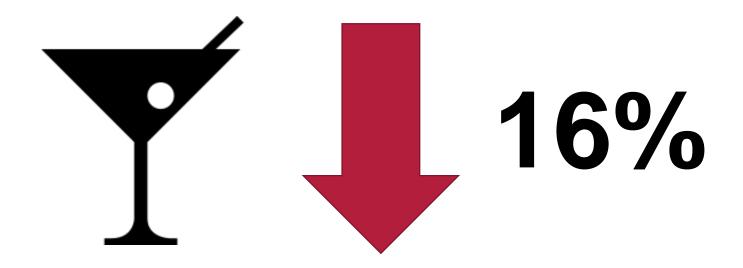
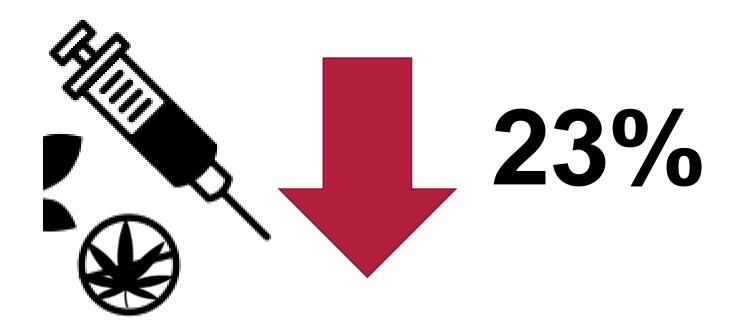


Is Marijuana the New Big Tobacco?

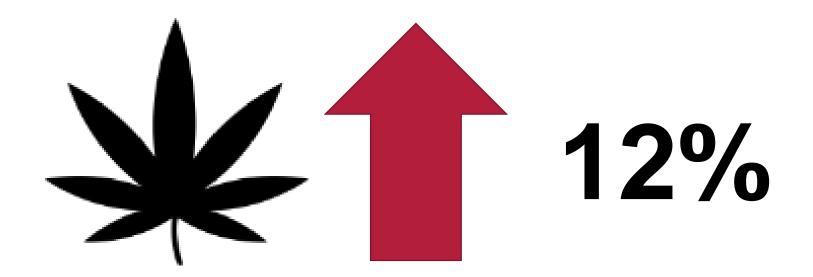
Kevin A. Sabet, PhD
Director, Drug Policy Institute, University of
Florida
President, SAM













What is SAM?



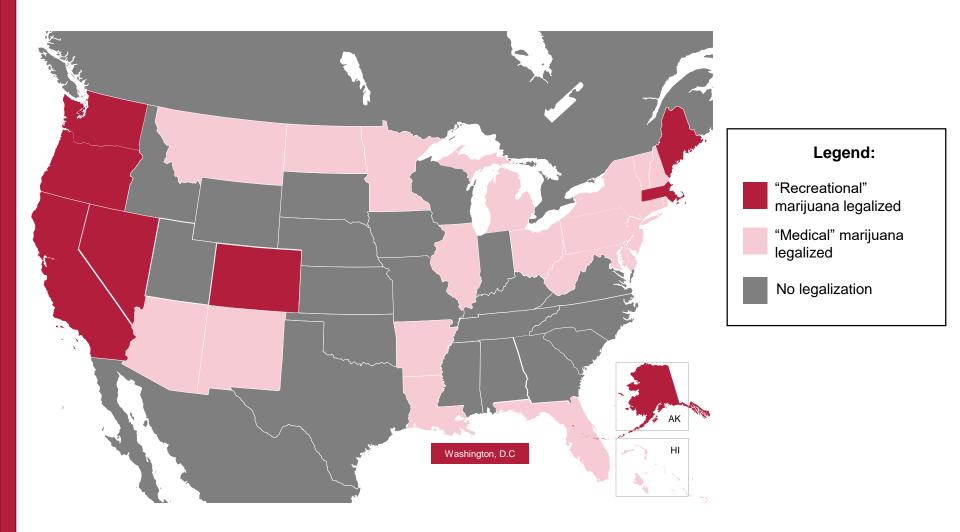
- A 501(c)(3) non-profit, educational organization funded by volunteers & private organizations
- Our mission:
 - Educate citizens on the science of marijuana
 - Promote health-first, smart policies and attitudes that decrease marijuana use and its consequences

SAM's board members and supporters

- American Society of Addiction Medicine
- American Academy of Pediatrics
- 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



You have probably heard this story...



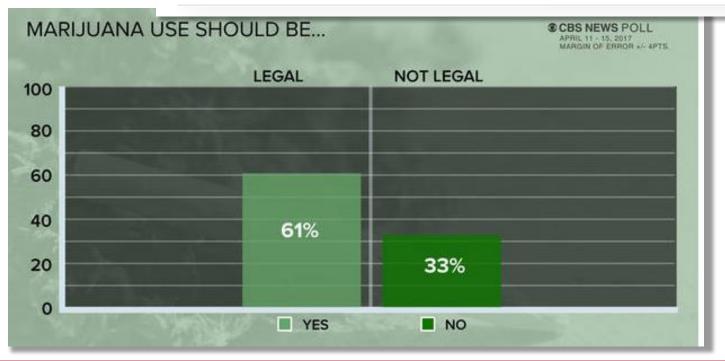


And this one...

CBS NEWS / April 20, 2017, 7:00 AM

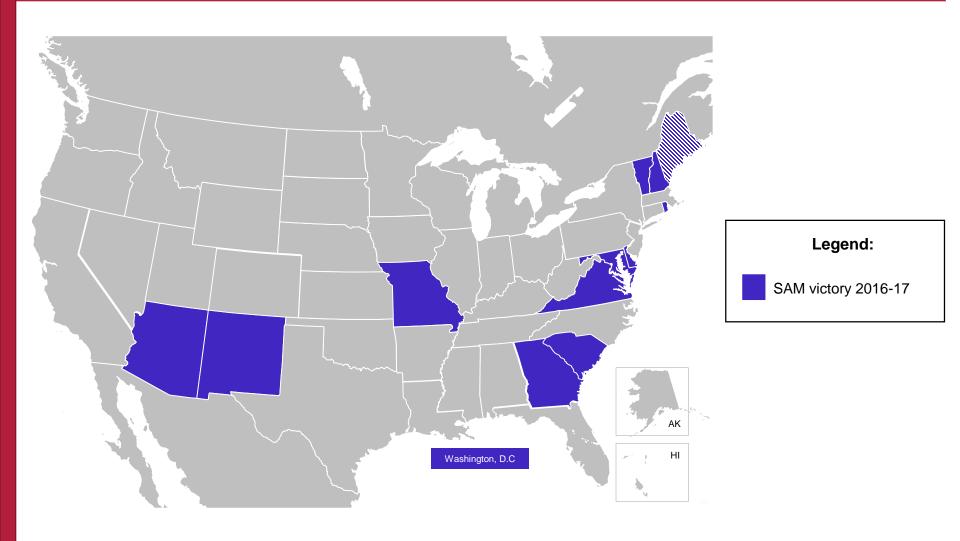
Marijuana legalization support at all-time high

825 Comments / f Share / F Tweet / Stumble / Email



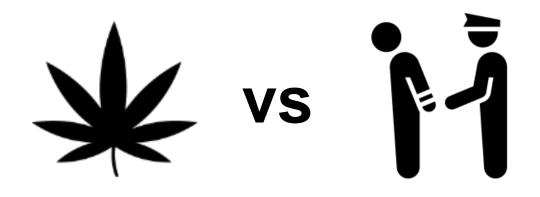


But you probably didn't hear this tale...





The false dichotomy: "Legalization <u>OR</u> incarceration?"









Billboards



Event sponsorships



Coupons





Newsweek.





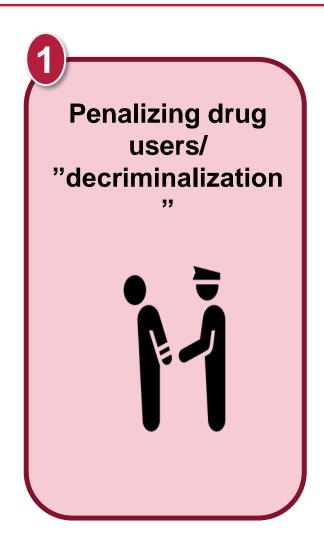




Let's not be fooled by Big Tobacco Again



Three separate issues that often get conflated



Medicinal use of compounds derived from marijuana/other drugs



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

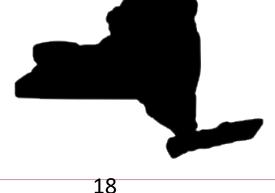
Additional research is ongoing into the medical properties of marijuanaderived compounds

Do all US states treat marijuana the same?

No: Some states have decriminalized, some have legalized, some have medicalized, some have done nothing

Key Point: Medical marijuana programs are all different

VS.





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"



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



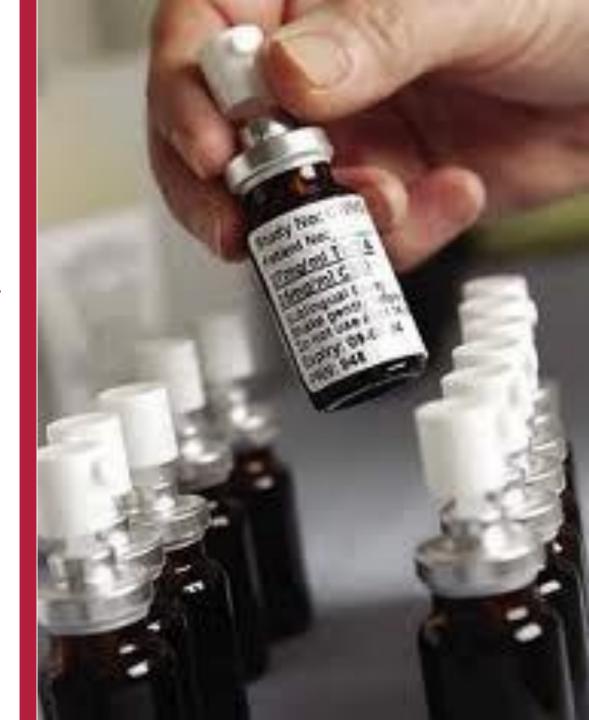
Fewer than 5% of "medical" marijuana card holders are cancer, HIV/AIDS, or glaucoma patients

Nunberg et al. reporting on California MMJ users

Applicants most frequently reported using medical marijuana for pain relief (82.6%), improved sleep (70.6%), and relaxation (55.6%). The next most frequently reported benefits included relief of muscle spasms (41.3%), headache (40.8%),

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



CNN and Charlotte's Web











Treatment-Resistant Childhood Epilepsy: Spectrum of Rare Disorders

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

LENNOX-GASTAUT SYNDROME

3 TO 4% OF CHILDHOOD EPILEPSY¹

DRAVET SYNDROME

UP TO 5% OF ALL CHILDHOOD
EPILEPSIES IN FIRST YEAR OF LIFE²

CDKL5

TUBEROUS SCLEROSIS COMPLEX

FIRES

DOOSE SYNDROME

> DUP15q SYNDROME

> > RASMUSSEN SYNDROME

GLUT 1
TRANSPORTER
DEFICIENCY

ANGELMAN'S SYNDROME

STXBP1/OHTAHARA
SYNDROME

WEST SYNDROME (INFANTILE SPASM)

AICARDI SYNDROME

Treatment-Resistant Childhood Epilepsy: Significant Unmet Need

466,000
US CHILDREN WITH EPILEPSY

30%

(4) Kwan P, Brodie MJ, CNS Spectr. 2004;9(2):110

MEDICATION RESISTANT EPILEPTICS^{1,4}

SEIZURES THAT PERSIST, DESPITE MULTIPLE AED TREATMENT²

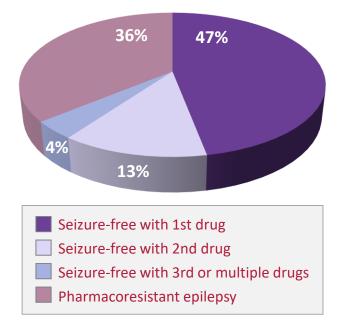
140,000

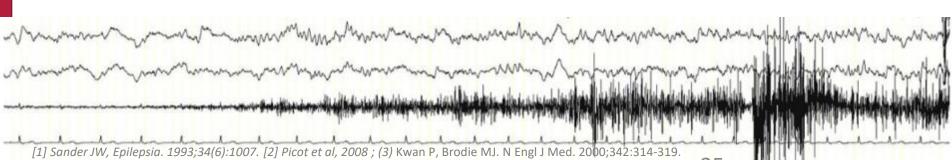
CHILDREN WITH INTRACTABLE EPILEPSIES

REFRACTORY EPILEPSY COMPOSED OF MULTIPLE SYNDROMES

Response to AEDs in patients with newly diagnosed epilepsy³

little change to this statistic over last 15 years





Seizures

No clinical trials that demonstrate marijuana helps control seizures.

"Charlotte's Web"

- Charlotte Figi, 300 szs/week
- Seizures responded to marijuana extract high in CBD, low in THC
- High exposure in popular press



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.



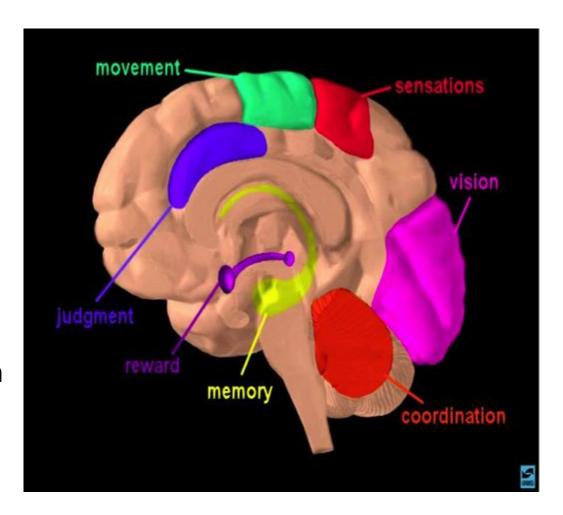
SOLUTION

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



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

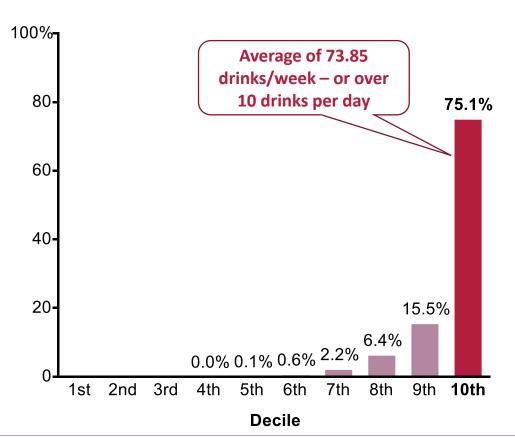
- Brain Development
- Memory & Cognition
- Motivational Systems & Reward
- Appetite
- Immunological Function
- Reproduction
- Movement Coordination
- Pain Regulation & Analgesia



Alcohol companies depend on heavy drinkers to make money

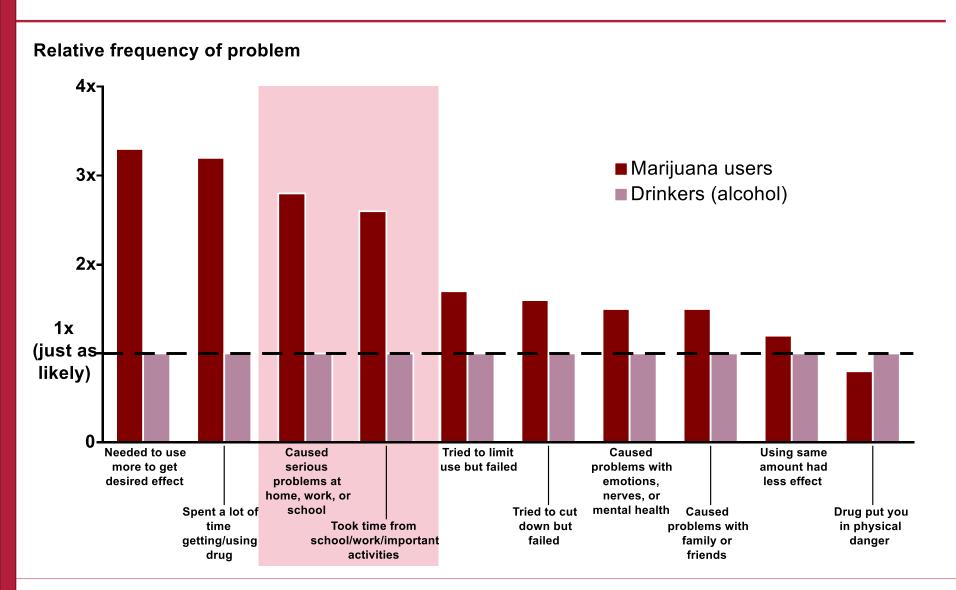
The top 10% of the population make up 75% of the alcohol industry's U.S. sales

% of total U.S. alcohol consumed



- Belies the slogan "Enjoy Responsibly"
- Would the marijuana industry be any different?

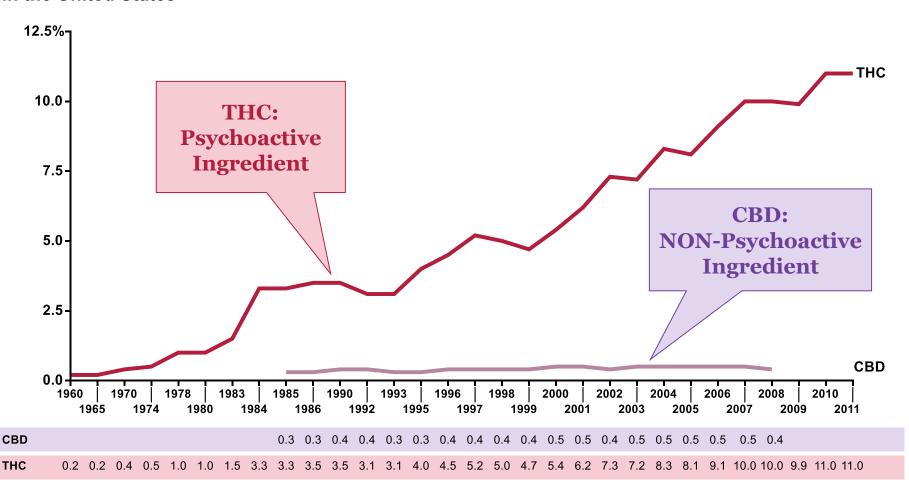
"Safer than alcohol?" Not exactly...





Marijuana has become significantly more potent since the 1960s

Average THC and CBD levels in the United States





Source: Mehmedic et al., 2010 32

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



The Industry Today





Kid-friendly: comes in shapes & colors attractive to children, like candy and soda 90 70

Potent: often made w/
concentrates of up to

concentrates of up to 95% pure THC (joints are ~ 15% THC)

\$\$\$

Aggressive marketing: free samples, billboard advertising, and other Big Tobacco tactics

<u>Contaminants:</u> In 2015, CO recalled 100s of thousands of edibles containing banned pesticides



<u>Fighting regulation:</u> The pot industry has lobbied hard against regulation (e.g., warning labels, dosing rules, and bans on ads targeting kids)

What do we get with current legalization

Commercialization

- CO now #1 youth use rate in the country
- Rampant advertising/commercialization
- A thriving underground market white, grey, and black.

Promotion of Special Interests

- THC caps have failed (State of CO)
- Limit on # and location of stores have failed (Denver)
- Money diverted to general fund (eg WA)





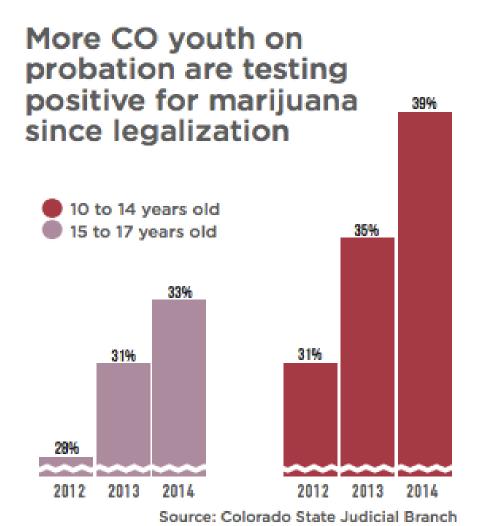
Let's not be fooled by Big Tobacco Again

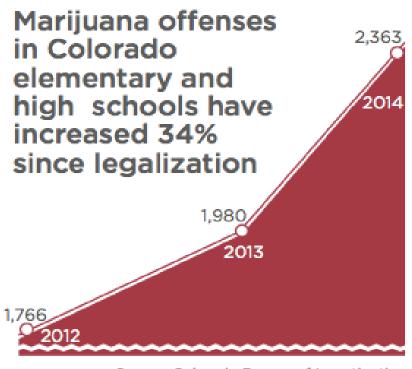


A caveat on many studies here...

"Most of the long-term effects of marijuana use that are summarized here have been observed among heavy or long-term users, but multiple (often hidden) confounding factors detract from our ability to establish causality (including the frequent use of marijuana in combination with other drugs)."

-Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. B. (2014). Adverse health effects of marijuana use. New England Journal of Medicine, 370(23), 2219–2227.





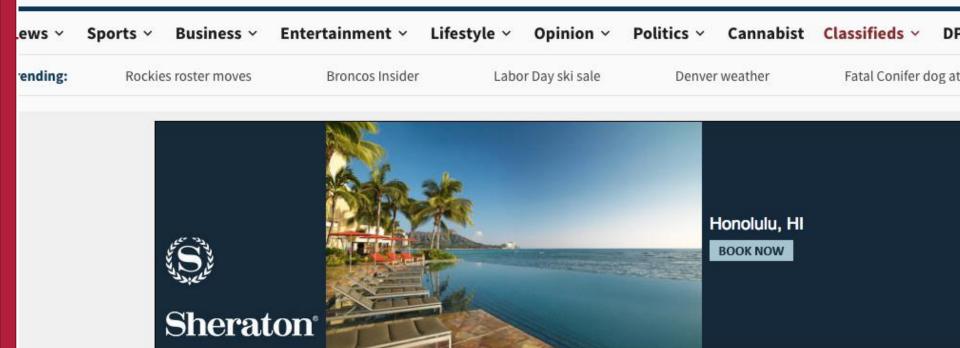
Source: Colorado Bureau of Investigation

Revenue streams already disappoint





THE DENVER POST



OPINION > OPINION COLUMNISTS

Why pot taxes can't solve Colorado's budget proble











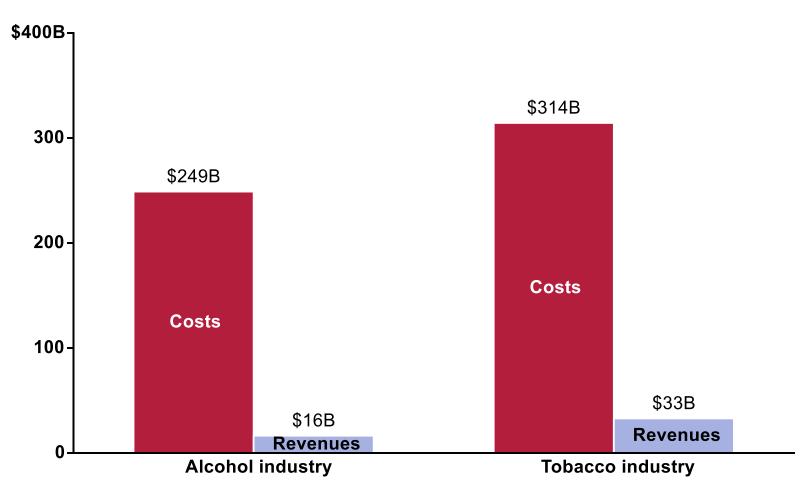






Alcohol and tobacco are money-drainers, not money-makers

Billions of U.S. dollars (indexed to 2012 values)

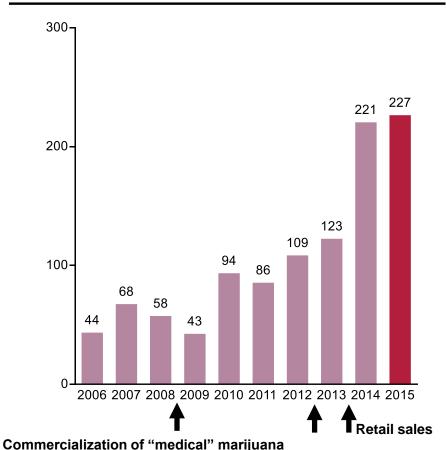


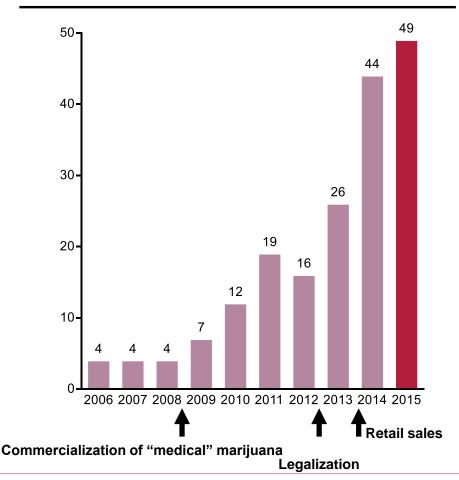


More and more people, including very young children, are going to the hospital due to pot use

EMERGENCY POISON CONTROL CALLS RELATED TO MARIJUANA (GENERAL POPULATION)

EMERGENCY CALLS RELATED TO CHILDREN AGES 0-8





Legalization



A Baseline Evaluation of Cannabis Enforcement Priorities in Oregon January 2017

SAM Files Public Records Requests For Marijuana-Related Records From the State of Oregon

By Anisha Ganchandani | March 28, 2017 | Uncuregorized



National Organization Files Public Records Requests For Marijuana-Related Records From the State of Oregon

Leaked Study Reveals State Violations of Federal Marijuana Guidance, Raises Questions About State Efforts to Provide Full

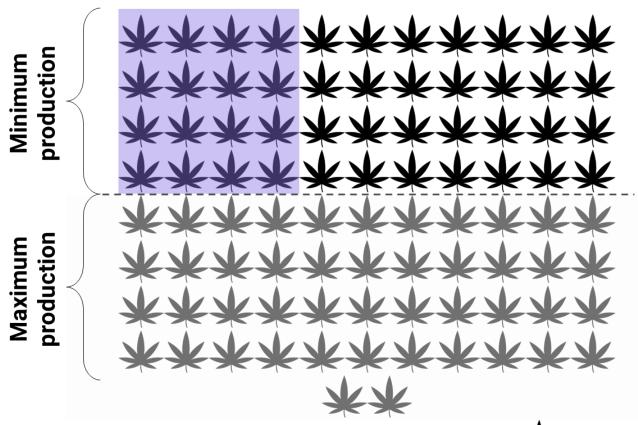


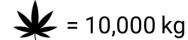
Oregon State Police

Drug Enforcement Section 3565 Treistad Ave SE Salem, Oregon

Or this version...

70% or more of the marijuana market in Oregon is illegal



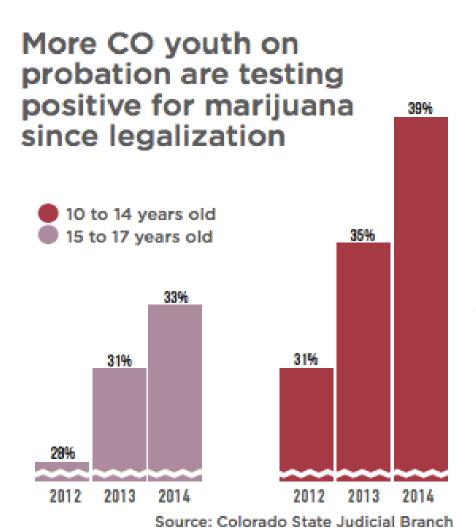


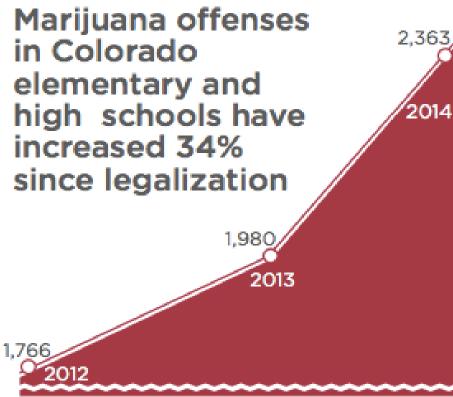


In legalized states, the pot lobby is pushing for even more protections for marijuana use

- Workplace protections
- "Semi-public" use (restaurants, cafés)
- Making marijuana users a protected class
- Lower taxes & access to Wall Street

Opening the VA to the pot industry

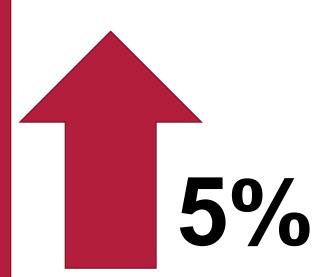




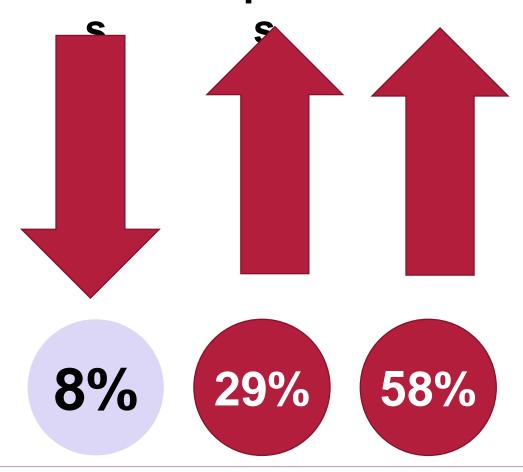
Source: Colorado Bureau of Investigation

Juvenile Arrest Rate Before and After Legalization

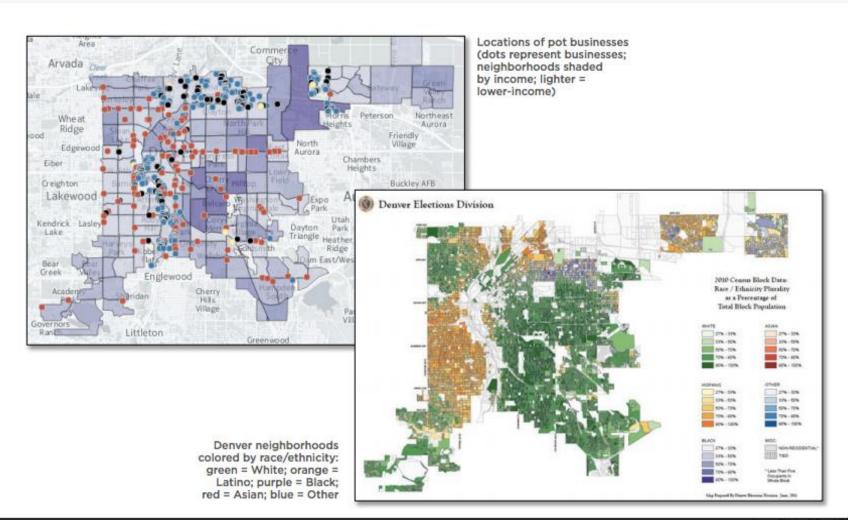
Overall juvenile arrests



White Hispanic Blacks



MARIJUANA BUSINESSES IN DENVER ARE CONCENTRATED IN NEIGHBORHOODS OF COLOR



Similar trend in Los Angeles

- In 2013, Los Angeles voters approved Proposition D, a regulatory measure that said 135 dispensaries were allowed to be in operation and set zoning restrictions prohibiting dispensaries from operating in certain areas. -Dispensaries opened in areas with a higher proportion of Black residents and closed in Census tract areas that had a higher percentage of commercially zoned land.
- "Results suggest that likely as a result of changing regulations, dispensaries may be attempting to conceal their presence and locate in areas that will not advocate against their presence."

Crime around marijuana stores?

- Legal marijuana shops are linked to higher levels of property crime in nearby areas, according to a nearly three-year study in Denver.
- Adjacent areas saw about 84 more property crimes per year than neighborhoods without a nearby marijuana store.
- It is the number and density of outlets that is important, not whether they are medical or recreational
- "There are definitely negative public health consequences, including increased crime," the study author concluded

Drug use is forcing CO employers to hire out-ofstate employees instead of CO citizens



 "Jim Johnson [construction company GE Johnson's CEO]...said his company has encountered so many job candidates who have failed pre-employment drug tests because of their THC use that it is actively recruiting construction workers from other states."

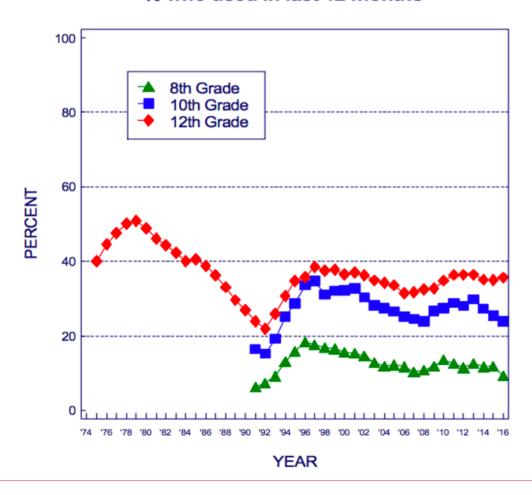
Compton, W. M. et al in JAMA

"To our knowledge, research to date had not documented an increase in cannabis use by adolescents in the United States overall (1) or in those states that enacted new marijuana laws (2,3). "

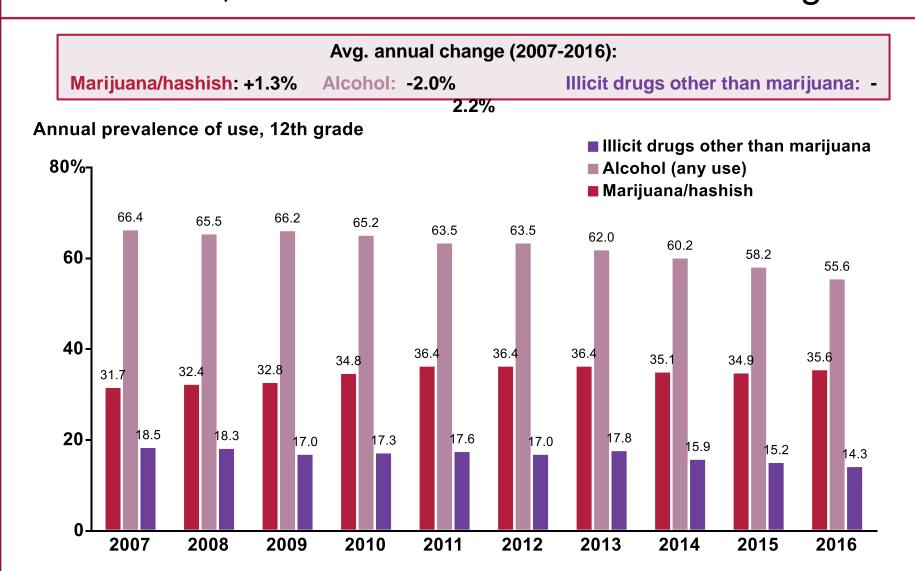
- What measures reflect "cannabis use by adolescents in the US overall?"
- What measures reflect "states that enacted new marijuana laws?"

Trends in Use

Use % who used in last 12 months

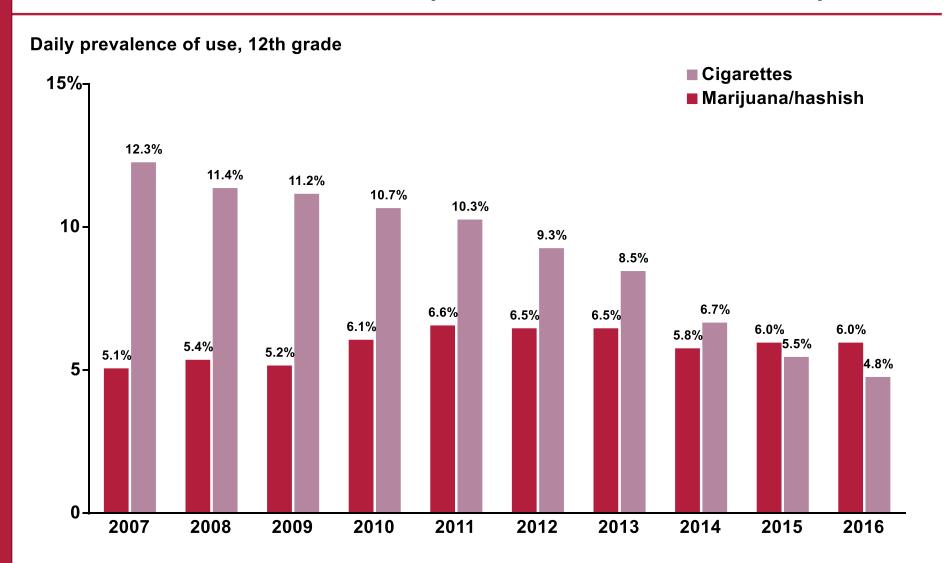


Pot use among seniors rose over 1%/year over the last decade, while use of alcohol & other drugs fell





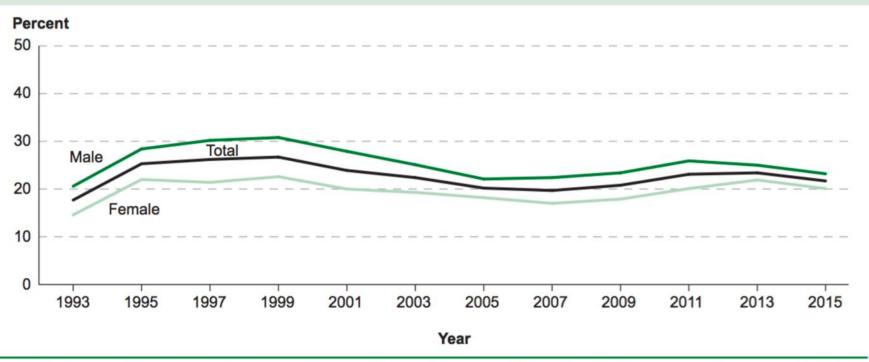
Cigarette use among high schoolers has plunged in the last decade, but pot use has trended upward





Trends in Use

Figure 16.1. Percentage of students in grades 9–12 who reported using marijuana at least one time during the previous 30 days, by sex: Selected years, 1993 through 2015



SOURCE: Centers for Disease Control and Prevention, Division of Adolescent and School Health, Youth Risk Behavior Surveillance System (YRBSS), 1993 through 2015.

CO, OR, WA Do Not Participate in YRBS/CDC

YRBS Participation History, Data Quality, and Data Availability

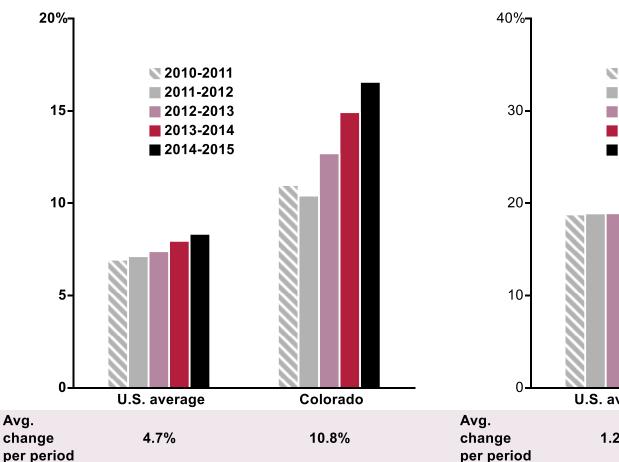
	High School YRBS Participation History, Data Quality, and Data Availability By State and Survey Year														
■Weighted ¹															
States	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015	Permission To Distribute	
Alabama	•	•	•	•	•	•	•		0	•		•	•	Y	
Alaska		-		***	•	-		0		•				Y	
Arizona	0	0	0		-	- 22		•	•			•	•	Y	
Arkansas		0		•			0				•			Y	
California	0	0	0	0	0		++	_	-	0	0	0	•	Y	
Colorado	.0	0.		0	D	0	0		0			0	Q:	N	
Oregon	0	0	0	0	0		. 0	0	0		-	1	-	NA	
Washington	.0		.00	***	0		-00	***		**			**	NA.	

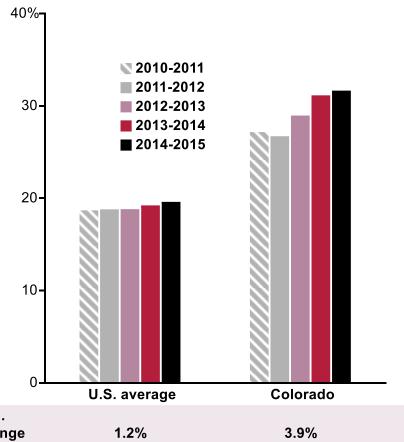
Source: CDC

Since legalization, pot use in Colorado has steadily climbed, well outpacing the national average

Percentage of population ages <u>12 and up</u> who used marijuana in the past month

Percentage of population ages <u>18 to 25</u> who used marijuana in the past month

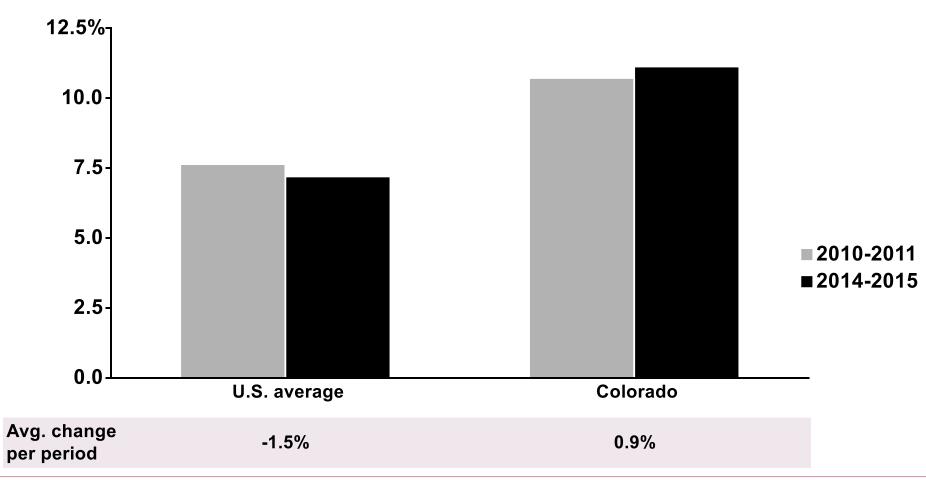




Source: NSDUH state estimates

Youth use has also steadily risen in Colorado since legalization, in contrast to the nat'l average

Percentage of population ages <u>12 to 17</u> who used marijuana in the past month

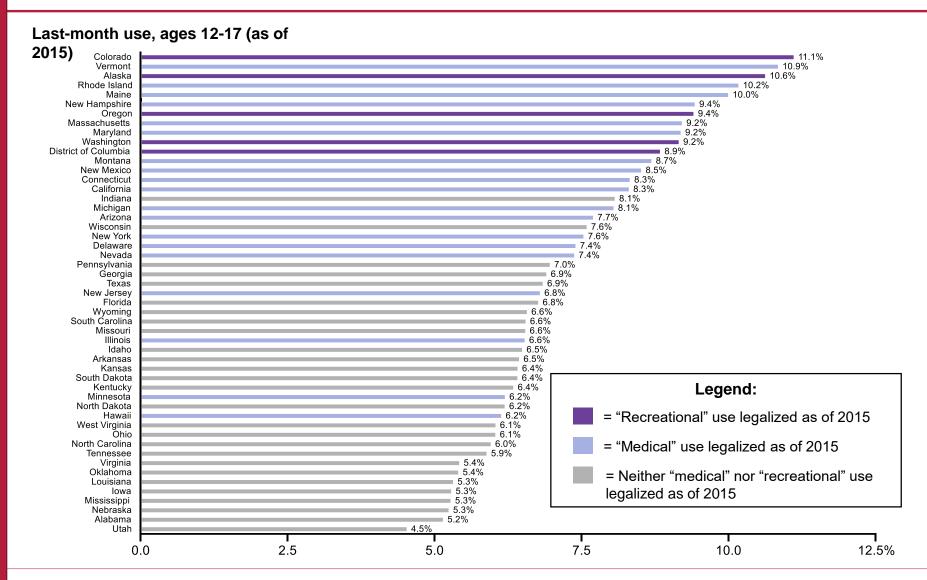


Oregon and Medical Marijuana

"Results of multi-level analyses indicated significant positive associations between rates of marijuana patients and growers per 1000 population and the prevalence of past 30-day marijuana use, controlling for youth demographic characteristics.

These findings suggest that a greater number of registered marijuana patients and growers per 1000 population in Oregon counties was associated with a higher prevalence of marijuana use among youth from 2006 to 2015, and that this relationship was partially attributable to perceived norms favorable towards marijuana use."

Youth use rates in states that have legalized marijuana outstrip those that have not





Source: NSDUH (2014-2015)

Some of the coverage might not be entirely fair or balanced

If you read this @learnaboutsam press release, you'd get probably the impression that marijuana use rose among people age 12-17.



FIRST LOOK: National Survey Shows Soaring Marijuana Use Among All Americans 12 and Older; Heavy Use Also on the Rise

National survey highlights jump in pot use among young adults in era of marijuana legalization; Almost twice as many adolescents regularly use marijuana than cigarettes

(Alexandria, Va., September 7, 2017) - Every day, 7,000 new people try marijuana for the first time -- a figure far greater than trends seen in the early 2000s, according to the most comprehensive survey on drug use released today by the federal government.

The National Survey on Drug Use and Health (NSDUH) also found the number of daily or near-daily users of marijuana in 2016 doubled compared to the number of heavy users about a decade ago. Use rose significantly among age groups 12 and up, 18 and up, and 26 and up. Almost twice as many 12-17-year-olds are using pot as compared to cigarettes on a past-month basis. And among those 18 and over, there has been a significant jump in the percent of marijuana users who are unemployed as compared to 2015.

9:55 AM - 7 Sep 2017

Meanwhile, a few hours later...

From:

Sent: Thursday, September 7, 2017 12:56 PM

To:

Subject: Re: BREAKING: New Report Shows Rise in Prevalence and Intensity of Marijuana Use

Silly me! Just trying to parse all the data. My apologies!

On Thu, Sep 7, 2017 at 12:54 PM, wrote:

Actually we included that in the release.

"NSDUH also reported a non-significant reduction in marijuana use among 12-17 year-olds versus 2015 and a non-significant increase among 18-25 year-olds versus 2015. However, use is up significantly among young adults 18-25 compared with earlier years."

Second to last paragraph - remarkable indeed.

From:

Sent: Thursday, September 7, 2017 12:49 PM

То:

Subject: Re: BREAKING: New Report Shows Rise in Prevalence and Intensity of Marijuana Use

Thanks! This helps immensely. I find it very interesting that SAM chose to omit the information, contained in the very same chart, that marijuana use has declined among ages 12-17—yet decided to include the fact that "twice as many 12-17-year-olds are using pot as compared to cigarettes on a past-month basis." A remarkable editorial decision!



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



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

There is limited evidence of a statistical association between cannabis use and:

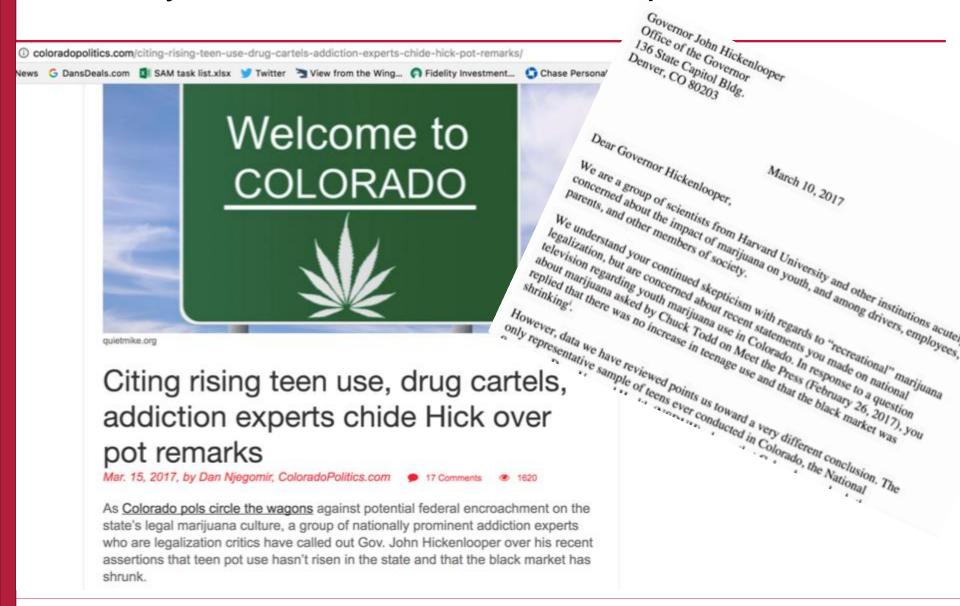
- An increase in positive symptoms of schizophrenia (e.g., hallucinations) among individuals with psychotic disorders(12-2b)
- The likelihood of developing bipolar disorder, particularly among regular or daily users (12-3)
- The development of any type of anxiety disorder, except social anxiety disorder (12-8a)
- Increased symptoms of anxiety (near daily cannabis use) (12-9)
- Increased severity of posttraumatic stress disorder symptoms among individuals with posttraumatic stress disorder (12-11)

There is no evidence to support or refute a statistical association between cannabis use and:

- Changes in the course or symptoms of depressive disorders (12-6)
- The development of posttraumatic stress disorder (12-10)



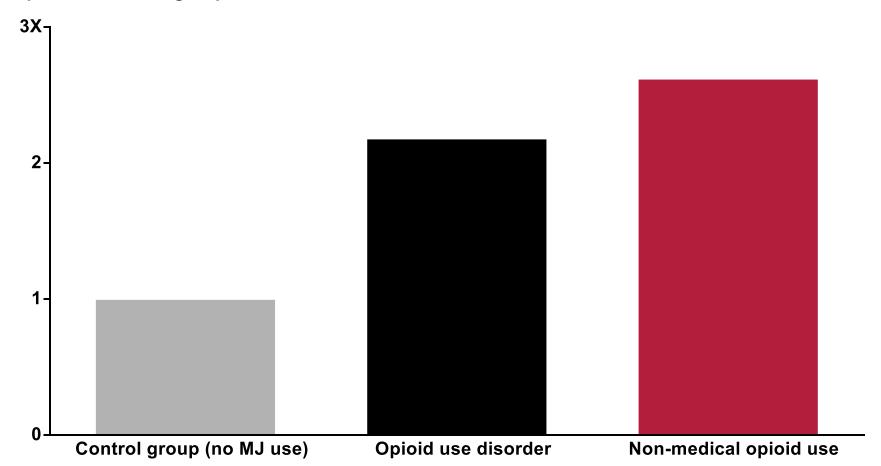
Advisory Board Letter to Hickenlooper





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

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





In States That Have Legalized:

- Edibles and high THC concentrates should be outlawed or severely restricted
- The Marijuana Industry should not serve on rulemaking bodies to determine regulations.
- Pot advertising and promotions should be prohibited.
- A science-based public awareness campaign should be implemented across multiple media.
- Drugged driving prevention should be a priority, with tough laws imposed on those who drive stoned.

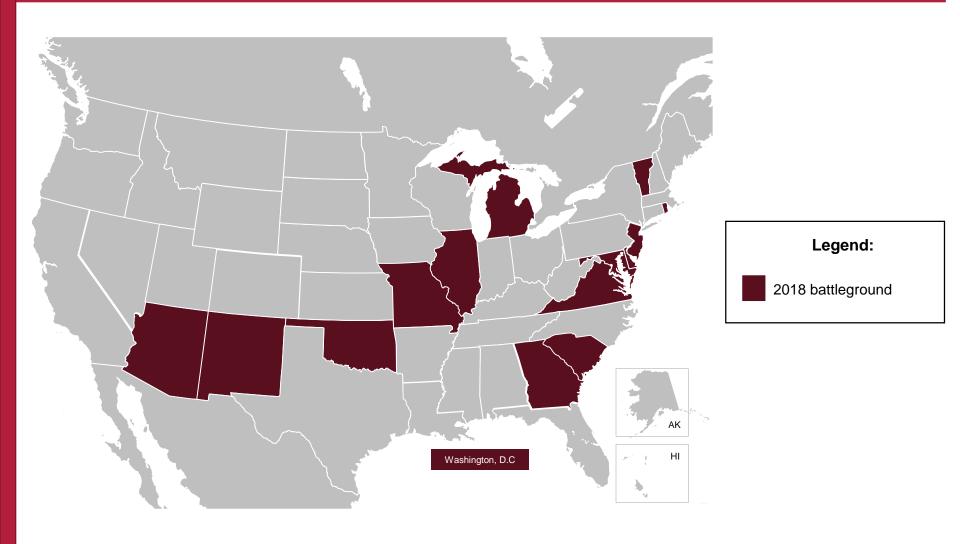
In States That Have Not Legalized:

- Remove criminal penalties and arrest records for personal possession of pot.
- Pot use should be discouraged, and people caught repeatedly with marijuana should be directed to early interventions and/or treatment.
- A science-based public awareness campaign should be implemented across multiple media.
- Drugged driving prevention should be a priority, with tough laws imposed on those who drive stoned.

Conclusions

- The only way to make money in the marijuana business is to cultivate and retain heavy users—via targeting minors
- "Good intentions" don't matter; the market dynamics inevitably lead the industry to this approach
- Left unchecked, the pot industry will become another Big Tobacco
- It will also attempt to write the rules and regulations,
 capture state oversight bodies, and deny harms
- We can reform marijuana laws without legalization and
- © SAME_commercialization! There are more than two options.

The pot industry has its sights set on 2018



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."



www.learnaboutsam.org kevin@learnaboutsam.org