Reefer Sanity in the Marijuana Debate

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SAM is a 501 (c) (3) educational organization funded by volunteers & private organizations.

Smart Approaches to Marijuana envisions a society where marijuana policies are aligned with the scientific understanding of marijuana’s harms, and the commercialization and normalization of marijuana are no more.

Our 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.
Board Members and Supporters:

Amer Society of Addiction Medicine
American Academy of Pediatrics
American Academy of Child and Adolescent Psychiatry

and

other leading public health authorities

over 30 state affiliates that include:
  treatment centers
  recovery groups
  prevention organizations
  law enforcement
  leading medical authorities
  volunteer citizens
The false dichotomy: “Legalization OR Prohibition?”
Yes, we need to reform the criminal justice system.
Record expungement
Treatment
diversion/alternatives to incarceration
Noncriminal penalties
Warnings
Community Service
Big Marijuana
What drugs do we use?

Current use among persons 12 and older: 2012

- **Alcohol**: 52%
- **Tobacco**: 26%
- **Marijuana**: 7.5%

*NSDUH, 2013*
Perceived Risk is Correlated with Use of Marijuana: 12th Graders’ Use vs. Perceived Risk of Occasional MJ Use

SOURCE: University of Michigan, 2013 Monitoring the Future Study
Percentage of U.S. 12\textsuperscript{th} Grade Students Reporting Past Month Use of Cigarettes, Marijuana and Alcohol

• Number of people who use 21+ days has increased by a factor of 7 since 1992
• Since 2007, the use of marijuana measured by days of use has increased 57%
• One arrest for every 5,800 days of use.
• That means someone who smokes marijuana 2x week for their whole life has a chance of being arrested once every 50 years.
• Potency has grown 10-20 fold
• Marijuana is now 2nd leading cause of impaired driving
• Marijuana use now surpasses tobacco for most young people
Why should we care about marijuana?
The most thoughtful, rigorous, and accessible discussion of marijuana to date. Sabet eschews silver bullets for smart, evidence-based solutions rooted in public health." – Dr. Robert L. DuPont founding Director, National Institute on Drug Abuse, National Institutes of Health

REEFER SANITY
SEVEN GREAT MYTHS ABOUT MARIJUANA

KEVIN A. SABET, PH.D.

FOREWORD BY PATRICK J. KENNEDY, FORMER CONGRESSMAN
Myth 1: Marijuana Is Harmless and Non-addictive
Cannabinoid Receptors Are Located Throughout the Brain and Regulate:

- Brain Development
- Memory and Cognition
- Motivational Systems & Reward
- Appetite
- Immunological Function
- Reproduction
- Movement Coordination
- Pain Regulation & Analgesia
Addiction: About 9% of users may become dependent, 1 in 6 who start in adolescence and 25-50% of daily users.

Reductions in IQ

Dunedin prospective study of 1037 Ss born 1972/73,
Tested for IQ at age 13 and 38y.
Tested THC use ages 18, 21, 26, 32 and 38y

Source: Meier MH et al., PNAS Early Edition
Increases over Time in the Potency of THC in Marijuana and the Number of Emergency Department Visits Involving Marijuana, Cocaine, or Heroin

Volkow ND et al., NEJM 370(23), June 5, 2014.
Average THC and CBD Levels in the US: 1960 - 2011

THC: Psychoactive Ingredient

CBD: NON-Psychoactive Ingredient

Mehmedic et al., 2010

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Also can you get rid of the gray shaded box behind these data?

Kevin Sabet, 4/30/2013
“With dabs your local action news team gets to do a marijuana story that shows crack pipe torches used on sticky heroin-looking goo made from a process that blows up like meth labs.”
“But it’s just a plant...”
(80-90% THC) Concentrates

“Green Crack” wax

“Ear Wax”

Butane Hash Oil (BHO)

Hash Oil Capsules

“Shatter”

“Budder”

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More Use of Cannabis Associated with Worse Social Outcomes at Age 25 (New Zealand Study)

- % welfare dependent (ages 21-25)
- % Unemployed (ages 21-25)
- Mean personal income at age 25
- % gained university degree by age 25

Source: Fergusson and Boden. Addiction, 103, pp. 969-976, 200
Cannabis-Associated Psychosis

CANNABIS AND SCHIZOPHRENIA
Study of Swedish Conscripts (n=45570)

Risk of schizophrenia-like psychosis at age 26 years

Odds ratio

CANNABIS AND SCHIZOPHRENIA-Like
Longitudinal prospective Dunedin study (n=1037)


Arseneault et al BMJ 2002
The Gulf Has Never Been Greater Between

The Scientific Understanding of Marijuana’s Harms

and

The Public’s Misunderstanding
How Did We Get Here?
Myth 2:

Smoked Marijuana is Medicine
Is Marijuana Medicine?

**NO:** SMOKE OR INHALED RAW MARIJUANA IS NOT MEDICINE

**YES:** THERE ARE MARIJUANA-BASED PILLS AVAILABLE AND OTHER MEDICATIONS COMING SOON

**MAYBE:** RESEARCH IS ONGOING
Compassionate care or increased access to marijuana?

- Less than 5% of card holders are cancer, HIV/AIDS, or glaucoma patients
- Average user: 32 WM, no illness
Bottom Line

We don’t smoke opium to get the effects of morphine.

So why would we smoke marijuana to get its potential medical effects?
Cannabis-Based Medicines

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

• Restriction of legalized medical or recreational marijuana within state/district borders and to those \( \geq 21 \) years old does not sufficiently safeguard against widespread adverse effects on youth
  
  – Youth access legalized marijuana obtained by adults, via diversion (Salomonsen-Sautel et al., 2012) and accidental ingestion (Wang et al., 2013)
  
  – Policy changes and marketing efforts have effects across ages and across state lines, with particular impact on youth (Berg et al., 2015; Richter & Levy, 2014)
‘Big marijuana’

Can we trust companies and Big Corporations not to target youth and the vulnerable?
Privateer Holdings: The first equity company dedicated to the marijuana industry.
THE LEGALIZATION OF MARIJUANA means ushering in an entirely new group of corporations whose primary source of revenue is a highly habit-forming product. Sounds a lot like another industry we just put in its place. Many facts are being ignored by this and other news organizations. Go to GrassIsNotGreener.com to see why so many major medical associations oppose marijuana legalization.
MARLEY
Natural
Early Days of Big Tobacco Messaging
Colorado and Washington
Colorado Didn’t Legalize Overnight

2001: Medical Marijuana in Colorado
2005: Denver legalizes possession
2007-8: 1st stores
2009: 700 stores; 3.5% adults have MMJ license
2012: Legalized
2014: Recreational Stores open

Nussbaum et al., Am J Psychiatry 168:778-781
Vaporizing industries: Nicotine and Marijuana

Pax by Ploom

- Japan Tobacco International (JTI) is the third largest international tobacco company behind Philip Morris International.

- In 2011, JTI bought a portion of Ploom – a startup based in Silicon Valley that produces a loose-leaf vaporizer that can be used to inhale heated vapor from marijuana as well as tobacco, called the Pax.
Marijuana Edible Displays
Source of Marijuana* among 12th Graders in 2012 and 2013, by State Policy

Categories not mutually exclusive
** Statistically significant difference

SOURCE: University of Michigan, 2013 Monitoring the Future Study
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Marijuana Edible Displays
In a report published in the Journal of the American Medical Association last month, Andrew Monte, MD; Richard Zane, MD; and Kennon Heard, MD, pointed to edible marijuana as the culprit behind the most troubling cases arriving at the UCH and Children’s Hospital Colorado emergency departments, including severe burns and cycling vomiting syndrome.
2014 Marijuana Developments

- Associated Press: “Two Denver Deaths Linked to Recreational Marijuana Use”. One includes the under-aged college student who jumped to his death after ingesting marijuana cookie.

- The number of parents calling the poison-control hotline to report their kids had consumed marijuana has risen significantly in Colorado.

- Marijuana edibles and marijuana vaporizers have been found in middle and high schools.
Marijuana Use in CO, WA, and US

• Past-year and past-month marijuana use by all ages exceeds the national average in both Washington State and Colorado. Marijuana use in both these states has risen significantly* between 2011-2012 and 2012-2013.

*Significant at the 0.05 levels.
Past-Year Marijuana Use (ages 12+)

Source: NSDUH, 2014
Accidental Ingestions by Children

• Between 2008 and 2011, an average of 4 children (between the ages of 3 and 7) were sent to the ER for unintentional marijuana ingestion.

• In 2013, 8 children went to the CO children’s hospital.

• As of the first half of 2014, at least 14 children had already been sent to the ER for accidentally ingesting marijuana products.

  More than doubling from the year before.

Source: Children’s Hospital of Colorado Emergency Department
Nº of Children Ages 3-7 Sent to ER for Accidental Marijuana Ingestion

Source: Children’s Hospital of Colorado Emergency Department
Marijuana-Related Poisonings

• According to the Washington Poison Center, “the selling of cannabis for recreational purposes became legalized in the state of Washington on July 7th, 2014. As a direct result, the Washington Poison Center (WAPC) has encountered an increase in the number of human exposures related to accidental or excessive consumption/inhalation of marijuana and marijuana edibles, particularly among pediatrics.”
Total Human Marijuana Exposures for 2013 and 2014 YTD (11/30/2014)

Source: Washington Poison Center
Teen Arrests

• Arrests for marijuana use in Denver public schools increased by 6% between 2013 and 2014.

Source: Denver Police Department Versadex and OSI database
Teen Admissions to Treatment

- Teen admissions to treatment for marijuana use at the Arapahoe House treatment network in CO increased by 66% between 2011 and 2014.

Source: Arapahoe House Treatment Network
Colorado Marijuana is Regularly Diverted to Other States

• In 2013, there were 288 highway interdictions resulting in seizures of Colorado marijuana destined to over 40 states.
• A 397% from 2008.

Source: El Paso Intelligence Center National Seizure System
Nº US Mail Package Interceptions Containing CO Marijuana

Source: El Paso Intelligence Center National Seizure System
Unexpected Consequences: Burns

• The University of Colorado’s Burn Center observed an increase in the number of marijuana-related burns since legalization in 2012.

*As of Dec 17, 2014

Source: University Hospital Burn Unit – University of Colorado Hospital
WA and CO Observe an Increase in the Share of Marijuana Driving Cases

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

- 2009: 16.9%
- 2010: 17.3%
- 2011: 18.2%
- 2012: 18.3%
- 2013: 23.8%

Source: Adapted from data provided by the WA State Patrol and WA State Toxicologist
Colorado’s underground market

A Colorado drug dealer says that if anything, legalization has helped his business because “it’s over priced, it’s being taxed way too high.”
Colorado’s underground market

Colorado Springs Lieutenant stated that “[Legalization] has done nothing more than enhance the opportunity for the black market. If you can get it tax-free on the corner, you’re going to get it on the corner.”
Tax money?

Underground market?

Better schools?

Arrests down or up?
Marijuana Taxes Won’t Save State Budgets

April 9, 2015

Colorado’s marijuana tax collections are not as high as expected.

In February 2014, Gov. John Hickenlooper’s office projected Colorado would take in $118 million in taxes on recreational marijuana in its first full year after legalization. With seven months of revenue data in, his office has cut that projection and believes it will collect just $69 million through the end of the fiscal year in June, a miss of 42 percent.

That figure is consequential in two ways. First, it’s a wide miss. Second, compared with Colorado’s all-funds budget of $27 billion, neither $69 million nor $118 million is a large number.
Alcohol & Tobacco: Money Makers or Dollar Drainers?

Alcohol Costs

$185 billion

$14 billion

Revenues

Tobacco Costs

$200 billion

$25 billion

Revenues

Why did marijuana succeed in Alaska, Oregon, and DC last night?
Follow the money.

Money talks.

www.learnaboutsam.org
Cities Across **Colorado** are Banning the Recreational Sales of Marijuana

- Of the 31 cities in Colorado that voted in November to allow the recreational sales of marijuana, 26* voted to ban it.

Source: Colorado Municipalities League
Are your relationships better off when people use more marijuana?

How has alcohol legalization
(or gambling or tobacco)
affected minority communities?
Bipartisan Co-Chairs (Kennedy + Frum)
Launch 2013
Over 150,000 press mentions
Public Health Scientific Advisory Board
30 state-wide affiliates
SAM

1. To inform public policy with the science of today’s marijuana.

2. To have honest conversations about reducing the unintended consequences of current marijuana policies, such as lifelong stigma due to arrest.

3. To prevent the establishment of Big Marijuana that would market marijuana to children — and to prevent Big Tobacco from taking over Big Marijuana. Those are the very likely results of legalization.

4. To promote research of marijuana’s medical properties and produce pharmacy-attainable medications.
Thank you!
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www.learnaboutsam.org