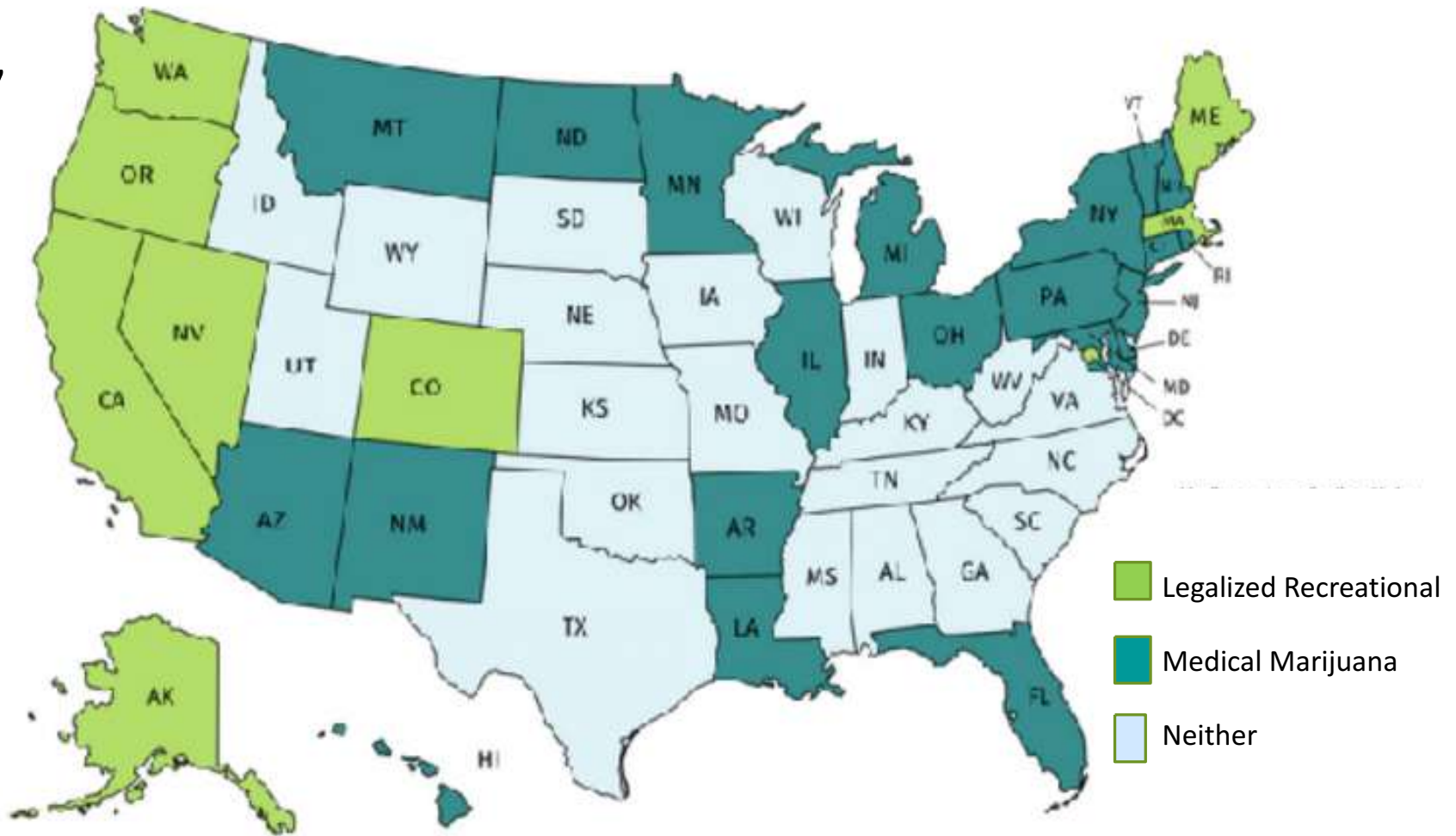


Marijuana: Don't Get Sucked In



DIANE LITTERER, MPA, CPS
NEW JERSEY PREVENTION NETWORK

2017



Is this what we are talking about?





No, this is what we are talking about!



Not the Same Old
Pot...up to 98%
THC

Is this Your Expectation?



Colorado's Outlet Landscape 2016

	Starbucks	322
	McDonalds	202
	Medical Marijuana Dispensaries	516
	Recreational Marijuana Retail Shops	424

As of: Jan 2016

Edibles – 47% of Sales in CO



The False Dichotomy...



Legalization

v
s



Incarceration

Marijuana Advocates Real Goal



Ethan Nadelmann – Head of Drug Policy Alliance

“I’m always telling my marijuana reform allies, when they say we need to legalize marijuana and get tougher on the other drugs, ‘shut the hell up’”

The whole, of course, is safe and legal access to all drugs. Cocaine. Heroin. Hash. Ecstasy.

“Legalize all drugs? The man behind loosening pot laws in US eyes new goal” Available: <http://hcnnews.nbcnews.com/news/2013/11/27/21578665-legalize-all-drugs-the-man-behind-loosening-pot-laws-in-us-eyes-new-goal>

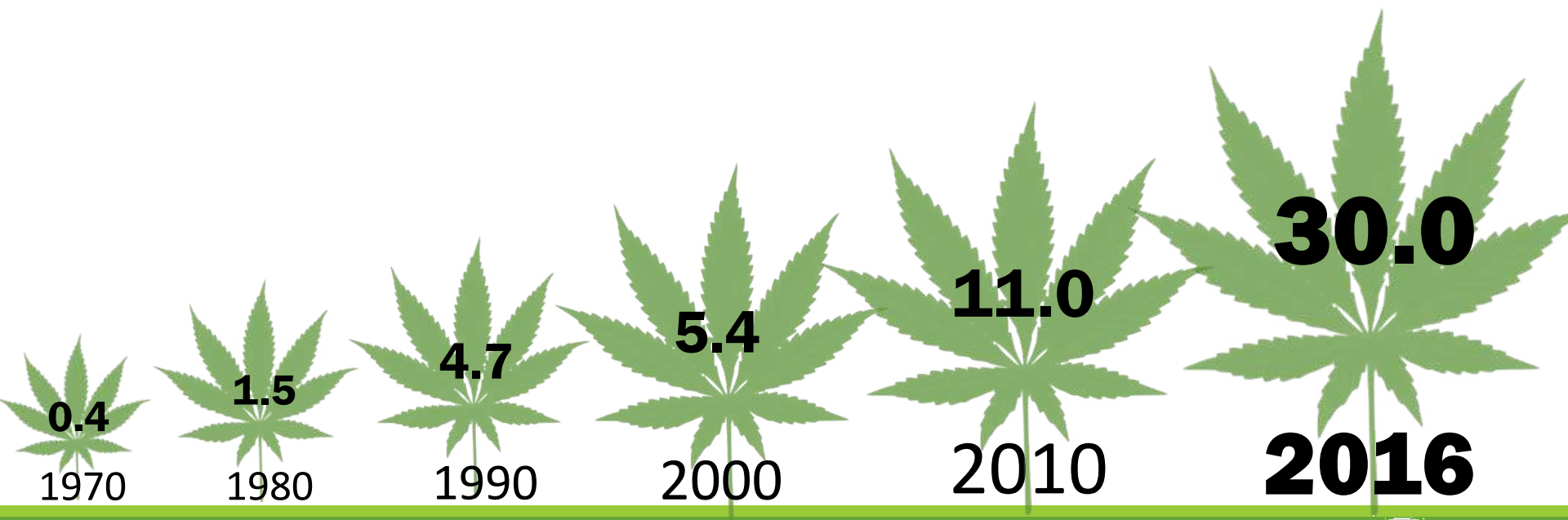
Today's Marijuana



Increased Potency



Since the 1970s, smokable marijuana increased in potency from **.04% to over 30%**



Source: Mehmedic et al., (2010)

Source: Potency Monitoring Program. Quarterly Report Number 123, National Center for Natural Products Research at Univ. of Mississippi, under contract with the National Institute on Drug Abuse & Rocky Mountain HIDTA 2014 Report



Not the Same Old Pot...

80% to 99%
THC



Much More than “Just a Plant”



Up to **99%** THC
Concentrates:

“Ear Wax”



Hash Oil
Capsules



“Green Crack”
Wax



“Budder”



Butane Hash Oil
(BHO)



“Shatter”

Marijuana & Your Mental & Physical Health





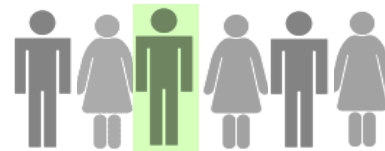
Marijuana is Addictive

Adults



1 in 10 adults
who try marijuana
become addicted.

Adolescents



1 in 6 adolescents
who try marijuana become addicted.



Rates go up to 25 - **50% among daily users.**

When did it begin...

More than **90 %** of adults who develop a substance use disorder began using before they were 18-years-old.



Marijuana to Heroin Use?



People who are addicted to...



ALCOHOL

are

2x



MARIJUANA

are

3x



COCAINE

are

15x



Rx OPIOID PAINKILLERS

are

40x

...more likely to be addicted to heroin.

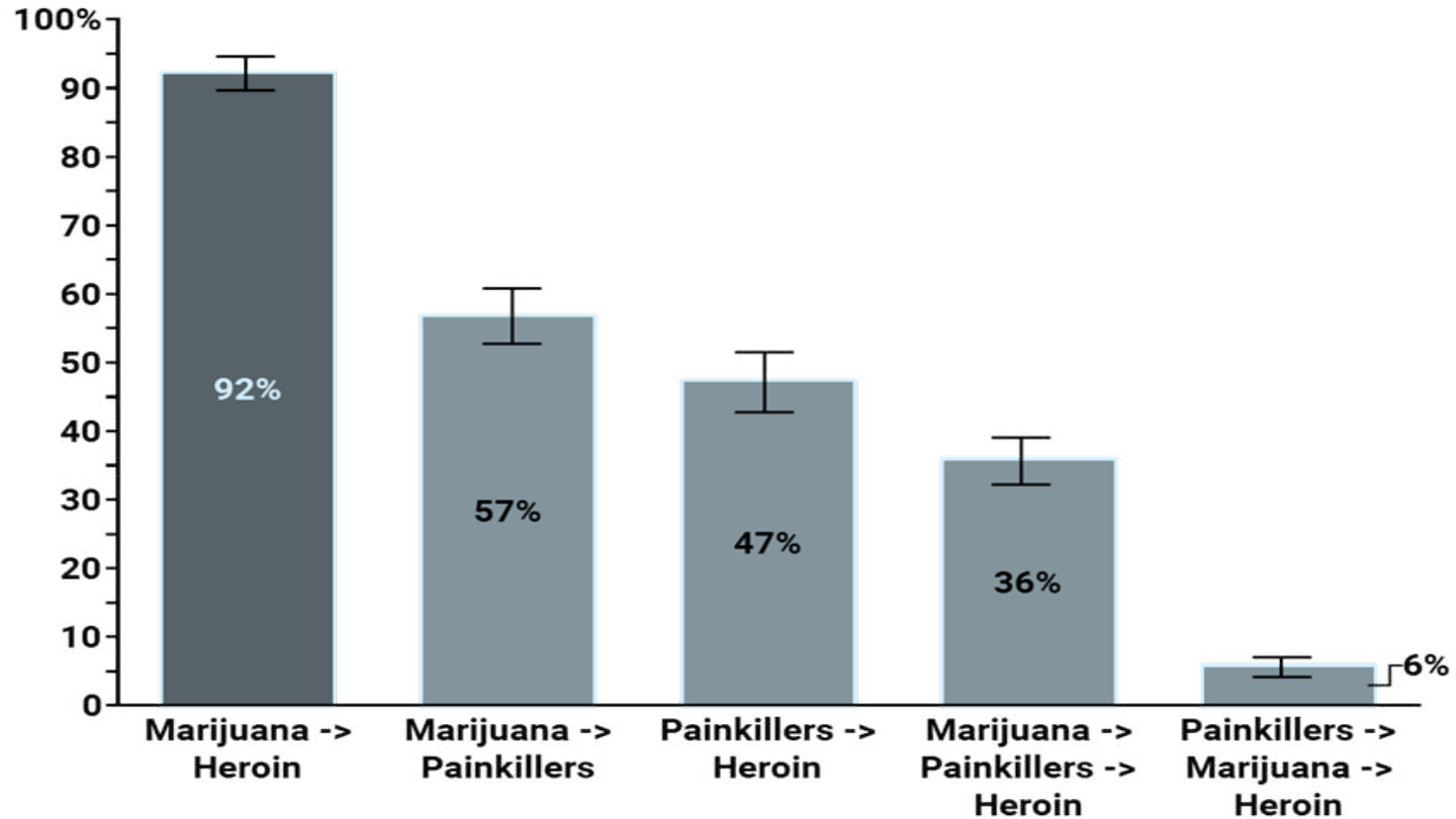
92% of
heroin users
report having
used
marijuana

Path to Heroin

The role of marijuana towards heroin & prescription painkiller abuse



Percentage of heroin/prescription painkiller users who first used another addictive drug in previous years



Twin Study: Adolescent Marijuana Use & Opioid Addiction

- **Twin A:** started using marijuana before age 17
- **Twin B:** began marijuana use after age 17
- **Twin A** is **4x** more at risk for opioid addiction



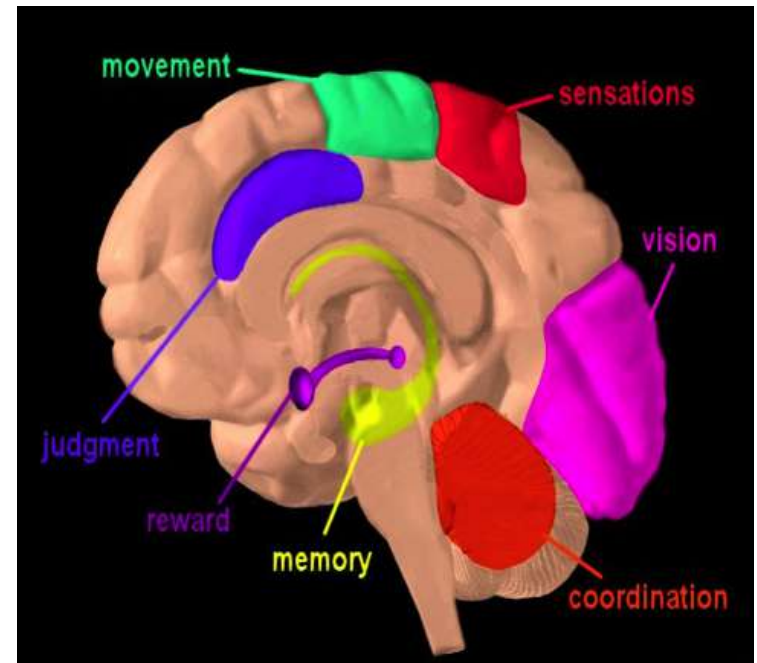
Michael T. Lynskey; Andrew C. Heath; Kathleen K. Bucholz JAMA, January 22/29, 2003—Vol 289, 427-433



Brain Science

Marijuana impacts the receptors that are located throughout the Brain and Regulate a Host of Brain Activity:

- Brain Development
- Memory & Cognition
- Motivational Systems & Reward
- Appetite
- Movement Coordination



Harmful Effects to Mental Health



Acute (present during intoxication)

- Impairs short-term memory
- Impairs attention, judgment, and other cognitive functions
- Impairs coordination and balance
- Increases heart rate
- Psychotic episodes

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

- Impairs memory and learning skills

Long-term (cumulative effects of chronic abuse)

- Can lead to addiction
- Increases risk of chronic cough, bronchitis
- Increases risk of schizophrenia in vulnerable individuals
- May increase risk of anxiety, depression, and amotivational syndrome*



Hijacks Your Brain

- Neurobiological research has identified mechanisms by which excessive drinking and drug use might **interfere with academic performance**.
- Substance use **“hijacks”** reward pathways in the brain.
- Over time, rewards of academic achievement are replaced with the **temporary rewards of intoxication** and getting high.
- End result is **decreased motivation** to pursue academic goals and disengagement from college.

University of Maryland
School of Public Health

Study followed 1,200
college freshmen over
a 10-year period





NIDA Research Summarized

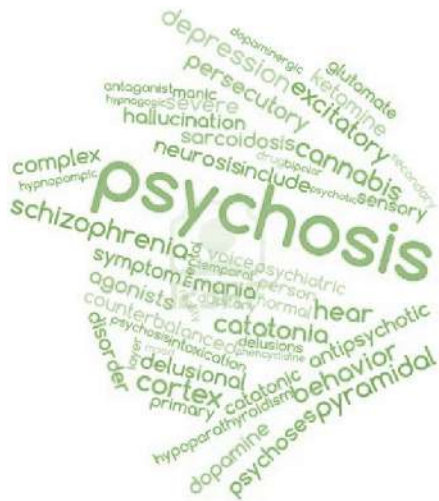
“Repeated marijuana use during adolescence may result in long-lasting changes in brain function that can jeopardize educational, professional, and social achievements.

“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.”

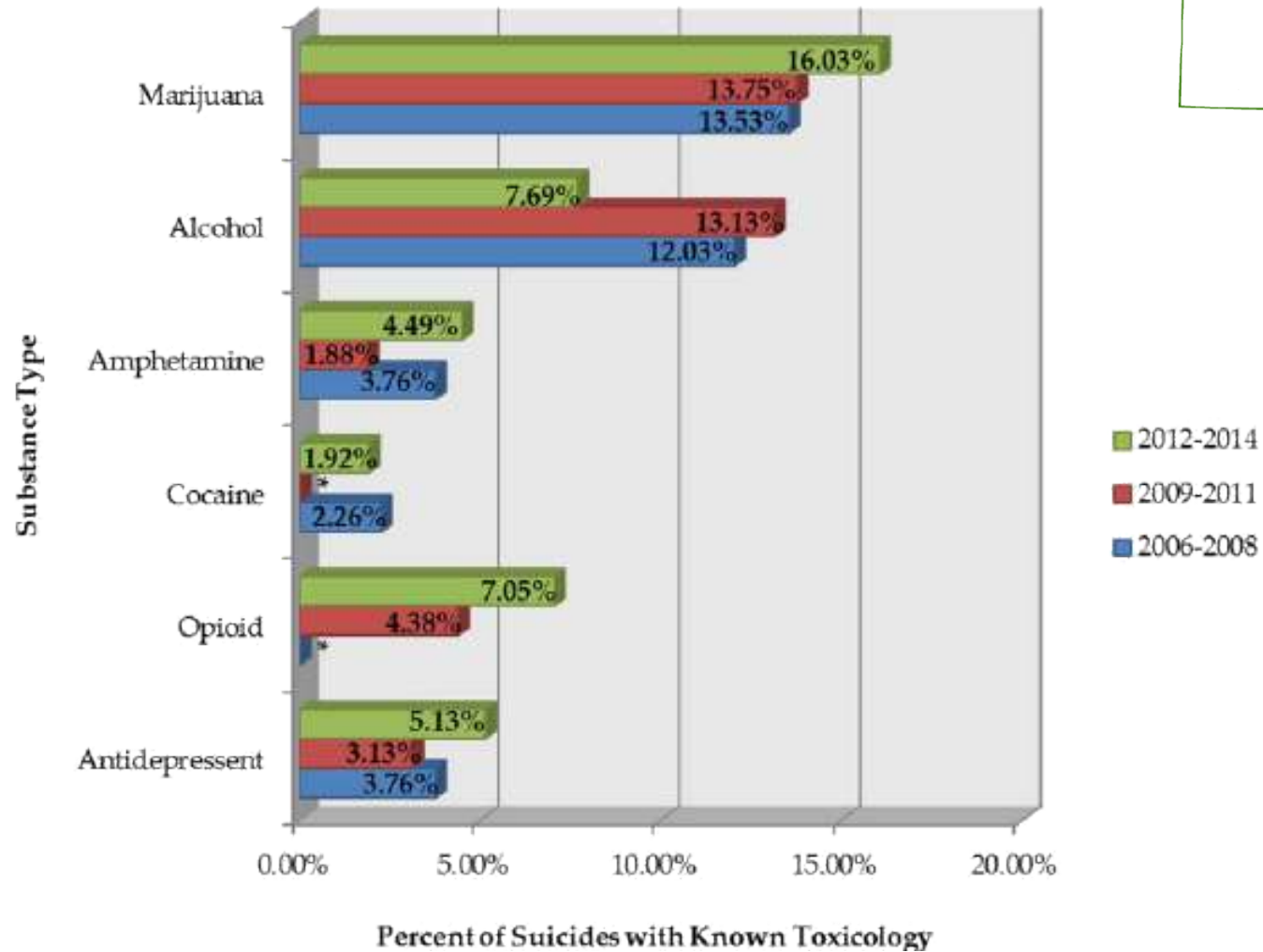
A final word from Volkow et al in the New England Journal of Medicine

Marijuana & Psychosis



- **15% of all users** (higher for heavy users) **will experience psychotic symptoms**. Half of these users will become chronically schizophrenic if they don't stop using.
- A Finnish Study showed, of 19,000 drug users, **marijuana was more likely to cause long term schizophrenia** than LSD, Amphetamine, cocaine, meth, PCP or opiates. Three additional European studies showed evidence that marijuana triggered schizophrenia.
- The Lancet Medical Journal review of studies concluded **marijuana use doubled the risk of schizophrenia**. This risk increased to 6x for heavy users or use of stronger potency pot.

Average Toxicology of Suicides Among Adolescents Ages 10 to 19 Years Old



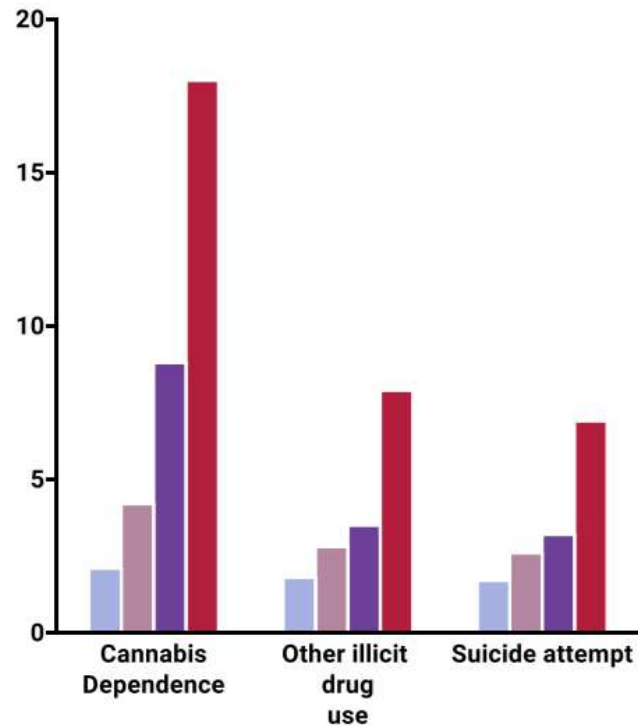
Frequent Cannabis Use = Negative Impact



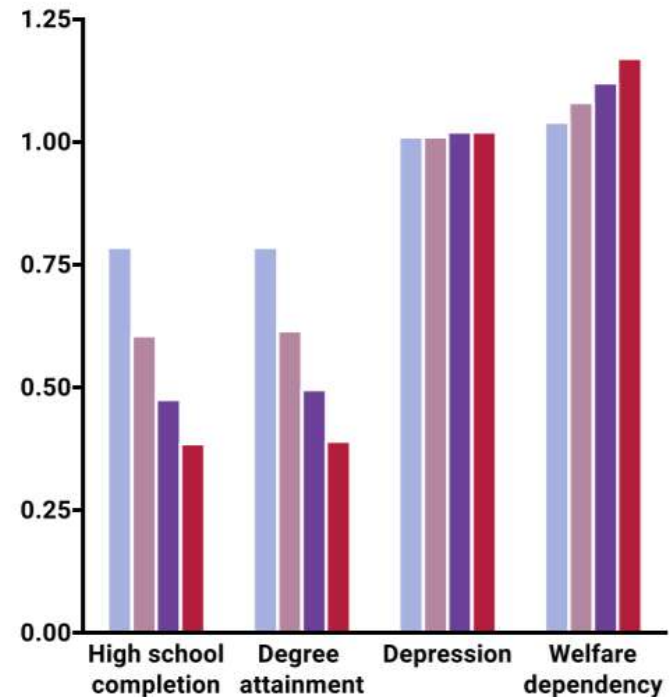
Frequency of cannabis use before age 17:

Less than monthly	Weekly or more
Monthly or more	Daily

Adjusted odds ratios



Adjusted odds ratios





Marijuana and Violence?

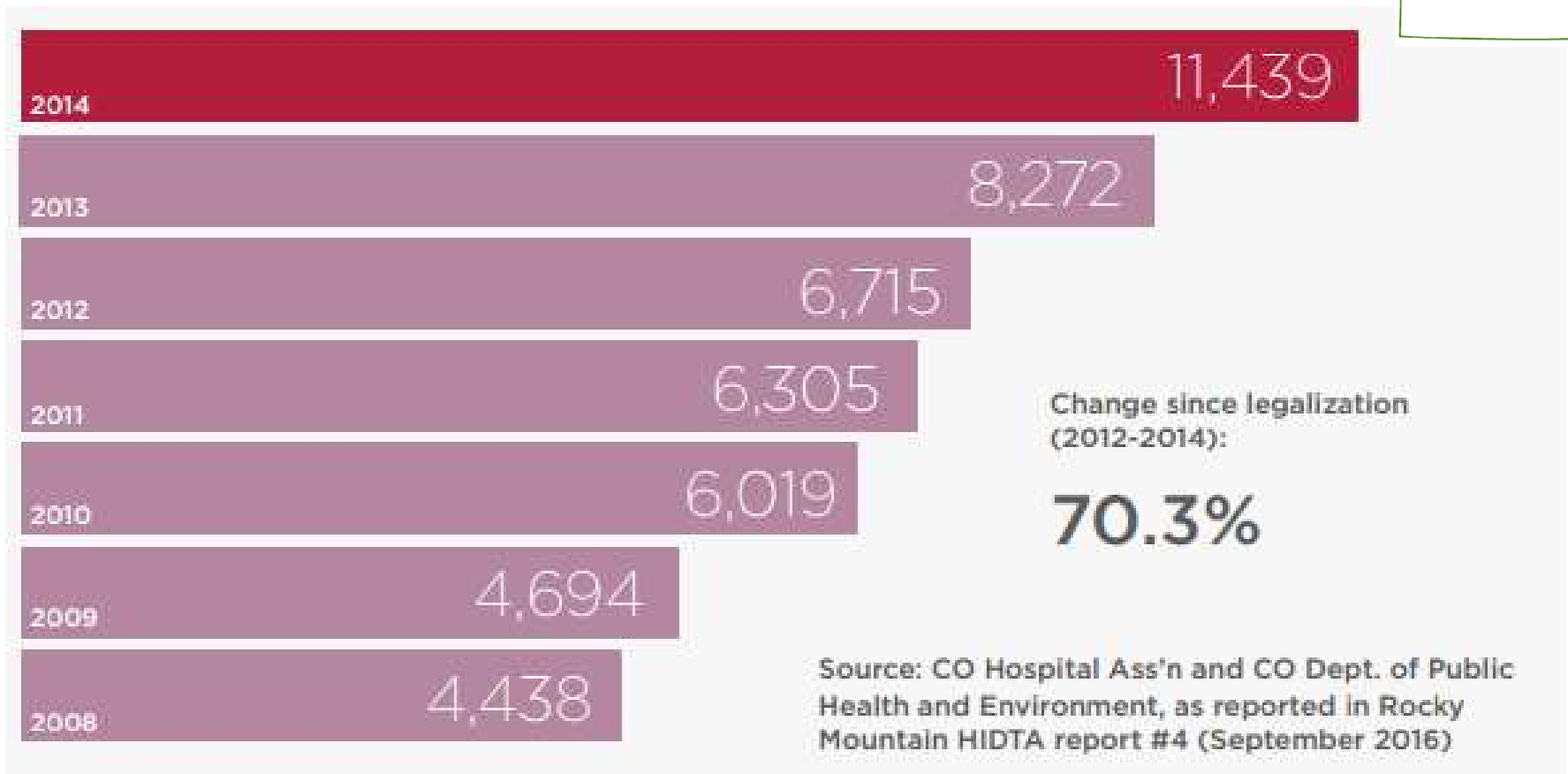
MARIJUANA DID THIS.



www.facebook.com/MMYVofficial

Every year, over **25 million** women in the United States are **beaten** and **abused** by their bong-using boyfriends, husbands or partners. A new study conducted by the **NCADV** (National Coalition Against Domestic Violence) discovered that the **rage chemicals** present in hemp known as “THC” cause these men to become **physically abusive**. STILL think weed is safe and harmless to toké? Well, think **again**.

Hospitalizations Related to Marijuana



Hospitalizations related to marijuana in CO have increased over 70% since legalization, an average of over 30% per year.

Marijuana & Academic Achievement



Marijuana & Adolescence

Use by age 15 are Less Likely to...

- Graduate High School (3.6 x less)
- Enroll in College (2.3 x less)
- Get a College Degree (3.7 x less)



Marijuana Effect



- Marijuana's effects on these abilities may last a long time or even be permanent.
- Example Study: revealed people who started smoking marijuana heavily in their teens displayed:
 - ongoing cannabis use disorder
 - lost an average of eight IQ points between ages 13 and 38.
 - depleted mental abilities did not fully return in those who later quit marijuana as an adult.



Cascade of Effects



Alcohol use, drug use, and mental health outcomes have a cascade of effects on college students' academic outcomes

Limits Future Performance



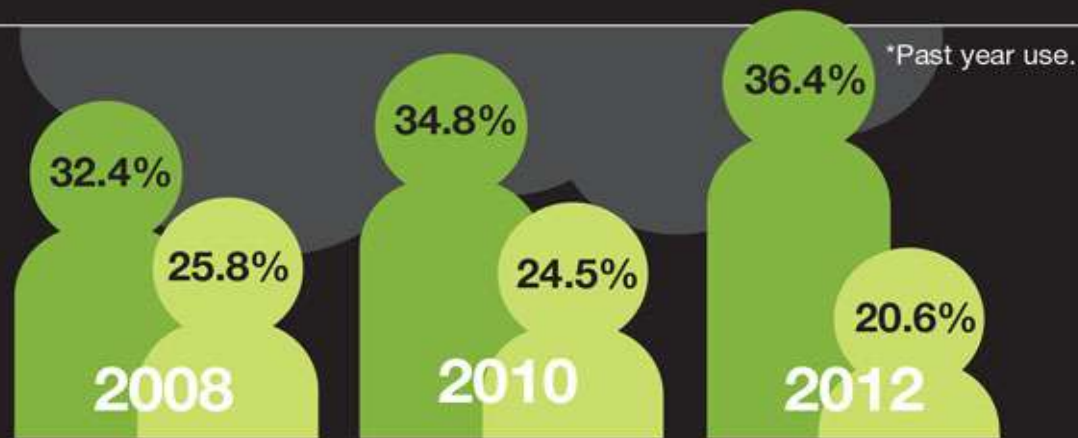
Linked to low productivity
and low job performance

Will Legalization Increase or Decrease Marijuana Use?



Perceived Risk of Marijuana

MARIJUANA USE AMONG 12TH GRADERS* VS. PERCEIVED RISK

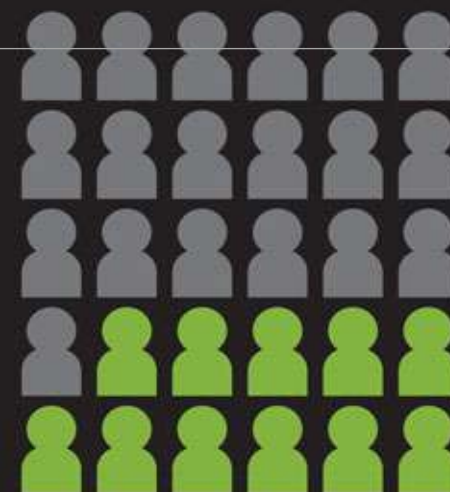


USING



PERCEPTION OF RISK

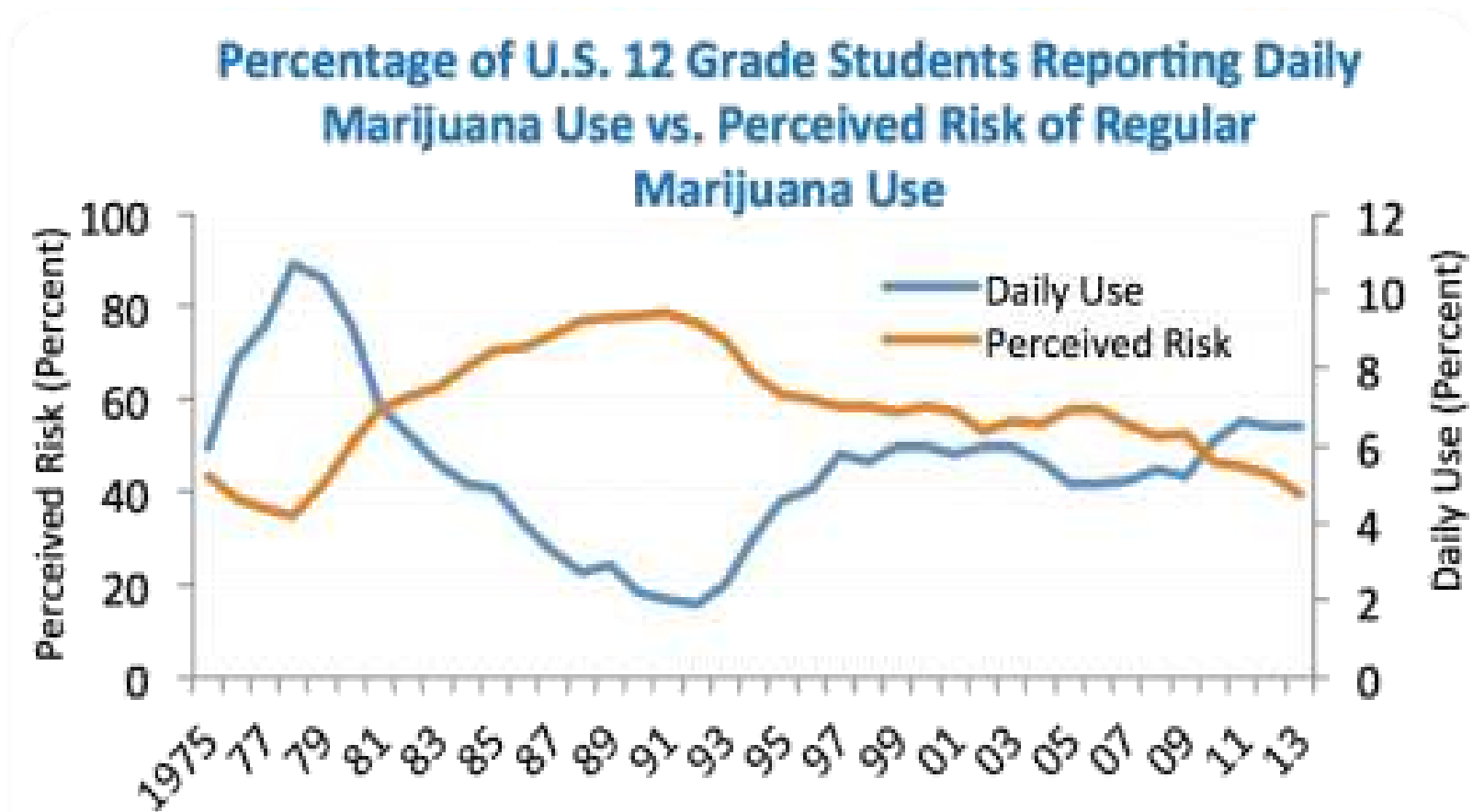
(saw great risk in smoking marijuana occasionally)



National Institute
on Drug Abuse

The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found at www.drugabuse.gov.

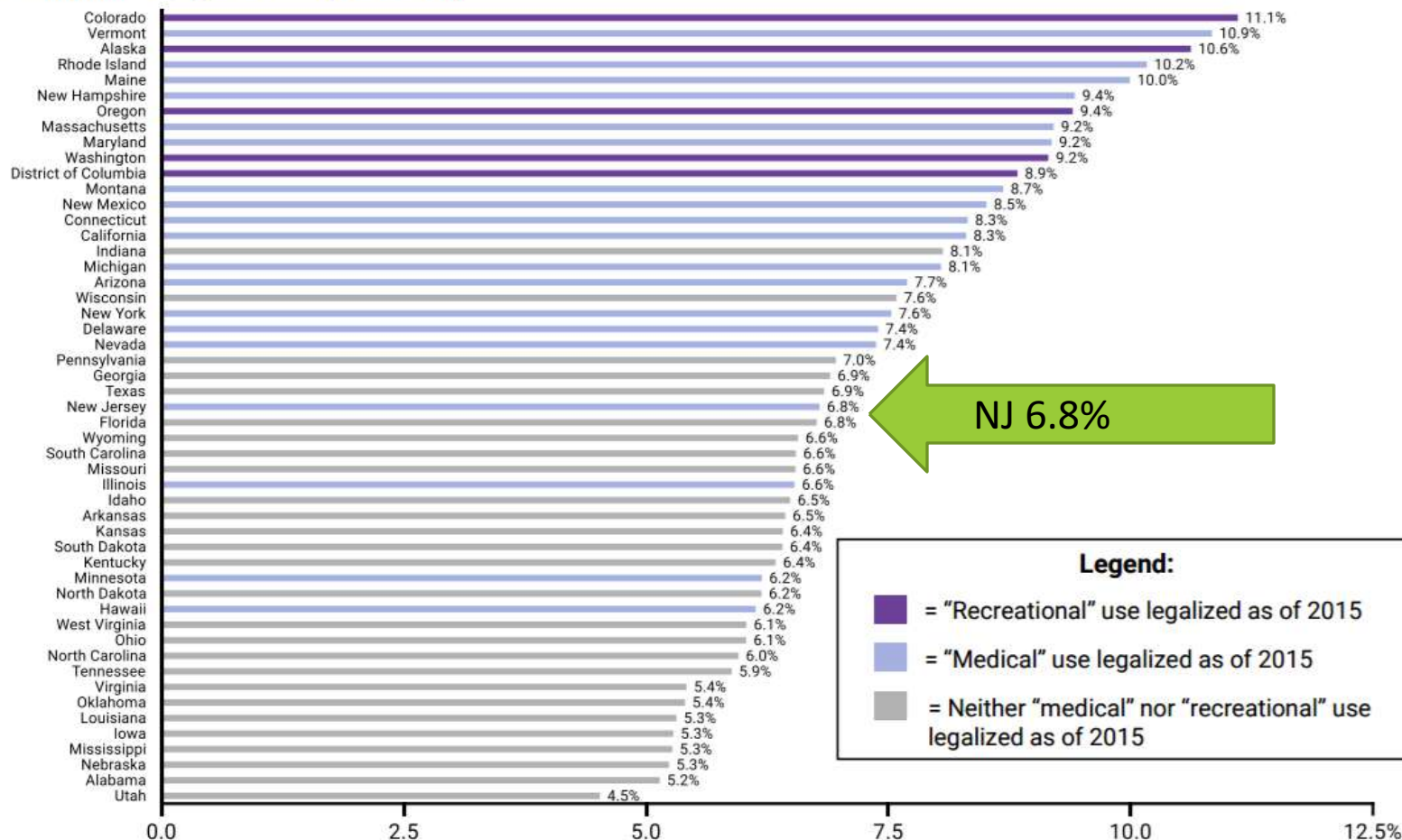
National Marijuana Use vs. Risk



Legal Status vs. Youth Use Rates



Last-month use, ages 12-17 (as of 2015)



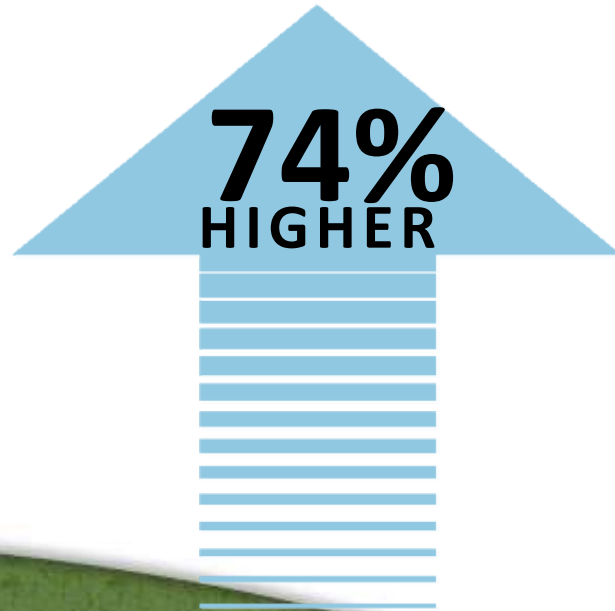
NJ 6.8%

Colorado Youth Past Month Use



#1

The latest 2013/2014 results show Colorado youth ranked **#1** in the nation for past month marijuana use

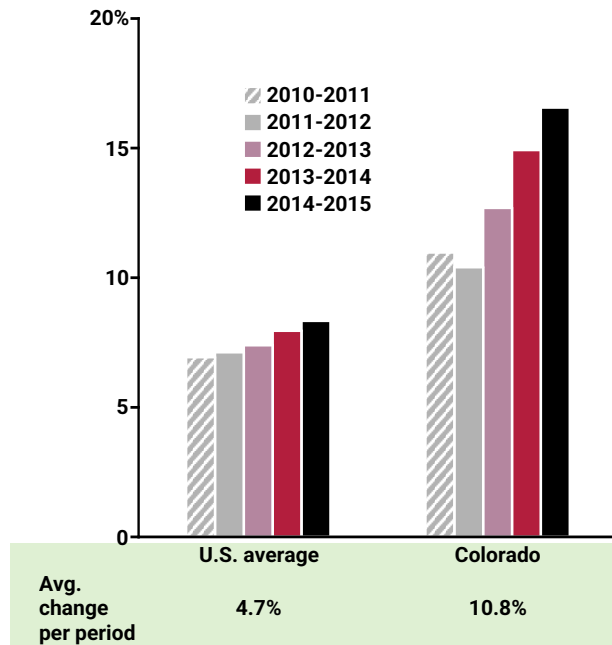


Colorado youth Past-month-use for 2013/2014 was **74% higher** than the national average

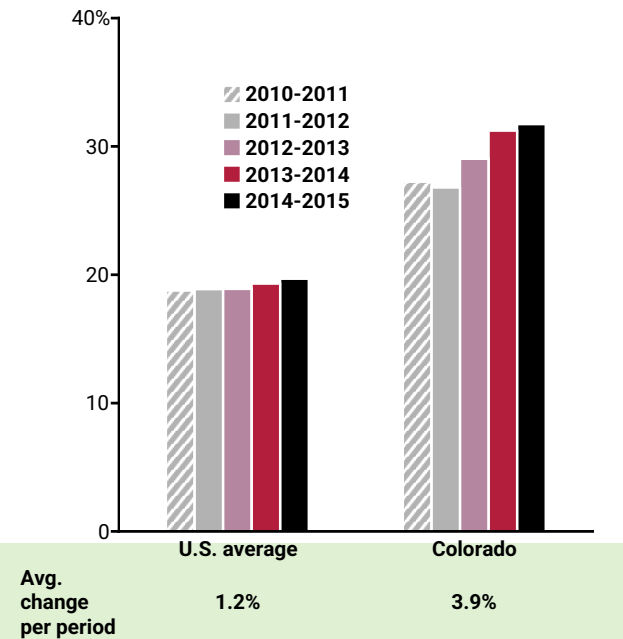
Pot use in Colorado has steadily climbed



Percentage of population ages 12 and up who used marijuana in the past month



Percentage of population ages 18 to 25 who used marijuana in the past month

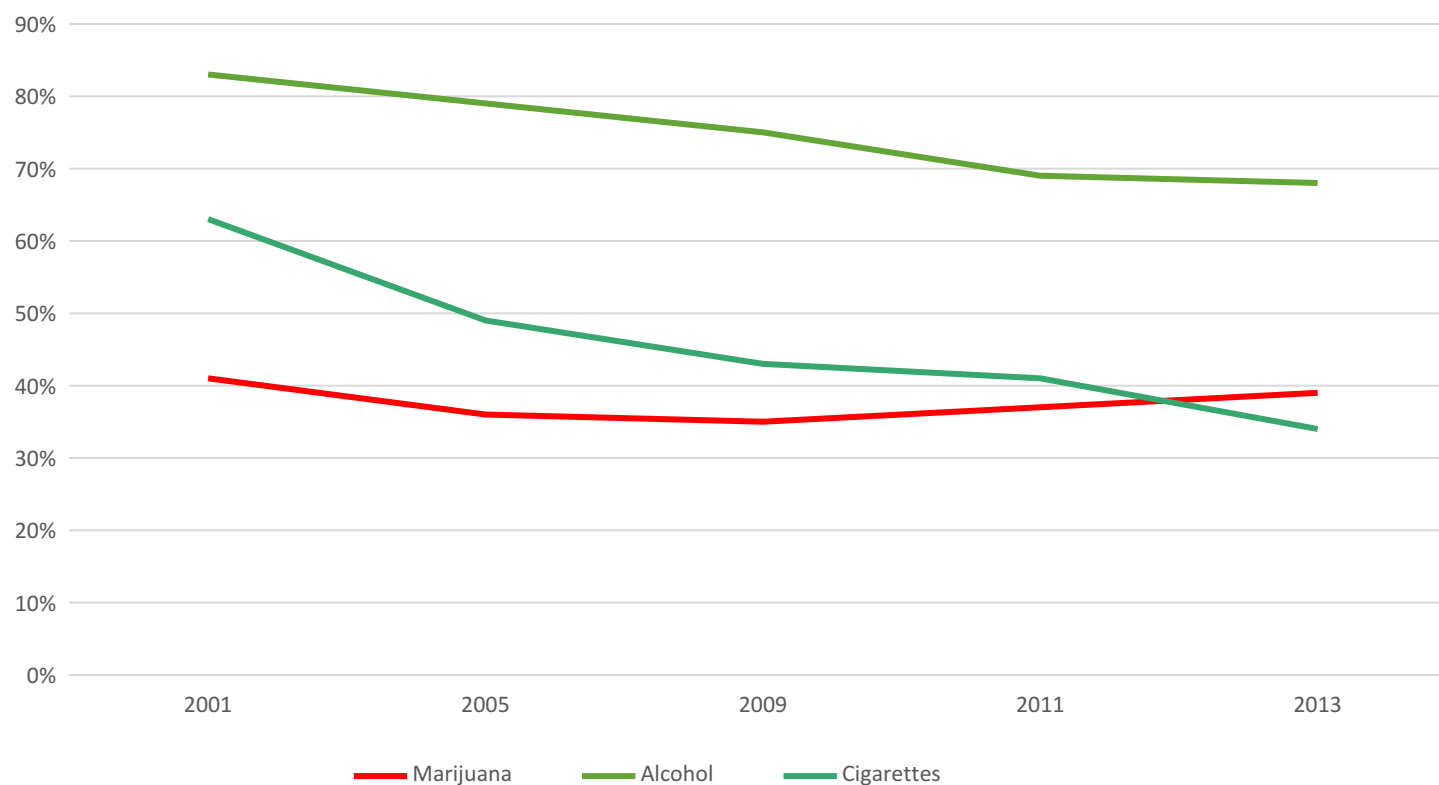


Source: NSDUH state estimates

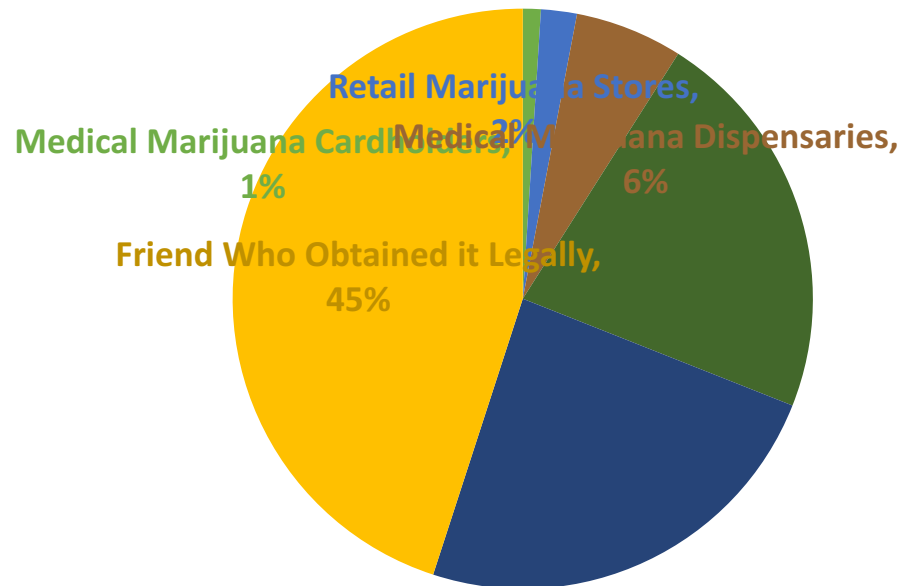


Drug Use Among HS Students

NJ HS Student Lifetime Use Trends



Colorado Student Marijuana Source



Colorado Student Marijuana Source, 2016

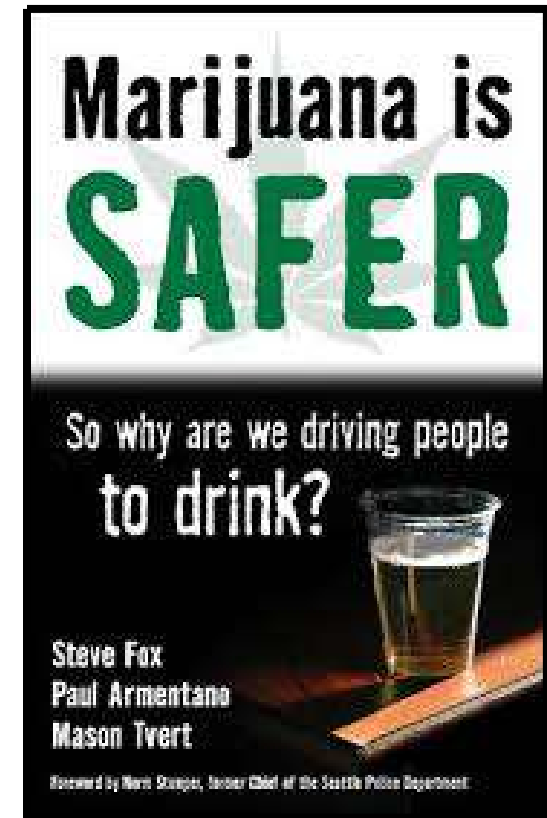
Marijuana & Impaired Driving



DWI to Impaired Driving



- Legalizers are promoting that marijuana is not as bad as alcohol
- Kids are hearing these political messages and it is influencing their health decisions
- Perception and messaging – kids are more likely to drive with someone under the influence of marijuana





Marijuana & Driving

- Marijuana impairs motor coordination, reaction time, attentiveness, and perception of time and speed.
- Drivers testing positive for marijuana use are over 2 times more likely to be involved in a crash.
- Habitual marijuana users were 9.5 times more likely to be involved in a crash.



Cannabis Effects on Driving Skills

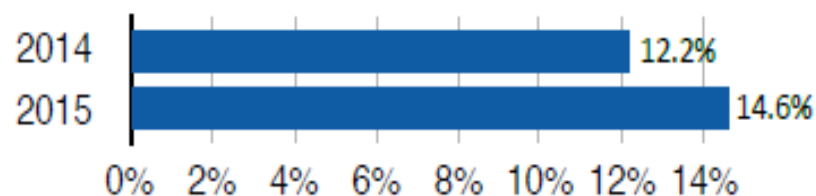


- Experimental data show that drivers attempt to compensate by driving more slowly after smoking cannabis, but control deteriorates with increasing task complexity.
- Cannabis smoking increases lane weaving and impaired cognitive function.
- Critical-tracking tests, reaction times, divided-attention tasks, and lane-position variability all show cannabis-induced impairment.
- Despite purported tolerance in frequent smokers, complex tasks still show impairment.
- Combining cannabis with alcohol enhances impairment, especially lane weaving.

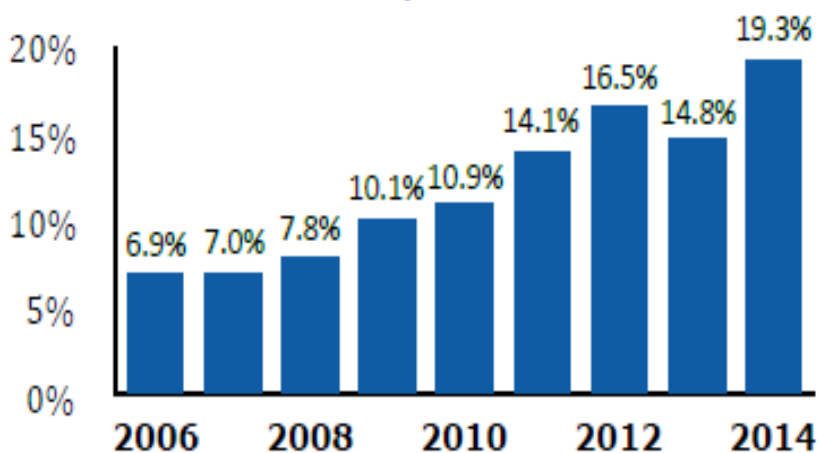
MARIJUANA-RELATED DUI CASES HAVE SPIKED IN BOTH COLORADO & WASHINGTON AFTER LEGALIZATION

COLORADO

Percentage of total DUI/DUID citations related to marijuana in CO



Percentage of total traffic fatalities where the driver tested positive for THC in CO

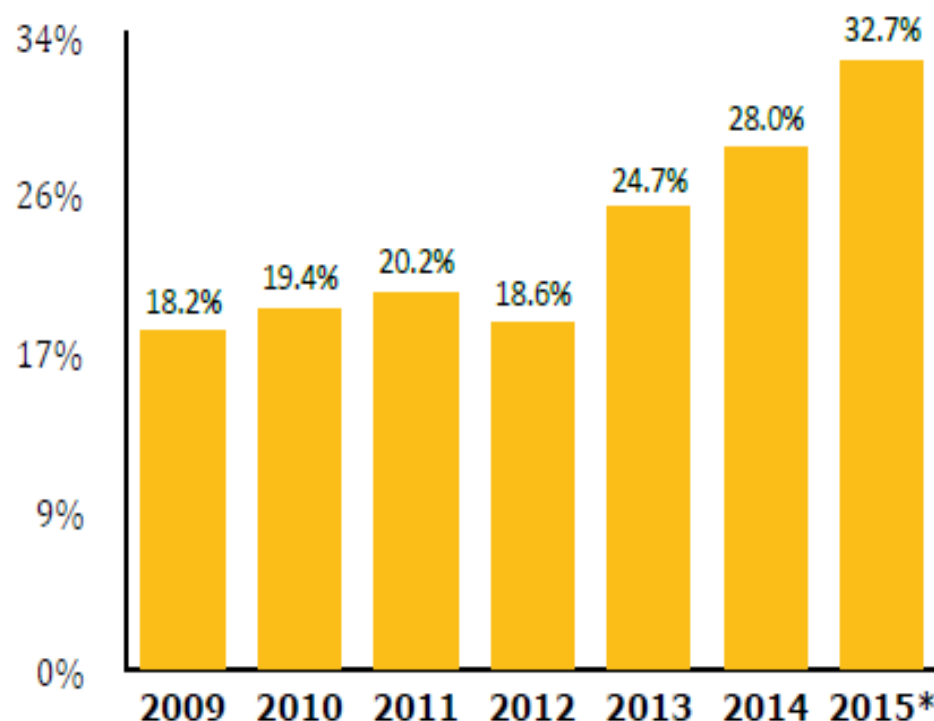


Source: Colorado State Patrol; Rocky Mountain HIDTA (Sep. 2015)

Note: Only 47% of operators involved in traffic deaths were tested for drug impairment in 2014, consistent with past practices

WASHINGTON

Percentage of total DUI/DRE cases tested positive for THC* in WA



*2015 data through June 2015

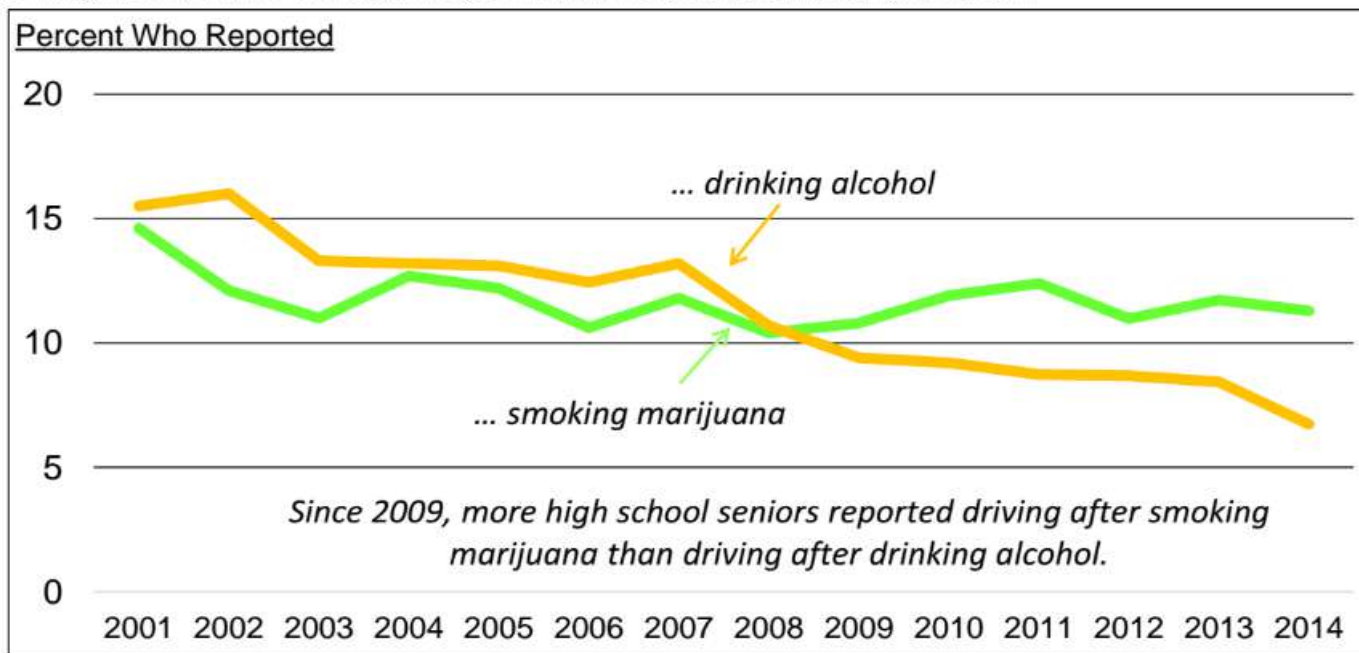
Source: NPR & Washington Traffic Safety Commission (w/ updated 2012-15 statistics)

Note: This study used toxicology data that had been normalized by the State of Washington to allow for a multi-year comparison, despite the fact that a "marijuana positive" is now triggered at the 2 ng/ml level versus a 1 ng/ml level prior to 2013.



12th Graders Who Drove After Smoking Marijuana or Drinking Alcohol, 2001-2014

During the LAST TWO WEEKS, have you driven a car, truck, or motorcycle after ...



Source: University of Michigan, 2014 Monitoring the Future study, Unpublished special tabulations (December 2014).

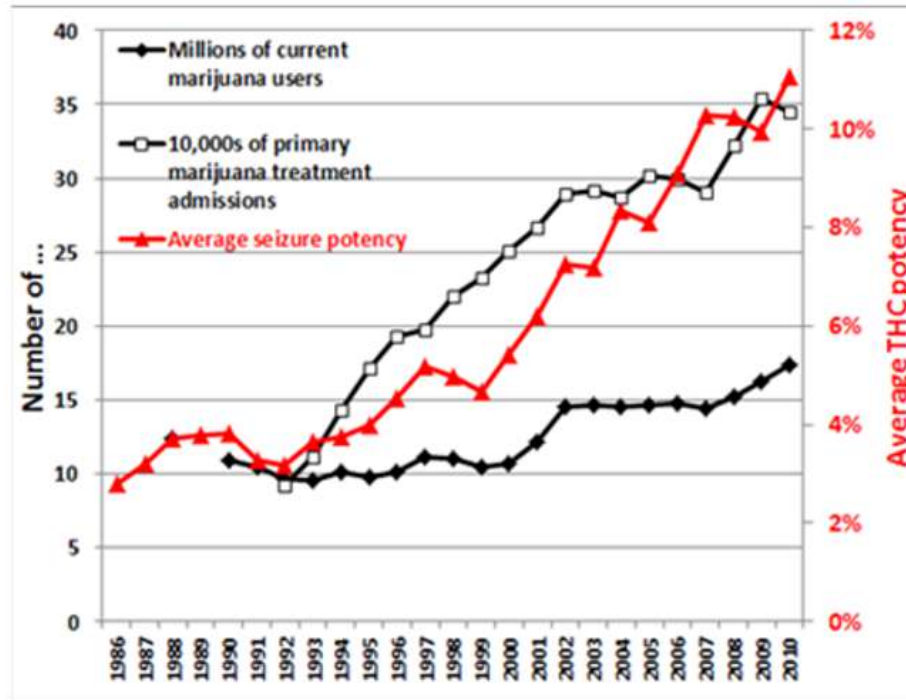
Does Legalization Mean Control?





Marijuana User, Treatment Admission vs. Potency

1986 - 2010



Sources: [NSDUH](#), [TEDS](#), National Seizure System

Legalization Influences Youth



Legalization Negatively Effects all Known Risk Factors of Drug Use:

- Low Perception of Risk (Health Risks & Consequences)
- Favorable Attitudes Regarding Use (Parental/Peer Use)
- Social Norm
- Availability
- Early First Use
- Density
- Promotion



Legalization = Public Promotion

by a Well Funded Industry





Advertising & Coupons

OMC
OPTIONS MEDICAL CENTER
optionsmedicalcenter.com
8003 W. 44TH AVE. • WHIFLAT RIDGE • 720-242-0452
1534 85TH ST. • BOULDER • 303-444-0861

SIGN UP TODAY AND GET GREAT MEMBER BENEFITS!
INCLUDING:

\$99/0Z
\$10 1/8's

Plus 15% limit's discount on your birthday.

HIGH PLANT COUNTS GET AN EXTRA 10% OFF REGULAR PRICES PRODUCTS
5% OFF FOR VETERANS AND SENIORS

"Because you deserve OPTIONS!"
For medical marijuana patients only. Other prices apply.

DENVER'S DANKEST
4/20 DEALS

STOP BY & SAY HIGH

\$5 Grams
FREE 1/8
BUY ONE 1/8 & GET AN 1/8 FREE

99¢ Joints

\$125 Premium Ounce's 9am-10am
Last 1/2 of the day

ALTITUDE WELLNESS CENTER
LOCATED @ HAMPDEN & YOSEMITE
303-751-7888
ALTITUDEWELLNESSCENTER.COM

VIP CANNABIS

1/2 OUNCE
\$90

OVER 30 STRAINS. EXPIRES 2/6

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Ballpark Holistic Dispensary
Monday - Saturday 10AM-7PM
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2119 Larimer St.
Denver, CO 80205
303-996-6884
Free 30 Min Customer Parking Everyday

Top Shelf Selection!

Medical
1/8 OZ = \$25
1/4 OZ = \$44
1/2 OZ = \$79

Mix & Match
Most premium cannabis. Great value per dollar. Limited supply.
Please note that individual items, including packaging, are as follows:
Shatter: 1 Gram = \$35
Wax & Flake: 1/2 Gram = \$25
1 Gram = \$35
1/2 Gram = \$25

20% OFF SELECT EDIBLES

Medical Patients No Waiting!

HUGE SELECTION, GREAT PRICES, PROFESSIONAL SERVICE
Don't leave without that Punch and 21 years of experience.

Industry Promoting to Our Youth



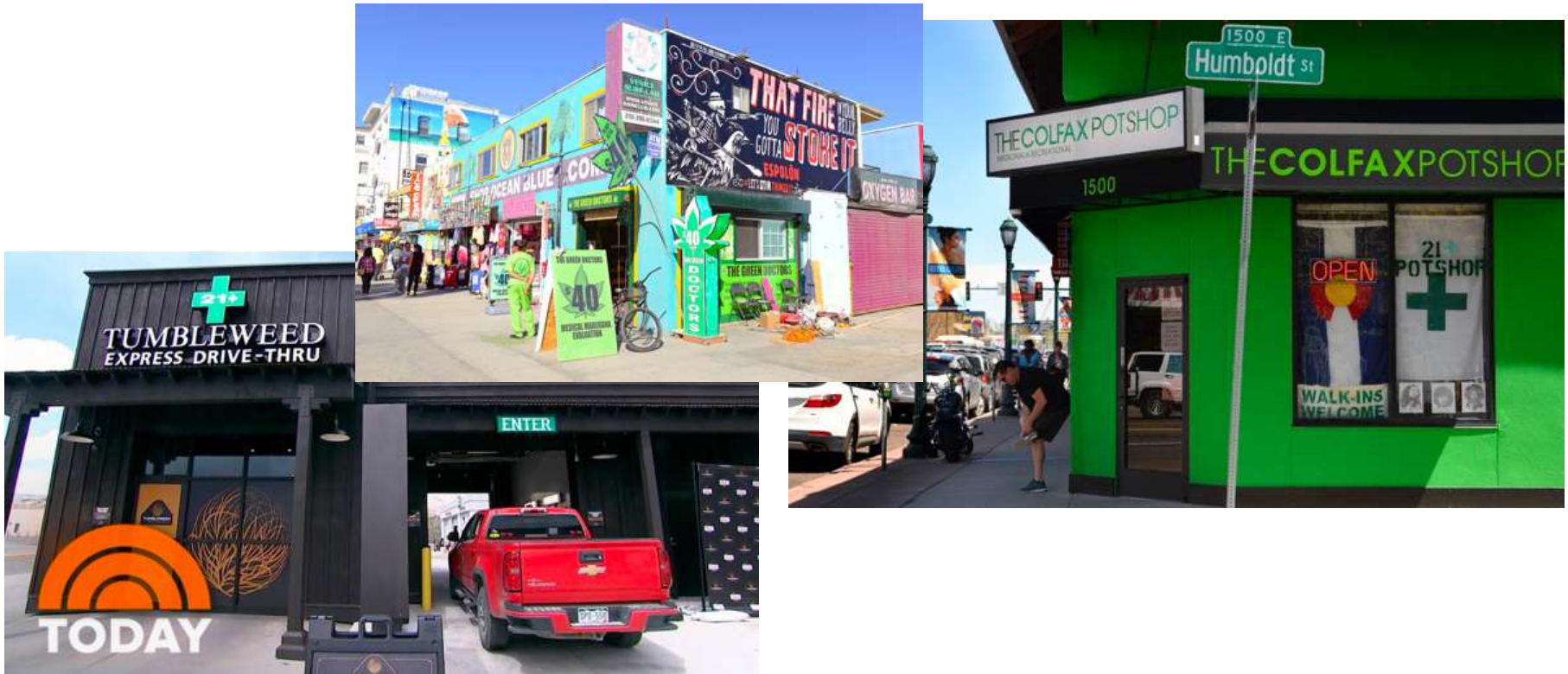
Promotion & Sale of Edibles



- Brownies, carrot cake, cookies, peanut butter, granola bars, ice cream...
- Marketed with cartoons and characters appealing to children.



Marijuana Dispensaries

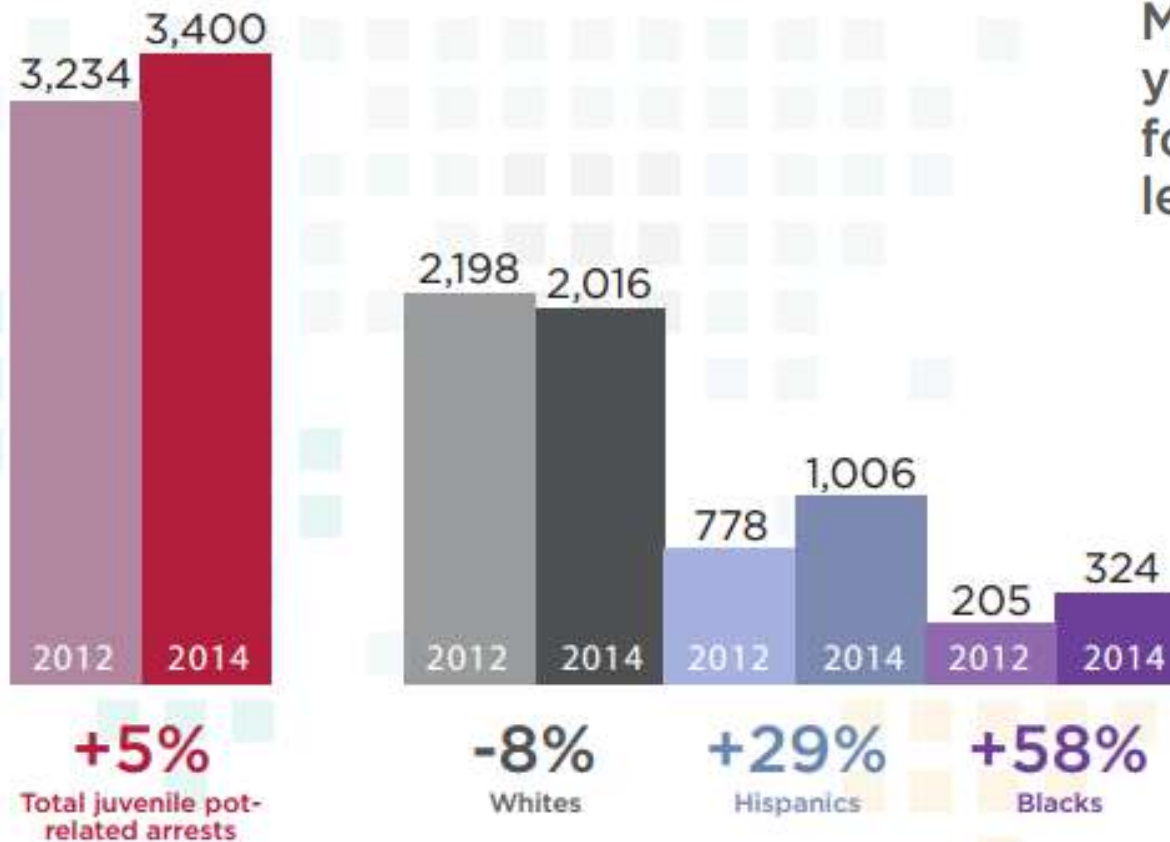


Will Legalization Solve Social Justice Problems?





Minority Youth Arrests Going Up in CO



More Black and Hispanic youth are being arrested for pot in Colorado after legalization than before.

- Total juvenile pot-related arrests
- Whites
- Hispanics
- Blacks

Source: Colorado Department of Public Safety (March 2016)

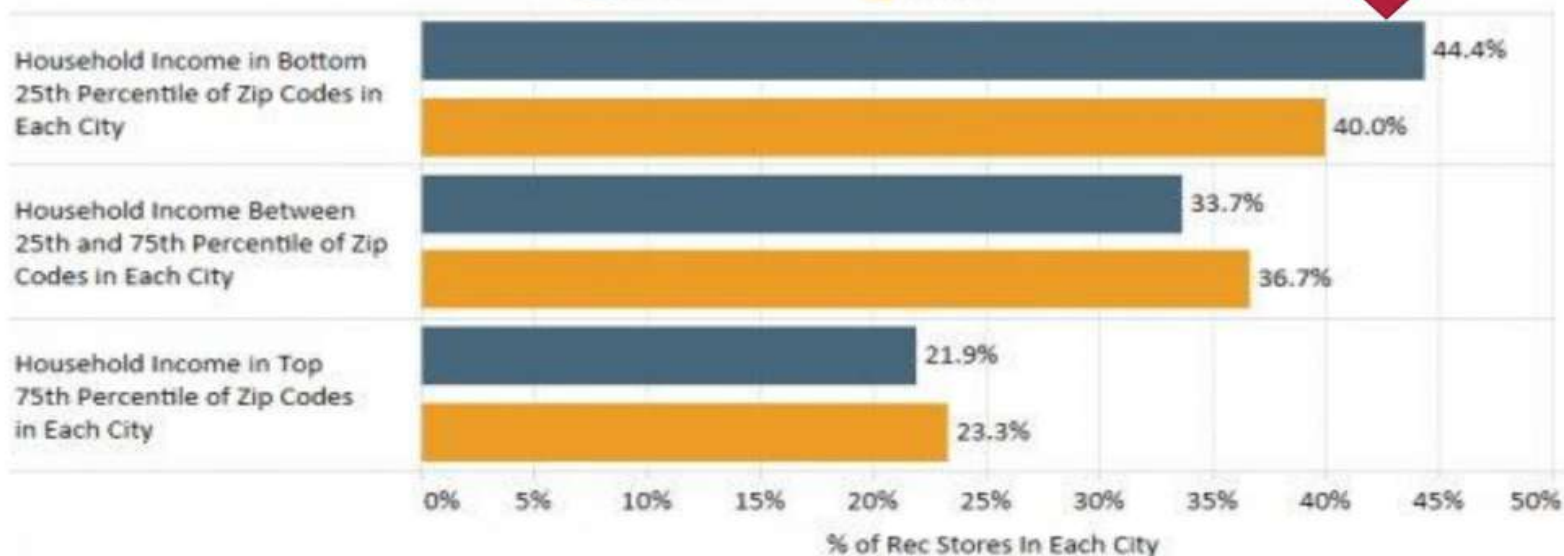


Chart of the Week

Marijuana Business **Daily**

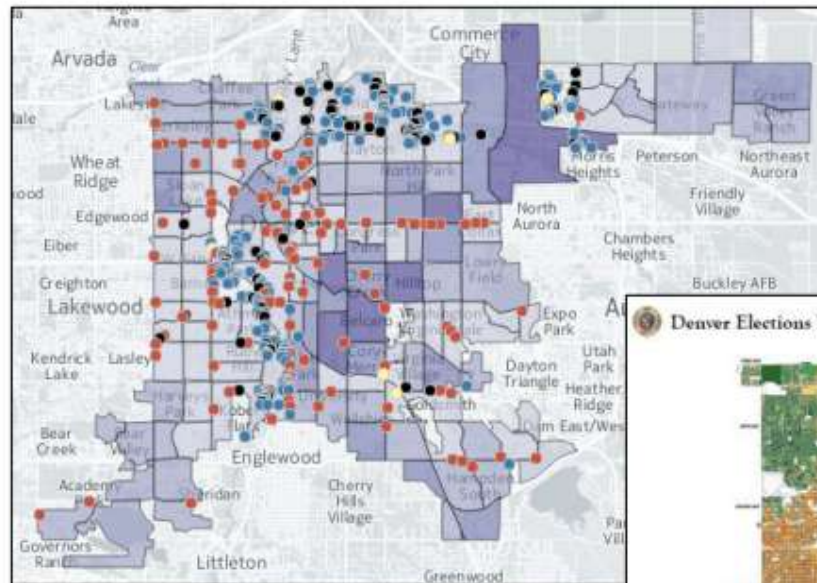
Location of Recreational Marijuana Stores in Denver & Seattle: Breakdown By Zip Codes' Median Household Income

■ Denver ■ Seattle



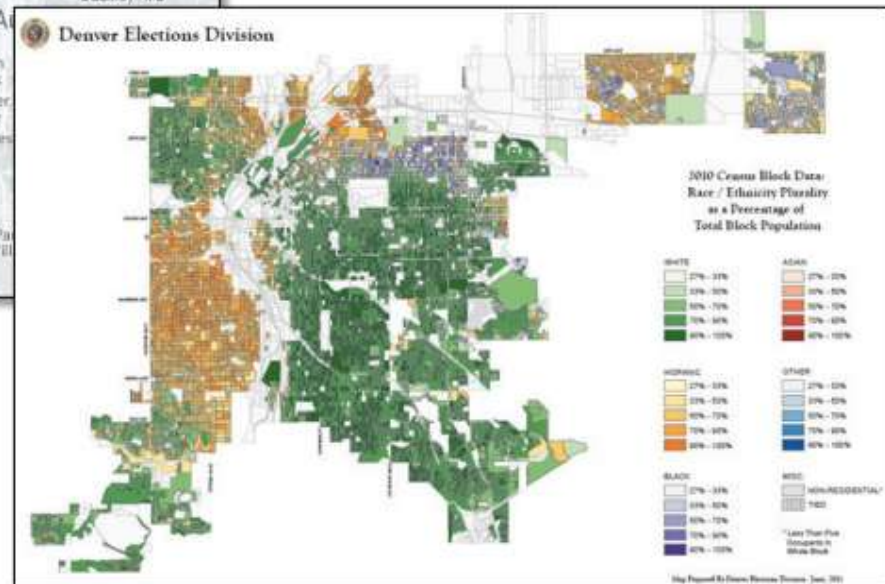
Source: Colorado Department of Revenue, 2011-2015 American Community Survey 5-Year Estimates
Copyright 2017 Marijuana Business Daily, a division of Anne Holland Ventures Inc. All rights reserved.

MARIJUANA BUSINESSES IN DENVER ARE CONCENTRATED IN NEIGHBORHOODS OF COLOR



Locations of pot businesses
(dots represent businesses;
neighborhoods shaded
by income; lighter =
lower-income)

Denver neighborhoods
colored by race/ethnicity:
green = White; orange =
Latino; purple = Black;
red = Asian; blue = Other

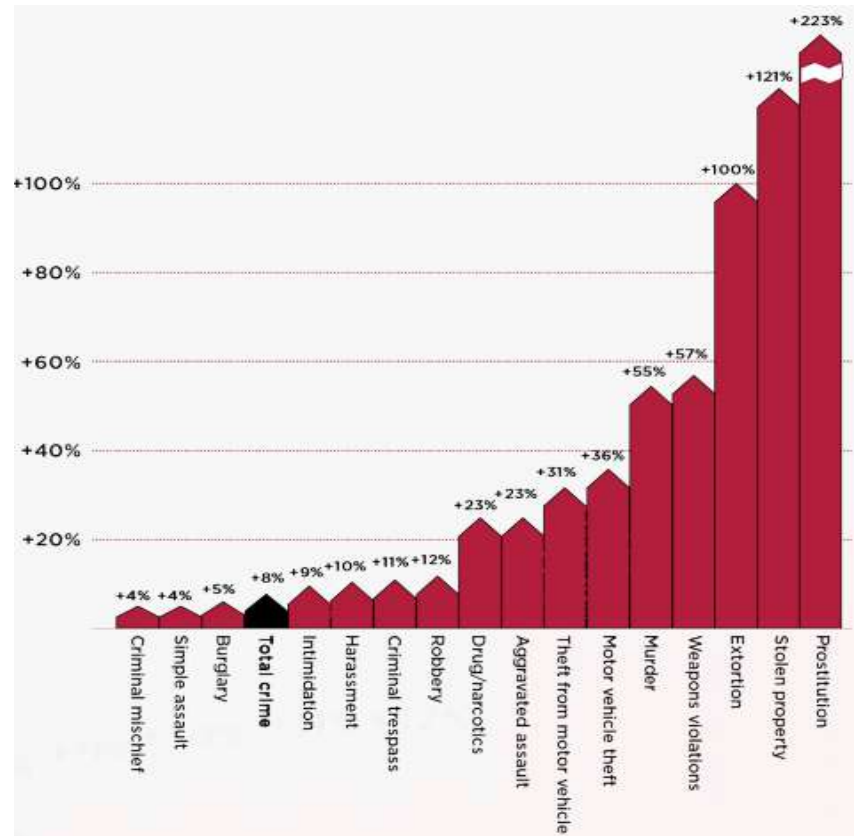




Other Crimes on the Rise

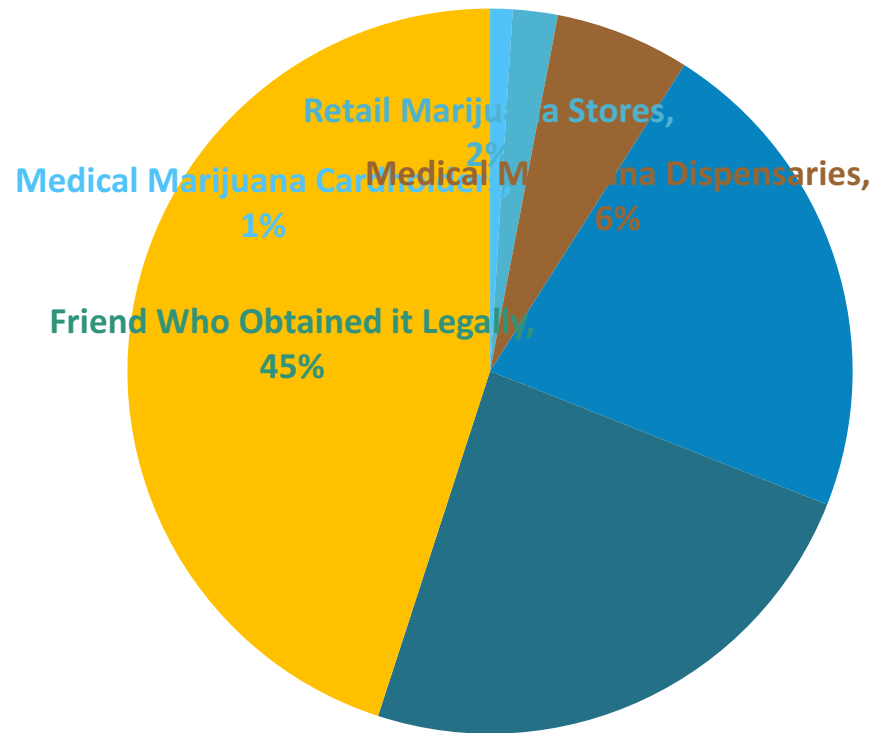
Total Crime
increased by 8%
from 2014 to 2016

OVER THE LAST TWO
YEARS, CRIME IN
DENVER HAS BEEN ON
THE RISE



Percent change from 2014 to 2016 (2016 data extrapolated from NIBRS reports from Jan to Sep). Source: Denver Police Department

Colorado Student Marijuana Source, 2016



SOURCE: Colorado Association of school resource officers (CASRO) and rocky mountain HIDTA

Will Legalization Yield High Tax Revenue?





Alcohol & Tobacco:

Money Makers or Dollar Drainers?

**Alcohol
Costs**

**\$185
billion**

**\$14
billion**

Tax Revenues

**Tobacco
Costs**

**\$200
billion**

**\$25
billion**

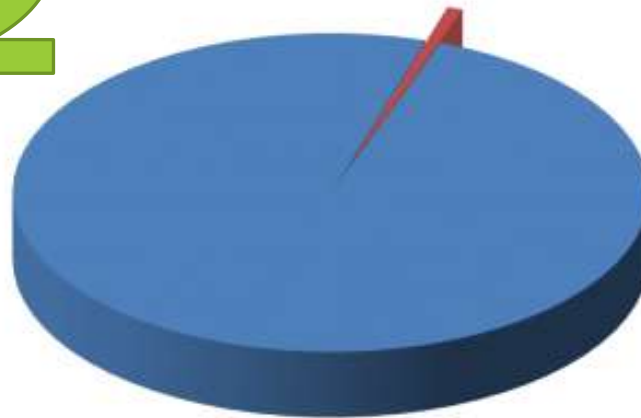
Tax Revenues

Budget Shortfall or Winfall?



Only .8% of
budget in CO

**Colorado's Statewide Budget,
Fiscal Year 2017**



■ Marijuana Tax Revenue*
(Medical and Recreational) = 0.8%

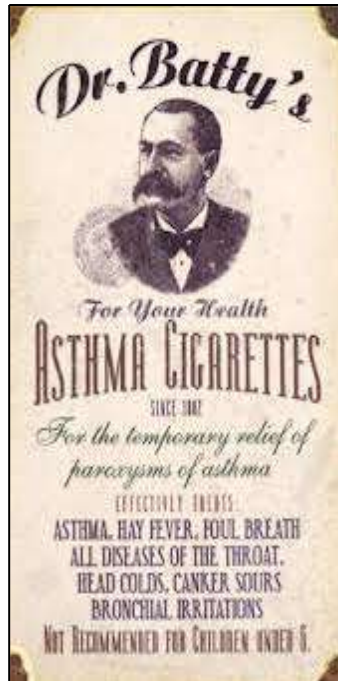
*Revenue from marijuana taxes as a portion of Colorado's total statewide budget

SOURCE: Governor's Office of State Planning and Budgeting

Will Big Marijuana be different than Big Tobacco?



The Early Days of Big Tobacco



Who Will We Believe This Time?



1964:

**MORE DOCTORS SMOKE CAMELS
THAN ANY OTHER CIGARETTE**

Every branch of medicine—113,597 in all
nationwide study of cigarette preference.
rganizations made the survey. The gist
t cigarette do you smoke, Doctor?

It was Camel!
d cool mildness of Camel's superb blend
to have won the same favor in medical
f smokers the world around. If you are
ference among doctors will hardly sur-
—well, try Camels now.



TRY CAMELS ON YOUR "T-ZONE"



That's T for Taste and T for
Throat...the most critical "lab-
oratory" for any cigarette. See
how your taste responds to the
rich, full flavor of Camel's con-
troller tobacco. See how your
throat reacts to Camel's cool
mildness. On the basis of the
experience of many
millions of smokers,
we believe Camels
will suit your "T-
Zone" to a "T."

R. J. REYNOLDS TOBACCO CO.
RICHMOND, N. C.

IELS *Costlier
Tobaccos*

Today:

MARIJUANA IS MEDICINE/SAFE:





Alcohol and Tobacco: A Model?

- Both industries *promote* addiction and target kids
 - 70% of alcohol sales are from problem drinkers and youth
- Youth alcohol use is much higher than marijuana
- Since medical marijuana and legalization discussions, marijuana is starting to exceed tobacco use among youth.

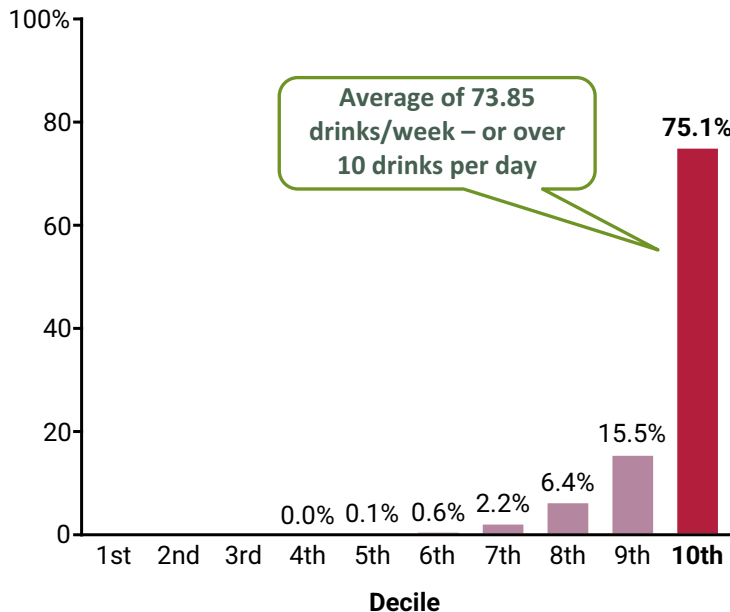


Alcohol Industry depend on heavy drinkers to make money



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

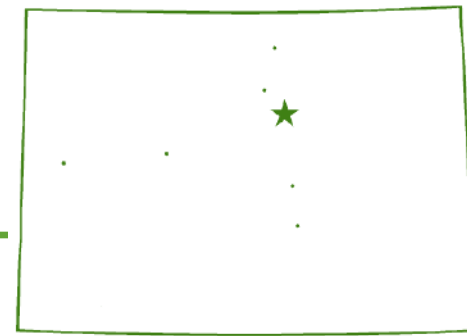
% of total U.S. alcohol consumed



- Industry message, “**Enjoy Responsibly**”
- **Would the marijuana industry be any different?**

Source: Cook, P. J. (2007). Paying the tab: The economics of alcohol policy. Princeton, NJ: Princeton University Press

Who's Buying it?



- In CO, the **top 21.8%** of users make up almost **67% of the demand** for Marijuana in the state.
- In Colorado, adult marijuana use is now **HIGHEST** in the country at 13.6% of adults in CO are regular users with rates of 18.5% in Denver.
- Out-of-state visitors represent about **44%** of the metro area marijuana retail sale of marijuana and approximately **90%** of sales in heavily-visited mountain communities.

Promoting, Marketing & Normalizing



What is the Answer?



Is Everyone Saying YES?



- ❑ No State has passed by legislative action
- ❑ NJ Legislators lining up Against Legalization
 - ❑ Senator Leader of Black Caucus- Senator Rice
 - ❑ Assembly President - Assemblyman Coughlin
 - ❑ Senate Health Committee Chair – Senator Vitale
- ❑ NJ-RAMP.org – Responsible Approaches to Marijuana Policy: Organizations Against Legalization





NJ Towns Saying NO!

Berkeley Township

Point Pleasant Beach

Seaside Heights



What is the Prevention Response?





Public Health Approach



- A Public Health Approach does not include legalization.
- Public Health promotes health, education, and common-sense.
- Public Health supports treatment care for those addicted.

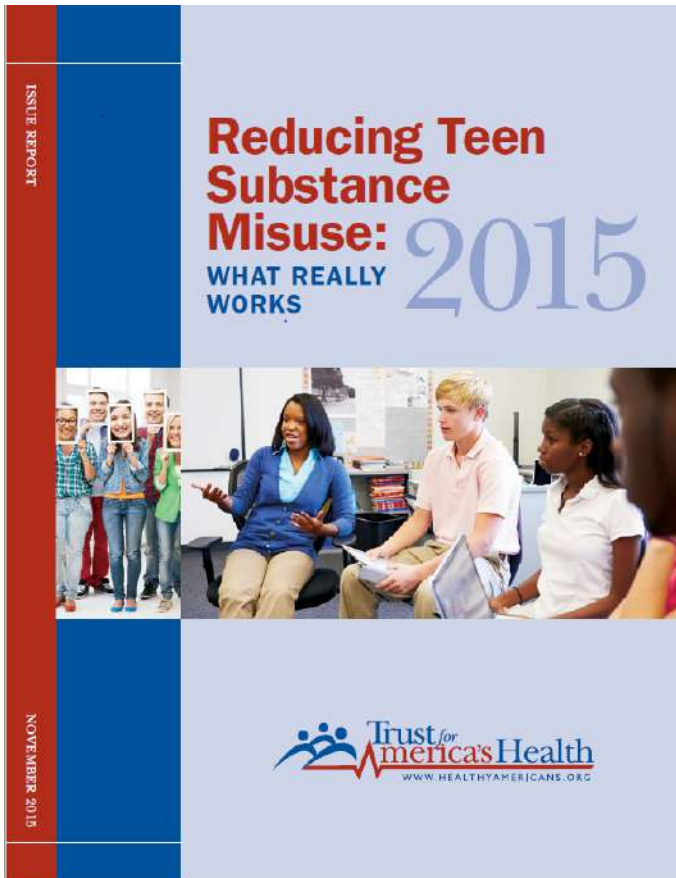
Regional Coalition

Join the prevention efforts in
your community



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Trust for America's Health



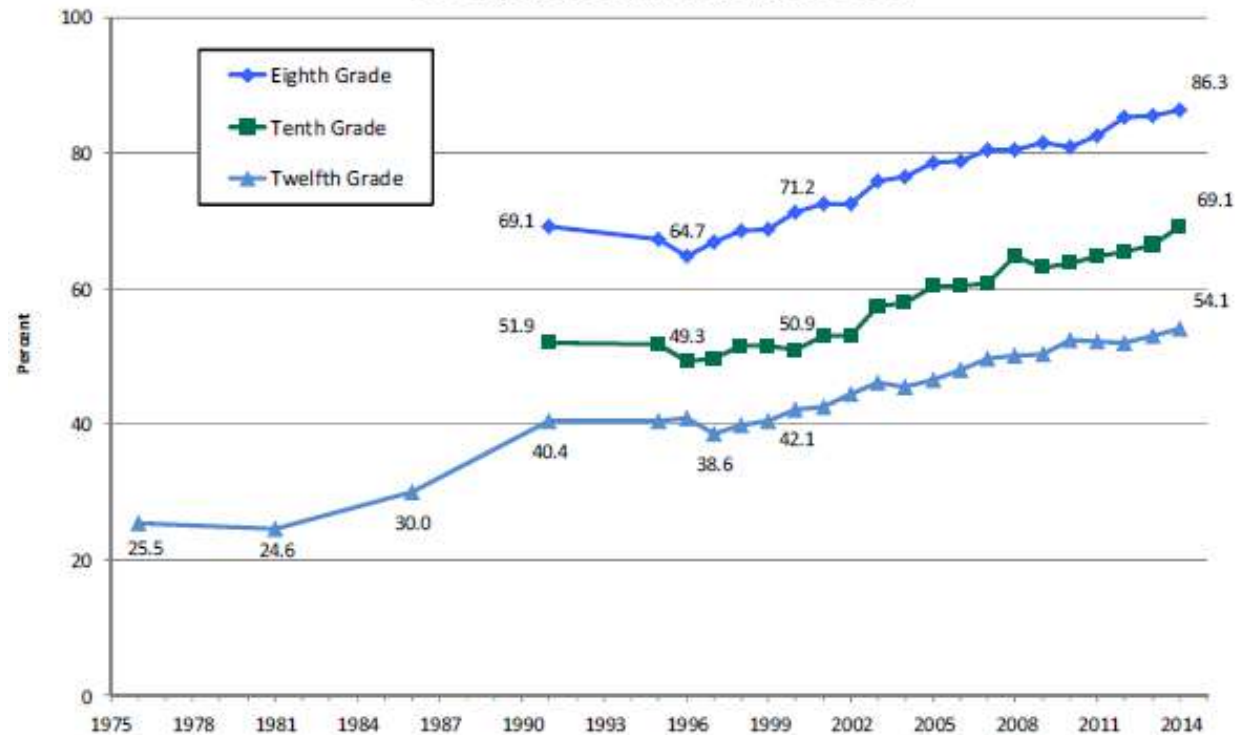
“2015 Reducing Teen Substance Misuse: What Really Works”

<http://healthyamericans.org/assets/files/TFAH-2015-TeenSubstAbuse-FnlRv.pdf>



Substance Free Youth Increasing

Percentage of Students who Reported Being Substance-Free* in the Past 30 Days: Selected Years, 1976-2014



*Students who reported using no alcohol, cigarettes, or illicit drugs in past 30 days.
Source: Original analysis by Child Trends of Monitoring the Future Data, 1976-2014



Thank You

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