



Lessons Learned in Legalized States

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www.learnaboutsam.org

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:




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

Who We Are

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

Non-partisan

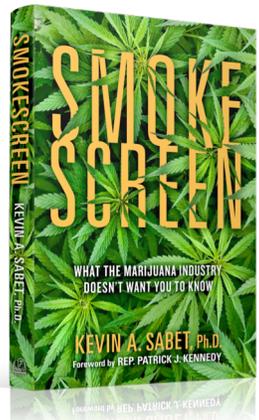
Scientific Advisory Board with top researchers around the country

Regular media mentions



Groups SAM has collaborated with

- American Medical Association**
- 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



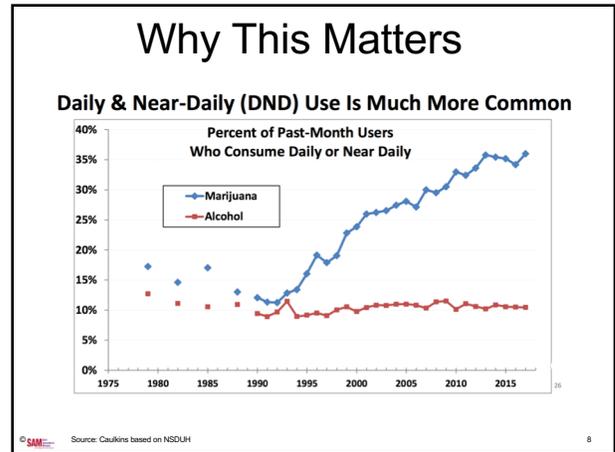
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Three separate issues that often get conflated

- 1 Penalizing drug users/ "decriminalization" 
- 2 Medicinal use of compounds derived from marijuana 
- 3 Legalization of marijuana for "non-medical" use 

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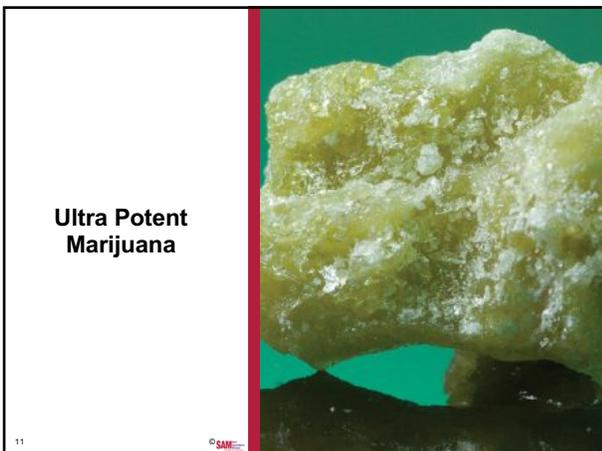
Ten Times as Many Daily Users Now Versus 1992 (12 years old +)

(900,000 versus 9 Million)

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© SAMHSA 10



...But This



© SAM - Source: Marijuana Business Journal, other open source media

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(Ben Livingston, The Cannabist)

Stealth PUFFiT vaporizer

Relax bro—it's just a blowtorch.

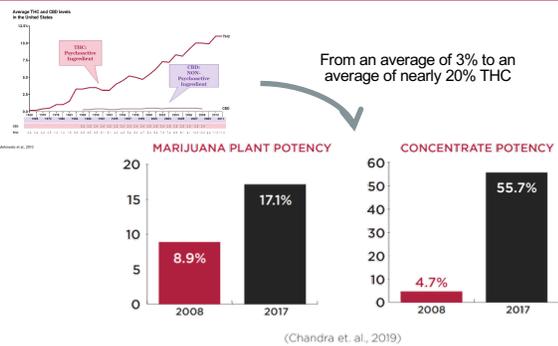


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Marijuana Has Become Significantly More Potent Since the 1960s, 70s, 80s, and 90s



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Marijuana is Not "Just a Plant" Anymore – Derivatives Contain up to 98% THC



© SAM

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**Former U.S. Surgeon General Jerome Adams:
“This isn’t your mother’s marijuana; the
marijuana of today is significantly more potent”**



**‘A dangerous drug’: Surgeon general warns
against marijuana use by pregnant women,
youths**

Research Highlights

1 in 3 Past-Year Users Have CUD (Addiction)



- 1 in 3 who used marijuana in the past year will become addicted to it (Cannabis Use Disorder)
- The adolescent brain is especially susceptible to marijuana use
- When kids use, they have a greater chance of addiction since their brains are being primed

Youth Use

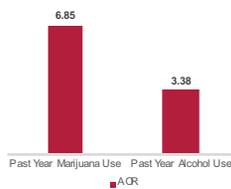
- ↑ youth marijuana addiction since legalization, in legal states (Cerde et al **NSDUH**)
- ↑ among WA 8th and 10th graders (Cerde et al **MTF**)
- ↑ legalization predicted 6-fold increase of teen use (Bailey et al **Seattle Social Dev Proj**)
- ↑ NSDUH shows 3.5% increase from last yr in legal states
- ↔? Colorado Healthy Kids Survey
- ↓ among 8th and 10th (Reuter and Kilmer using WA/CA state surveys)

Legalization reversing downward trend in youth use

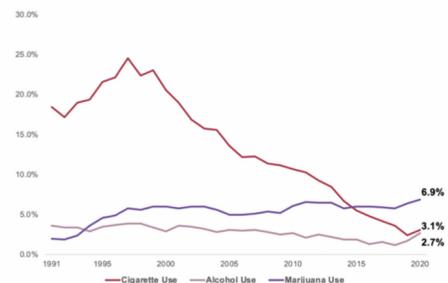
Non-Medical Marijuana Legalization (NML) is associated with an increased likelihood of youth marijuana and alcohol use

- Researchers accounted for an overall downward trend in youth substance use across the nation to more closely scrutinize use in NML states, a factor that previous studies may have missed.
- The adjusted odds ratios of youth use of marijuana and alcohol in states with NML were 6.85 and 3.38, respectively.
- “Among teens, NML may be working against hard-won, population-level decreases in the prevalence of marijuana and alcohol use.”

AOR of Past Year Reported Use in States with Non-Medical Marijuana Legalization

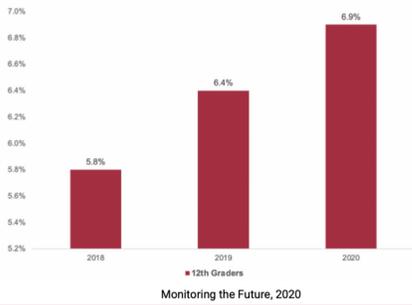


Daily use among 12th graders is rising dramatically



Monitoring the Future, 2020

Near-Daily Use of Marijuana by 12th Graders Continues to Increase

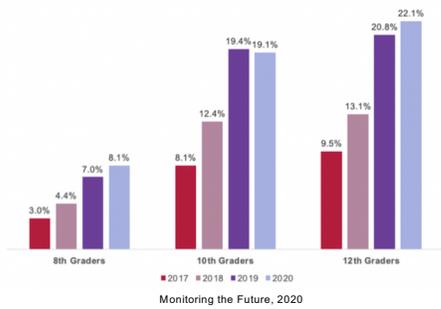


The prevalence of Marijuana Use Disorder in **children 12-17** increased **25%** after recreational marijuana legalization.

JAMA Psychiatry: Association Between Recreational Marijuana Legalization in the United States and Changes in Marijuana Use and Cannabis Use Disorder From 2008 to 2016

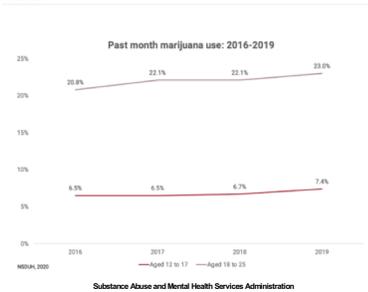
Cerda, et al., 2020

Annual Marijuana Vaping Has Dramatically Increased in the Past Few Years

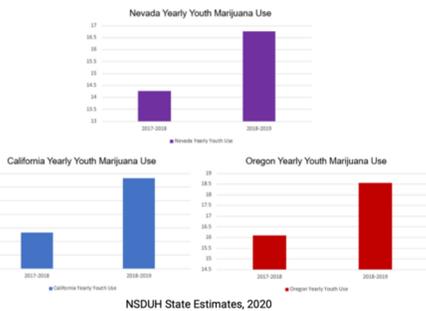


Past-year and Past-Month Marijuana Use

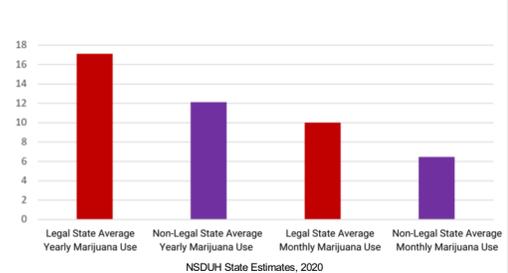
Past month use among youth aged 12-17 increased 14 percent since 2016 while past-year use among the same age group rose 10 percent.



Significant increases in youth marijuana use in Nevada, California, and Oregon in 2019



Past-Month and Past-Year Youth Use in "Legal" States Outpaces Such Use in Non-Legal States



Monitoring the Future Data (2018)



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

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Lancet 2019 Population-Level Study Conclusions

5x

- Regular high potency marijuana users are **5 times more likely to develop psychosis**.
- Compared to 3 times more likely for regular users of lower potency marijuana of the past.

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Association of High-Potency Cannabis Use With Mental Health and Substance Use in Adolescence (May 2020)

Study of 1,087 twenty-four-year-olds who reported recent marijuana use, found that users of **high potency marijuana** were:

4x more likely to abuse marijuana.

2x as likely to develop anxiety disorders.

In addition to increases in anxiety, the study also found that users of high potency were twice as likely to have used other substances in the past year and more than three times as likely to be tobacco users.

JAMA Psychiatry (2020) 33

Early Marijuana Use and Intensity of Use are Associated with Lower Educational Attainment

High School Completion
Marijuana users show much higher high school dropout rates than non-users.

University Entrance Score
Marijuana users that complete high school do poorly on university entrance tests.

Source: Cobb-Clark et al. <http://dx.doi.org/10.1016/j.jad.2019.07.020>. 34

Marijuana use is also associated with lower IQ among adolescents

Change in full-scale IQ (standard deviation units)

1 Diagnosis: $p = .44$

2 Diagnoses: $p = .09$

3 Diagnoses: $p = .02$

Dunedin prospective study of 1037 subjects born in 1972-73. Subjects were tested for IQ at age 13 and 38 years of age. They were also tested for THC use ages 18, 21, 26, 32 and 38 years of age. Source: Meier MH et al., PNAS Early Edition 2012. 35

Massive Review of Over 500 Studies on Vets and Marijuana Use

Marijuana use among vets was associated with negative outcomes such as:

- Other Substance Abuse
- Developing of/Worsening of Psychiatric Disorders
- Self-Harm and/or Suicidality

Authors of study stated that "very few studies have examined the therapeutic efficacy of medical cannabis in veterans and those that have are of low quality methodologically."

Source: Iijima, J., & MacKillop, J. (2021). Cannabis use among military veterans: A great deal to gain or lose? Clinical Psychology Review. doi:https://doi.org/10.1016/j.cpr.2021.101958. 36

Youth Marijuana Abuse Linked to Suicide Attempts & Self Harm

Marijuana abuse by youth with mood disorders linked to suicide attempts, self-harm and death, study finds

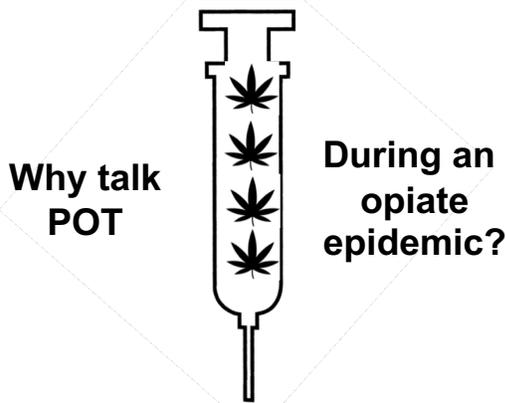
By Sandee LaMotte, CNN
 Updated 12:51 PM ET, Wed January 20, 2021

Study Conclusion: Cannabis use disorder is a common comorbidity and risk marker for self-harm, all-cause mortality, and death by unintentional overdose and homicide among youths with mood disorders.

These findings should be considered as states contemplate legalizing medical and recreational marijuana, both of which are associated with increased CUD.

Fontanelle CA, Steelesmith DL, Brock G, Bridge JA, Campo JV, Fristad MA. Association of Cannabis Use With Self-Harm and Mortality Risk Among Youths With Mood Disorders. JAMA Pediatr. Published online January 19, 2021. doi:10.1001/jamapediatrics.2020.5494

Marijuana & Opioids



2019: JAMA Updated Opioid Study

Medical marijuana was associated with a 23% INCREASE in opioid deaths.

The authors also said "We find it unlikely that medical marijuana-used by about 2.5% of the US population-has exerted large conflicting effects on opioid overdose mortality. **A more plausible interpretation is that this association is spurious.**"

Beyer, A. and Barnes, B. (2018). Opioid Death Rate Acceleration in Jurisdictions Legalizing Marijuana Use. JAMA Intern Med. 2018;178(9):1280-1281

2018 in JAMA Internal Medicine

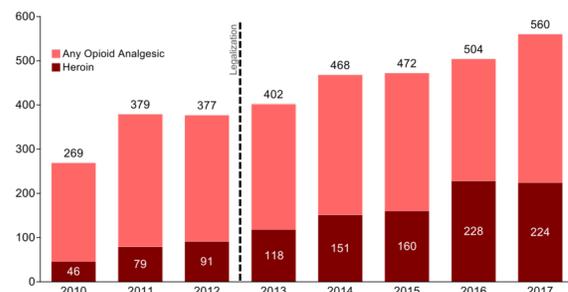
"The opioid crisis appears to be worsening where marijuana has been legalized."

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 jointpoint 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.

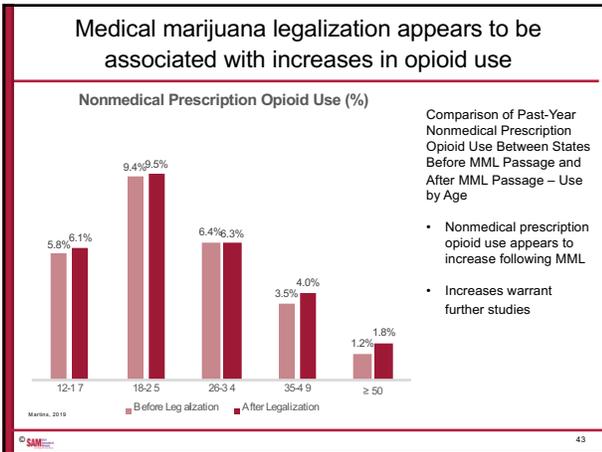
The opioid crisis appears to be worsening where marijuana has been legalized, despite fewer opioid prescriptions, and as such, constitutes evidence for the gateway hypothesis and against the marijuana protection hypothesis. In any event, before other states rush to legalize marijuana and risk worsening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

Beyer, A. and Barnes, B. (2018). Opioid Death Rate Acceleration in Jurisdictions Legalizing Marijuana Use. JAMA Intern Med. 2018;178(9):1280-1281

COLORADO OPIOID-RELATED OVERDOSE FATALITIES



Beyer, A. and Barnes, B. (2018). Opioid Death Rate Acceleration in Jurisdictions Legalizing Marijuana Use. JAMA Intern Med. 2018;178(9):1280-1281



October 2020 Study: 2x risk of opioid use on days marijuana is used; substitution of opioids w/ marijuana is unlikely

Findings:

- “On days that participants used marijuana the **odds of non-medical opioid use nearly doubled**,...”
- “...substitution of non-medical opioids with marijuana was unlikely, regardless of the presence of significant pain...”

“The current study is therefore among the first to directly test opioid substitution, **suggesting that cannabis seldom serves as a substitute for non-medical opioids among opioid-using adults**...”

2019 McMaster University Study: Marijuana Did Not Reduce Opioid Use

Canadian researchers at McMaster University analyzed twenty-three studies with more than 3,600 participants:

- Marijuana **did not lead to reduced opioid use** during treatment
- Also did not lead to people staying in treatment programs

2020 Study: Marijuana use prompts need for more anesthesia during surgery, increases pain and postoperative opioid use, study shows

Those who reported using marijuana prior to surgery received:

- 58% more opioids per day** while in the hospital
- Reported greater levels of pain
- Required an additional 12.4 milliliters of anesthesia during surgery than those who did not use pot

Social Equity

“If only we treated it like alcohol...”



1.3 million

Arrests for alcohol-related crimes in 2017, including violations of liquor laws and DUI – **but does NOT include arrests for alcohol-related violence**

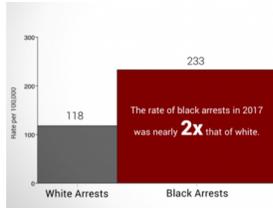
vs.



659,700

Marijuana-related arrests in 2017

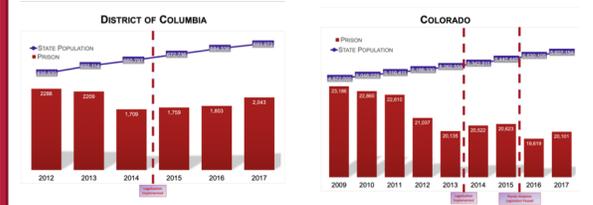
Disproportionate Arrests Are Still Occurring



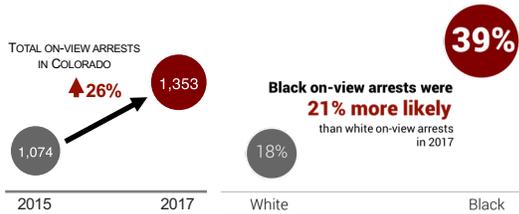
In 2017, African American Arrests remained unchanged since 2012 -- the year Colorado legalized recreational marijuana.

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

Marijuana Legalization Has Not Reduced Prison Populations



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



Colorado Dept. Public Safety, 2018

White Weed Entrepreneurs Are Gaming Programs Meant to Help People of Color

By the numbers: How legalized cannabis hits Black America

Why Isn't Marijuana Legalization Doing Any Good for People of Color?

A law said pot taxes should help communities harmed by the war on drugs. That hasn't happened



Black-Owned Pot Businesses Remain Rare Despite Diversity Efforts

STATELINE ARTICLE January 15, 2021 By: Sophie Quinton

"We don't have one successful social equity licensing program yet."

Bonita Money, Founder & Executive Director, National Diversity & Inclusion Cannabis Alliance

<20%

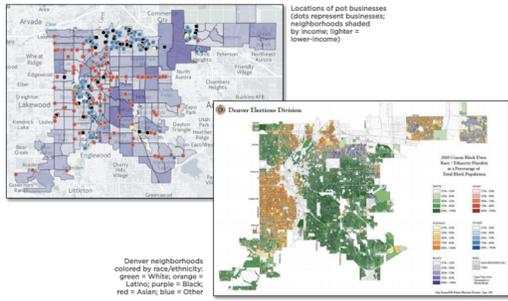
Fewer than 20% of all marijuana businesses are owned by minorities

4%

Only 4% of all marijuana businesses are owned by African Americans

Source: <https://www.greenentrepreneur.com/article/315528>

MARIJUANA BUSINESSES IN DENVER ARE CONCENTRATED IN NEIGHBORHOODS OF COLOR



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Targeting Our Youth



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Snob Appeal



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Happiness



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Appeal to youth



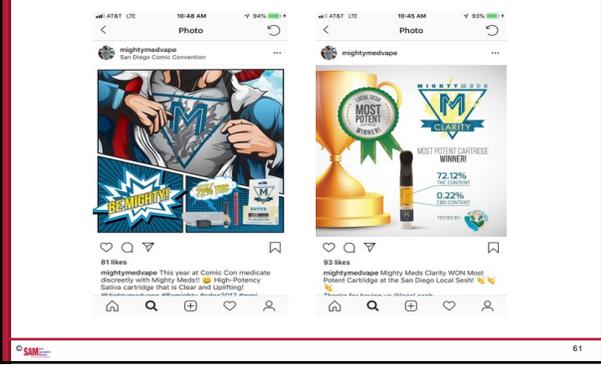
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Joe Camel Returns?



© SAM Source: Courtesy Lynn Sylvester, PhD

THC Vape Companies Advertise on Social Media with Cartoon Characters Targeted at ComicCon

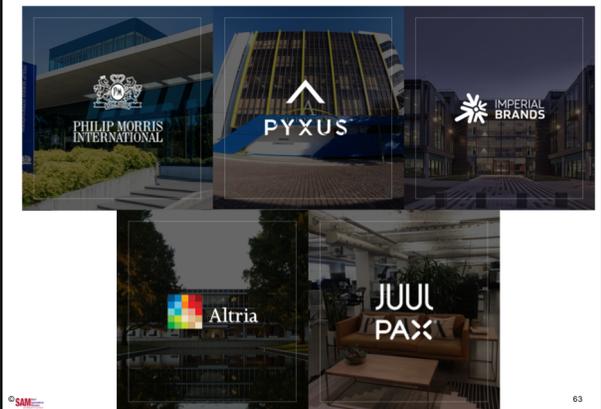


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Industry Investment

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www.learnaboutsam.org/industry-profiles



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ALTRIA MAKES \$1.8 BILLION INVESTMENT IN BIG MARIJUANA



Forbes "Smart Approaches to Marijuana (SAM)'s legalization opponent Kevin Sabet may be right. **like it or not Big Tobacco is invading cannabis.**"
 Dec 4th, 2018
 Altria, the company that invited unwilling consumers for decades to come to where the cancer is...
 may be looking to shore up stagnant cigarette sales by purchasing Canadian cannabis company Cronos group.

© SAM 64

4TH LARGEST TOBACCO COMPANY ON EARTH INVESTS IN BIG MARIJUANA

Auxly Cannabis signs \$123M deal with tobacco giant Imperial Brands



Vancouver firm will get global licences to the British tobacco company's vaping technology

The Canadian Press - Posted: Jul 25, 2019 1:19 PM ET | Last Updated: July 25



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And this...



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USNews
INVESTING / STOCK MARKET NEWS

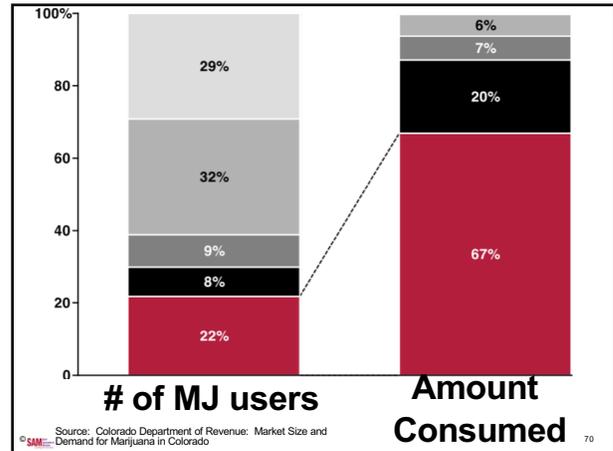
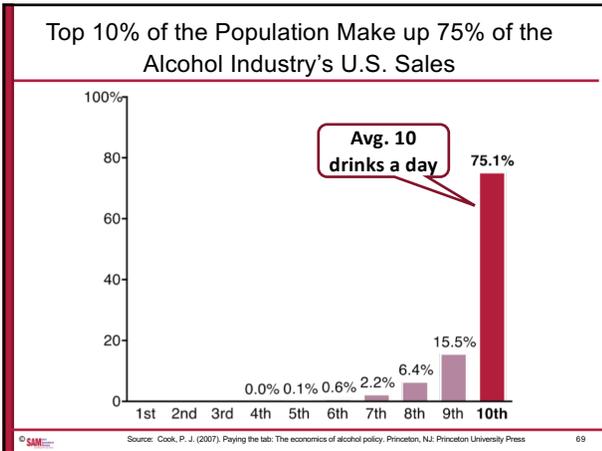
Coming Soon From Molson Coors: Marijuana Beer
Molson Coors' new venture is targeting the Canadian cannabis market.

© SAMI 67

Corona Owner's Marijuana Investment Reaps \$700 Million
By Uliana Pastore
June 25, 2018, 1:05 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

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Public Health Impact

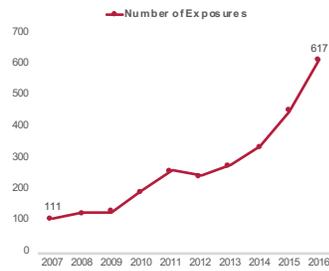
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- 2019 Colorado Health Department Report**
- **400% increase** in marijuana poisonings of children 0-9 years of age.
 - 23,009 homes with children **are not storing marijuana products safely.**
 - 32,800 homes where children 1-14 years of age **are exposed to second-hand marijuana smoke.**
- © SAMI CDPHE, 2019 72

The rate of children aged 5 and younger exposed to marijuana increased by 147.5 percent

Marijuana exposures are increasing across the country

- The increased occurrence of accidental exposure to marijuana among children is attributed largely to states where medical and recreational marijuana had been legalized.
- 75 percent of exposures were attributed to accidental ingestion of marijuana products.
- Children younger than age 3 accounted for 78 percent of the exposures.



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STUDY: Living Near Marijuana Dispensaries Increases Likelihood of Youth Use, Favorable Opinions

A study published in the journal *Addiction* in 2019 found that living near a marijuana dispensary increases the likelihood of marijuana use and frequency of use among young people aged 18-22.

- 84% of the nearly 2,000 participants had 10+ pot shops within 4 miles of their homes
- Led to increased marijuana use and normalization of the drug

© SAMHSA

https://www.rand.org/pubs/external_publications/EP67909.html

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MARIJUANA HOSPITALIZATIONS INCREASES SINCE LEGALIZATION

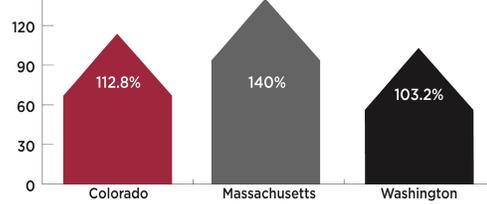


(Colorado Department of Public Health and Environment, 2013-2017; Alaska Department of Health and Social Services, 2020).

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PERCENT INCREASE IN CALLS MADE TO THE POISON CONTROL CENTER FOR MARIJUANA EXPOSURES FOLLOWING LEGALIZATION IN THE STATE.

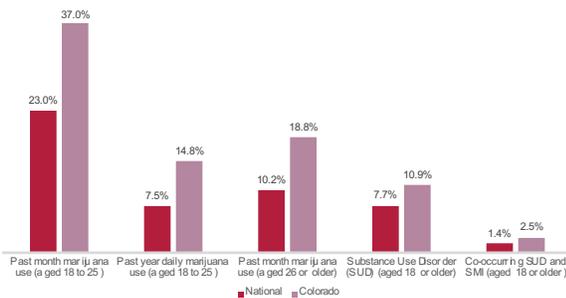


(Rocky Mountain HIDTA, 2019; Whitehill et al., 2019; Washington Poison Center, 2018)

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Comparison of Rates of Mental/Substance Use Disorders Associated with Marijuana Use: National vs. Colorado Data from the National Survey on Drug Use and Health



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#PotVapingCrisis

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Marlboro maker Altria nears deal to take 35 percent stake in leading e-cigarette company Juul, sources say

- Altria is nearing a deal to take a minority stake in e-cigarette company Juul, according to people familiar with the situation.
- Selling a portion of itself to Big Tobacco would mark a turning point for Juul, which has been under pressure because of the amount of teens reportedly using its products.

Lauren Hirsch | Angelica LaVito
Published 1 Hour Ago | Updated 20 Mins Ago
CNBC

The Vape and Marijuana Industries Are Inextricably Linked



PAX is now explicitly a THC vaporizer company

PAX PRODUCTS STORE LOCATOR SUPPORT MY ACCOUNT

PAX 3

A vaporizer for both flower and waxy extracts.



SHOP PAX 3

PAX 2

A flower vaporizer to rediscover cannabis.



SHOP PAX 2

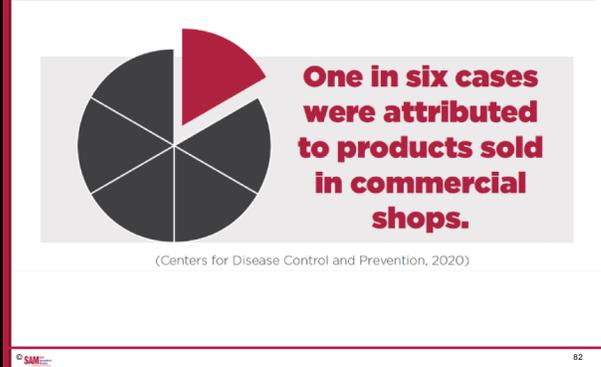
PAX Era

The effortless system for cannabis oils.



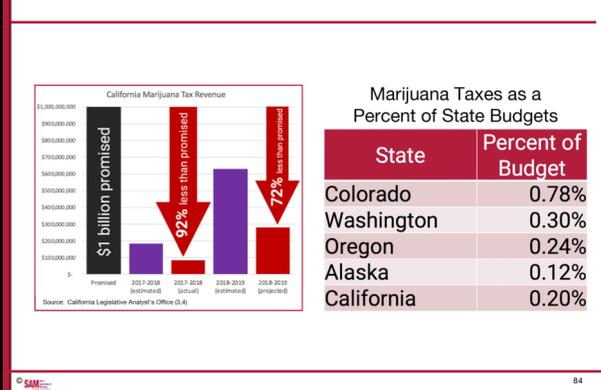
SHOP PAX ERA

The Marijuana Vaping Crisis, Which Was Responsible For at Least Six Deaths and Thousands of Hospitalizations, Was Not Solely the Fault of the Illicit Market.



Tax Revenue

Revenues v Reality

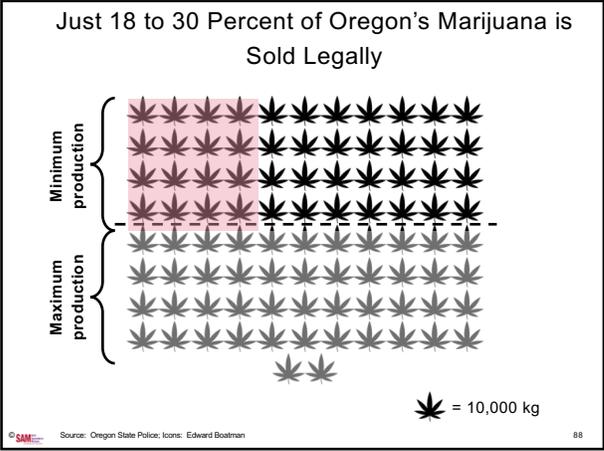


Marijuana & the Illicit Market



Legalization is Unlikely to Diminish the Power of Drug Cartels and the Illicit Market (1/2)

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>CARTELS ARE, IN REALITY, DIVERSIFIED BUSINESSES</p> | <p>A HUGE ILLICIT MARKET EXISTS FOR TOBACCO</p> |
| <ul style="list-style-type: none"> • "Drug cartels" are diversified enterprises that include mining and pirated goods • Marijuana accounts for only 15-25% of revenues of drug trafficking groups • More money is found in other businesses, including legal ones, than in selling marijuana <ul style="list-style-type: none"> • Estimates indicate up to 50% of Zeta activities related to cigarette smuggling • In 2014, iron mining was the #1 source of revenue for the Knights Templar cartel | <ul style="list-style-type: none"> • Cigarettes are the world's most widely smuggled legal product • A \$657 billion/year business in 2009 • Provides funding for organized criminal syndicates and terrorist groups worldwide <ul style="list-style-type: none"> • In Canada alone, ~105 organized crime groups are engaged in cigarette smuggling • Generates revenue for groups like the Taliban and Hezbollah |



Oregon Secretary of State Issues Scathing Audit of Marijuana Regulations

3%
of pot shops have been inspected.

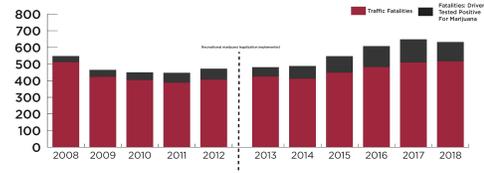
"Oregon's marijuana testing program cannot ensure that test results are reliable and products are safe."

2019 National Emerson Poll:

68% of Americans want options **other** than legalization

Marijuana & Driving

COLORADO TRAFFIC FATALITIES WHERE THE DRIVER TESTED POSITIVE FOR MARIJUANA



(Colorado Department of Transportation, 2019)



“AAA opposes the legalization of marijuana for recreational use because of its inherent traffic safety risks and because of the difficulties in writing legislation that protects the public and treats drivers fairly.”

AAA Foundation for Traffic Safety (2020)

Marijuana-Impaired Driving Fatalities are Skyrocketing

- **Washington State & Colorado:** More than doubled since legalization
- **Oregon:** 50% of all drivers assessed tested positive for marijuana-impairment after legalization

Washington Traffic Safety Study (2018)

1 in 5 drivers are stoned.

That is up from one in ten prior to legalization.

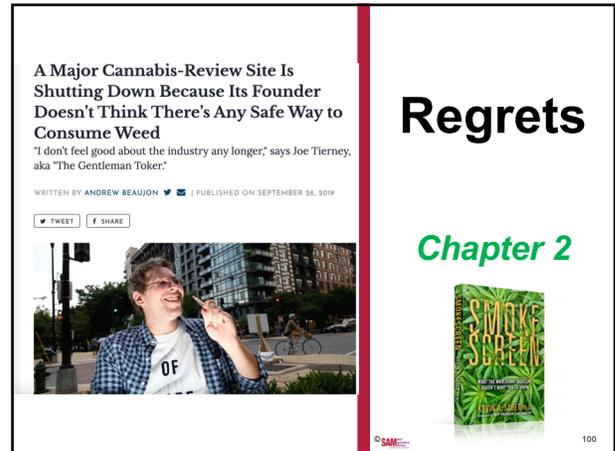
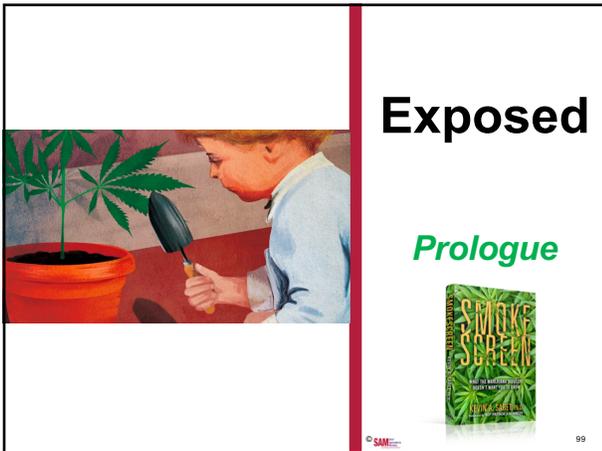
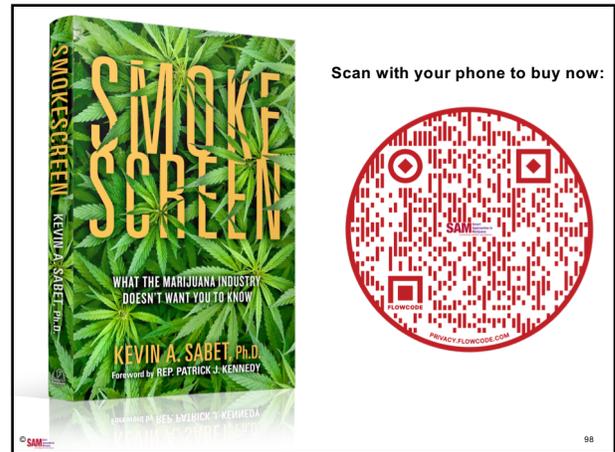
64.2% of respondents who reported using marijuana and driving **stated that they didn't think that it impaired their ability to drive at all.**

JAMA Internal Medicine Study

Federal legalization would bring 7,000 more stoned driving deaths nationally



Kamer, et al., 2020



Perpetuating Social Injustice

Chapter 9

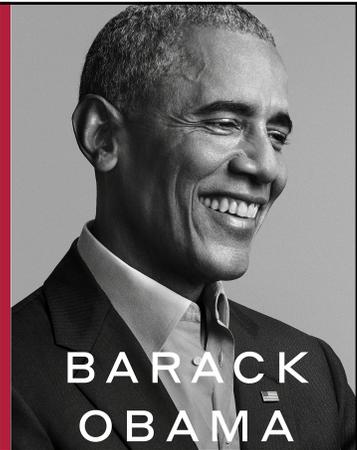


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An Inside Story

Chapter 7 & Chapter 18



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