-with-medical-cannable

Safe, approved cannabis-based medicines already exist

- Research on the efficacy of cannabinoids is not focused on raw/crude marijuana, but on individual components that may have medical use.
- Sativex is in the process of being studied (phase III trials)
- Approved by regulators in Canada and across Europe
- Administered via an oral spray



Epidolex[™] is one such medication

- 98% pure cannabidiol (CBD)
- Some effectiveness for treating seizures
- Many versions exist on the market that are not purified or standardized



A long-term solution to expand authorized medical cannabis research is needed

CURRENT SITUATION

 Many groups are trying to sell or give away CBD in different states without going through any FDA or NIH process. However, these products have no such safety assurances.



SOLUTION

 To address this problem in the long-term, the United States should expand and accelerate current research so that every patient who might benefit from CBD can obtain it.

Is the true goal of "medical" marijuana compassionate care or increased access to pot?

THE "AVERAGE" USER ISN'T SICK

The average "medical" marijuana user is not whom you'd imagine:



- White male
- 32 years old
- No history of lifethreatening disease
- History of drug and alcohol abuse

ILLNESSES USED TO JUSTIFY "MEDICAL" MARIJUANA ARE RARE

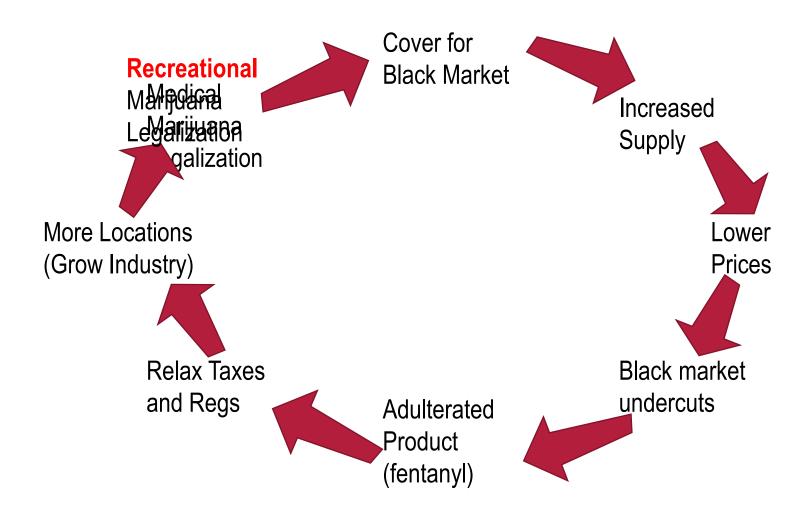


Fewer than 5% of "medical" marijuana card holders are cancer, HIV/AIDS, or glaucoma patients

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The Cycle of "Tax and Regulate"



The Oklahoma Experience

June 26, 2018 Medical Marijuana Passes

Two days later...

June 28, 2018
Recreational Ballot Initiative
Announced

Pot Shops Lead to Increased Youth Use

- Youth use in Oregon has increased in counties with more medical marijuana dispensaries between 2006-2015.
- "this relationship was partially attributable to perceived norms favorable towards marijuana use."
- Oregon legalized recreational marijuana in 2014, but has had a much longer medical marijuana program.
- The leaked Oregon State Police report from January 2017 revealed that much of the marijuana grown through their medical program is being diverted to the black market.

Pot Shops Lead to More Crime

- Pot shops have heightened security to protect the immensely valuable product
- An NIH-funded study of crime in Denver shows increased property crime in the neighborhoods surrounding pot shops
- "Over time, as marijuana grows in popularity, densities of marijuana outlets may increase, resulting in higher crime...There are definitely negative public health consequences [of legalization], including increased crime." – Study lead author Bridget Freisthler

Pot Shops Don't Reduce Alcohol Consumption

- Marijuana industry analysis of Canadian market projects marijuana legalization would lower alcohol sales by less than 1%
- Contradicts industry assertions that people will switch from alcohol to marijuana
- Data shows that people use both, often together, leading to much higher levels of impairment
- Telling quote: "Our focus on these younger consumers reflects our belief that the experimenter of today is the leading consumer of tomorrow," –Cowen and Company report by marijuana industry analyst Vivian Azer

Washington Traffic Safety Study (2018)

- Marijuana-impaired driving fatalities have more than doubled
- One in five drivers are under the influence of marijuana.
 That is up from one in ten prior to legalization.
- 64.2% of respondents who reported using marijuana and driving stated that they didn't think that it impaired their ability to drive at all.
- Drivers who admit to driving within three hours of using marijuana are also more likely to drink and drive, not wear a seat belt, and binge drink

MARIJUANA RELATED CRIME AND OFFENSES SINCE LEGALIZATION

One hundred three (103) law enforcement agencies reported 6727 qualifying incidents in 554 public schools during the 2015-16 academic year, from August 1, 2015 through July 31, 2016.

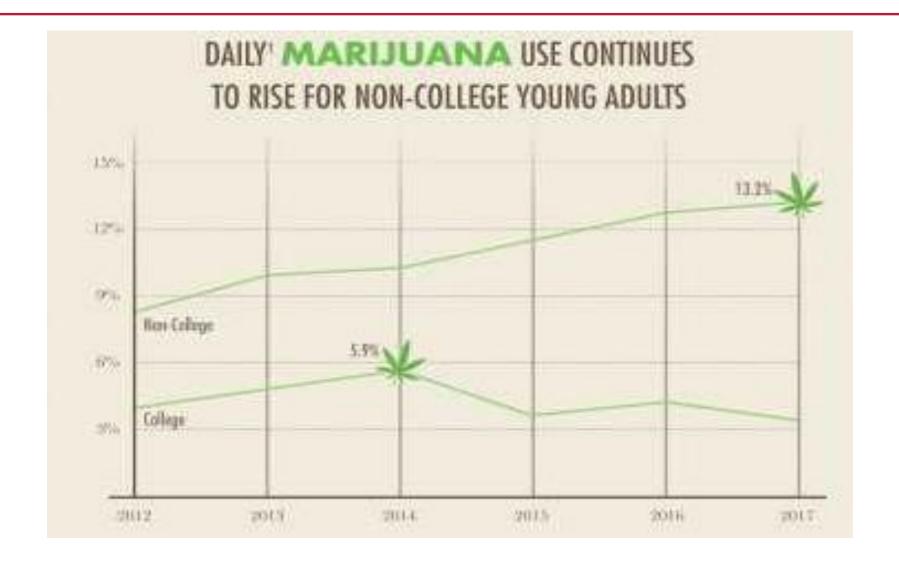
CRIMES AND OFFENSES IN PUBLIC SCHOOLS, 2015-2016

OFFERICE

OFFENSE	Ν	%	CUMULATIVE 9
Marijuana (#1)	1561	23%	23%
Assault	834	12%	36%
Disorderly Conduct/ Fighting	814	12%	48%
Public Peace	666	10%	58%
Dangerous Drugs	420	6%	64%
Larceny/Theft	341	5%	69%
Liquor/Alcohol	297	4%	73%
Tresspass	260	4%	77%
Obstruct	206	3%	80%
Harassing Communication	203	3%	83%
Other/Unclear	194	3%	86%
Weapon Offense	141	2%	88%
Tobacco	127	2%	90%
Damage Property	120	2%	92%
Traff effectionse	91	1%	93%
Sexual Assault/Offense	76	1%	94%
Warrant	57	1%	95%
Criminal Mischief	47	1%	96%
Runaway/ Missing Person	41	1%	97%
Interference with Educ Inst	39	<1%	97%
Truancy	36	<1%	98%
Burgary	33	<1%	98%
Menacing	26	<1%	99%
Arson	25	<1%	99%
Robbery	20	<1%	99%
Curfew	16	<1%	100%
Family/Child Offense	12	<1%	100%
Vehicle Theft	8	<1%	100%
Fraud/Forgery	5	<1%	100%
Kidnapping	5	<1%	100%
Invasion of Privacy	2	<1%	100%
Total	6727	100%	100%

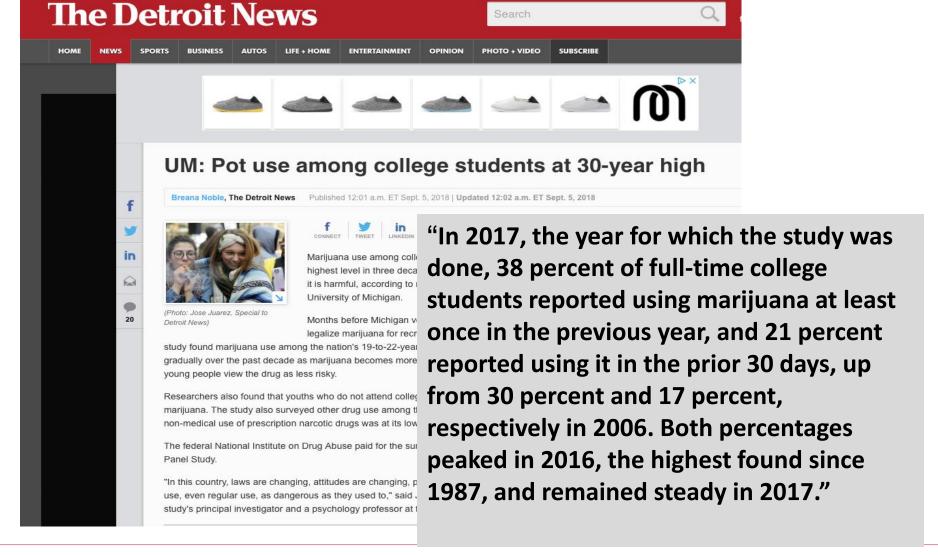
Source: Colorado Department of Public Safety, 2017

Daily Marijuana Use Rising in Young Adults

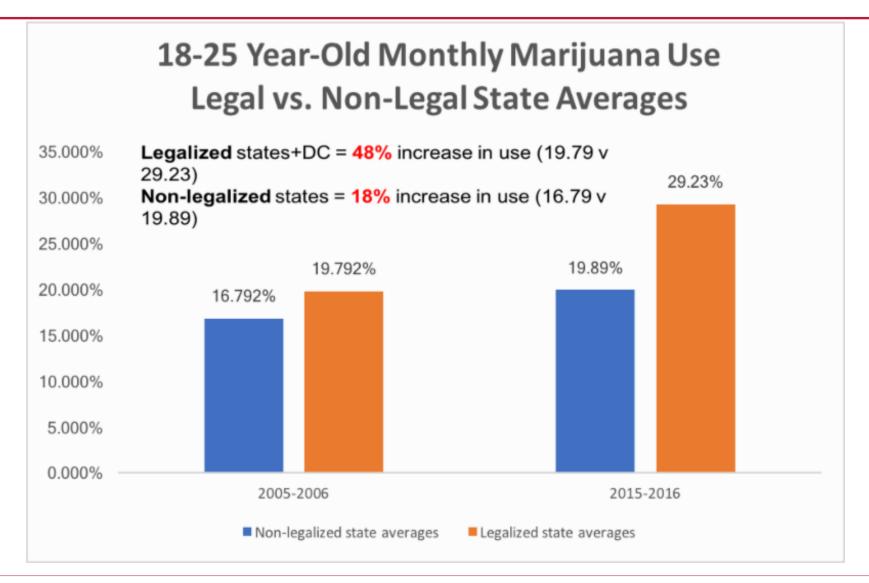




Effect on College Students



Effect on College Students and New Workers





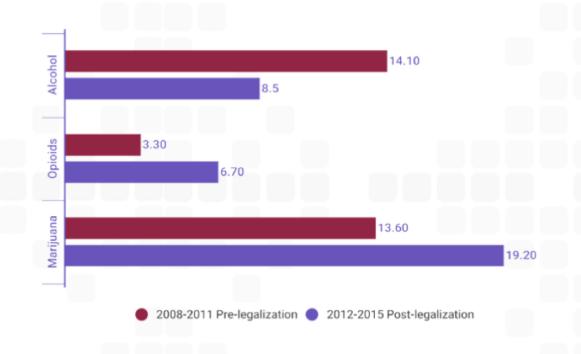
NAS: Marijuana use is also associated with other physical and mental health issues

- Respiratory problems, including chronic bronchitis
- Injuries & deaths from car accidents
- Overdose injuries in children
- Low birth weight (where pregnant mother uses)
- Impaired learning, memory, and attention (including permanent loss of IQ in younger heavy users)
- Suicide



ADVERSE EFFECTS ON HEALTH OUTCOMES

AVERAGE TOXICOLOGY OF SUICIDES AMONG ADOLESCENTS AGES 10-19 YEARS OLD (WITH KNOWN TOXICOLOGY)



SOURCE: Colorado Department of Public Health and Environment (CDPHE), Colorado Violent Death Reporting System

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Current Regulatory Failures

- Black Market (and Cartels)
- Increased Access for Minors

Pesticides and Contaminants

Recommended to Pregnant Women

The Black Market Has Gotten Worse





Mexican drug cartels are taking full advantage of Colorado's marijuana laws

7

BY: Sally Mamdooh

POSTED: 9:02 PM, Apr 7, 2016 UPDATED: 9:02 PM, Apr 7, 2016

TAG: colorado | drugs | marijuana | marijuana industry | pot industry



"Legal" growers, illegal activity

"From my side, I have yet to see one (grow) that's legit. The whole mantra for pro-marijuana legislation was that it would be legal, regulated and taxed. What you're seeing here is none of that." – Sheriff's Deputy Ray Gerhart, El Paso County, CO

Colorado's black market thrives under a legal marijuana canopy, law enforcement tries to keep up. *Colorado Springs Gazette*, 1 May 2017.

"Seed-to-Sale" Tracking Has Many Loopholes



Missing marijuana: Weed disappearing from licensed dispensaries, not all cheaters get caught

POSTED 8:51 PM, MAY 1, 2017, BY CHRIS HALSNE, UPDATED AT 09:52PM, MAY 1, 2017

"One pattern of noncompliance stood out: The much-touted "seed-to-sale" tracking of every marijuana plant has some flaws...

"But plenty of pot still ends up missing. How the METRC system works, by law, is supposed to be a bit of a mystery...

"Within that gray area is where cheaters can list perfectly good marijuana product as too damaged to sell, then sell it anyway."

Sales to Minors





News Release

Oregon Liquor Control Commission 9079 SE McLoughlin Blvd., Portland, OR 97222-7355 1-800-452-6522

For more information: Mark Pettinger, Marijuana Program Spokesperson, (503) 872-5115 www.marijuana.oregon.gov

January 10, 2018

Licensees Across Oregon Fail to Stop Sales to Minors
OLCC Marijuana Retailer Minor Decoy Checks Continue



Increased Availability to Minors



A 9-Year-Old Accidentally Shared Her Grandpa's Marijuana Gummi...







A 9-Year-Old Accidentally Shared Her Grandpa's Marijuana Gummies With Her Fifth-Grade Class

HOLLYWOOD



Edible marijuana at Hollywood school sends 14-year-old girl to hospital

Hollywood police officer investigates 'Weedos' marijuana incident

By Ian Margol - Reporter, Andrea Torres - Digital Reporter/Producer

One arrest Updated: 6:32 AM, April 23, 2018 Updated: 6:32 AM, April 24, 2018 Gummy bears sicken Chula Vista students

BY: Jessica Chen, Mark Saunders POSTED: 2:53 PM, Apr 27, 2017 UPDATED: 12:05 AM, Apr 28, 2017





States are failing to regulate pesticide use







5 Investigates put the purity of medical marijuana to the test, working samples bought off the shelves. Investigative reporter Kathy Curran never have been sold, but uncovered gaping holes in the state regularijuana safe and contaminant-free.





MARIJUANA NEWS

Contaminated marijuana still reaching consumers in Oregon

Updated Jun 18, 2017; Posted Jun 17, 2017



Gallery: Cannabis product testing for pesticides



States are failing to regulate pesticide use

Pesticides and Pot: What's California Smoking?



An NBC4 I-Team investigation found evidence suggesting that pesticides could be present in a lot of marijuana legally sold in California

By Joel Grover and Matthew Glasser

Published at 10:57 PM PST on Feb 22, 2017 | Updated at 1:37 PM PST on Nov 8, 2017

Steep Hill Labs found 41 out of 44 samples, 93 percent, tested positive for pesticides, at levels high enough that those products would've been banned for sale in some other states that currently regulate the use of pesticides in marijuana products.

"It appears pesticides are very widely used" on California's marijuana crops, said Dr. Don Land, a UC Davis chemistry professor who is Steep Hill's chief scientist. "It was surprising that so many (samples) had so much contamination."

Non-publicized Recalls of Marijuana Products (In CO)

Denver Public Health Recalls of Marijuana products --

2018

• February 16, 2018 - Lightshade Labs LLC Voluntarily Recalls Medical and Retail Marijuana Due to Presence of Yeast/Mold in Pre-Roll Products

2017

- December 5, 2017 Infuzionz LLC Voluntarily Recalls Marijuana Product Due to Non-Food Grade Ingredients
- October 26, 2017 Little Brown House Dispensary LLC/Delta-9 Delights LLC Voluntarily Recalls Marijuana and Marijuana Products Due to Pesticide Residues
- August 21, 2017 Left Bank LLC Voluntarily Recalls Marijuana Products Due to Non-Food Grade Ingredients
- August 10, 2017 Kirke LLC/Metro Denver Telluride Health Center LLC Voluntarily Recalls Medical Marijuana Due to Pesticide Residues
- July 27, 2017 Buddies Wellness LLC Voluntarily Recalls Medical Marijuana Due to Powdery Mildew and Mite Contamination
- July 24, 2017 Buddies Wellness LLC/La Bodega Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- April 14, 2017 Mountain Medicines Recalls Medical Marijuana Infused-Products due to Pesticide Residues
- April 7, 2017 Information Regarding Cannabidiol (CBD) Products Sold or Manufactured in Denver
- April 3, 2017 Herbal Options LLC/Rocky Mountain Ways LLC Voluntarily Recalls Medical Marijuana and Marijuana Concentrates Due to Pesticide Residues
- January 19, 2017 GMC LLC Voluntarily Recalls Medical and Recreational Marijuana and Products Due to Pesticide Residues

2016

- November 9, 2016 Medicinal Wellness Center LLC Voluntarily Recalls Marijuana and Concentrates Due to Pesticide Residues
- October 24, 2016 Tree of Wellness Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- August 22, 2016 La Conte's Clone Bar and Dispensary Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 21, 2016 Wash Park Boutique LLC Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 14, 2016 Big Toe Voluntarily Recalls Marijuana and Products Due to Pesticide Residues
- June 8, 2016 The Tea Pot Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 6, 2016 Pineapple Exchange Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- June 1, 2016 JVT Enterprises Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- May 13, 2016 Avicenna Products Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- February 11, 2016 CC Foods Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- January 29, 2016 Caregivers for Life Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- January 27, 2016 Organa Labs Voluntarily Recalls Marijuana Products Due to Pesticide Residues

2015

- December 30, 2015 Mountain High Suckers Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- December 21, 2015 EdiPure Recalls Additional Marijuana Products Due to Pesticide Residues
- December 16, 2015 RevTec Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- December 11, 2015 Advanced Medical Alternatives Recalls Additional Marijuana Products Due to Pesticide Residues
- December 8, 2015 EdiPure Recalls Additional Marijuana Products Due to Pesticide Residues
- December 3, 2015 Advanced Medical Alternatives Recalls Marijuana Products Due to Pesticide Residues
- December 1, 2015 EdiPure Recalls Marijuana Products Due to Pesticide Residues
- November 18, 2015 Gaia's Garden Recalls Additional Marijuana Products Due to Pesticide Residues
- November 17, 2015 Lab710 Concentrates Recalls Marijuana Products Due to Pesticide Residues
- November 17, 2015 Gaia's Garden Recalls Marijuana Products Due to Pesticide Residues
 November 3, 2015 Gaia's Garden Recalls Marijuana Products Due to Possible Pesticide Residues
- October 30, 2015 Green Cross Recalls Marijuana Products Due to Possible Pesticide Residues
- October 30, 2015 Green Cross Recalls Marijuana Products Due to Possible Pesticide Residues
 October 21, 2015 Nature's Cure Recalls Marijuana Products Due to Possible Pesticide Residues
- October 14, 2015 Two Denver Cultivation Facilities Recall Marijuana Products Due to Possible Pesticide Residues
- September 25, 2015 Consumer Advisory Issued for Autopilot Capsules Manufactured by Rx Green
- September 18, 2015 Two Denver Businesses Recall Marijuana Products Due to Possible Pesticide Residue
- September 10, 2015 Mahatma Concentrates Recalls Marijuana Product Due to Possible Pesticide Residues
- July 27, 2015 Consumer Advisory Issued for Nature's Herbs Olive Oil
- July 17, 2015 Advisory: The Growing Kitchen Issues Recall of Mary Mint Tincture



70% of marijuana dispensaries in Colorado recommended THC products to pregnant women.

- Medical dispensaries were more likely to recommend marijuana products than retail dispensaries: 83% and 60% respectively
- Marijuana's effects on developing babies could include low birth weight, and other developmental problems – including fatal anencephaly

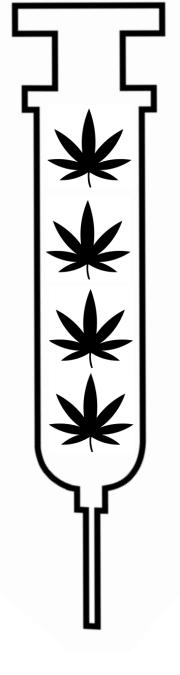


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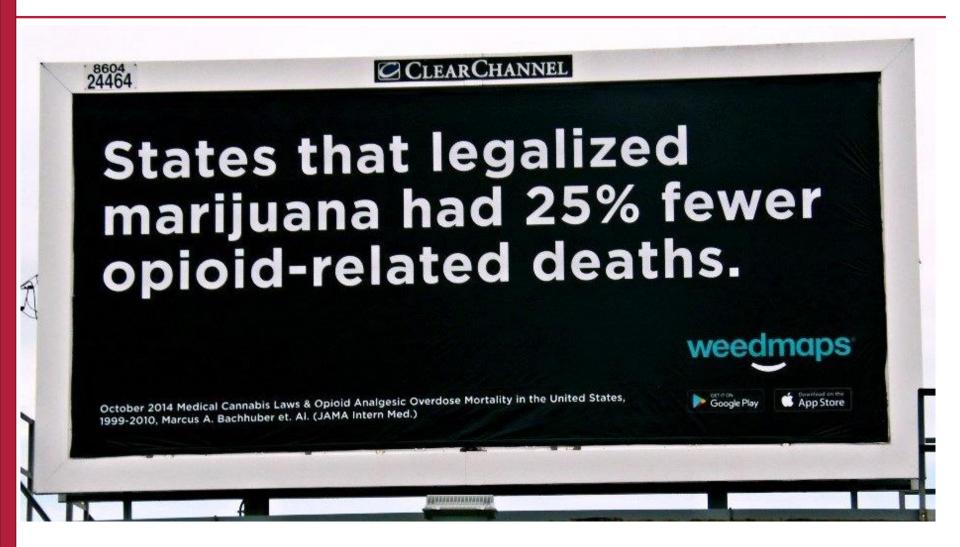
Why talk POT



During an opiate epidemic?



The Marijuana Industry Sees a Business Opportunity



Something doesn't add up...

In the 2014 JAMA Study:

- The raw data showed that medical marijuana states had higher rates of opioid deaths until the authors introduced four possible reasons.
- The study lumped together highly restricted states with highly permissive states.
- The study left out critical alternative explanations, like expanded Medication
 Assisted Treatment programs or expanded Naltrexone use.

Medical Marijuana Users are More Likely to Use Prescription Drugs Medically and Nonmedically

Caputi, Theodore L., BS; Humphreys, Keith, PhD

Journal of Addiction Medicine: July/August 2018 - Volume 12 - Issue 4 - p 295–299

doi: 10.1097/ADM.0000000000000405

Original Research



Abstract

Author Information

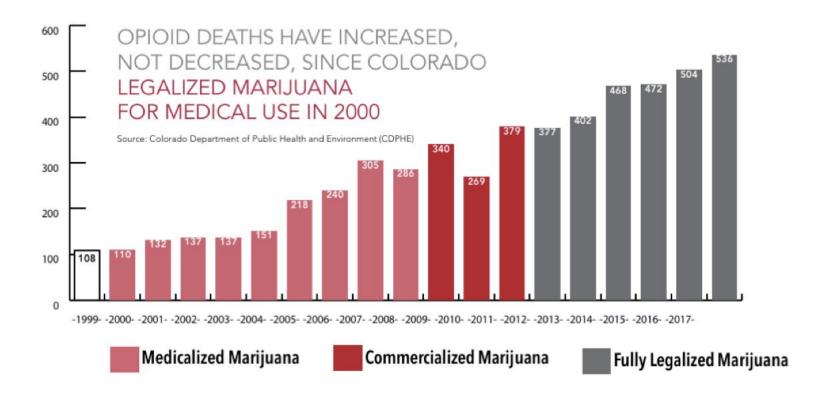
Objectives: Previous studies have found a negative pop availability in US states, and trends in medical and nonm interpreted as evidence that use of medical marijuana re This study evaluates whether medical marijuana use is a prescription drug use.

Methods: Simulations based upon logistic regression ar Use and Health were used to compute associations betw prescription drug use. Adjusted risk ratios (RRs) were co status, family income, and living in a state with legalized

Results: Medical marijuana users were significantly mor to report medical use of prescription drugs in the past 12 also significantly more likely to report nonmedical use in 95% CI 1.67–2.62), with elevated risks for pain relievers CI 1.09–3.02), and tranquilizers (RR 2.18, 95% CI 1.45–

Conclusions: Our findings disconfirm the hypothesis that marijuana use and prescription drug harms occurs becautive prescription drugs, either medically or nonmedically. Medical efforts to combat nonmedical prescription drug use.

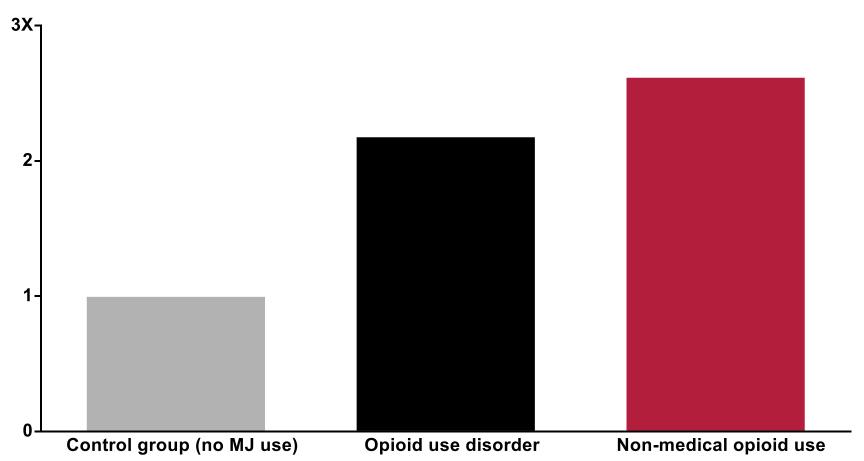
"Our findings disconfirm the hypothesis that a populationlevel negative correlation between medical marijuana use and prescription drug harms occurs because medical marijuana users are less likely to use prescription drugs, either medically or nonmedically. Medical marijuana users should be a target population in efforts to combat nonmedical prescription drug use."





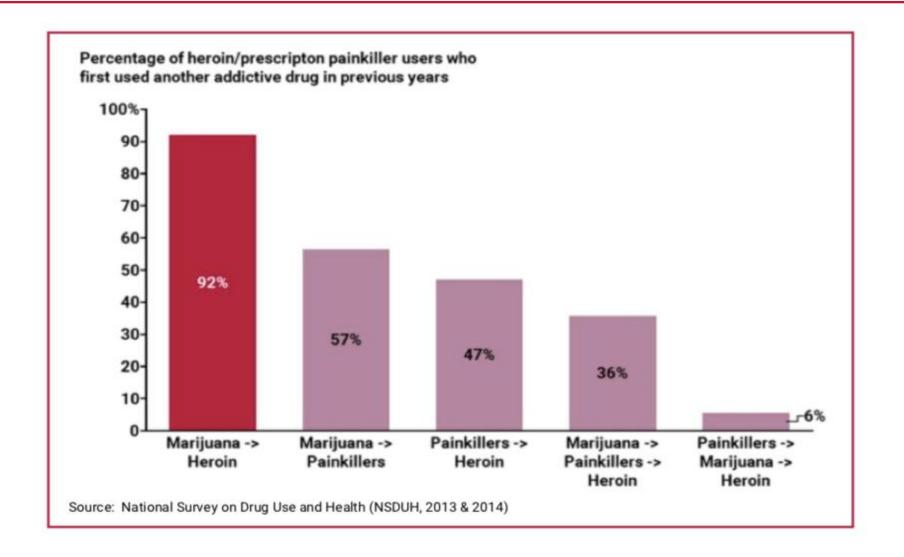
Marijuana use goes hand-in-hand with increased prescription opioid abuse

Chance of subsequent opioid abuse for marijuana users compared to control group





Opioids and Prior Marijuana Use



And This...





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Former Big Pharma OxyContin CEO Now Selling Medical Cannabis



Published 2 years ago on November 29, 2016

By Maureen Meehan



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Conclusions

- States are not effectively regulating medical marijuana now.
- No state has successfully put a limit on potency.
- Increased marijuana access and use is harming those who need help and hope to recover from opioid addiction.
- No matter how much you oppose recreational marijuana, once you invite the marijuana industry in, they will keep trying to increase their market share, grow customer base, and increase customer use.

A final word from Volkow et al in the NEJM:

"Repeated marijuana use during adolescence may result in long-lasting changes in brain function that can jeopardize educational, professional, and social achievements.

"However, the effects of a drug (legal or illegal) on individual health are determined not only by its pharmacologic properties but also by its availability and social acceptability.

"In this respect, legal drugs (alcohol and tobacco) offer a sobering perspective, accounting for the greatest burden of disease associated with drugs *not because they are more dangerous than illegal drugs* but because their legal status allows for more widespread exposure."

