Two Organizations, One Mission

**SAM Action**
- 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

**SAM’s mission**
- 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

501 C-4
501 C-3

© SAM
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:

  - The New York Times
  - NBC News
  - BBC
  - Fox News
Groups SAM has collaborated with

- American Society of Addiction Medicine
- American Academy of Pediatrics
- National Business Group on Health
- American Academy of Child and Adolescent Psychiatry
- Other leading public health authorities
- Over 30 state affiliates, including:
  - Treatment centers
  - Recovery groups
  - Prevention organizations
  - Law enforcement
  - Leading medical authorities
  - Volunteer citizens
  - Business groups
Cronos CEO: $1.8 billion from Big Tobacco is just a beginning for cannabis industry
Published: Dec 10, 2018 7:48 a.m. ET

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

Smart Approaches to Marijuana (SAM)'s legalization opponent Kevin Sabet may be right: like it or not Big Tobacco is invading cannabis.
We are living in 1918...
Repeating History?

- Dr. Batty’s Asthma Cigarettes
- More Doctors Smoke Camels than any other cigarette!
- Viceroy - Filter the Smoke!
- Scientific Evidence on Effects of Smoking!
Executive Summary

• Today’s marijuana is harmful – often 30 times stronger than marijuana of the past.

• Legalization in the US has had significant costs – hospital visits, workplace productivity, car crashes, secondhand smoke issues, environmental concerns

• Medical marijuana and recreational marijuana can be very different things – one can be a medicine and one is used for intoxication

• Legalization violates UN treaties and goes against the spirit of international cooperation against drugs

• Leading public health authorities oppose legalization

• Legalization will not solve the violence problem – Colombian cartels make billions from legal industries (lumber, mining) and legalization would only enrich cartels
Safer than alcohol?

• Is alcohol legal because it's safe?

• Marijuana’s effects last longer

• Abusers report far more problems at home, work, and school

• People rarely substitute pot for booze—they mix them instead

• Lots of people drink; very few use marijuana—despite what you see on TV
Despite the increasing popularity of using marijuana, it is illegal because its harmful

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

2. International Law
   Marijuana is illegal under the obligations of three int’l treaties, otherwise known as the Single Convention

3. Illegality Important
   Keeping marijuana illegal is a key public health strategy – legal drugs are used far more than illegal ones
SOME Components of marijuana have medicinal qualities but this does not mean all of it does.

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

2. **Cannabidiol**
   - Natural CBD, purified from the plant, exported from the UK, approved for two kinds of rare seizures – Schedule 5

3. **Other drugs on way?**
   - FDA/DEA have allowed research into other marijuana based medications
The false dichotomy: “Legalization OR incarceration?”

People are not in prison for pot; legalization is about making people rich, not social justice.
Three separate issues that often get conflated

1. Penalizing drug users/"decriminalization"
2. Medicinal use of compounds derived from marijuana
3. Legalization of marijuana for "non-medical" use
How did we get here?

https://www.youtube.com/watch?v=g_HcZz1T5uo
Not This...
...But This
Snob Appeal

LA is full of brilliant people. We deliver them pot.
Marijuana delivered | eaze.com
Delivering more joy than dogs & babies combined.

Marijuana delivered | eaze.com
Appeal to youth
Joe Camel Returns?
Marijuana Use is Skyrocketing

Marijuana Users in Millions

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

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

Use and Heavy Use Rising:
42% of Current Users are Daily or Almost Daily Users
Colorado now #1 in the US for first-time use
Youth Use

Regulated markets only increase exposure and promote the normalization of youth marijuana use.

Marijuana use among 12-17 year-olds is rising. Past month alcohol use among 12-17 year-olds is up 13% since 2016 (NSDUH State Estimates, 2016-17).

In Oregon, 37.2% of 8th graders and 49.5% of 11th graders report exposure to online marijuana advertising in the past 30 days. 12-20 year-olds were asked how they obtained their marijuana. This is what they said:

- 52% got it for free
- 32% bought it from a friend
- 7% bought it from a stranger

Average past month marijuana use among youth 12-17 years old:

<table>
<thead>
<tr>
<th></th>
<th>Colorado</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Legalization</td>
<td>15.4%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Post-Legalization</td>
<td>15.9%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
The Vape and Marijuana Industries Are Inextricably Linked

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>James Monsees &amp; Adam Bowen secure funding from angel investors, including Nicholas Pritzker and officially launch their company.</td>
</tr>
<tr>
<td>2010</td>
<td>Newly established Ploom releases their first product based on Monsees &amp; Bowen's original e-cig design using flavored, loose-leaf tobacco pods and a battery-operated heating coil.</td>
</tr>
<tr>
<td>2012</td>
<td>Using the same heating technology, the company releases the first loose-leaf vaporizer. While not yet explicitly marketed as a marijuana vaporizer, this was its primary draw.</td>
</tr>
<tr>
<td>2015</td>
<td>Japan Tobacco acquires Ploom's Model Two and the associated intellectual property with the device and flavored pods.</td>
</tr>
<tr>
<td>2015</td>
<td>In conjunction with the JTI deal, Monsees &amp; Bowen buy back their stake in the company and relaunch as Pax Labs.</td>
</tr>
<tr>
<td>2015</td>
<td>Pax Labs releases their new e-cig, Juul, shortly after announcing $46.7 million in Series C funding from investors.</td>
</tr>
<tr>
<td>2015</td>
<td>In the fall of 2016, Pax Labs unveils the Pax Era; an electronic marijuana vaporizer that uses similar proprietary technology of pre-filled THC pods.</td>
</tr>
<tr>
<td>2016</td>
<td>Juul splits off from Pax Labs and becomes its own entity.</td>
</tr>
<tr>
<td>2017</td>
<td>In the spring of 2018, the FDA launched an investigation into predatory marketing to underage children.</td>
</tr>
</tbody>
</table>
PAX is now explicitly a THC vaporizer company
Silicon Valley start-up, Juul, used savvy social media marketing strategies to promote a trendy image associated with their products. They are currently under investigation by the FDA.
Similar branding, including celebrity endorsements, is used to promote their marijuana-vaporizing product - Pax.
The pod technology used by Pax Labs provides a highly-addictive means of consumption.

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

Some Pax Era pods can be as potent as 80% THC. Amsterdam considered a proposal to classify THC potency higher than 15% as a hard drug.
Other THC vaporizer companies advertise on social media with cartoon characters targeted at ComicCon.
While Juul has global ambitions, they have faced criticism from several countries

<table>
<thead>
<tr>
<th>European Union</th>
<th>Israel</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juul pods contain <strong>3x the legal limit</strong> of nicotine and their sales are currently banned in the EU.</td>
<td>Juul arrived and began sales in May of 2018. Their sales were officially banned by August 2018.</td>
<td>Juul recently decided to pull their flavored pods from stores and restrict them to online sales. However, they did not do the same in Canada and continue to sell flavored pods such as “crème brulee” in stores.</td>
</tr>
</tbody>
</table>
There's a Weed-Infused Wine on the Market

Only 35 calories per glass.

Each glass has only 5mg THC.

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

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

Marijuana-infused wine is now a thing. Officially.
Coming Soon From Molson Coors: Marijuana Beer

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

Corona Owner’s Marijuana Investment Reaps $700 Million

By Glance News
June 25, 2018 1:25 PM
Bloomberg

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

- Creator of Blue Moon
“Smoking is gross,” a high schooler said. “Juuling is really what’s up.”

**THE PROMISE OF VAPING AND THE RISE OF JUUL**

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

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The New York Times

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

British American Tobacco plans to test its new Eclipse tobacco heating device in the United States this year, allowing it to pull ahead of Philip Morris in the world’s biggest vaping market.
The top 10% of the population make up 75% of the alcohol industry’s U.S. sales.

Avg. 10 drinks a day

# of MJ users

Amount Consumed

Source: Colorado Department of Revenue: Market Size and Demand for Marijuana in Colorado
Marijuana has become significantly more potent since the 1960s

Source: Mehmedic et al., 2010
Marijuana is not “just a plant” anymore – derivatives contain up to 98% THC
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

Source: NIDA
Causal Relationship between marijuana and mental illness

Case Report
Suicidal Ideation Induced by Episodic Cannabis Use
Michele Raja¹,² and Antonella Azzoni²

3. Discussion

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

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

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

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

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

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

COMMENT

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

Date: December 19, 2016

Source: University of Bristol

Summary: People who have a greater risk of developing schizophrenia are more likely to try cannabis, according to new research, which also found a causal link between trying the drug and an increased risk of the condition.
These can often present as a “psychotic episode” – which is a relatively sudden worsening of psychotic symptoms over a short time-frame, frequently resulting in hospitalisation.

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

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

TELL YOUR CHILDREN
THE TRUTH ABOUT MARIJUANA, MENTAL ILLNESS, AND VIOLENCE
ALEX BERENSON
The Industry Today

1. **Kid-friendly**: comes in shapes & colors attractive to children, like candy and soda

2. **Potent**: often made w/ concentrates of up to 95% pure THC (joints are ~ 15% THC)

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

4. **Contaminants**: In 2015, CO recalled 100s of thousands of edibles containing banned pesticides

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

Source: Marijuana Business Journal; other media. Icons: Marianna Nardella; Anton Gajosik; Petra Prgomet; Joey Golaw; Creative Stall; Luis Prado; Aha-Soft
COCRANIZED  
BEFF WINE  
& IRON.

RESTORATIVE  
WINE OF COCA.

BACILLCIDE  
FLIXIR.  
FEBRICIDE.

THURBER, WHYLAND & CO., NEW YORK.

RESTORATIVE WINE OF COCA.

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

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

States that legalized marijuana had 25% fewer opioid-related deaths.

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


SAM Smart Approaches to Marijuana preventing another big tobacco
Something doesn’t add up...

In the 2014 JAMA Study:

- The raw data showed that medical marijuana states had higher rates of opioid deaths until the authors introduced four possible reasons.

- The study lumped together highly restricted states with highly permissive states.

- The study left out critical alternative explanations, like expanded Medication Assisted Treatment programs or expanded Naltrexone use.
JAMA Study

- Unpublished data (Tell Your Children, Alex Berenson, 2019) found that this correlation disappears after 2010.

- Journal of Opioid Management (2017) tried to replicate, found that Med MJ laws associated with 22% increase in age-adjusted opioid mortality

- Feb 2018 Addiction editorial: marijuana-stops-opiate connection “very weak.”
Lancet Study

1514 patients completed baseline interview

- 71 withdrew at 3-month follow-up
- 26 withdrew at 12-month follow-up
- 21 died

1396 contacted for 1-year follow-up
- 1235 completed follow-up
- 124 could not be contacted
- 37 refused

- 15 withdrew
- 22 died

1359 contacted for 2-year follow-up
- 1277 completed follow-up
- 79 could not be contacted
- 3 refused

1301 contacted for 3-year follow-up
- 1211 completed follow-up
- 79 could not be contacted
- 11 refused

- 16 withdrew
- 25 died

1260 contacted for 4-year follow-up
- 1217 completed follow-up
- 29 could not be contacted
- 14 refused

19 withdrew
39 died

**Conclusions**

- No evidence that cannabis use improved patient outcomes;
- Those who used cannabis had greater pain and lower self-efficacy in managing pain;
- No evidence that cannabis use reduced pain interference or exerted an opioid-sparing effect.
“Our findings disconfirm the hypothesis that a population-level negative correlation between medical marijuana use and prescription drug harms occurs because medical marijuana users are less likely to use prescription drugs, either medically or nonmedically. Medical marijuana users should be a target population in efforts to combat nonmedical prescription drug use.”
Marijuana use goes hand-in-hand with increased prescription opioid abuse

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

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

Patient Safety in Surgery, 2018

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

Marijuana is often used with other substances.


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


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

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

PROBLEM CANNABIS USE
Greater frequency of cannabis use increases the likelihood of developing problem cannabis use.

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

CANNABIS USE AND ABUSE OF OTHER SUBSTANCES
Cannabis use is likely to increase the risk for developing substance dependence (other than cannabis use disorder).

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

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

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

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

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

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

TO READ THE FULL REPORT AND VIEW RELATED RESOURCES, PLEASE VISIT NATIONALACADEMIES.ORG/CANNABISHEALTHEFFECTS
Guess which drug has gone up in CO?

OPIOID DEATHS HAVE INCREASED, NOT DECREASED, SINCE COLORADO LEGALIZED MARIJUANA FOR MEDICAL USE IN 2000

Source: Colorado Department of Public Health and Environment (CDPHE)
JAMA Psychiatry journal: Marijuana use and addiction has skyrocketed since 2001

Past Year Use

Addiction (Use Disorder)

2001-2002

2012-2013

Source: JAMA Psychiatry. Oct 2015, Prevalence of Marijuana Use Disorders in the United States, Between 2001-2002 and 2012-2013, Deborah S. Hasin, PhD; Tulshi D. Saha, PhD; Bradley T. Kerberge, PhD; Ris. B. Goldstein, PhD, MPH; S. Patricia Chou, PhD; Haitao Zhang, PhD; Jeesun Jung, PhD; Roger P. Pickering, MS; W. June Ruan, MS; Sharon M. Smith, PhD; Gay Huang, MD, PhD; Bridget F. Grant, PhD, PhD
One in four 12th graders would try marijuana, or increase their use of the drug *if marijuana were legalized.*
In the general workforce, marijuana positivity increased 4% from last year while it increased nearly 8% in the safety-sensitive workforce.

Source: Quest Diagnostics (2018)
MARIJUANA RELATED CRIME AND OFFENSES SINCE LEGALIZATION

One hundred three (103) law enforcement agencies reported 6,727 qualifying incidents in 554 public schools during the 2015-16 academic year, from August 1, 2015 through July 31, 2016.

<table>
<thead>
<tr>
<th>Offense</th>
<th>N</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana (#1)</td>
<td>1,561</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Assault</td>
<td>834</td>
<td>12%</td>
<td>36%</td>
</tr>
<tr>
<td>Disorderly Conduct/ Fighting</td>
<td>814</td>
<td>12%</td>
<td>48%</td>
</tr>
<tr>
<td>Public Peace</td>
<td>666</td>
<td>10%</td>
<td>58%</td>
</tr>
<tr>
<td>Dangerous Drugs</td>
<td>420</td>
<td>6%</td>
<td>64%</td>
</tr>
<tr>
<td>Larceny/Theft</td>
<td>341</td>
<td>5%</td>
<td>69%</td>
</tr>
<tr>
<td>Liquor/Alcohol</td>
<td>297</td>
<td>4%</td>
<td>73%</td>
</tr>
<tr>
<td>Trespass</td>
<td>260</td>
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<tr>
<td>Obstruct</td>
<td>206</td>
<td>3%</td>
<td>80%</td>
</tr>
<tr>
<td>Harassing Communication</td>
<td>203</td>
<td>3%</td>
<td>83%</td>
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<tr>
<td>Other/Unclear</td>
<td>194</td>
<td>3%</td>
<td>86%</td>
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<tr>
<td>Weapon Offense</td>
<td>141</td>
<td>2%</td>
<td>88%</td>
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<tr>
<td>Tobacco</td>
<td>127</td>
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<td>90%</td>
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<tr>
<td>Damage Property</td>
<td>120</td>
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<tr>
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<td>93%</td>
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<tr>
<td>Sexual Assault/Offense</td>
<td>76</td>
<td>1%</td>
<td>94%</td>
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<tr>
<td>Warrant</td>
<td>57</td>
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<td>95%</td>
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<tr>
<td>Criminal Mischief</td>
<td>47</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>Runaway/ Missing Person</td>
<td>41</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>Interference with Educ Inst</td>
<td>39</td>
<td>&lt;1%</td>
<td>97%</td>
</tr>
<tr>
<td>Truancy</td>
<td>36</td>
<td>&lt;1%</td>
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<tr>
<td>Burglary</td>
<td>33</td>
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<tr>
<td>Menacing</td>
<td>26</td>
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<td>99%</td>
</tr>
<tr>
<td>Arson</td>
<td>25</td>
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<td>99%</td>
</tr>
<tr>
<td>Robbery</td>
<td>20</td>
<td>&lt;1%</td>
<td>99%</td>
</tr>
<tr>
<td>Curfew</td>
<td>16</td>
<td>&lt;1%</td>
<td>100%</td>
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<tr>
<td>Family/Child Offense</td>
<td>12</td>
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<td>100%</td>
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<tr>
<td>Vehicle Theft</td>
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<td>Fraud/Forgery</td>
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<td>100%</td>
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<tr>
<td>Kidnapping</td>
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<td>&lt;1%</td>
<td>100%</td>
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<tr>
<td>Invasion of Privacy</td>
<td>2</td>
<td>&lt;1%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,727</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Colorado Department of Public Safety, 2017
In CT, estimates of just a few costs outweigh projected revenues by over 90%

Source: SAM study
Current Regulatory Failures

• No Potency Caps
• Black Market (and Cartels)
• Increased Access for Minors
• Pesticides and Contaminants
• Recommended to Pregnant Women
99% THC is already for sale

THC is the active ingredient in marijuana; it is what gets someone “high” and it is extremely powerful and harmful in large doses.
Product Innovation in Delivery Systems

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

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

Product Category Sales Trends

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

CONCENTRATES

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

What percentage of customers ordered them in 2017?

- **GEN Z**
  - 1996–Later
  - 34%

- **MILLENIAL**
  - 1985–1995
  - 19%

- **GEN X**
  - 1965–1984
  - 16%

- **BASy BOOMERS**
  - 1946–1964
  - 15%

What about edibles/drinkables?

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

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

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

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

Growers take advantage of this tracking system very easily.

“One pattern of noncompliance stood out: The much-touted “seed-to-sale” tracking of every marijuana plant has some flaws...

“But plenty of pot still ends up missing. How the METRC system works, by law, is supposed to be a bit of a mystery...

“Within that gray area is where cheaters can list perfectly good marijuana product as too damaged to sell, then sell it anyway.”

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

November 23, 2018

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

Licensees Across Oregon Fail to Stop Sales to Minors
OLCC Marijuana Retailer Minor Decoy Checks Continue
Legalization Means Increased Availability to Children

A 9-Year-Old Accidentally Shared Her Grandpa’s Marijuana Gummies With Her Fifth-Grade Class

Edible marijuana at Hollywood school sends 14-year-old girl to hospital

Hollywood police officer investigates 'Weedos' marijuana incident

One arrested; gummy bears sicken Chula Vista students
States are failing to regulate pesticide use

https://www.wcvb.com/article/5-investigates-what-s-in-your-weed/19581415
States are failing to regulate pesticide use

Pesticides and Pot: What's California Smoking?

An NBC4 I-Team investigation found evidence suggesting that pesticides could be present in a lot of marijuana legally sold in California

By Joel Grover and Matthew Glasser

Published at 10:57 PM PST on Feb 22, 2017 | Updated at 1:37 PM PST on Nov 8, 2017

Steep Hill Labs found 41 out of 44 samples, 93 percent, tested positive for pesticides, at levels high enough that those products would've been banned for sale in some other states that currently regulate the use of pesticides in marijuana products.

"It appears pesticides are very widely used" on California's marijuana crops, said Dr. Don Land, a UC Davis chemistry professor who is Steep Hill's chief scientist. "It was surprising that so many (samples) had so much contamination."
Non-publicized Recalls of Marijuana Products (In CO)

<table>
<thead>
<tr>
<th>Date</th>
<th>Recall Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 16, 2018</td>
<td><strong>Lightshade Labs LLC Voluntarily Recalls Medical and Retail Marijuana</strong></td>
</tr>
<tr>
<td>March 21, 2017</td>
<td><strong>Hemp Bombs Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>March 21, 2017</td>
<td><strong>CBDfx Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>April 16, 2017</td>
<td><strong>Golden Greens Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>April 16, 2017</td>
<td><strong>Hi5 Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>May 16, 2017</td>
<td><strong>Bio Organics Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>August 25, 2017</td>
<td><strong>Viva Naturals Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>August 28, 2017</td>
<td><strong>Rick’s因 Example Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>September 14, 2017</td>
<td><strong>Greencore Voluntarily Recalls CBD Gummies</strong></td>
</tr>
<tr>
<td>September 14, 2017</td>
<td><strong>CannaBliss Voluntarily Recalls CBD Gummies</strong></td>
</tr>
</tbody>
</table>

The rate of black arrests in 2017 was nearly 2x that of white.

Colorado Dept. Public Safety, 2018
Public Arrests Up

**Total on-view arrests in Colorado**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1,074</td>
</tr>
<tr>
<td>2017</td>
<td>1,353</td>
</tr>
</tbody>
</table>

↑ 26%  

*Colorado Dept. Public Safety, 2018*
Disproportionate Arrests Still Happening

Black on-view arrests were 21% more likely than white on-view arrests in 2017

White | Black
--- | ---
18% | 39%

Colorado Dept. Public Safety, 2018
In Colorado, African-Americans were disproportionately arrested without a warrant or previous incident report in 2017.

TOTAL ON-VIEW ARRESTS
IN COLORADO

26%

1,353

1,074

2015

2017

Black on-view arrests were 21% more likely than white on-view arrests in 2017.

Colorado Dept. Public Safety, 2018
Disproportionate Arrests Still Happening

Minorities are still disproportionately targeted for arrests in Colorado since legalization.

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.

DENVER

Colorado Dept. Public Safety, 2018
“We were gaining momentum. But now that's flipped and we're more on the defensive.” – Rep. Dina Titus (D-NV), one of the biggest marijuana supporters in Congress.
A final word from Dr. Nora Volkow in the New England Journal of Medicine:

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

“However, the effects of a drug (legal or illegal) on individual health are determined not only by its pharmacologic properties but also by its availability and social acceptability.

“In this respect, legal drugs (alcohol and tobacco) offer a sobering perspective, accounting for the greatest burden of disease associated with drugs not because they are more dangerous than illegal drugs but because their legal status allows for more widespread exposure.”

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

Drugabuse.gov
LearnaboutSAM.org
MarijuanaReport.org