Marijuana: Facts and Factoids

Ellen A. Ovson, M.D., F.A.S.A.M.
Medical Director
Bradford Health Services, Madison, Alabama
I wish I could show you what a small marihuana cigarette can do to one of our degenerate Spanish-speaking residents. That’s why our problem is so great; the greatest percentage of our population is composed of Spanish-speaking persons, most of who are low mentally, because of social and racial conditions.

We know it as the ordinary hempweed which can be grown in any backyard in any State in the Union. Its use as a stimulant or narcotic is, however, of recent date. It was introduced about 10 years ago by Mexican peddlers in the form of cigarettes. Its use has spread like wildfire and is associated with crime in its most vicious aspects.
Billionaire George Soros behind major push for marijuana legalization

“Through a network of nonprofit groups, Mr. Soros has spent at least $80 million on the legalization effort since 1994, when he diverted a portion of his foundation’s funds to organizations exploring alternative drug policies, according to tax filings,” Riddell wrote.
Overview of Presentation

- History of medical marijuana use
- Crossover to recreational marijuana use
- The endocannabinoid system
- Known risks of marijuana use
- Potential benefits of marijuana use
- Barriers to legitimate cannabinoid research
- Synthetic cannabinoids
- ASAM Policy Statement; MASA Policy Statement
- The Colorado Initiative
- Experiences in Washington State
- Recent Medication-Assistance Research
Cannabis sativa used for 5 millenia medically, recreationally, and spiritually
First medical use in Central Asia, then China and India
Between 2000 and 1400 B.C., travelled from India to Persia, Egypt, and Syria
Greeks and Romans valued the plant for its rope-like qualities as hemp.
Medieval physician Avicenna included it in his formulary, and Europeans of the era ate its seeds, as well as made its fibers into paper.
Declaration of Independence was purported to have been drafted on hemp-based paper.
History of Medical Marijuana

Eastern medicine met West when Irish physician W.B. O’Shaughnessy working in Calcutta in the 1830s wrote a paper extolling “Indian Hemp”.

He recommended cannabis for pain, vomiting, convulsions, and spasticity.

In 1854, medical use of cannabis received official legitimacy by its listing in the U.S. Dispensary.

Medical bags of the 19th century contained cannabis tinctures and extracts for ailments ranging from insomnia and headaches to anorexia and sexual dysfunction.
ONE NIGHT
TRADE MARK
COUGH SYRUP

EACH OUNCE CONTAINS

ALCOHOL, (less than 1%) .................. 4 1/4 m
CANNABIS INDICA, F.E. .................. 4 1/2 m
CHLOROFORM .................. 2 3/5 m
MORPHIA, SULPH  .................. 1/24 gr

SKILLFULLY COMBINED WITH A NUMBER
OF OTHER INGREDIENTS

DIRECTIONS
DOSE: One half teaspoonful three
May refer to 2 out of 3 cannabinoid forms: (1) endocannabinoids, arachidonic acid derivatives such as anandamide produced in human tissue, (2) phytocannabinoids, the hundreds of compounds in *C. Sativa*, including THC and cannabidiol, and (3) synthetic cannabinoids produced in laboratories.

For purposes of this presentation, refer to (2), botanical cannabinoids.
Delta 9- Tetrahydrocannabinol is the major psychoactive component; first isolated and purified in 1965.

More than 400 chemicals isolated from the hemp plant, of which approximately 60 are cannabinoids.

Neuronal cannabinoid receptors were identified based on the complex properties of THC.

Endogenous ligands, the endocannabinoids (i.e., naturally occurring cannabinoids in the brain) include anandamide, noladin ether, virodhamin and N-arachidonoyldopamine.
Two known cannabinoid receptors, CB1 (primarily in the brain) and CB2 (primarily in the periphery) have been identified. Receptor agonists and antagonists have been developed based on this identification. Sativex, a 1:1 mixture of THC and cannabidiol, has been approved in Canada, as has Cannador, a mixed ratio of the two, in Europe. Synthetic THC, Marinol, is approved in the U.S., as is nabilone, which mimics THC with minimal psychoactive effects. Both are Schedule III and are indicated for intractable nausea, anorexia, and neuropathic pain.
Recreational Use Blending into Medical Use

For recreational users, access to marijuana has always been about getting intoxicated.

In the 21st century, marijuana is the most widely abused drug in the world with U.N. estimates of 190 million users in 2007.

Smoking is preferred route due to rapid onset and reduced negative side effects, probably due to other constituents in the smoke.

Whereas medical users’ goal is symptom relief, the recreational user is getting high.
Recreational Use Blending into Medical Use

- Boundaries between medical and recreational are blurred. Study in Canada of 104 HIV+ patients, 43% reported medical use in past year. Of these, 2/3 endorsed medical reasons (appetite stimulation, sleep, antiemesis, anxiety), but a full 80% used recreationally.
- Another Canadian study showed typical medical use followed recreational use, usually long-term and heavy.
- In California, medical users preferred smoking due to reduced side effects of oral delivery.
- Smoking may confer the benefit of receiving both THC and cannabidiol, which act synergistically to increase benefits while reducing side effects.
The Endocannabinoid System

Just as opiates have central nervous system counterparts (endorphins), cannabinoids have anandamide.

There are 2 cannabis receptors: CB1 primarily concentrated in the central nervous system and CB2 in the periphery, where their activity is intrinsic to cellular and humoral responses related to neuroinflammation and pain, as well as GI functions of digestion and host defense.

CB1 is responsible for mood, cognition, short-term memory processing, attention, and tracking behaviors. Hypothalalmic stimulation causes the “munchies”.
CB1 receptors also are responsible for the stimulation of the reward center, which may lead to dependence.

CB1 receptors also may be responsible for analgesia via the dorsal spinothalamic tracts.
Natural Cannabinoids

- Composed of > 400 compounds
- >85 compounds are cannabinoids
Cannabinoid Receptors

**CB1 receptor**
- Psychoactive effects
- In brain and spinal cord (CNS)

**CB2 receptor**
- Immune cells outside CNS
- Immune function and inflammation

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Cannabis Effects

Psychoactive

- Euphoria
- Coordination
- Anxiety
- Sensation of slowed time
- Cognitive
- Social withdrawal
- Psychosis

Non-psychoactive

- ↓ Nausea
- ↑ Appetite
- ↓ Pain

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Cannabis Effects, cont.

Chronic use leads to:

**Tolerance**

**Withdrawal symptoms when stopped**

- Irritability
- Anxiety
- ↓ Appetite
- Insomnia
- Restlessness
- Dysphoria

➢ Peak ~3-4 days, resolves after ~7 days
Risks of Cannabis Use

- Early onset use increases risk of dependence.
- Heavy use makes users “stupid and lazy” (DuPont).
- Early heavy use may result in permanent drop in IQ of 10 points.
- Use may lead to psychosis, some permanent.
- In already diagnosed schizophrenics, ongoing use of marijuana predicts a rockier course.
- Early onset heavy use associated with working memory deficits, reduced attention, reduced processing speed, anhedonia, abnormal social behavior, and susceptibility to mood and anxiety disorders.
Risks of Cannabis Use

Previous use of alcohol, cigarettes, and marijuana and subsequent abuse of prescription opioids in young adults.

Fiellin LE, Tetrault JM, Becker WC, Fiellin DA, Hoff RA.
PMID: 23332479 [PubMed - indexed for MEDLINE]
Related citations

Previous alcohol, cigarette, and marijuana use were each associated with current abuse of prescription opioids in 18-25-year-old men, but only marijuana use was associated with subsequent abuse of prescription opioids in young women. Prevention efforts targeting early substance abuse may help to curb the abuse of prescription opioids.
Risks of Cannabis Use


Proenkephalin mediates the enduring effects of adolescent cannabis exposure associated with adult opiate vulnerability.

These data establish a direct association between THC-induced NAcsh Penk upregulation and heroin SA and indicate that epigenetic dysregulation of Penk underlies the long-term effects of THC.

**Tomasiewicz HC, Jacobs MM, Wilkinson MB, Wilson SP, Nestler EJ, Hurd YL.**

Fishburg Department of Neuroscience, Mount Sinai School of Medicine, New York, New York, USA.
Risks of Cannabis Use

Risky cannabis use is associated with alexithymia, frontal lobe dysfunction, and impulsivity in young adults.

In Colorado since mid-2009 when medical marijuana became commercially available, the proportion of drivers in a fatal MVA who were marijuana-positive rose, whereas those who were negative didn’t.

Magnetic resonance spectroscopy has demonstrated significant neurotoxicity due to marijuana.
DRUGGED DRIVING

Car accidents are a leading cause of death and injury among young people, and alcohol, drugs, or some combination are frequently a contributor to those accidents. Large numbers of U.S. high school (HS) seniors and college students put themselves and others at great risk of harm by driving after using illicit drugs or drinking alcohol; they also put themselves at risk by riding in a vehicle whose driver is intoxicated.

WARNING
Acute marijuana use can impair driving by affecting critical thinking and motor skills.

32,000,000 people drove after drug or alcohol use in 2012
The highest rate was among 18- to 25-year-olds.

3% 22% 12%
12-17 18-25 20 or Older
Impaired Driving by Age

Driving after marijuana use surpasses drunk driving
College and HS seniors who drove or rode with a driver after marijuana use

ALCOHOL MARIJUANA
7% 31%
16% 45%
6% 32%
15% 20%

College Students
Nearly 1 in 3 drove after marijuana use and nearly 1 in 2 rode with a driver who had been using.

HS Seniors
1 in 8 drove after marijuana use and
1 in 5 rode with a driver who had been using.

2X HS seniors who smoke marijuana are 2X more likely to receive a ticket
and 65% more likely to get into an accident than those who don't smoke.

65%

2X 1 in 3 In 2009, 1 in 3 fatally injured drivers tested positive for drugs.

In 2009, 1 in 3 fatally injured drivers tested positive for drugs.

Harman & Huertas, 2012; Jessor et al., 2009; SAMHSA, NDSU; Whitehill et al., 2014; O’Malley & Johnston, 2013.

* Drug test results were among drivers tested. Traffic Safety Facts. Drug involvement of Fatally Injured Drivers, 2010.
Edibles under attack in Colorado
Student Fell to Death After Eating Pot Cookie
DENVER April 2, 2014 (AP)
By SADIE GURMAN Associated Press

A Wyoming college student visiting Denver on spring break jumped to his death after eating a marijuana cookie that his friend legally purchased in one of Colorado’s recreational pot shops authorities said Wednesday.

An autopsy report lists marijuana intoxication as a "significant contributing factor" in the death of 19-year-old Levy Thamba Pongi, a native of the Republic of Congo who fell from a motel balcony on March 11.

It marked the first time the Denver medical examiner's office has listed a marijuana edible as a contributor to a death, said Michelle Weiss-Samaras, a spokeswoman for the office.

"We have not had that," she said.

Investigators believe Pongi and his friends came to Colorado to try marijuana, Weiss-Samaras said.

The friends told investigators that Pongi ate the cookie and "exhibited hostile behavior" that included pulling things off walls and speaking erratically, the autopsy report said.

Attempts by the three friends to calm Pongi seemed to work until he went outside and jumped over the balcony railing, according to the report.

Denver police ruled the death an accident but said their investigation remains open.

Colorado law bans the sale of recreational marijuana products to people under 21. It is also illegal for those under 21 to possess marijuana, and adults can be charged with a felony for giving it to someone under the legal age.

Authorities said one of Pongi's friends was old enough to buy the cookie from a pot shop. It was unclear whether the friend might face charges.

The medical examiner's office had Pongi's body tested for at least 250 different substances, including bath salts and synthetic marijuana, which are known to cause strange behavior. His blood tested positive only for THC, the psychoactive ingredient in marijuana, according to the report.

One of Pongi's friends also tried the cookie but stopped after feeling sick, Weiss-Samaras said.

The marijuana concentration in Pongi's blood was 7.2 nanograms of active THC per milliliter of blood.

Colorado law says juries can assume someone is driving while impaired by marijuana if their blood contains more than 5 nanograms per milliliter of the chemical.

Officials at Northwest College in Powell, Wyo., say Pongi started taking classes as an exchange student in January. He was studying engineering.

"The Northwest College campus community continues to grieve after Levy's death," the college said in a statement.

"All of us were deeply saddened by this tragic incident and feel for his family."
Potential Benefits of Marijuana

- At specific neuroreceptors, cannabis has beneficial effects.
- Dronabinol and nabilone are the only FDA-approved cannabinoids for intractable nausea, but are limited in their usefulness by delayed onset and clouded sensorium.
- Cannabidiol, the other major component of botanical cannabis, has no psychoactivity and may mitigate the noxious effects of unopposed THC.
- Cannabidiol also demonstrates merit as an anxiolytic and antipsychotic.
- Sativex, approved in Canada, is an oral spray which combines both cannabinoids.
Barriers to Legitimate Cannabinoid Research

After nearly a century of use as a pharmaceutical, cannabis became at first heavily taxed, then banned in 1970.

Only federally-authorized source of marijuana was a strain grown at the University of Mississippi.

Three federal agencies (DEA, NIDA, and FDA) are resistant to research for political reasons, concentrating on risk rather than potential benefits.
Antiemetic: Both Marinol and nabilone (Cesemet) indicated for intractable nausea and vomiting.

Appetite Stimulation: Known side effect of smoked marijuana, “the munchies”

Cannabinoid antagonists have been developed for weight reduction, although side effects have precluded their approval in the U.S.

Anticonvulsant effect: First demonstrated in children with intractable seizures in the 1940s; cannabidiol has potential as anticonvulsant.
Neurologic and Movement Disorders: Cannabinoids, particularly CB2 agonists, have been demonstrated to reduce spasticity, alleviate pain, and improve sleep in MS patients.

Analgesia: Both CB1 and CB2 have a role in alleviating pain. CB2 agonists of particular interest in relieving inflammatory pain; CB1 agonists, for central pain, especially in combination with opioids.

Glaucoma: CB1 receptors play a role in reducing intraocular pressure; to date, however, no CB1 agonist available.
Synthetic Marijuana
SC for Recreational Use

- Research chemicals
- Not approved for humans
- Full CB$_1$ agonist vs. partial agonist
- Potent (dose may be < 1mg)
- Urinary metabolite excretion
  - Not readily detectable
SC Pharmacology

100+ SCs developed for research over 40 yrs

**JWH-compounds** (Aminoalkylindoles)

**CP-compounds** (Cyclohexylphenols)

**Classical cannabinoids** (Dibenzopyrans)

**Fatty Acid Amide**
100+ SCs developed for research over 40 yrs

**JWH-compounds** (Aminoalkylindoles)
- JWH-018
- JWH-073

**CP-compounds** (Cyclohexylphenols)
- CP-47,497
- CP-55,940
- Cannabicyclohexanol

**Classical cannabinoids** (Dibenzopyrans)
- HU-210
- HU-243

**Fatty Acid Amide**
- Oleamide

(ECMDDA, 2009)
Spice: SC Commercial Product

- Spice
- K2
- Red magic
- Blueberry
- Zombie
- Black Mamba

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SC Product Marketing

♦ Marketed as similar to cannabis:
  ♦ Relaxation
  ♦ Sociability
  ♦ Anxiolytic

♦ Novelty herbal incense

♦ “Not for human consumption”

http://buyk2spice.net
SC Products, cont.

- SC sprayed on inert substance
- No dose control
- $30-40 per 3gm
- No age limit
- Recently restricted
Global and U.S. Trends

2006   Available in Europe

2008   Japan forensic analysis: 5 SCs

2009   EU Survey: 21/30 countries with Spice

US forensics: 15 SC-containing samples

2010   US forensics: 2977 SC-containing samples

(ECMDDA, 2009; Uchiyama 2010; DEA, 2013)
Global and U.S. Trends, cont.

2011  Internet survey of SC users
- 13 countries; 42 of 50 U.S. states
- 55% past month use

2011  Virginia survey of adult cannabis users
- 50% lifetime SC product use
- 25% past month use

2011-12  U.S. 12th graders: 11% past yr use, M > F
- 8% past yr use 2013

(Vandrey, 2011; Johnston, 2013; 2014; Gunderson, 2013)
U.S. Medical Recognition

Calls to U.S. poison control centers

- 2009: 13
- 2010: ~2900
- 2011: ~7000
- 2012: ~5200

11,406 ER visits in 2010

Predominantly young adult males

(Bronstein, 2009; Wehrman, 2010; AAPCC, 2012; SAMHSA, 2012; CDC 2013)
Why is it Popular?

Non-treatment seeking anecdotal data:

- Curiosity
- Cannabis-like effect
- Relaxation
- A friend was using it
- Pass drug test
- Often used with other drugs
  - THC cross-tolerance?

(Psychonaut, 2009; Vandrey, 2011; Gunderson, 2012; 2013)
Adverse Subjective Effects

Non-treatment seeking anecdotal data:

• Trouble thinking clearly
• Headache
• Dry mouth
• Anxiety
• Palpitations
• Lightheaded
• Paranoid

(Psychonaut, 2009; Vandrey, 2011; Gunderson, 2013)
Acute Toxicity

Anecdotal cases, SC confirmation erratic

Neuropsychiatric

- Agitation
- Anxiety
- Psychosis
- Confusion
- Somnolence

- Dilated pupils
- Tremor
- Dependence
- Ischemic stroke
- Suicidality
Acute Toxicity, cont.

**Cardiovascular**
- Tachycardia
- Hypertension
- Chest pain
- Myocardial infarction

**Renal**
- Acute renal failure

**Gastrointestinal**
- Nausea
- Vomiting

**Metabolic/electrolyte**
- Hypokalemia
- Hyperglycemia
Acute Toxicity, cont.

Anecdotal management: primarily supportive
• Verbal reassurance
• Benzodiazepines
• Cardiovascular monitoring
• Laboratory testing
• Hydration, anti-emetics if indicated

Most Sx appear self-limited, course may be severe
SC Conclusions

• SC product use recently expanded
• Young male predominance
• Possible cannabis substitute
• Neuropsychiatric and other medical AE’s
Figure 1. Past Year Marijuana Use and Perceived Risk of Harm of Occasional Marijuana Use Among 12th Graders, 1975-2010.
Summary Policy Statement of the American Society of Addiction Medicine
Public Policy Statement on Marijuana, Cannabinoids and Legalization
Adoption Date: September 21, 2015

Public Policy Statement on Marijuana, Cannabinoids and Legalization

In light of the evolving legal landscape surrounding cannabis in the United States, which is giving rise to increased availability and use of cannabis and cannabis products, ASAM’s viewpoint is that it is imperative that Americans promote and adopt public policies that protect public health and safety as well as protect the integrity of our nation’s pharmaceutical approval process, which is grounded in well-designed and executed clinical research.
Currently, the legalization of cannabis in some states but not others provides a unique opportunity for a thorough investigation into the societal and public health impact of broader cannabis use. Such research is critical to inform other jurisdictions in how they can best protect and promote public health as they consider the legal status of marijuana use.
Subject: The Medical Association of the state of Alabama released a policy statement this week opposing the use of marijuana and marijuana based products outside the FDA regulatory process.

Dr. Buddy Smith, the President of MASA states the following,

"Given these bedrocks of the medical profession, the Medical Association cannot support the expansion or legalization, whether by legislation or ballot initiative, of marijuana or marijuana products in any form that have not received the same FDA approval as other medicinal compounds. Taking any position otherwise would not be based on scientific evidence and could unnecessarily place patients at risk.”
Risky Business: Colorado’s Impact on Adolescent Drug Use
Learning Objectives

- Understand Colorado’s Amendment 64 and the current climate in Colorado
- Understand common myths surrounding marijuana use
- Understand impact of these issues on parental and adolescent attitude and use
Dr. Wayne Hall, Director of the Centre for Youth Substance Abuse Research-University of Queensland (Australia) just completed a 20-year study on the long-term effects of marijuana use. Among his findings...

- 1-in-6 adolescents who smoke marijuana will become addicted
- Regular marijuana use doubles the risk of psychotic disorders, including schizophrenia
- Drinking after smoking marijuana doubles the risk of car accident
- Marijuana users do worse in school; heavy use appears to impair intellectual development.

Dr. Hall states

“If marijuana isn’t addictive, then neither is heroin.”
Colorado Amendment 64

- providing for the regulation of marijuana;
- permitting a person twenty-one years of age or older to consume or possess limited amounts of marijuana (1 oz or less, 6 plants or less with 3 or fewer being mature);
- providing for the licensing of cultivation facilities, product manufacturing facilities, testing facilities, and retail stores;
- permitting local governments to regulate or prohibit such facilities;
- requiring the general assembly to enact an excise tax to be levied upon wholesale sales of marijuana;
- requiring that the first $40 million in revenue raised annually by such tax be credited to the public school capital construction assistance fund; and
- requiring the general assembly to enact legislation governing the cultivation, processing, and sale of industrial hemp.
Amendment 64 Does Not . . .

- Allow for adolescents to purchase, possess or smoke marijuana
- Allow for driving under the influence of marijuana
- Allow for individuals to arrive at their workplace or school high on marijuana
t (“employers shall not be compelled to accommodate use”)
- Allow individuals to walk the streets smoking (private property)
- Force municipalities to license dispensaries; Mayor of each city can accept or deny license requests
Other areas of concern...

- Federal government still considers it illegal
- Banks don’t want the money (cash business, dispensaries close at 7:00pm)
- DUI detection is difficult to enforce
- Street sales, outgoing marijuana traffic from Colorado
Current Climate
(Denver and Boulder)

Grow-houses

Weedmaps.com (website and mobile app)

Dispensaries and associated business scattered throughout business districts

136 licensed as of January 1, 2014 (and set to open sometime in 2014)

Illusions Art Gallery

420 Tour
Final Product
Researchers have identified over 70 unique cannabinoids within the cannabis plant, many of which interact with the human endocannabinoid system using cannabinoid receptors found throughout our bodies. Some cannabinoids bind more selectively to certain receptors and are more specific for desired medical usage.

**AILMENTS**

- Reduces Pain
- Suppresses Appetite / Helps with Weight Loss
- Kills or Slows Bacterial Growth
- Reduces Blood Sugar Levels
- Reduces Vomiting and Nausea
- Reduces Seizures and Epilepsy
- Treats Fungal Infections
- Reduces Inflammation
- Aids Sleep
- Reduces Risk of Artery Blockages
- Inhibits Cell Growth in Tumors / Cancer Cells
- Treats Postpartum Depression
- Transplanting Used to Manage Psychosis
- Suppresses Muscle Spasms
- Relieves Anxiety
- Stimulates Appetite
- Protects Bone Growth
- Reduces Function in the Immune System
- Reduces Constipation in the Small Intestines
- Protects Nervous System Degeneration

**CANNABINOIDS**
Paraphernalia as Art
The 420 Tour
Marijuana Myths

**Myth 1:** Marijuana is harmless and non-addictive

**Reality:** 1 in 10 adults and 1 in 6 adolescents who try marijuana will become addicted (withdrawal symptoms include anxiety, irritability, insomnia, appetite disturbances, and depression). The adolescent brain is especially susceptible to marijuana use.
Myth 2: Smoked or eaten marijuana is medicine

Reality: Marijuana has medicinal properties but we don’t need to smoke or eat it to receive the potential benefits (We don’t smoke opium to receive the medicinal benefits of Morphine).
Myth 3: Countless people are behind bars for smoking marijuana

Reality: Countless people are not behind bars for smoking marijuana

- Only 0.4% of prisoners with no prior offenses are in jail for marijuana possession
- 99.8% of Federal prisoners sentenced for drug offenses were incarcerated for drug trafficking
- The risk of arrest for each joint smoked is 1 for every 12,000 joints.
Myth 4: The legality of alcohol and tobacco strengthens the case for marijuana legalization

Reality: Should alcohol and tobacco really be the model? Use of both alcohol and tobacco are higher than the rate of use of marijuana (with both legalized), and these are industries that promote use and target young people in advertising.
Myth 5: Legal marijuana will solve the government’s budgetary problems

Reality: For every $1 gained from alcohol and tobacco tax revenues, $10 is lost in legal, health, social, and regulatory costs

Urban Institute and Brookings Institute, 2012; Tax Policy Center, 2008
Effects on Parental and Adolescent Attitudes Regarding Use

Marijuana is one of two substances that some parents see as “the least of the evils”

Some parents feel conflicted and hypocritical telling adolescent he/she can’t smoke marijuana because of their own current or previous use

It has further complicated an already complicated issue
“If pot is medicine and sanctioned by the state, then it must be safe to use”

• Among youth (12-17) marijuana use rates in states with medical marijuana are 8.6% compared to 6.9% in states without such laws
• In states with medical marijuana laws, adolescents’ perception of the harmful effects of marijuana have significantly decreased.
• Pacula et al found that two features – home cultivation and dispensaries – are positively associated with marijuana use and “have important implications for states considering legalization of marijuana.”

Marijuana
Marijuana

Much more potent than 20 years ago

Colorado has created legit industry that was once underground

Universal smoke time “420”; look for related paraphernalia

Cost per ounce can be $250 or more for high-quality

Many kids deal or serve as middle-men to support use

Slang: skunk weed, cookie, moonshine haze, sour diesel, blueberry OG
Marijuana
Waxes/ Oils/
Concentrates/ Edibles

DABS VS BUDS
Waxes/ Oils/ Concentrates/ Edibles

• Wax - Looks like butter/honey; also called budder $60/gm

• Oil - Oil substance, little to no smell; $60/gm or $50/shot pack

• Shatter - Breakable, bendable, amber colored; $70/gm

• Bubble Hash - Water extraction method

• Much less odor than tradition mj

• Honey Bee Extractor + Butane = most popular extraction method, extracts thc from trichomes
Waxes/ Oils/ Concentrates/ Edibles

• Cooking can easily cause explosion (pooled butane in home or room + spark from a/c, fridge = explosion)

• Highs are more intense, longer lasting, cause hallucinations

• Already seeing people passing out from this use, and experts believe overdoses are not far behind.

• May very well change the mj user’s argument that “No one has ever died from marijuana use.”
Report from Seattle
Today, the Northwest High Intensity Drug Trafficking Area (HIDTA) office in Seattle released a report on the consequences of marijuana legalization in Washington State.

The document shows a major impact on drugged driving and teen marijuana use. Some notable points are listed below:

**Stoned driving:**

One-third of all DUI cases now test positive for active THC, up from 19% in 2012. The number of drivers involved in fatal accidents that had active THC in their blood increased over 120% from 2010 to 2014.
A survey revealed that a full 49% of young adult (ages 18-25) respondents who used marijuana in the past month had driven a car within three hours of getting high -- and that 16% of them had done so six or more times in that same month.

Children:

Kids ages 12-17 accounted for 74% of all state marijuana seizures in 2014, compared to 28.9% in 2010.

In Seattle public schools, over three-quarters (77%) of all drug and alcohol disciplinary violations from September 2014 to January 2015 were related to marijuana--with an elementary school reporting that a 5th grade student brought a marijuana candy bar to school to share with fellow students.
Marijuana poisoning calls to the Washington State Poison Center rose 54% from 2012 to 2014. State authorities have yet to criminally prosecute any marijuana businesses for attempting to sell pot to minors, despite documented violations that entailed felony liability.

Here is the link to the full report https://drive.google.com/a/drugeducation.org/file/d/0Bxs3xMLjUamANHhRRkluWkRo/bXM/view
A Possible Pharmaceutical Assistance
A Double-Blind Randomized Controlled Trial of N-Acetylcysteine in Cannabis-Dependent Adolescents


Received: January 13, 2012
Accepted: April 06, 2012
Abstract

N-acetylcysteine (1,200 mg twice a day) was added to contingency management intervention and very brief weekly cessation counseling in an 8-week, double-blind, randomized, placebo-controlled trial for treatment-seeking cannabis-dependent adolescents. The rate of negative urine cannabinoid tests was 41% in the N-acetylcysteine group, compared to 27% for the placebo group. At the posttreatment follow-up visit, 19% of the urine tests in the N-acetylcysteine group were negative, compared to 10% in the placebo group. Adverse events were not common and included vivid dreams and heartburn.
Conclusions

This is the first randomized controlled trial of pharmacotherapy for cannabis dependence in any age group to yield a positive primary cessation outcome in an intent-to-treat analysis. Findings support NAC as a pharmacotherapy to complement psychosocial treatment for cannabis dependence in adolescents.
Questions?
For a copy of this presentation, email:

eovson@bradfordhealth.net