



Marijuana Policy

Kevin A. Sabet, PhD

www.learnaboutsam.org

Two Organizations, One Mission



501 C-4

- SAM Action is dedicated to promoting healthy marijuana policies that do not legalize drugs
- Active at all levels of national, state, and local policy-making
- Invests dollars in and starts organizations to promote smart marijuana policies



501 C-3

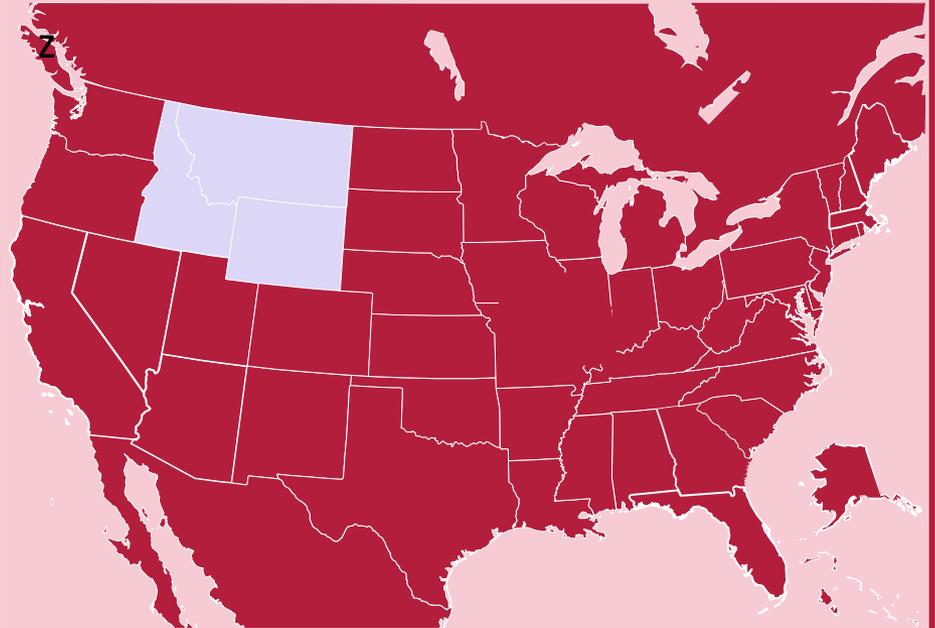
- SAM's mission is to educate citizens on the science of marijuana and to promote health-first, smart policies and attitudes that decrease marijuana use and its consequences
- Brings light to and conducts research into marijuana's negative effects

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

- **Non-partisan but high-profile:** founded by former Democratic Congressman Patrick Kennedy and leading Republican pundit David Frum
- **Scientific advisory board** of more than 12 leading researchers, professors, and public health/legal experts
- **Hundreds of thousands of press mentions**, including major media outlets such as:



Several state and national affiliates



Groups SAM has collaborated with

- American Society of Addiction Medicine
- American Academy of Pediatrics
- National Business Group on Health
- American Academy of Child and Adolescent Psychiatry
- Other leading public health authorities
- Over 30 state affiliates, including:
 - Treatment centers
 - Recovery groups
 - Prevention organizations
 - Law enforcement
 - Leading medical authorities
 - Volunteer citizens
 - Business groups

Cronos CEO: \$1.8 billion from Big Tobacco is just a beginning for cannabis industry

Published: Dec 10, 2018 7:48 a.m. ET



Altria can help Cronos standardize its approach to marijuana, CEO says after announcing investment

Forbes

Smart Approaches to Marijuana (SAM)'s legalization opponent [Kevin Sabet](#) may be right: like it or not Big Tobacco is invading cannabis.

And This...



HIGH TIMES



NEWS HEALTH CULTURE GROW PRODUCTS EVENTS SUBSCRIBE TV INVEST

ADVERTISEMENT

CANNABISVOTER.INFO

CANNABIS VOTER PROJECT
ORGANIZED BY HighCann

- REGISTER TO VOTE
- TRACK CONGRESS
- GET COOL TEES

MEDICAL MARIJUANA

Home » Health » MMJ

Former Big Pharma OxyContin CEO Now Selling Medical Cannabis



Published 2 years ago on November 29, 2016

By Maureen Meehan



We are living in 1918...



20,679 Physicians
say **LUCKIES** are
less irritating

I too prefer
LUCKIES
because

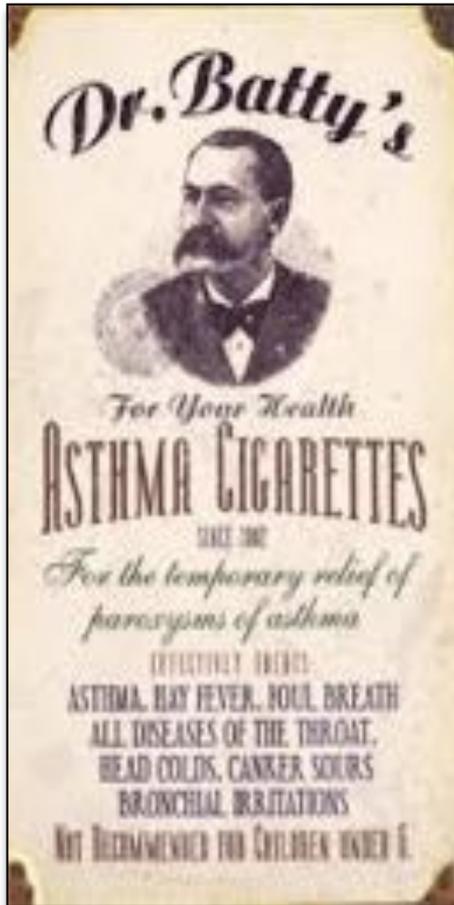
Toasting removes dangerous irritants that cause throat irritation and coughing

“It’s toasted”
Your Throat Protection—
against irritation—against cough.

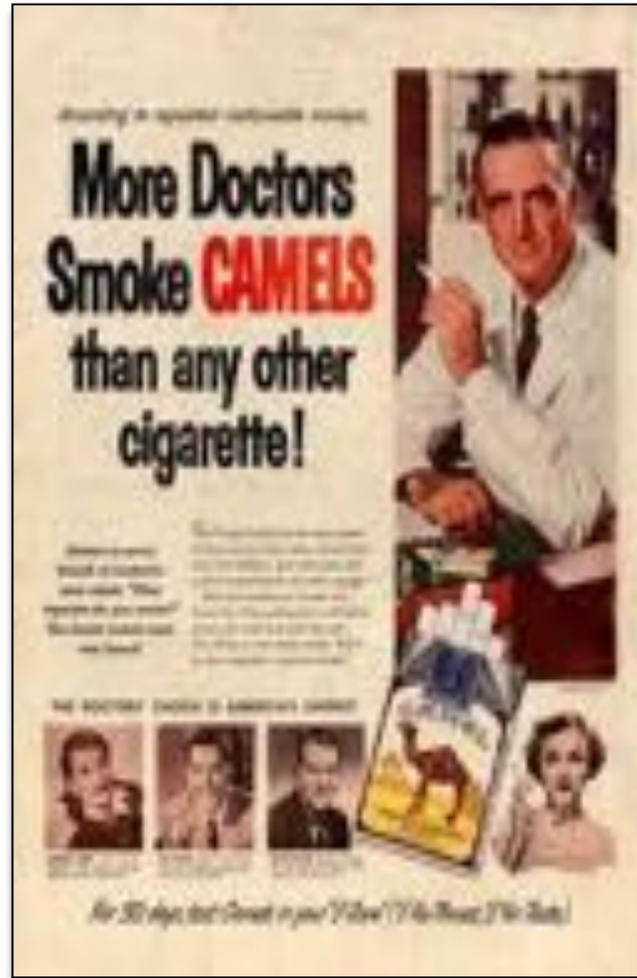
An advertisement for Lucky Strike Cigarettes. It features a woman in a green dress sitting and smoking a cigarette. A pack of Lucky Strike Cigarettes is shown in the foreground. The text includes a testimonial from 20,679 physicians, a testimonial from the woman, and the slogan "It's toasted" with a sub-slogan "Your Throat Protection—against irritation—against cough."

© 1918 American Tobacco Co.

Repeating History?



Dr. Batty's
For Your Health
ASTHMA CIGARETTES
SINCE 1902
For the temporary relief of paroxysms of asthma
EFFECTIVELY TREATS:
ASTHMA, HAY FEVER, FOUL BREATH,
ALL DISEASES OF THE THROAT,
HEAD COLDS, CANCER, SORES,
BRONCHIAL IRRITATIONS
NOT RECOMMENDED FOR CHILDREN UNDER 6



According to a special scientific survey
**More Doctors
Smoke CAMELS
than any other
cigarette!**

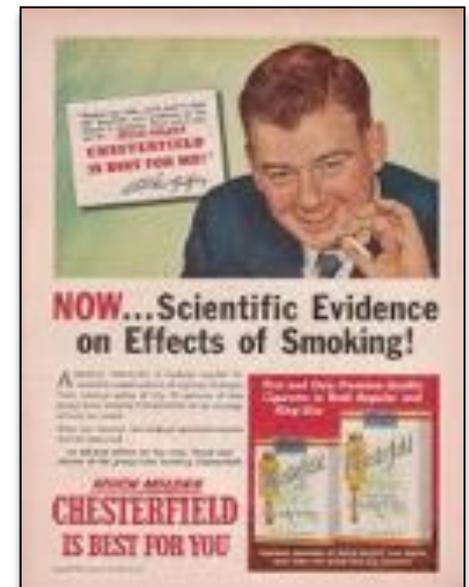
THE DOCTORS' CHOICE IS AMERICA'S CHOICE!

For 30 days, don't smoke in your "flow" (throat, nose, etc.)



Viceroy
FILTER
the Smoke!

As your Dentist,
I would recommend
VICEROYS



**NOW...Scientific Evidence
on Effects of Smoking!**

**CHESTERFIELD
IS BEST FOR YOU**

Executive Summary

- Today's marijuana is harmful – often 30 times stronger than marijuana of the past.
- Legalization in the US has had significant costs – hospital visits, workplace productivity, car crashes, secondhand smoke issues, environmental concerns
- Medical marijuana and recreational marijuana can be very different things – one can be a medicine and one is used for intoxication
- Legalization violates UN treaties and goes against the spirit of international cooperation against drugs
- Leading public health authorities oppose legalization
- Legalization will not solve the violence problem – Colombian cartels make billions from legal industries (lumber, mining) and legalization would only enrich cartels

Safer than alcohol?

- Is alcohol legal because its safe?



- Marijuana's effects last longer
- Abusers report far more problems at home, work, and school
- People rarely substitute pot for booze—they mix them instead
- Lots of people drink; very few use marijuana—despite what you see on TV

Despite the increasing popularity of using marijuana, **it is illegal because its harmful**

1

Increased potency

Today's marijuana is not the marijuana of the past. We cannot compare 99% THC purity with 3-5% purity of the past. Researchers are not in favor of legalization

2

International Law

Marijuana is illegal under the obligations of three int'l treaties, otherwise known as the Single Convention

3

Illegality Important

Keeping marijuana illegal is a key public health strategy – legal drugs are used far more than illegal ones

SOME Components of marijuana have medicinal qualities but this does not mean all of it does

1

Dronabinol

Synthetic THC - dronabinol or Marinol® ; used for nausea related to chemotherapy, though not incredibly common (far superior non-marijuana drugs are usually used) – Schedule 3

2

Cannabidiol

Natural CBD, purified from the plant, exported from the UK, approved for two kinds of rare seizures – Schedule 5

3

Other drugs on way?

FDA/DEA have allowed research into other marijuana based medications

The false dichotomy: “Legalization OR incarceration?”



VS



People are not in prison for pot; legalization is about making people rich, not social justice

Three separate issues that often get conflated

1

Penalizing drug users/
"decriminalization"



2

Medicinal use
of
compounds
derived from
marijuana



3

Legalization
of marijuana
for
"non-medical"
use



How did we get here?

https://www.youtube.com/watch?v=g_HcZz1T5uo

Not This...



...But This



Sex Appeal



Snob Appeal



Happiness

CLEAR CHANNEL

Delivering more joy
than dogs & babies
combined.

Marijuana delivered | eaze.com

UCR #18-17-000041

eaze

001260

Appeal to
youth



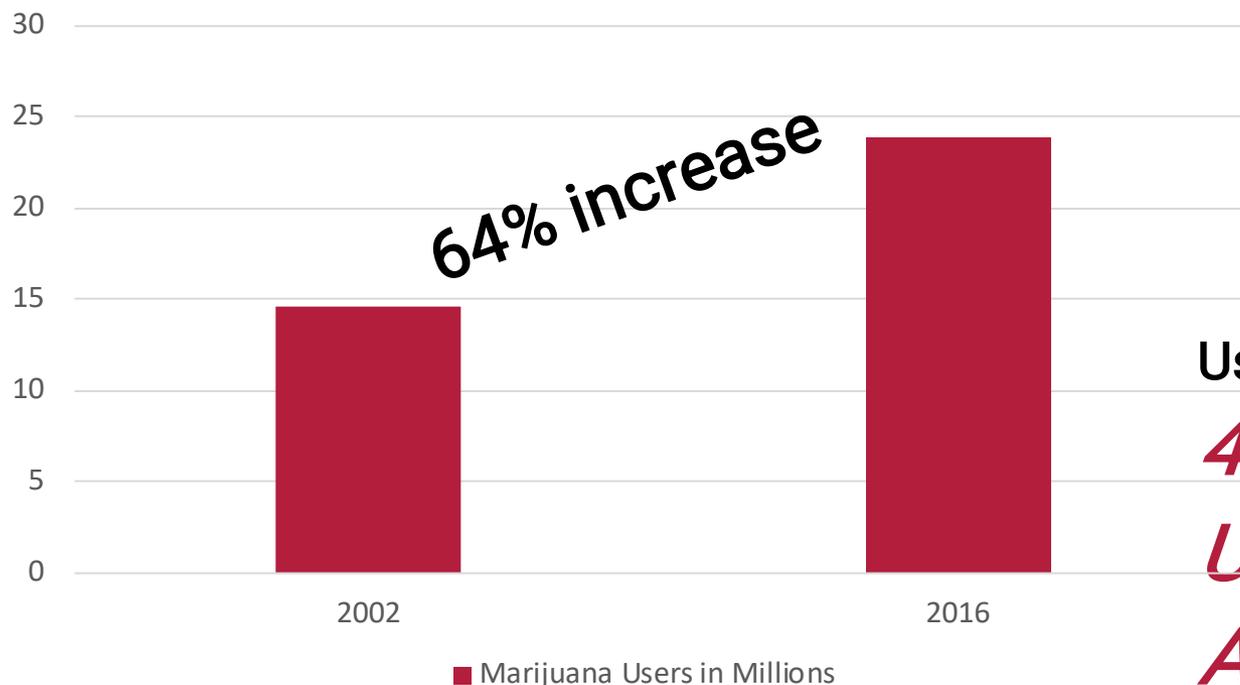


Joe Camel Returns?



Marijuana Use is Skyrocketing

Marijuana Users in Millions



Use and Heavy Use Rising:
*42% of Current
Users are Daily or
Almost Daily
Users*

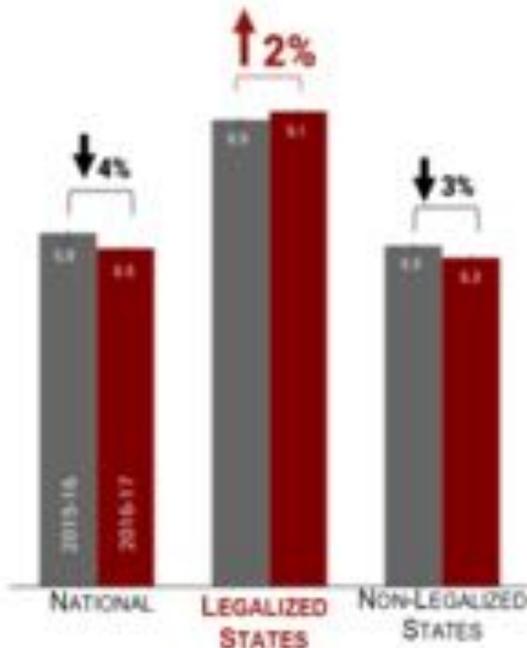
23.9 Million Past Month Users of Marijuana in 2015
14.6 Million Past Month Users of Marijuana in 2002

Source: SAMHSA, 2016 National Survey on Drug Use and Health

Colorado now #1 in the US for first-time use

YOUTH MARIJUANA USE CONTINUES TO RISE IN STATES THAT HAVE LEGALIZED.

PAST MONTH USE AMONG 12-17 YEAR-OLDS



*Percent change represented as the calculated delta between years (New-Old/Old)
 NSDUH State Estimates, 2016-17

PAST YEAR USE AMONG 12-17 YEAR-OLDS



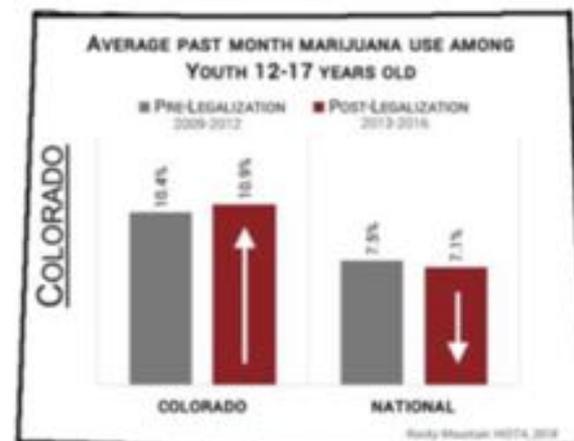
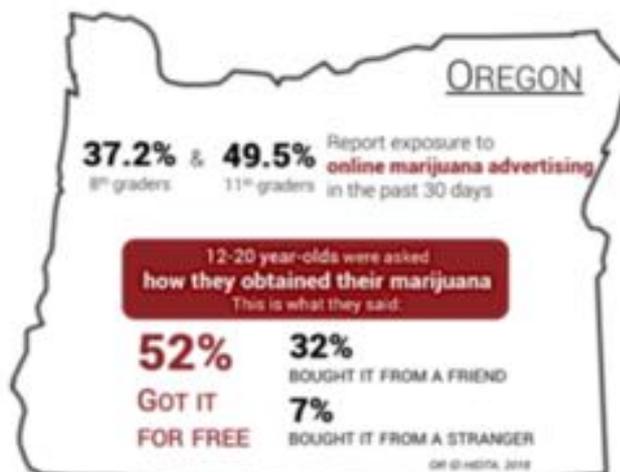
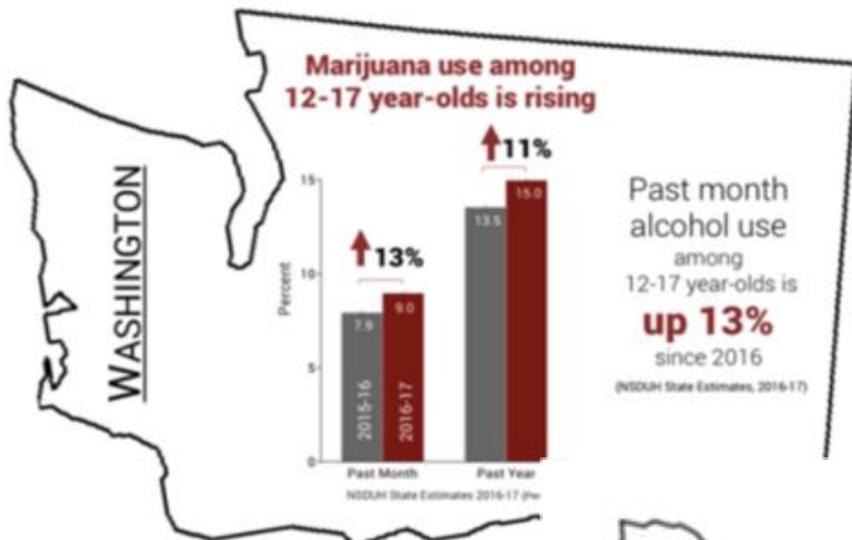
*Percent change represented as the calculated delta between years (New-Old/Old)
 NSDUH State Estimates, 2016-17

1 in 5 Youth
 &
1 in 10 Young Adults
 Who started using marijuana more than 3 years ago
 have been diagnosed with
CANNABIS USE DISORDER
 in the past 12 months.

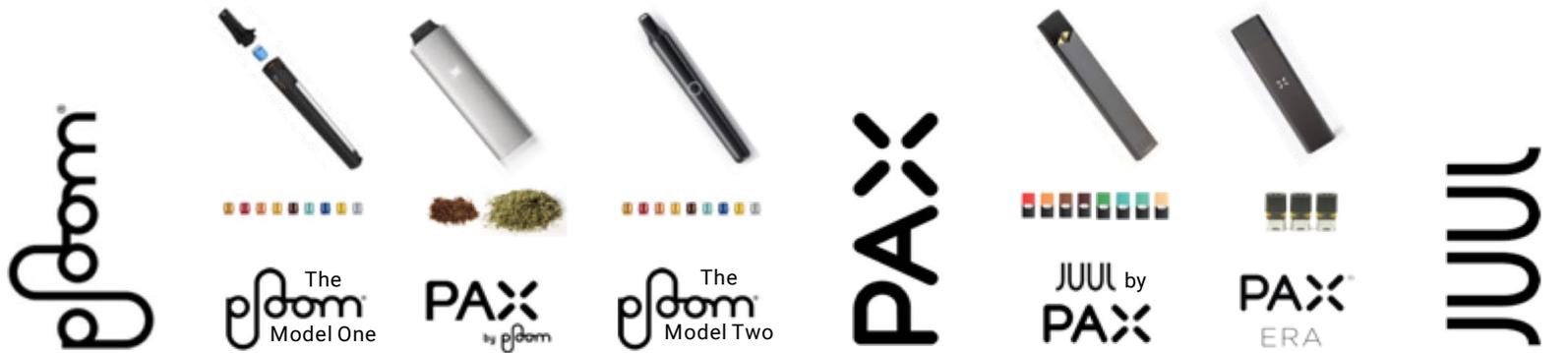
Hasler et al., 2018
 Data from NSDUH, 2010-2017

Youth Use

REGULATED MARKETS ONLY INCREASE EXPOSURE AND PROMOTE THE NORMALIZATION OF YOUTH MARIJUANA USE.



The Vape and Marijuana Industries Are Inextricably Linked



2007

James Monsees & Adam Bowen secure funding from angel investors, including Nicholas Pritzker and officially launch their company.



2010

Newly established Ploom releases their first product based on Monsees & Bowen's original e-cig design using flavored, loose-leaf tobacco pods and a battery-operated heating coil.

2012

Using the same heating technology, the company releases the first loose-leaf vaporizer. While not yet explicitly marketed as a marijuana vaporizer, this was its primary draw.

2015

Japan Tobacco acquires Ploom's Model Two and the associated intellectual property with the device and flavored pods.



2015

In conjunction with the JTI deal, Monsees & Bowen buy back their stake in the company and relaunch as Pax Labs

2015

Pax Labs releases their new e-cig, Juul, shortly after announcing \$46.7 million in Series C funding from investors



2016

In the fall of 2016, Pax Labs unveils the Pax Era; an electronic marijuana vaporizer that uses similar proprietary technology of pre-filled THC pods.

2017

Juul splits off from Pax Labs and becomes its own entity.

In the spring of 2018, the FDA launched an investigation into predatory marketing to underage children.



PAX is now explicitly a THC vaporizer company

PAX

PRODUCTS

STORE LOCATOR

SUPPORT

MY ACCOUNT



PAX 3



A vaporizer for both flower and wax extracts.



SHOP PAX 3

PAX 2



A flower vaporizer to rediscover cannabis.



SHOP PAX 2

PAX Era



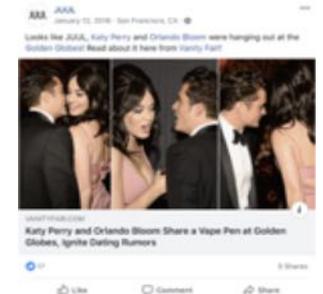
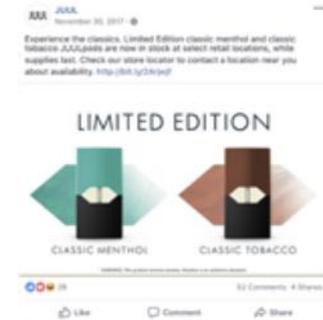
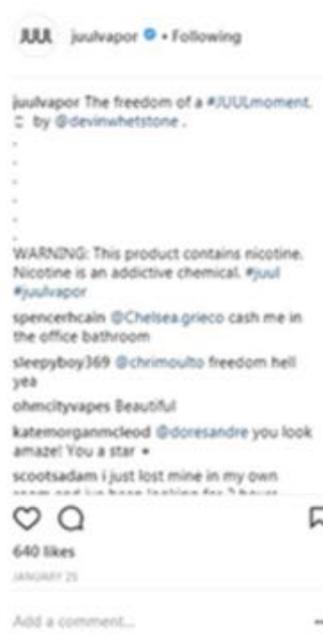
The effortless system for cannabis oils.



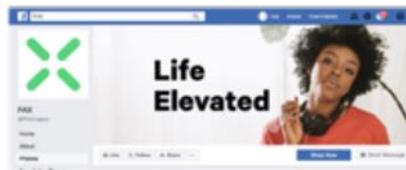
SHOP PAX ERA

SAM Smart Approaches to Marijuana
preventing another big failure

Silicon Valley start-up, Juul, used savvy social media marketing strategies to promote a trendy image associated with their products. They are currently under investigation by the FDA.



Similar branding, including celebrity endorsements, is used to promote their marijuana-vaporizing product - Pax.



The pod technology used by Pax Labs provides a highly-addictive means of consumption



Juul pods contain **3x the legal limit** of nicotine in the EU and their sales are currently banned.



Some Pax Era pods can be as potent as 80% THC.
Amsterdam considered a proposal to classify THC potency higher than 15% as a hard drug

Other THC vaporizer companies advertise on social media with cartoon characters targeted at ComicCon



While Juul has global ambitions, they have faced criticism from several countries

European Union

Juul pods contain **3x the legal limit** of nicotine and their sales are currently banned in the EU.

Israel

Juul arrived and began sales in May of 2018.

Their sales were officially banned by August 2018.

Canada

Juul recently decided to pull their flavored pods from stores and restrict them to online sales. However, they did not do the same in Canada and continue to sell flavored pods such as “crème brulee” in stores.

COSMOPOLITAN

There's a Weed-Infused Wine on the Market



Only 35 calories per glass.

Each glass has only 5mg THC.

Meaning you can enjoy it at a dinner party and still be able to talk to everyone



This New Rosé Is Supposed To Be Hangover-Free — But It Will Get You High

Marijuana-infused wine is now a thing. Officially.



USNews

NEWS | BUSINESS | REAL ESTATE

Coming Soon From Molson Coors: Marijuana Beer

Molson Coors' new venture is targeting the Canadian cannabis market.

Corona Owner's Marijuana Investment Reaps \$700 Million

By [Alexandra](#)
June 25, 2018, 1:02 PM
Bloomberg



"I'm ready to introduce another high-impact brand to the industry again, this time with a new line of custom cannabis-infused craft beers."

-Creator of Blue Moon



"Smoking is gross," a high schooler said. "Juuling is really what's up."

new York Times

THE PROMISE OF VAPING AND THE RISE OF JUUL

Teens have taken a technology that was supposed to help grownups stop smoking and invented a new kind of bad habit, molded in their own image.



CIGALIKE



VAPE PEN



BOX MOD



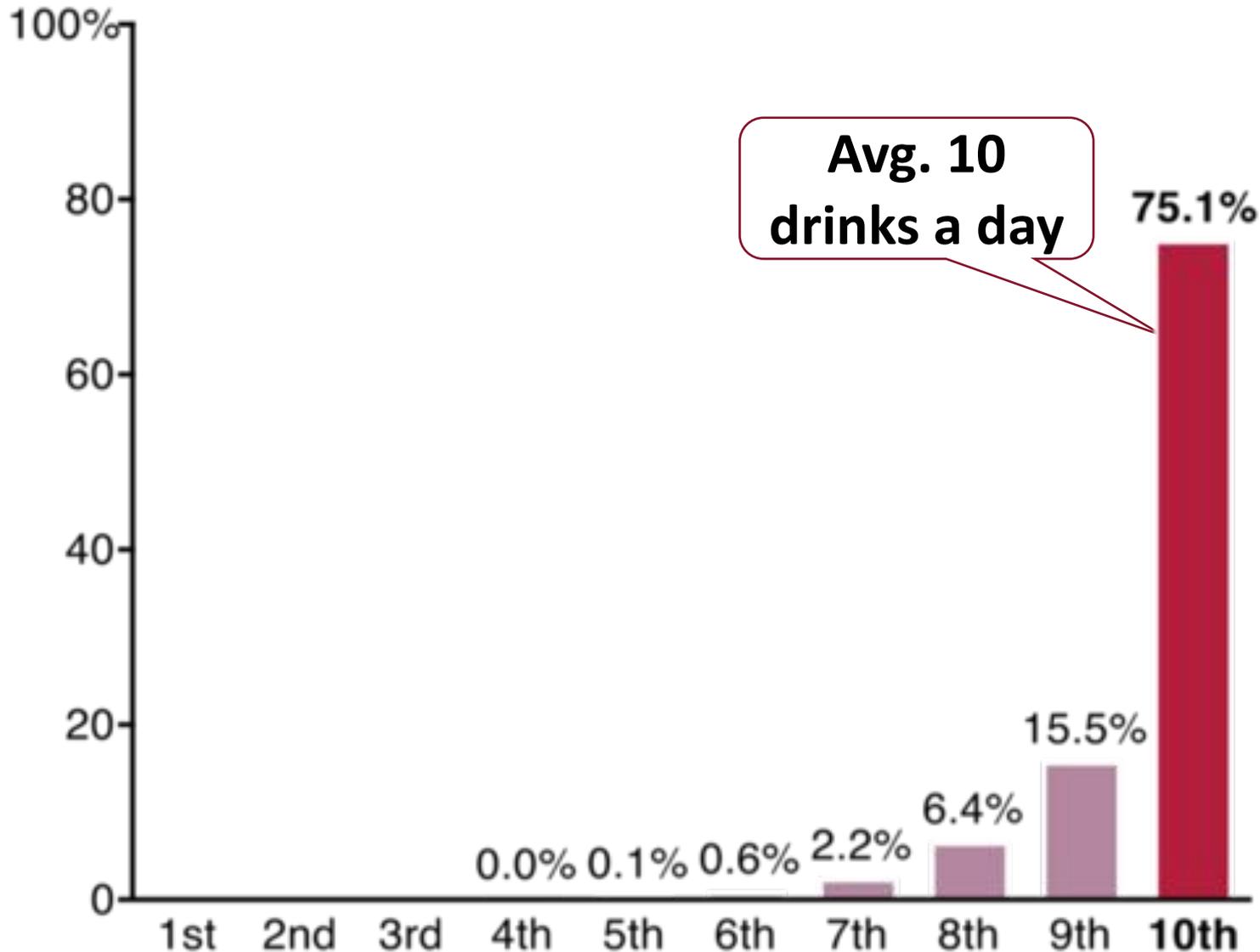
VAPE POD

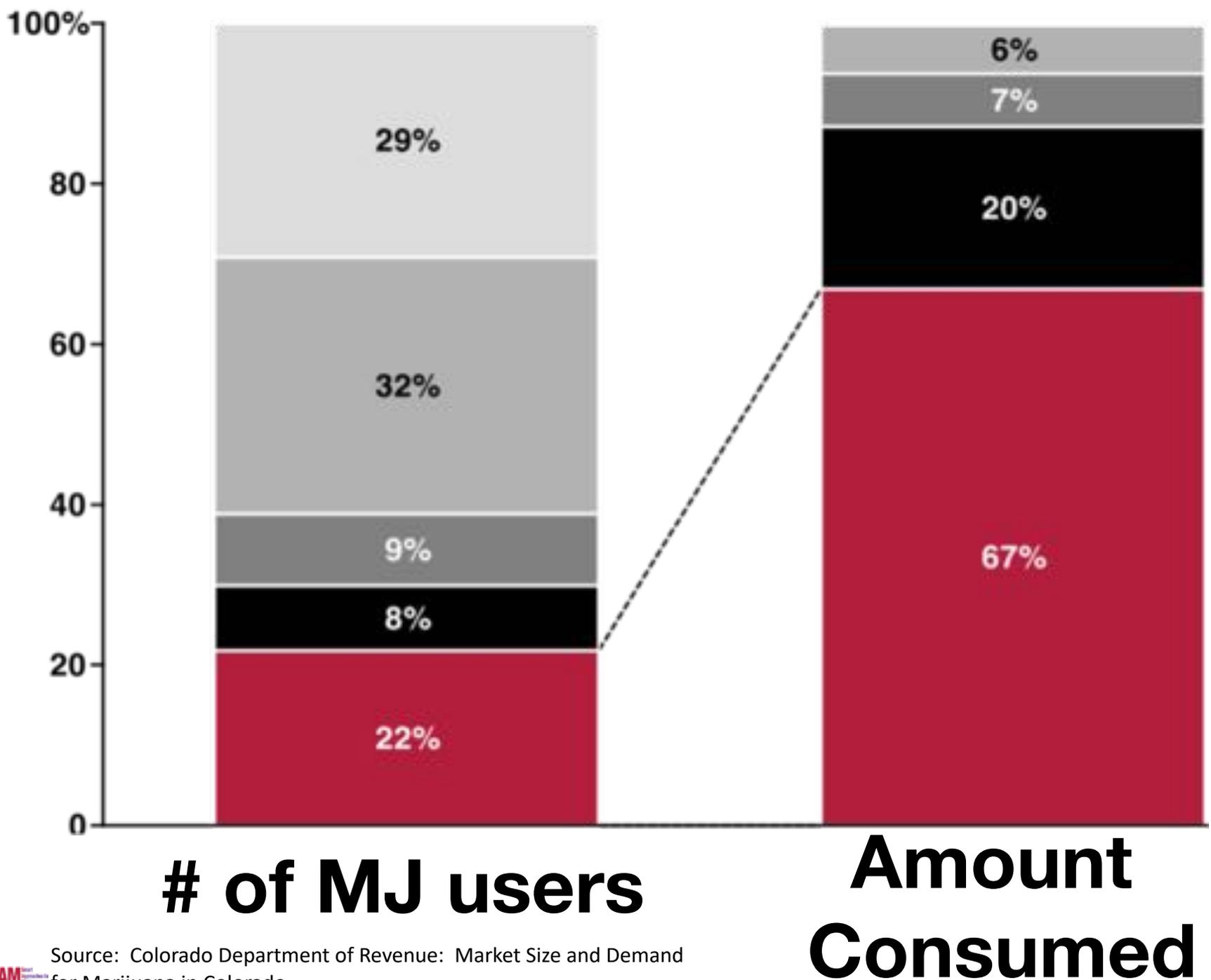
The New York Times

BAT Pulls Ahead in U.S. Vaping Battle, Shares Jump

British American Tobacco plans to test its new Eclipse tobacco heating device in the United States this year, allowing it to pull ahead of Philip Morris in the world's biggest vaping market.

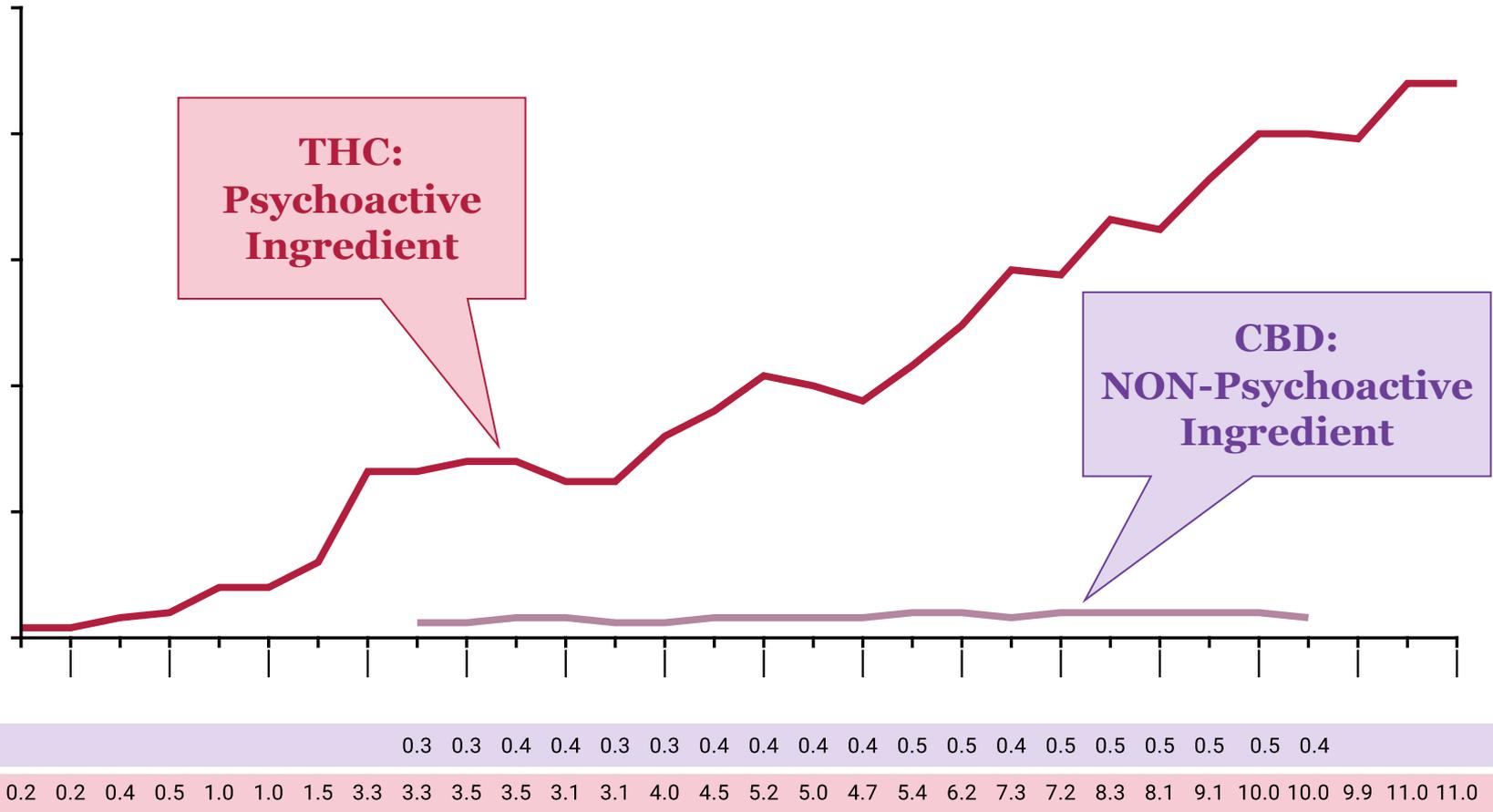
The top 10% of the population make up 75% of the alcohol industry's U.S. sales





Source: Colorado Department of Revenue: Market Size and Demand for Marijuana in Colorado

Marijuana has become significantly more potent since the 1960s



Marijuana is not “just a plant” anymore – derivatives contain up to 98% THC



“Green Crack”
wax



“Ear Wax”



Butane Hash Oil
(BHO)



Hash Oil Capsules



“Budder”

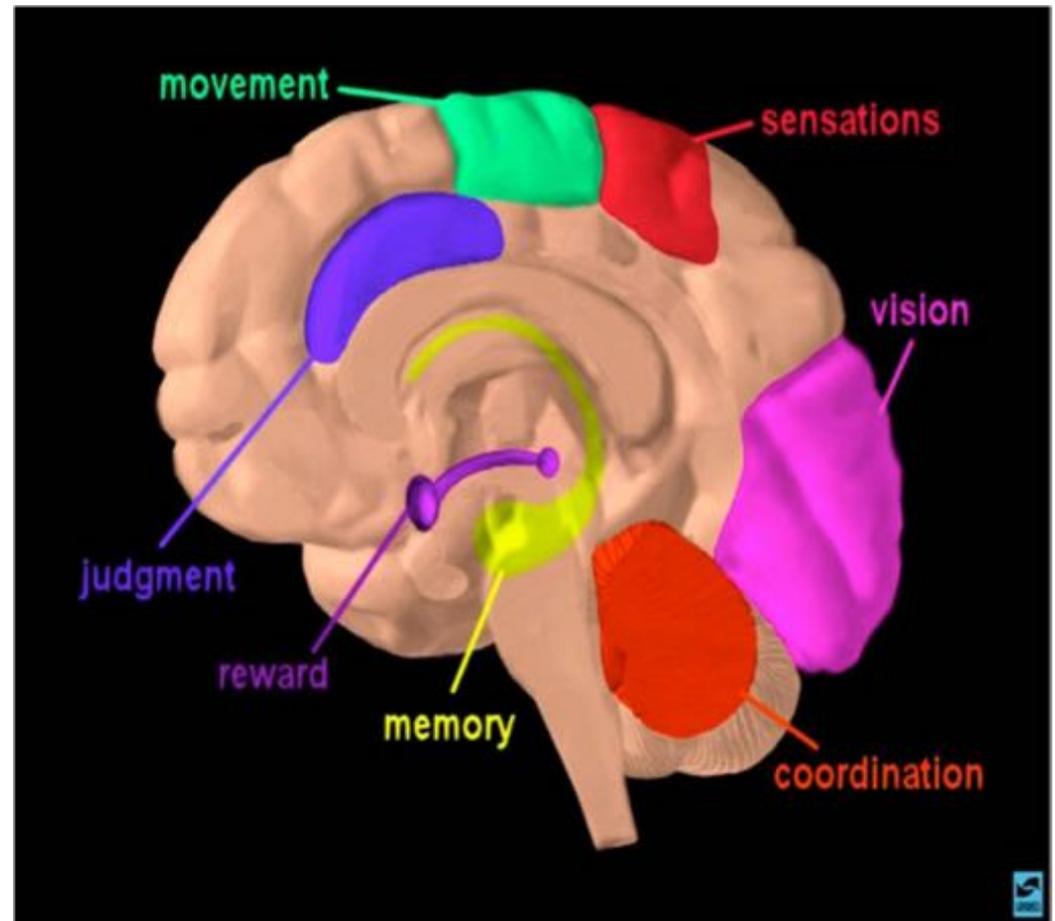
Copyright © 2013 by SAM, Inc. All rights reserved.

“Shatter”



Cannabinoid Receptors Are Located Throughout the Brain and Regulate a Host of Brain Activity

- Brain Development
- Memory & Cognition
- Motivational Systems & Reward
- Appetite
- Immunological Function
- Reproduction
- Movement Coordination
- Pain Regulation & Analgesia



Causal Relationship between marijuana and mental illness

Case Reports in Medicine
Volume 2009, Article ID 321456, 2 pages
<http://dx.doi.org/10.1155/2009/321456>

Case Report

Suicidal Ideation Induced by Episodic Cannabis Use

Michele Raja^{1,2} and Antonella Azzoni²

- Abstract
- Full-Text PDF
- Full-Text HTML
- Full-Text ePUB
- Full-Text XML
- Linked References

3. Discussion

In patient's life, suicidal ideation presented in two different occasions, only immediately after acute cannabis intoxication. This strongly suggests the **causal** relationship between intoxication and suicidal ideation.

There is a convincing relationship between suicidal behavior and cannabis use, the latter awakening depressive experiences [3]. Rates of cannabis abuse are elevated among those being treated for depression [4, 5] and among those making a suicidal attempt [6]. In a sample of Italian students, the use of cannabis was associated with suicide risk [7]. In a population of French adolescents, cannabis use appeared to be an independent predictor of suicidal ideation after controlling the depressive symptoms [8]. In a cohort study of young Norwegians, cannabis by itself seemed not to lead to depression but was associated with later suicidal thoughts and attempts [9].

INFORMING PRACTICE

September 12, 2017

Cannabis Use May Be Causally Related to Depression and Suicidal Ideation

Peter Roy-Byrne, MD reviewing Agrawal A et al. Lancet Psychiatry 2017 Sep

In an analysis of twins discordant for frequent cannabis use, common predisposing factors did not fully explain these associations.

Epidemiologic studies have found associations between cannabis use and both depression and suicidality (thoughts or behaviors) but have not determined whether the associations are causal or attributable to confounding factors or common genetic vulnerabilities. To control for common genetic and family environmental factors, researchers examined the associations in 13,986 Australian twins (6181 monozygotic and 7805 dizygotic twins) drawn from three registry studies between 1992 and 2009. Within twin pairs discordant for cannabis use, persistence of the association in the cannabis-using twin would suggest that use is causally related to depression and suicidality.

In the entire sample, early cannabis use and frequent use were associated with major depression and suicidal ideation and attempt. Analyses of twin pairs who were discordant for early versus later or no use did not yield consistent findings. However, within monozygotic twin pairs discordant for frequent versus limited or no use, frequent use was associated with depression (odds ratios: compared with no or limited use, 1.68; compared with lighter use, 1.98) and suicidal ideation (ORs, 2.35 and 2.47, respectively).

COMMENT

This study suggests a causal relationship between frequent cannabis use and both major depression and suicidal ideation. This relationship may be mediated both via effects of the cannabinoid system on mood and via environmental factors related to cannabis use itself (e.g., increased trauma exposure, diminished life opportunities, other associated drug use). The analysis is limited by the possibility that not all confounders were accounted for and by arbitrary thresholds used to define early use and frequency of use. The results provide a counterpoint of caution against the increasing promotion of cannabis use as a therapeutic tool for various medical conditions.

Science News

from research organizations

Causal links between cannabis, schizophrenia: New evidence

Date: December 19, 2016

Source: University of Bristol

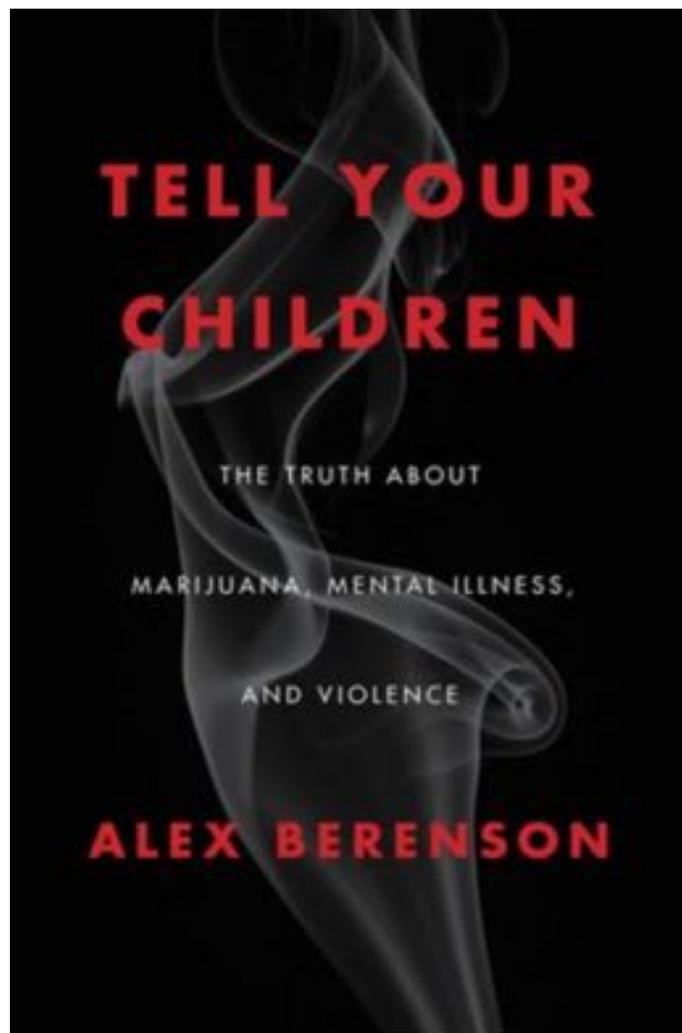
Summary: People who have a greater risk of developing schizophrenia are more likely to try cannabis, according to new research, which also found a causal link between trying the drug and an increased risk of the condition.

These can often present as a “[psychotic episode](#)” – which is a relatively sudden worsening of psychotic symptoms over a short time-frame, frequently resulting in hospitalisation.

The heaviest users of cannabis are around [four times as likely](#) to develop schizophrenia (a psychotic disorder that affects a person’s ability to think, feel and behave clearly) than non-users. Even the “average cannabis user” (for which the definition varies from study to study) is around [twice as likely](#) as a non-user to develop a psychotic disorder.

Furthermore, [these studies found](#) a **causal** link between tetrahydrocannabinol (THC - the plant chemical which elicits the “stoned” experience) and psychosis. This means the link is not coincidental, and one has actually **caused** the other.

New Book Is Changing the Debate



The Industry Today



First 200* receive a gift bag containing one joint, one sample of premium flowers, and a Bite from Bliss Edibles

*with \$12 donation minimum



- 1** 
Kid-friendly: comes in shapes & colors attractive to children, like **candy and soda**
- 2** **95%**
Potent: often made w/ concentrates of up to **95% pure THC** (joints are ~ 15% THC)
- 3** **\$\$\$**
Aggressive marketing: free samples, billboard advertising, and other **Big Tobacco** tactics
- 4** 
Contaminants: In 2015, CO recalled 100s of thousands of edibles containing **banned pesticides**
- 5** 
Fighting regulation: The pot industry has lobbied hard against regulation (e.g., warning labels, dosing rules, and bans on ads targeting kids)

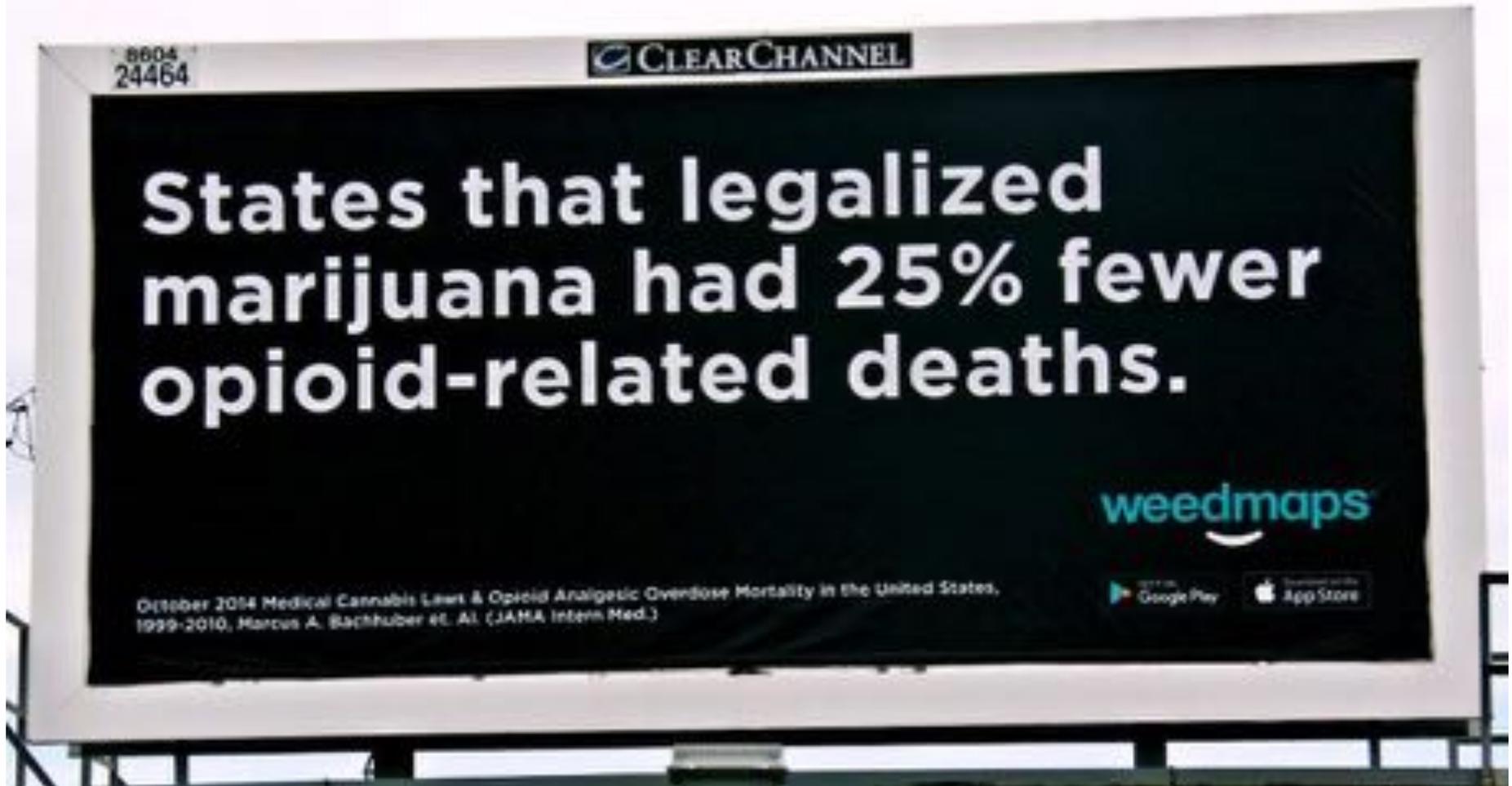


RESTORATIVE WINE OF COCA.

FOR NERVOUS PROSTRATION, BRAIN EXHAUSTION, DEPRESSION OF SPIRITS, MENTAL AND PHYSICAL DEBILITY, NEURASTHENIA, SICK HEADACHE, NEURALGIA, CASES OF THE OPIUM, TOBACCO, ALCOHOL, OR CHLORAL HABIT, WEAK STATES OF THE VOICE, CONVALESCENCE FROM EXHAUSTION OR EXHAUSTIVE DISEASES, LOSS OF APPETITE, GASTRIC CATARRH, NERVOUS AND OTHER FORMS OF DYSPEPSIA, WEAK STATES OF THE GENERATIVE SYSTEM, WEAKNESS OF OLD AGE, ETC., ETC.

The best-known Preparation of that inestimable remedy, Coca, is OUR RESTORATIVE WINE OF COCA, containing, as it does, all the medicinal virtues without any of the deleterious principles of the leaves. There are many Wines of Coca. We invite a comparison on the points of taste, strength, and curative properties of ours with any Wine ever manufactured. It is already before the profession, and in less than two years has abolished the use of several Wines of Coca, and greatly lessened the sales of others which had previously almost monopolized the market.

The Marijuana Industry Sees a Business Opportunity



8804
24464

CLEAR CHANNEL

States with ice cream
eaters had 25% more
drowning deaths.

October 2014 Medical Cannabis Laws & Opioid Analgesic Overdose Mortality in the United States,
1999-2010, Marcus A. Bachhuber et. AL (JAMA Intern Med.)

SAM Smart
Approaches to
Marijuana
preventing another big tobacco

Google Play

App Store

Something doesn't add up...

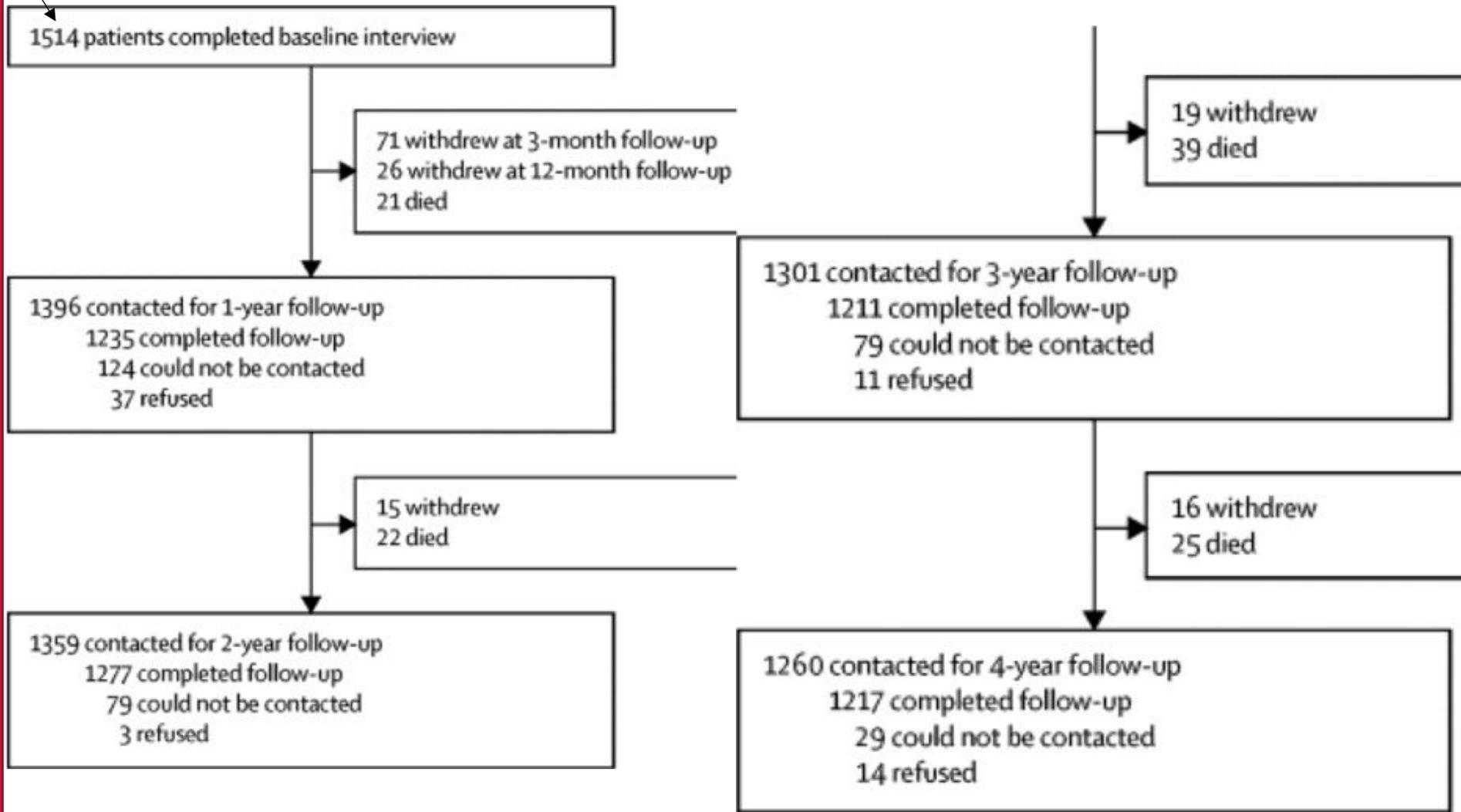
In the 2014 JAMA Study:

- 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**.

JAMA Study

- Unpublished data (*Tell Your Children*, Alex Berenson, 2019) found that this correlation disappears after 2010.
- *Journal of Opioid Management* (2017) tried to replicate, found that Med MJ laws associated with 22% increase in age-adjusted opioid mortality
- Feb 2018 *Addiction* editorial: marijuana-stops-opiate connection “very weak.”

Lancet Study



Lancet Conclusions

- No evidence that cannabis use improved patient outcomes;
- Those who used cannabis had **greater pain and lower self-efficacy in managing pain**
- No evidence that cannabis use reduced pain interference or exerted an opioid-sparing effect

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

BUY

SDC

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.

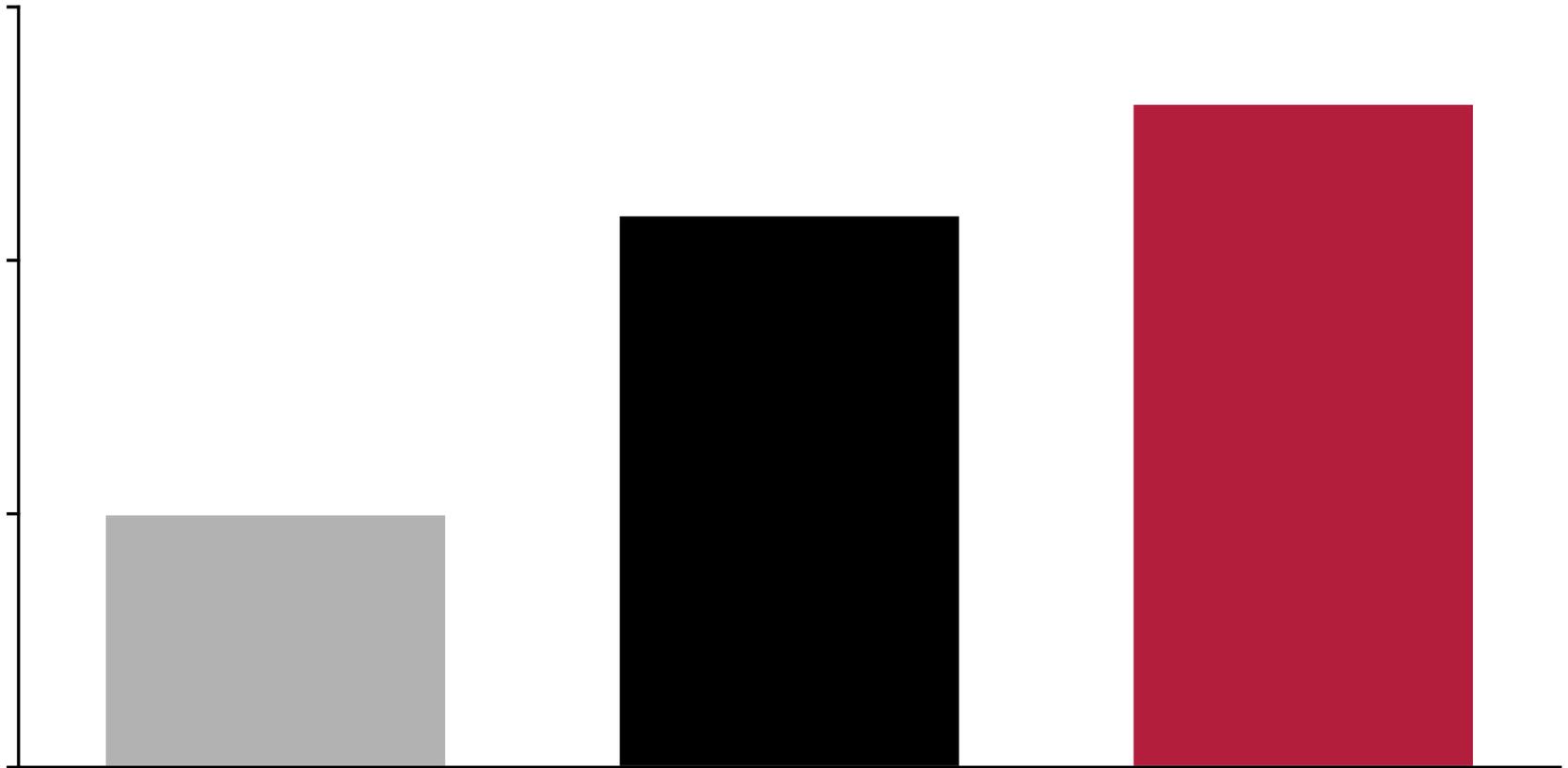
Methods: Simulations based upon logistic regression an Use and Health were used to compute associations betw prescription drug use. Adjusted risk ratios (RRs) were co status, family income, and living in a state with legalized

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 tha marijuana use and prescription drug harms occurs beca prescription drugs, either medically or nonmedically. Med efforts to combat nonmedical prescription drug use.

“Our findings **disconfirm** the hypothesis that a population-level 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



2018 in *JAMA Internal Medicine*

“The opioid crisis appears to be worsening where marijuana has been legalized.”

At the start of the 2010-2016 period, the annual age-adjusted opioid death rate in legalizing and nonlegalizing jurisdictions was the same, with overlapping 95% CIs between 8.0 and 8.5 deaths per 100 000 people. Whereas the nonlegalizing states subsequently had no increase in their opioid death rate until 2014, the monthly rate in the legalizing jurisdictions increased steadily during 2010 through 2013 at 4.5% per year ($P < .001$), while 5 states and the District of Columbia legalized medicinal marijuana, and 2 states legalized recreational use. Thereafter, the legalizing jurisdictions' death rate distinctly accelerated, first to 16.4% per year ($P < .001$) until October 2015 and then to 33.5% per year ($P < .001$) as 12 more states approved medicinal marijuana and 2 more states and the District of Columbia approved recreational use. In the nonlegalizing states, the opioid death rate increased during 2014 through 2016 but more slowly (16.4% per year) than in the legalizing jurisdictions. In 2016, the mean (95% CI) age-adjusted death rate per 100 000 people was 18.2 (18.0-18.4) and 13.2 (13.0-13.4) in the legalizing and nonlegalizing jurisdictions, respectively. As of December 2016, the rate in the legalizing states and the District of Columbia was 52% higher than, and continuing to diverge from, the rate in nonlegalizing states. Areas under the joinpoint regression curves suggest that 20.34 (72%) of 28.19 additional deaths per 100 000 people during January 2010 through December 2016 occurred where marijuana was legalized.

The opioid crisis appears to be worsening where marijuana has been legalized, despite fewer opioid prescriptions, and as such, constitutes evidence for the gateway hypothesis and against the marijuana protection hypothesis. In any event, before other states rush to legalize marijuana and risk worsening the opioid crisis, the marijuana-opioid interaction should be more definitively researched.

MARIJUANA USE CAN DECREASE PAIN THRESHOLDS, REQUIRING MORE MEDICATION.

PATIENT SAFETY IN SURGERY, 2018³

Researchers found that patients reporting marijuana use actually experienced *more* pain on average when admitted to the hospital following a traumatic injury than those that did not. Compared to non-users, they required more opioid medication to cope with the pain and consistently rated their pain higher during the duration of their stay.

MARIJUANA IS OFTEN USED WITH OTHER SUBSTANCES.

THE AMERICAN JOURNAL OF PSYCHIATRY, 2016⁴

Regular use of marijuana is linked with increased risk of developing cannabis use disorder, higher rates of mental illness and higher rates of co-substance abuse with alcohol, among other drugs.

³ Salottolo, K., Peck, L., Tanner II, A., Carrick, M. M., Madayag, R., McGuire, E., & Bar-Or, D. (2018). The grass is not always greener: a multi-institutional pilot study of marijuana use and acute pain management following traumatic injury. *Patient Safety in Surgery, 12*(1), 16.

⁴ Hasin, D. S., Kerridge, B. T., Saha, T. D., Huang, B., Pickering, R., Smith, S. M., ... & Grant, B. F. (2016). Prevalence and correlates of DSM-5 cannabis use disorder, 2012-2013: findings from the National Epidemiologic Survey on Alcohol and Related Conditions-III. *American Journal of Psychiatry, 173*(6), 588-599.

National Academy of Sciences report

EXPOSURE

Smoking cannabis during pregnancy is linked to lower birth weight in the offspring.

The relationship between smoking cannabis during pregnancy and other pregnancy and childhood outcomes is unclear.

PROBLEM CANNABIS USE

Greater frequency of cannabis use increases the likelihood of developing problem cannabis use.

Initiating cannabis use at a younger age increases the likelihood of developing problem cannabis use.

CANNABIS USE AND ABUSE OF OTHER SUBSTANCES

Cannabis use is likely to increase the risk for developing substance dependence (other than cannabis use disorder).

A limited number of studies suggest that there are impairments in cognitive domains of learning, memory, and attention in individuals who have stopped smoking cannabis.

Cannabis use during adolescence is related to impairments in subsequent academic achievement and education, employment and income, and social relationships and social roles.

MENTAL HEALTH

Cannabis use is likely to increase the risk of developing schizophrenia and other psychoses; the higher the use the greater the risk.

In individuals with schizophrenia and other psychoses, a history of cannabis use may be linked to better performance on learning and memory tasks.

Cannabis use does not appear to increase the likelihood of developing depression, anxiety, and posttraumatic stress disorder.

For individuals diagnosed with bipolar disorders, near daily cannabis use may be linked to greater symptoms of bipolar disorder than non-users.

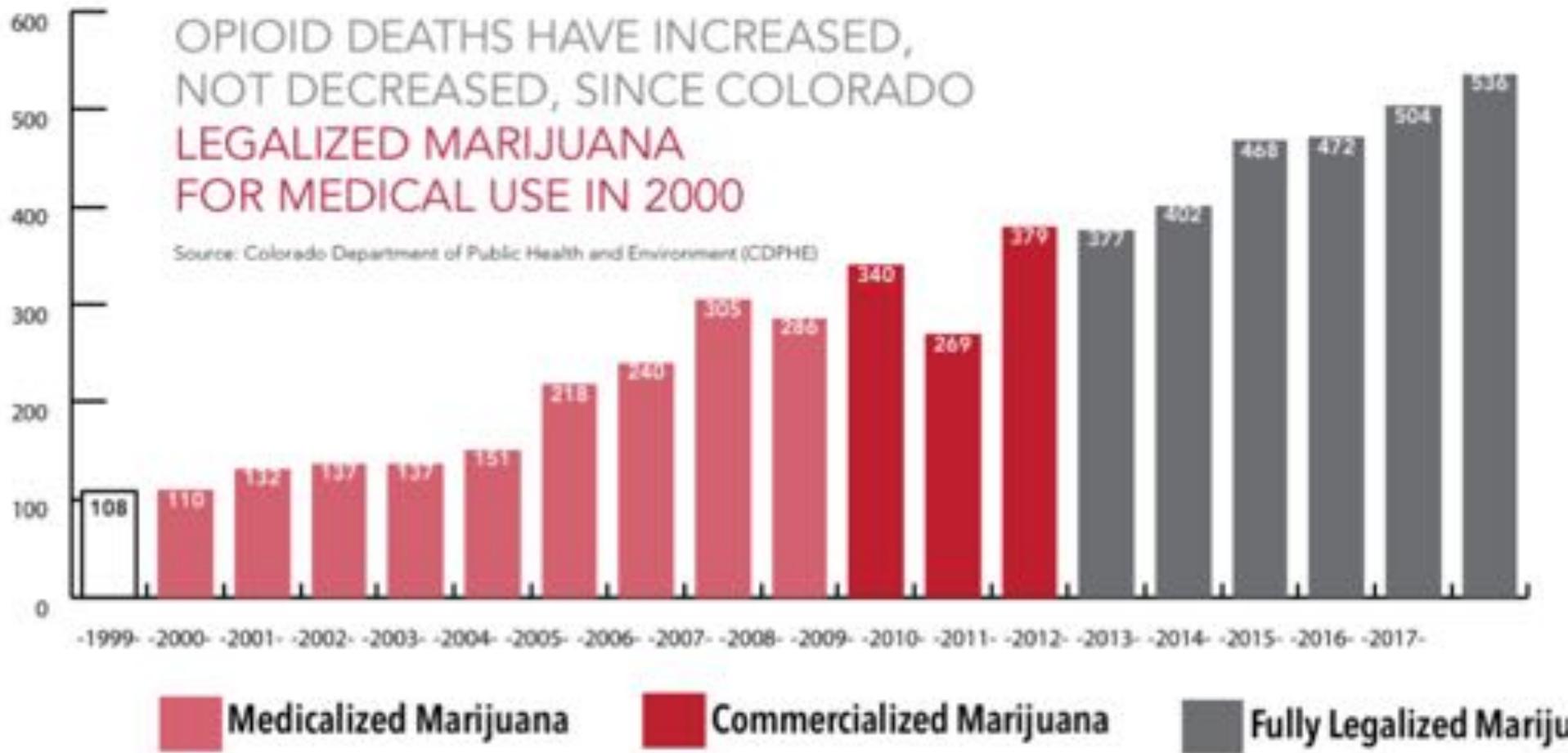
Heavy cannabis users are more likely to report thoughts of suicide than non-users.

Regular cannabis use is likely to increase the risk for developing social anxiety disorder.

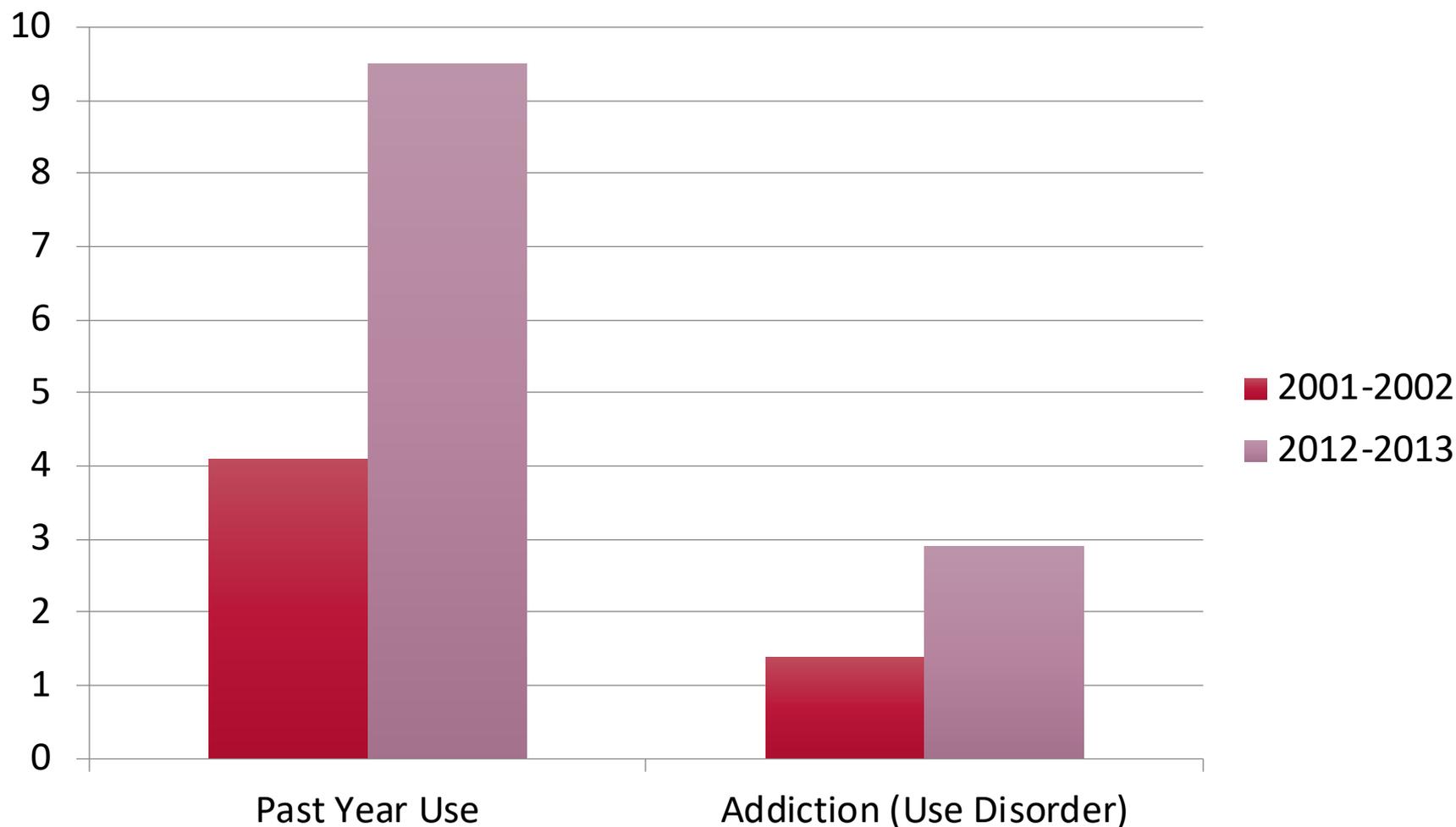
TO READ THE FULL REPORT AND VIEW RELATED RESOURCES, PLEASE VISIT

**NATIONALACADEMIES.ORG/
CANNABISHEALTHEFFECTS**

Guess which drug has gone up in CO?



JAMA Psychiatry journal: Marijuana use and addiction has skyrocketed since 2001



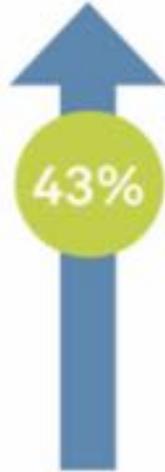
Monitoring the Future Data (2018)



One in four 12th graders would try marijuana, or increase their use of the drug *if marijuana were legalized*.



Marijuana positivity rises sharply in states with new recreational use statutes.



Nevada



Massachusetts



California

(Urine drug testing only.)

In the general workforce, marijuana positivity increased 4% from last year while it increased nearly 8% in the safety-sensitive workforce.

Source: Quest Diagnostics (2018)

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.

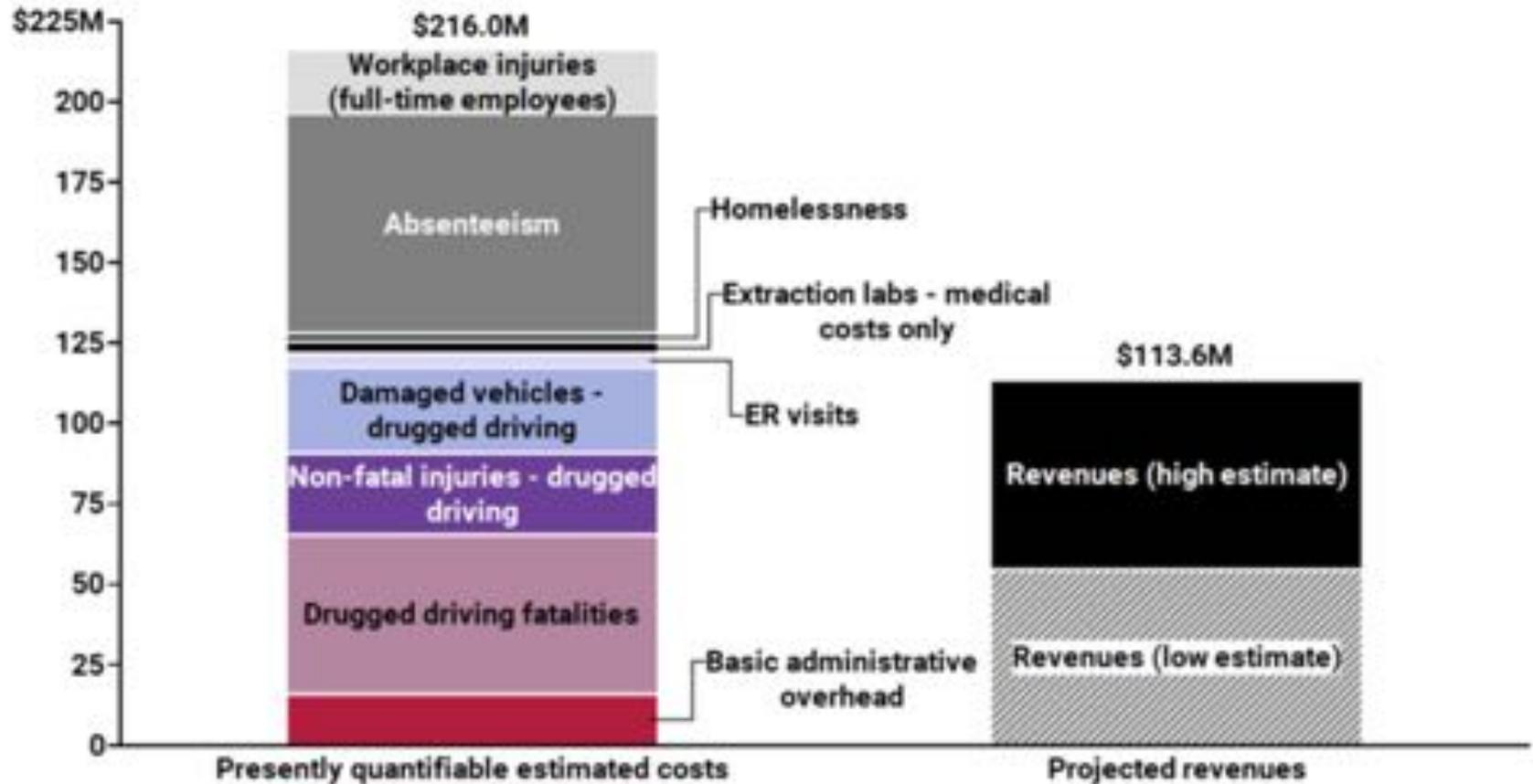
CRIMES AND OFFENSES IN PUBLIC SCHOOLS, 2015-2016

OFFENSE	N	%	CUMULATIVE %
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%
Trespass	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%
Traffic Offense	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

In CT, estimates of just a few costs outweigh projected revenues by over 90%

Estimated value for 2020
(in millions of 2016 dollars)



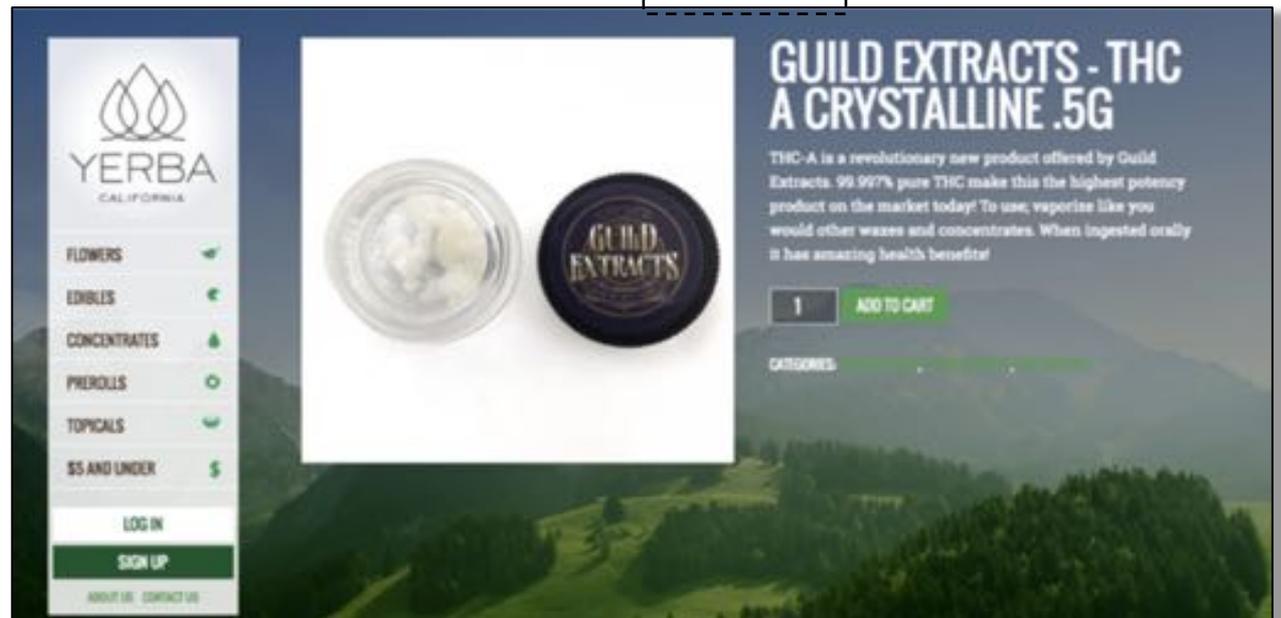
Current Regulatory Failures

- No Potency Caps
- Black Market (and Cartels)
- Increased Access for Minors
- Pesticides and Contaminants
- Recommended to Pregnant Women

99% THC is already for sale

THC is the active ingredient in marijuana; it is what gets someone "high" and it is extremely powerful and harmful in large doses.

99.997% pure THC



The screenshot shows a website interface for 'YERBA CALIFORNIA'. On the left is a navigation menu with categories: FLOWERS, EDIBLES, CONCENTRATES, PREROLLS, TOPICALS, and \$5 AND UNDER. Below the menu are 'LOG IN' and 'SIGN UP' buttons. The main content area features a product listing for 'GUILD EXTRACTS - THC A CRYSTALLINE .5G'. The product image shows a clear jar of white crystalline powder and a dark blue jar with the brand name. To the right of the image, the product name is displayed in large white text. Below the name, a short description states: 'THC-A is a revolutionary new product offered by Guild Extracts. 99.997% pure THC make this the highest potency product on the market today! To use, vaporize like you would other waxes and concentrates. When ingested orally it has amazing health benefits!'. Below the description is a quantity selector set to '1' and an 'ADD TO CART' button. At the bottom of the product listing, there is a 'CATEGORIES' section with a horizontal scroll bar.

Product Innovation in Delivery Systems

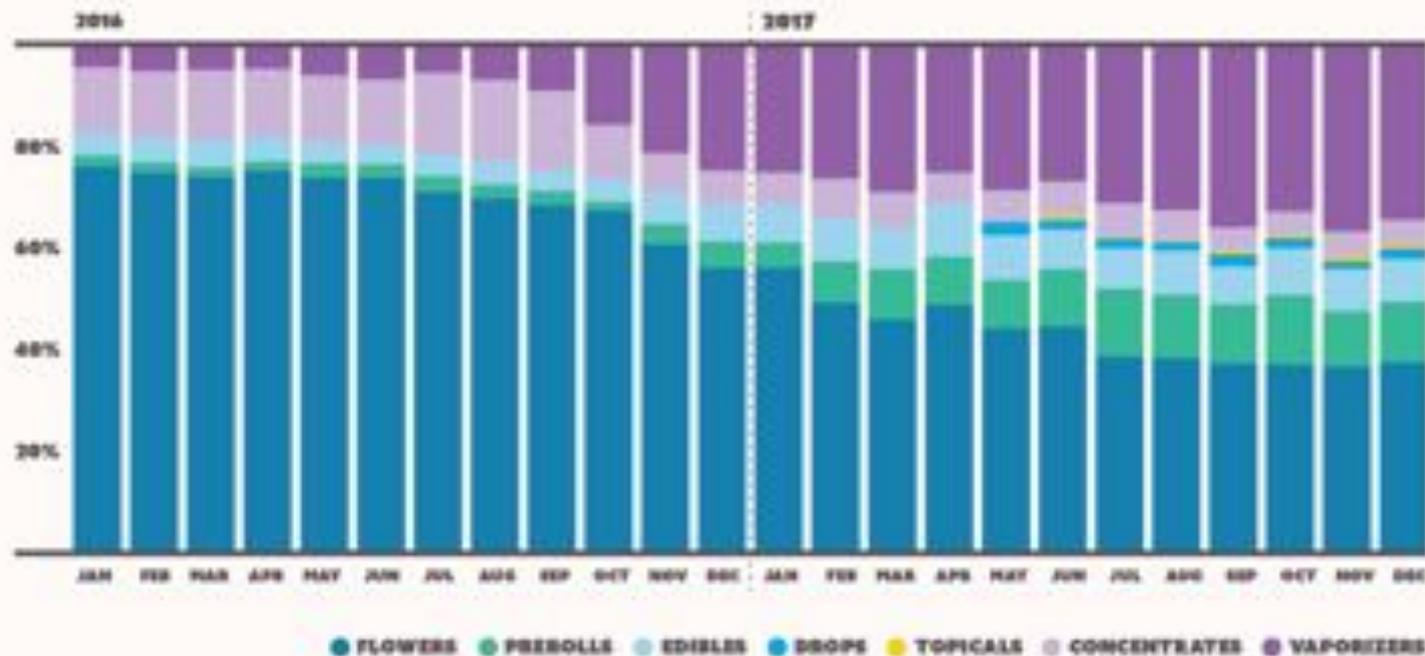
THC is not only smoked in joints, but now available in electronic form and in forms that look like needles. THC can be eaten, vaporized, and used in many ways – attracting new users who do not like to smoke.



More people are using non-smoked marijuana

Ready-To-Use Products Surpassed Flower For The First Time In History

Product Category Sales Trends



Younger users are the highest users of concentrates – powerful and pure THC oil



CONCENTRATES

Concentrates are highly potent extracts made from cannabis flower that come in many varieties. If flower is like wine, then concentrates would be the fine scotch—potent, with intense flavor and aroma. The highly refined nature of concentrates makes them a favorite among people who are looking for purity, maximum taste, and instant effect.

What percentage of customers ordered them in 2017?



What about edibles/drinkables?

- Delay in effect encourages **additional consumption** (the first time)
- Additional consumption may result in an expensive visit to the ER
- THC metabolizes into 11-hydroxy THC in the stomach
- CBD metabolizes into THC in the stomach
- Much more **psychoactive**, much more **dangerous mental health impacts**

The Black Market in California: Alive and Well

Permitting commercial marijuana activities does not reduce or eliminate the black market. Foreign cartels are using marijuana legalization to provide cover for illicit activities.

Today, California is the epicenter of black market marijuana --activists in California counties such as Calaveras are pushing back, trying to ban cannabis farms to cut off the cartels. They say drug traffickers are importing automatic weapons and using illegal, highly toxic pesticides that are eviscerating forest animals and poisoning freshwater sources. "We're going down the toilet bowl," says Calaveras County Sheriff Rick DiBasilio, "and it's not going to get any better." January 2018



<https://www.nbcnews.com/news/us-news/foreign-cartels-embrace-home-grown-marijuana-pot-legal-states-n875666>

“Seed-to-Sale” – where governments claim to know what happens to each marijuana seed, is flawed



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

Growers take advantage of this tracking system very easily

“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.”

In a complete betrayal of trust, seed to sale tracking companies are selling consumer data insights



Who Is Buying Cannabis?

November 23, 2018

November 26, 2018, Washington -- New Frontier Data, a leading authority in data, analytics and business intelligence in the global cannabis industry, in partnership with MJ Freeway, the creators of the leading seed-to-sale ERP system for the legal cannabis market, have jointly published a report setting forth the definitive results of the largest consumer archetype study for the cannabis industry to date.

Sales to Minors Continues in “Legal” States



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

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

Legalization Means Increased Availability to Children

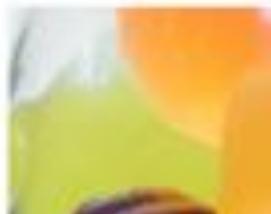
TIME

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



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

Posted: 10:28 PM, April 23, 2018

Updated: 6:32 AM, April 24, 2018

One arrest, 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

Kathy Curran   
5 Investigates Reporter



SHOW TRANSCRIPT

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

Get Weather   OREGONLIVE
The Oregonian

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/Bocky 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](#)

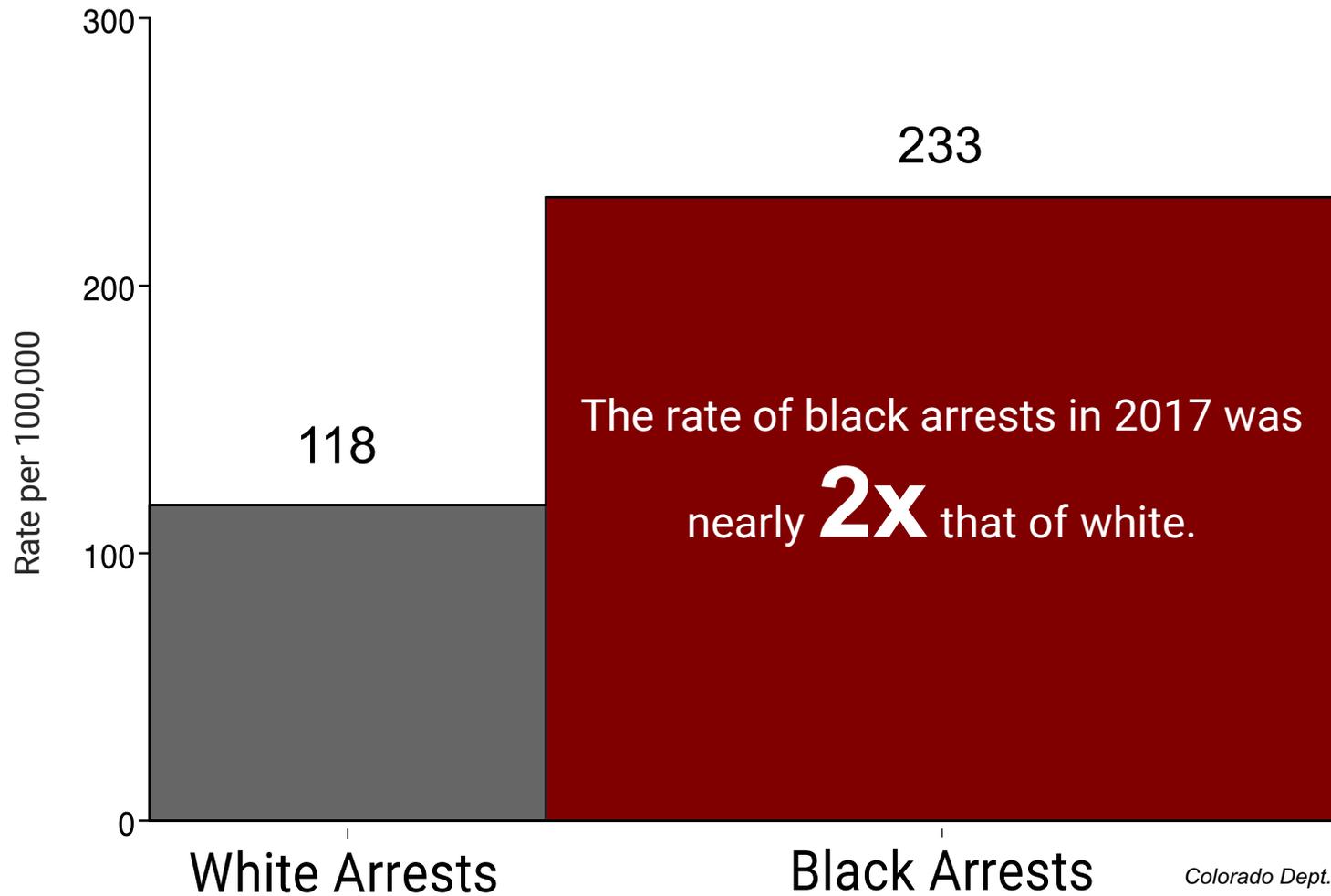
2016

- 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 Corne'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

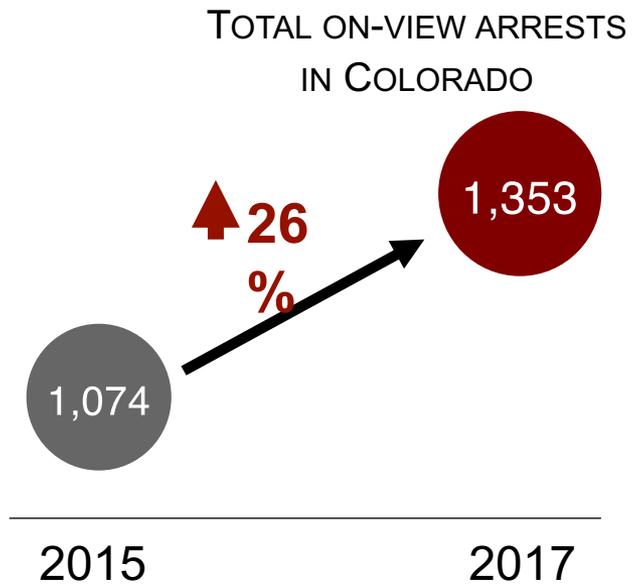
- December 30, 2015 - [Mountain High Suckers Voluntarily Recalls Marijuana Products Due to Pesticide Residues](#)
- December 21, 2015 - [EdiPure Recalls Additional Marijuana Products Due to Pesticide Residues](#)
- December 16, 2015 - [RexTec Voluntarily Recalls Marijuana Products Due to Pesticide Residues](#)
- 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 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 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 Autopirol Capsules Manufactured by Ith 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](#)

Disproportionate Arrests Still Happening



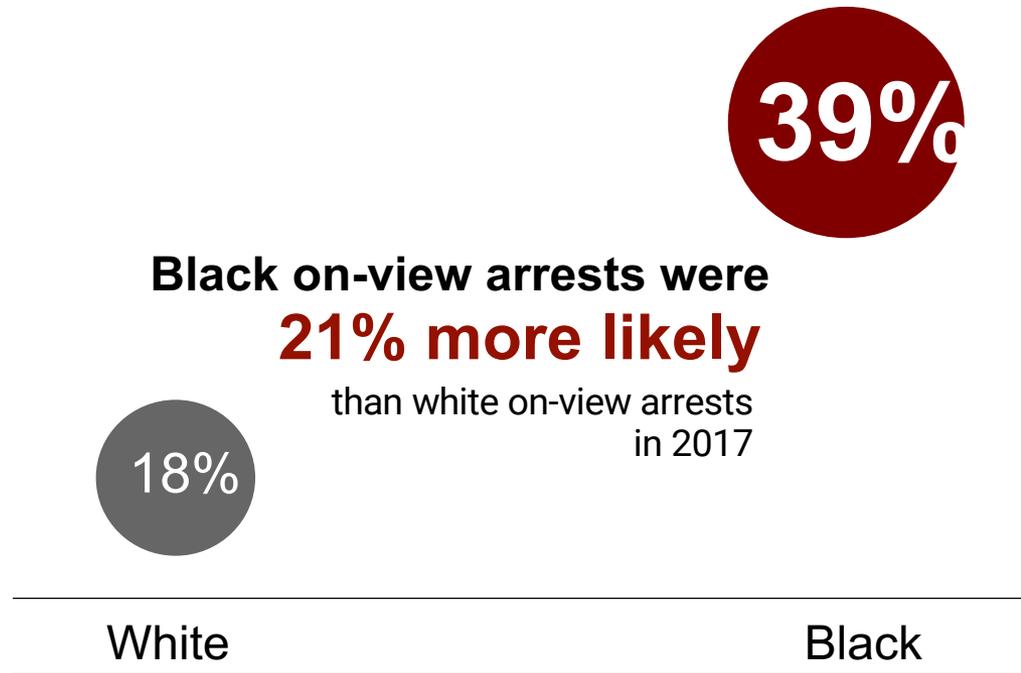
Colorado Dept. Public Safety, 2018

Public Arrests Up



Colorado Dept. Public Safety, 2018

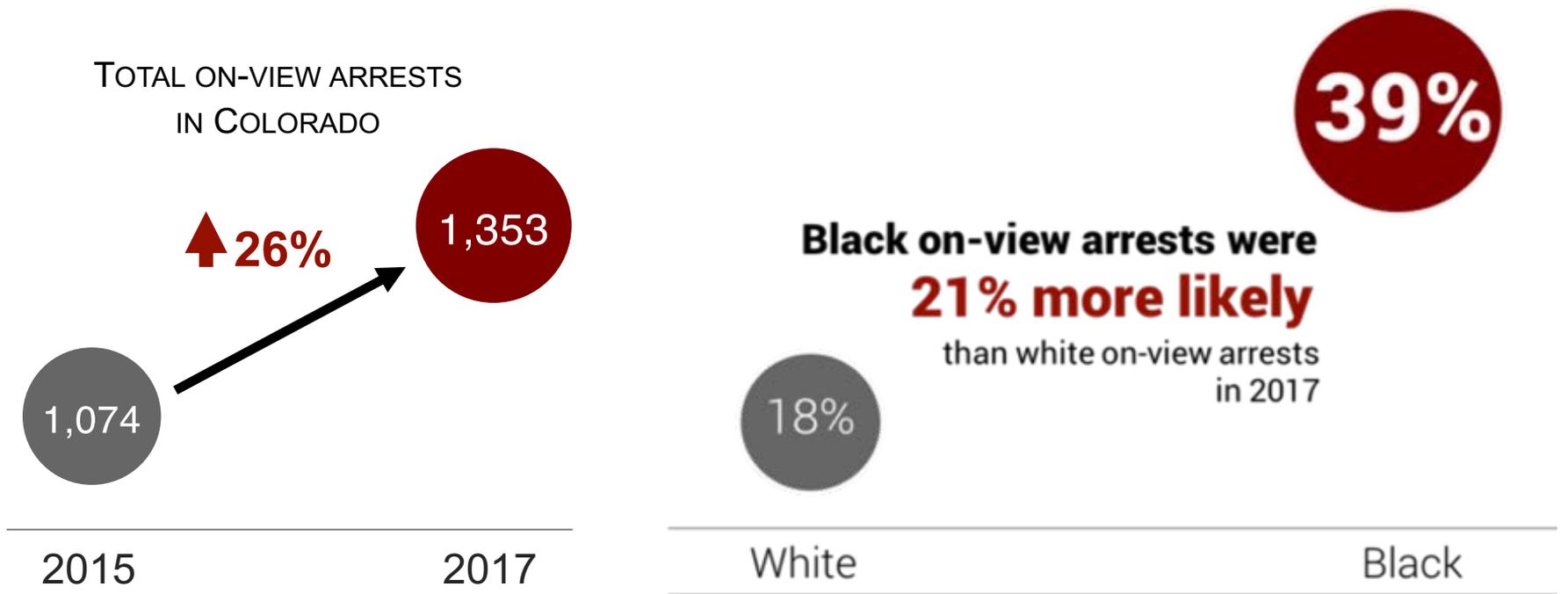
Disproportionate Arrests Still Happening



Colorado Dept. Public Safety, 2018

Disproportionate Arrests Still Happening

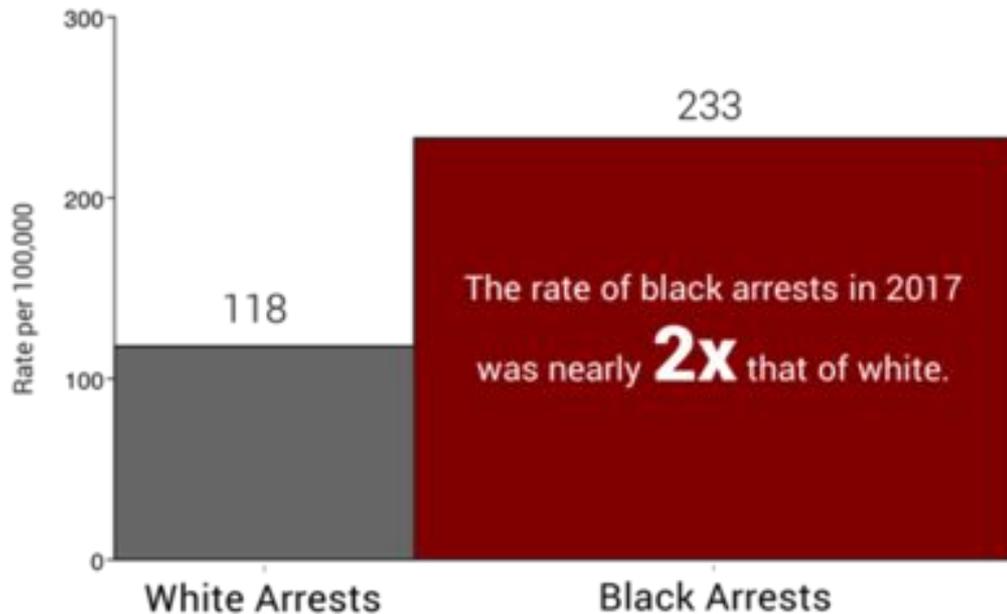
In Colorado, African-Americans were disproportionately arrested without a warrant or previous incident report in 2017.



Colorado Dept. Public Safety, 2018

Disproportionate Arrests Still Happening

Minorities are still disproportionately targeted for arrests in Colorado since legalization



DENVER

In 2017, African American arrests remained unchanged since 2012 – the year Colorado legalized recreational marijuana.

Hispanic and Asian arrests have since gone up within the same period.

Colorado Dept. Public Safety, 2018

Get Involved!



Sign up for **alerts** and **news**, also **donate** to the cause at learnaboutsam.org



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&

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[Facebook.com/learnaboutsam](https://www.facebook.com/learnaboutsam)

“We were gaining momentum. But now that's flipped and we're more on the defensive.” – Rep. Dina Titus (D-NV), one of the biggest marijuana supporters in Congress.

Created by IconDots
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from Noun Project

A final word from Dr. Nora Volkow in the New England Journal of Medicine:

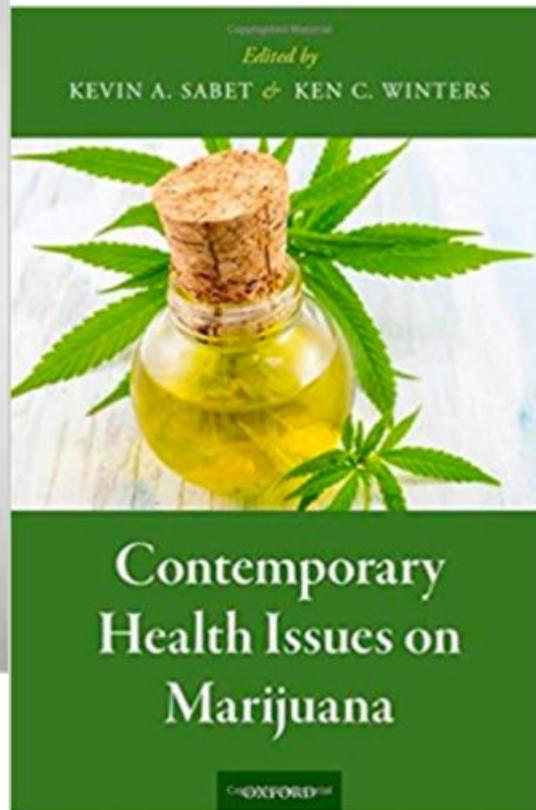
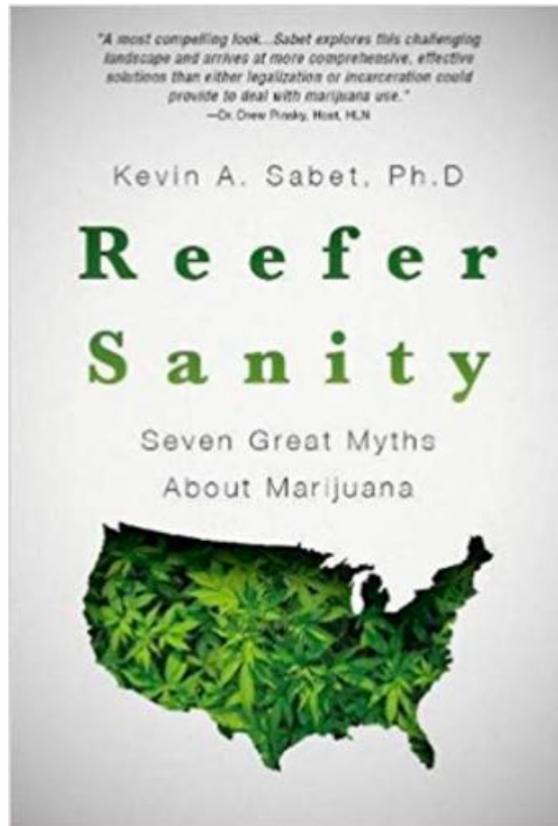
“Repeated marijuana use during adolescence may result in long-lasting changes in brain function that can jeopardize educational, professional, and social achievements.

“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.”

Dr. Volkow is the Mexican-born naturalized American director of the National Institute on Drug Abuse

Resources



Drugabuse.gov
LearnaboutSAM.org
MarijuanaReport.org



Contact us

www.learnaboutsam.org

info@learnaboutsam.org