Lessons Learned from Medical Marijuana Legalization in Other States

Garth Van Meter
VP of Government Affairs, SAM
SAM promotes an evidence-based approach to marijuana policy that prioritizes public health

• SAM takes an evidence-based, scientific approach to marijuana policy that \textit{rejects} the false dichotomy that we must either lock up marijuana users OR legalize pot

• \textbf{We are non-partisan}, and work with Democrats, Republicans, and independents

• \textbf{Board members and supporters} include:
  - American Society of Addiction Medicine
  - American Academy of Pediatrics
  - American Academy of Child and Adolescent Psychiatry
  - Over 30 state affiliates
Outline

1. Is Marijuana Medicine?
2. What Happens When A State Legalizes?
3. Current Regulatory Failures
4. Marijuana and Opioids
5. Conclusions
Three separate issues that often get conflated

1. Penalizing drug users/"decriminalization"
2. Medicinal use of compounds derived from marijuana/other drugs
3. Legalization of marijuana or other drugs for "non-medical" use
<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
<th>MAYBE</th>
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<tbody>
<tr>
<td>smoked or ingested raw marijuana is <strong>not</strong> medicine</td>
<td>there are marijuana-based pills available to treat illness, and other such medications coming soon</td>
<td>additional research is ongoing into the medical properties of marijuana-derived compounds</td>
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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”
What can’t medical marijuana do?

- Headaches
- Writers’ Cramp
- Brain Cancer

Dr. Sanjay Gupta: It’s time for a medical marijuana revolution

By Dr. Sanjay Gupta, Chief Medical Correspondent

© Updated 9:27 AM ET, Mon April 20, 2015
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 life-threatening 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

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.
Approved Cannabinoid Products

- **Marinol® and its generics**: synthetic THC in sesame oil; schedule III; nausea/vomiting in cancer chemotherapy and AIDS wasting;
- **Cesamet® (nabilone)**: a synthetic THC analogue; schedule II;
- **Epidiolex® (cannabidiol)**: used to treat Lennox-Gastaut Syndrome, Dravet Syndrome
- **Sativex®**: a botanical extract, 1:1 CBD to THC; approved in 28 countries (ex US) for spasticity in MS.
Products in Development

• **Epidiolex®** (GW Pharma): Dravet Syndrome (DS)/ Lennox Gastaut Syndrome (LGS) (2 studies in each, FDA APPROVAL
  ➢ also Tuberous Sclerosis Complex (TSC);
• **Synthetic CBD** (Insys): DS/ LGS (Phase 1b/2a), Infantile Spasms;
• **Synthetic CBD** (transdermal) (Zynerba): complex partial seizures; Phase 1.
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

<table>
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<th>CURRENT SITUATION</th>
<th>SOLUTION</th>
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<td>• 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.</td>
<td>• To address this problem in the long-term, the United States should expand and accelerate current research so that every patient who might benefit from CBD can obtain it.</td>
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The Cycle of “Tax and Regulate”

- **Recreational Marijuana Legalization**
- **Medical Marijuana Legalization**
- **More Locations (Grow Industry)**
- **Relax Taxes and Regs**
- **Adulterated Product**
- **Cover for Black Market**
- **Increased Supply**
- **Lower Prices**
- **Black market undercuts**
June 26, 2018
Medical Marijuana Passes

Two days later…

June 28, 2018
Recreational Ballot Initiative Announced
Pot Shops Lead to Increased Youth Use

• Youth use in Oregon has increased in counties with more medical marijuana dispensaries between 2006-2015.
• “this relationship was partially attributable to perceived norms favorable towards marijuana use.”
• Oregon legalized recreational marijuana in 2014, but has had a much longer medical marijuana program.
• The leaked Oregon State Police report from January 2017 revealed that much of the marijuana grown through their medical program is being diverted to the black market.
Pot Shops Lead to More Crime

- Pot shops have heightened security to protect the immensely valuable product
- An NIH-funded study of crime in Denver shows increased property crime in the neighborhoods surrounding pot shops
- “Over time, as marijuana grows in popularity, densities of marijuana outlets may increase, resulting in higher crime…There are definitely negative public health consequences [of legalization], including increased crime.” – Study lead author Bridget Freisthler
Pot Shops Don’t Reduce Alcohol Consumption

- Marijuana industry analysis of Canadian market projects marijuana legalization would lower alcohol sales by less than 1%

- Contradicts industry assertions that people will switch from alcohol to marijuana

- Data shows that people use both, often together, leading to much higher levels of impairment

- Telling quote: “Our focus on these younger consumers reflects our belief that the experimenter of today is the leading consumer of tomorrow,” – Cowen and Company report by marijuana industry analyst Vivian Azer
Marijuana-impaired driving fatalities have more than doubled

One in five drivers are under the influence of marijuana. That is up from one in ten prior to legalization.

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

Drivers who admit to driving within three hours of using marijuana are also more likely to drink and drive, not wear a seat belt, and binge drink.
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**

Sources: National Academy of Sciences (2016); Meier et al (2012)
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Current Regulatory Failures

- Black Market (and Cartels)
- Increased Access for Minors
- Pesticides and Contaminants
- Recommended to Pregnant Women
The Black Market Has Gotten Worse

Foreign cartels embrace home-grown marijuana in pot-legal states

Foreign gangs are finding that black-market marijuana is profitable even in states that have legalized cannabis.

“Seed-to-Sale” Tracking Has Many Loopholes

Missing marijuana: Weed disappearing from licensed dispensaries, not all cheaters get caught

POSTED 8:51 PM, MAY 1, 2017, BY CHRISS HALSNE, UPDATED AT 09:52PM, MAY 1, 2017

“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.”

News Release

Oregon Liquor Control Commission
9079 SE McLoughlin Blvd., Portland, OR 97222-7355
1-800-452-6522

For more information:
Mark Pettinger, Marijuana Program Spokesperson, (503) 872-5115
www.marijuana.oregon.gov

January 10, 2018

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

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 Chūla Vista students
States are failing to regulate pesticide use

Contaminated marijuana still reaching consumers in Oregon

5 Investigates put the purity of medical marijuana to the test, working with samples bought off the shelves. Investigative reporter Kathy Curran examined what’s in your weed.

Gallery: Cannabis product testing for pesticides

Updated Jun 18, 2017: Posted Jun 17, 2017
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)

2018
- February 16, 2018 - Lightshade Labs LLC Voluntarily Recalls Medical and Retail Marijuana Due to Presence of Yeast/Mold in Pre-Roll Products

2017
- December 5, 2017 - Infuzionz LLC Voluntarily Recalls Marijuana Product Due to Non-Food Grade Ingredients
- October 26, 2017 - Little Brown House Dispensary LLC/Delta-9 Delights LLC Voluntarily Recalls Marijuana and Marijuana Products Due to Pesticide Residues
- August 21, 2017 - Left Bank LLC Voluntarily Recalls Marijuana and Marijuana Products Due to Non-Food Grade Ingredients
- August 10, 2017 - Kirke LLC/Metro Denver Telluride Health Center LLC Voluntarily Recalls Medical Marijuana Due to Pesticide Residues
- July 27, 2017 - Buddies Wellness LLC Voluntarily Recalls Medical Marijuana Due to Powdery Mildew and Mite Contamination
- July 24, 2017 - Buddies Wellness LLC/La Bodega Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- April 14, 2017 - Mountain Medicines Recalls Medical Marijuana Infused Products due to Pesticide Residues
- April 7, 2017 - Information Regarding Cannabis & CBD Products Sold or Manufactured in Denver
- April 3, 2017 - Herbal Options LLC/Rocky Mountain Ways LLC Voluntarily Recalls Medical Marijuana and Marijuana Concentrates due to Pesticide Residues
- January 19, 2017 - GMC LLC Voluntarily Recalls Medical and Recreational Marijuana and Products Due to Pesticide Residues

2016
- November 9, 2016 - Medicinal Wellness Center LLC Voluntarily Recalls Marijuana and Concentrates due to Pesticide Residues
- October 24, 2016 - Tree of Wellness Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- August 22, 2016 - La Conte's Clone Bar and Dispensary Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 21, 2016 - Wash Park Boutique LLC Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 14, 2016 - Big Toe Voluntarily Recalls Marijuana and Products Due to Pesticide Residues
- June 8, 2016 - The Tea Pot Voluntarily Recalls Medical Marijuana and Products Due to Pesticide Residues
- June 6, 2016 - Pineapple Exchange Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- June 1, 2016 - JYV Enterprises Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- May 13, 2016 - Avicenna Products Voluntarily Recalls Medical Marijuana Products Due to Pesticide Residues
- February 11, 2016 - CO Foods Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- January 29, 2016 - Caregivers for Life Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- January 27, 2016 - Organa Labs Voluntarily Recalls Marijuana Products Due to Pesticide Residues

2015
- December 30, 2015 - Mountain High Suckers Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- December 21, 2015 - EdiPure Recalls Additional Marijuana Products Due to Pesticide Residues
- December 16, 2015 - TreeTric Voluntarily Recalls Marijuana Products Due to Pesticide Residues
- December 11, 2015 - Advanced Medical Alternatives Recalls Additional Marijuana Products Due to Pesticide Residues
- December 8, 2015 - EdiPure Recalls Additional Marijuana Products Due to Pesticide Residues
- December 3, 2015 - Advanced Medical Alternatives Recalls Marijuana Products Due to Pesticide Residues
- December 1, 2015 - EdiPure Recalls Marijuana Products Due to Pesticide Residues
- November 18, 2015 - Gaia's Garden Recalls Additional Marijuana Products Due to Pesticide Residues
- November 17, 2015 - Lab710 Concentrates Recalls Marijuana Products Due to Pesticide Residues
- November 3, 2015 - Gaia's Garden Recalls Marijuana Products Due to Possible Pesticide Residues
- October 30, 2015 - Green Cross Recalls Marijuana Products Due to Possible Pesticide Residues
- October 21, 2015 - Nature's Cure Recalls Marijuana Products Due to Possible Pesticide Residues
- October 14, 2015 - Two Denver Cultivation Facilities Recalls Marijuana Products Due to Possible Pesticide Residues
- September 25, 2015 - Consumer Advisory Issued for Autopilot Capsules Manufactured by Rx Green
- September 19, 2015 - Two Denver Businesses Recall Marijuana Products Due to Possible Pesticide Residue
- September 10, 2015 - Mahatma Concentrates Recalls Marijuana Product Due to Possible Pesticide Residues
- July 27, 2015 - Consumer Advisory Issued for Nature's Herbs Olive Oil
- July 17, 2015 - Advisory: The Growing Kitchen Issues Recall of Mary Mint Tincture

Oregon Secretary of State Issues Scathing Audit of Marijuana Regulations

3% of pot shops have been inspected.

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

2019 OR Secretary of State
70% of marijuana dispensaries in Colorado recommended THC products to pregnant women.

- Medical dispensaries were more likely to recommend marijuana products than retail dispensaries: 83% and 60% respectively.

- Marijuana’s effects on developing babies could include low birth weight, and other developmental problems – including fatal anencephaly.

Source: Denver Health (2018)
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Why talk POT During an opiate epidemic?
The Marijuana Industry Sees a Business Opportunity

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

October 2014 Medical Cannabis Laws & Opioid Analgesic Overdose Mortality in the United States, 1999-2010, Marcus A. Bachhuber et. al. (JAMA intern Med.)

JAMA Study

• 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

• June 2019 study completely debunks: finds a 23% increase after 2010.

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

Source: Colorado Department of Public Health and Environment (CDPHE)
Marijuana use goes hand-in-hand with increased prescription opioid abuse

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

Opioids and Prior Marijuana Use

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

- Marijuana -> Heroin: 92%
- Marijuana -> Painkillers: 57%
- Painkillers -> Heroin: 47%
- Marijuana -> Painkillers -> Heroin: 36%
- Painkillers -> Marijuana -> Heroin: 6%

Source: National Survey on Drug Use and Health (NSDUH, 2013 & 2014)
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• States are not effectively regulating medical marijuana now.

• No state has successfully put a limit on potency.

• Increased marijuana access and use is harming those who need help and hope to recover from opioid addiction.

• No matter how much you oppose recreational marijuana, once you invite the marijuana industry in, they will keep trying to increase their market share, grow customer base, and increase customer use.
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.”

Source:
SAM: Smart Approaches to Marijuana
preventing another big tobacco