Youth Marijuana Use: Emerging Research & Public Health Challenges

Lemon Grove Community Forum

Funded by the County of San Diego, Health and Human Services Agency, Behavioral Health Services
WELCOME!

- Pot facts
- Medical use
- Local data
- Public Health Information
- Policy Changes
EVERYONE REACTS DIFFERENTLY

- Metabolism - Your Body
- Family History! Genetics
- Environment
Teens who use between 10 – 20 times a day.

They will openly admit they need it.

They have a schedule of use.

They will use when nervous, anxious or can’t sleep.

There use has interfered with school, work, family and relationships.
THC was used as a defense mechanism to keep animals from consuming the plant in the wild. (self defense for the plant)

Individuals may build up a tolerance to weed, the same amount that used to get you “high” may no longer be enough.

THC can stay in your system and be detected in a drug test longer than most other drugs.
EVOLVING PRODUCT
CONCENTRATES - WAX, BUTANE HASH OIL, EDIBLES
(BUD CONTAINING – 26% THC, CONCENTRATES MAY CONTAIN 30 - 99%)
Wax can be dabbed using paper clips, dental tools, small screw drivers and pens.

Grinders and blunts, bongs.
MEDICAL USE
IF YOU NEED MEDICAL ADVICE GO TO YOUR PRIMARY CARE PHYSICIAN!
- The pot/cannabis plant has over 400 chemicals.

- **Tetrahydrocannabinol or THC** is the chemical responsible for marijuana's high.

FDA approved **prescriptions** for pot derived medicines available. (Schedule 3)

- Dronabinol
- Nabilone
- Sativex

You do not need the psychoactive ingredient to get the medical benefit!
Most of the beneficial health effects from marijuana are from the chemical - Cannabidiol or CBD not THC.

CBD is not psychoactive. THC is!

CBD interferes with the “high” caused from the THC.

CBD is non-psychoactive because it does not act on the same pathways (receptors) as THC.

Many of today’s strains contain low doses of CBD.
Only recommendations are given for dispensary marijuana.

No difference in the product marijuana and medical marijuana.

Marijuana derived FDA medicines are prescribed and are Schedule (3) drugs approved by the FDA!

There are “no” consistent protocols or standards for marijuana products/edibles/resins from pot shop to pot shop.

Use at your own risk!
Youth:
“Age Related Risk”
Critical growth phases take place at the following times in our life:

- In Utero
- 0-5 years
- Adolescence (12-25) – The pre frontal Cortex is established.
“The body’s own cannabinoid system" is responsible for connections and pathways being made to developing parts of the brain.

**Endocannabinoids** – Produced in the human body.

**Phytocannabinoids** – Produced from marijuana. THC, CBD etc.

Introducing foreign cannabinoids causes the human body to limit the production of endocannabinoids.

Limiting the pathways and connections from forming properly.
Executive function describes the activity of a system that manages other cognitive systems:

- Reason
- Logic
- Problem solving
- Planning
- Memory

The prefrontal cortex plays a significant part in directing attention, developing and pursuing goals, and inhibiting counterproductive impulses.
Heavy Marijuana use appears to have a significant effect on adolescents’ brain structure and development.

Use is associated with:

- Attention & Motivation
- Memory
- Planning
- Slower brain-processing power

Increased use may interfere with sleep patterns, increase anxiety/paranoia and depression.


**PLENTY OF RESEARCH**
Local Data
Marijuana is addictive!

- Marijuana is the primary drug of choice for youth ages (12-17) in County funded drug treatment.

- Higher use rate than alcohol for this age group.

- Treatment providers observing higher level THC ratios in drug tests.
IF YOU EVER USED MARIJUANA, WHERE DID YOU GET IT FROM?

Top 3 mentions, by grade:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Source</th>
<th>9th</th>
<th>11th</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15% - Friend, relative or family member</td>
<td>15%</td>
<td>27%</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>6% - Drug dealer</td>
<td>6%</td>
<td>11%</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>4% Someone you just met or didn’t know</td>
<td>4%</td>
<td>7%</td>
<td>20%</td>
</tr>
</tbody>
</table>

- Medical marijuana dispensary/Pot Shop

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11th grade: Drug dealer mentions are the second most common source.
Increase in the number of marijuana exposure cases from 2011 - 2015

Number of Marijuana Human Exposure Cases for San Diego County: 2011-2015*

*Timeframe for 2011-2014 is from January-December; timeframe for 2015 is from January-November. Source: California Poison Control Center, personal communication (March 2015).
EMERGENCY DEPT. DISCHARGE DATA

Marijuana-Related Emergency Department Discharge Data
San Diego County 2006-2014

This fact sheet summarizes data obtained from the Office of Statewide Health Planning and Development, Emergency Department Discharge Database on County of San Diego Emergency Department visits related to cannabis use over a nine-year time frame (i.e., 2006-2014).\(^1\) Table 1 provides data on discharges in which cannabis use was (1) the primary diagnosis or (2) either the primary or secondary diagnosis upon discharge (i.e., all diagnoses that included coding for cannabis).\(^2\) For most secondary cases, individuals came into the Emergency Department for something else (e.g., broken arm, injury, flu, etc.) and cannabis use was added as a secondary diagnosis. In these cases, the drug use may or may not have contributed to the reason for the Emergency Department visit.

<p>| Table 1. Cannabis-related San Diego County Emergency Department Discharges by Year |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Total ER Discharges</th>
<th>Primary Cannabis-related Diagnoses</th>
<th>Primary Cannabis-related Discharge Rate* by Total ER Discharges</th>
<th>Primary Cannabis-related Discharge Rate* by County Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>573,858</td>
<td>86</td>
<td>15.0</td>
<td>2.9</td>
</tr>
<tr>
<td>2007</td>
<td>601,102</td>
<td>107</td>
<td>17.8</td>
<td>3.5</td>
</tr>
<tr>
<td>2008</td>
<td>612,310</td>
<td>77</td>
<td>12.6</td>
<td>2.5</td>
</tr>
<tr>
<td>2009</td>
<td>643,091</td>
<td>111</td>
<td>17.3</td>
<td>3.6</td>
</tr>
<tr>
<td>2010</td>
<td>635,302</td>
<td>136</td>
<td>21.4</td>
<td>4.4</td>
</tr>
<tr>
<td>2011</td>
<td>671,815</td>
<td>188</td>
<td>28.0</td>
<td>6.0</td>
</tr>
<tr>
<td>2012</td>
<td>698,303</td>
<td>205</td>
<td>29.4</td>
<td>6.5</td>
</tr>
<tr>
<td>2013</td>
<td>727,510</td>
<td>171</td>
<td>23.5</td>
<td>5.4</td>
</tr>
<tr>
<td>2014</td>
<td>781,289</td>
<td>232</td>
<td>29.7</td>
<td>7.2</td>
</tr>
</tbody>
</table>

<p>| All Cannabis-related Diagnosis (Primary &amp; Secondary Diagnosis Combined) |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>All Cannabis-related Discharges</th>
<th>Cannabis-related Discharge Rate* by Total ER Discharges</th>
<th>Cannabis-related Discharge Rate* by County Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,108</td>
<td>193.0</td>
<td>37.1</td>
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<tr>
<td>2007</td>
<td>1,734</td>
<td>288.5</td>
<td>57.5</td>
</tr>
<tr>
<td>2008</td>
<td>1,851</td>
<td>302.3</td>
<td>60.7</td>
</tr>
<tr>
<td>2009</td>
<td>2,362</td>
<td>367.3</td>
<td>76.7</td>
</tr>
<tr>
<td>2010</td>
<td>3,722</td>
<td>585.9</td>
<td>119.6</td>
</tr>
<tr>
<td>2011</td>
<td>4,300</td>
<td>640.0</td>
<td>137.2</td>
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<tr>
<td>2012</td>
<td>5,311</td>
<td>760.6</td>
<td>168.0</td>
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<tr>
<td>2013</td>
<td>7,354</td>
<td>1011.4</td>
<td>231.0</td>
</tr>
<tr>
<td>2014</td>
<td>10,302</td>
<td>1318.6</td>
<td>320.5</td>
</tr>
</tbody>
</table>

*Rate per 100,000 people

2 A primary or secondary cannabis-related diagnosis is assigned an ICD-9 code of 304.3 or 305.3 following a positive blood test for the presence of THC or the patient’s self-disclosure of use.

Funded by the San Diego County Health and Human Services Agency, Behavioral Health Services
The most common reasons of seeing marijuana poisoning in the ER:

1. Cannabinoid Hyperemesis
2. Psychosis
3. Chest pain
Cannabinoid hyperemesis should be considered in younger patients with long-term cannabis use and symptoms such as:

1) Recurrent nausea
2) Vomiting
3) Abdominal pain
4) Desire to take “Hot” showers

Lack of awareness of the disease may lead to invasive and costly diagnostic tests, as well as patient and physician frustration.”
Oil can be whipped into a *budder* and cooked into products like brownies, cookies, etc.

- Sprayed onto generic candies
- Vaped in vape pens
- Made into drops known as tinctures
EDIBLE EFFECTS

- May not feel anything for **30 to 60 minutes** (on a full stomach may take nearly two hours to feel full effects).

- The high can last **4 to 8 hours** while the effects from smoking can wear off in an hour or less.
A cookie or candy may be meant for multiple doses.
Edible doses are processed by the liver before entering the bloodstream, THC consumed as edibles produce high levels of 11-OH-THC (active metabolite), while smoked cannabis, which goes directly from the lungs to the brain via the bloodstream and does not enter the liver, produces lower levels.
College student ate an entire marijuana cookie that had been purchased from a licensed and legal pot shop in Colorado, despite the clerk having advised that it be split up and consumed in small portions.

Soon after he began to exhibit what witnesses described as erratic behavior, then, the Denver coroner’s report, “The decedent eventually reportedly jumped out of bed, went outside the hotel room and jumped over the balcony railing.”

The coroner acknowledged at the time that marijuana intoxication was a contributing factor.
MENTAL HEALTH
There is no current scientific evidence that marijuana is in any way beneficial for the treatment of any psychiatric disorder.

In contrast, current evidence supports, at minimum, a strong association of cannabis use with the onset of psychiatric disorders.
Marijuana use and schizophrenia: New evidence suggests link

Written by Yvette Brazier

Published: Monday 26 December 2016

A new study, published in *Psychological Medicine*, has added to the body of evidence pointing to a link between schizophrenia and the use of cannabis.

Recent research suggests that not only are people who are prone to **schizophrenia** more likely to try cannabis, but that cannabis may also increase the risk of developing symptoms.

Studies show that cannabis use is more common among people with **psychosis** than in the general population, and that it may also increase the risk of psychotic symptoms.

Its use has been linked to symptoms of psychosis, such as paranoia and delusional thinking, in up to **40 percent** of users.

Earlier this year, scientists **warned** that young people who use cannabis could be putting themselves at risk of psychotic disorders. People with schizophrenia appear to have a higher chance of experiencing psychosis if they use cannabis.

Previous warnings had voiced concerns regarding the particularly powerful strains of cannabis, such as "skunk," currently circulating among young people.
DSM-5. Diagnostic and Statistical Manual of Mental Disorders (DSM) is the standard classification of mental disorders used in the U.S. by mental health professionals.

Recently added “cannabis withdrawal”.

Marijuana users build up a tolerance to the drug, they either have to increase the amount or switch to harder drugs.
No one should be seeking medical advice from non-medically trained dispensary staff.

If you have a pre-existing mental health issue consult a licensed physician/psychiatrist before using anything.

Do not take yourself off Doctor prescribed mental health medication and substitute with pot.

Do not use other peoples medication.
PEDIATRIC EXPOSURES
In the JAMA study, published online December 2016, nationally almost 4 percent of mothers-to-be said they had used marijuana in the past month in 2014, compared with 2.4 percent in 2002.

Research suggests: THC can potentially harm brain development, cognition and birth weight. THC can also be present in breast milk.

Exposure symptoms:

- Vomiting
- Seizures
- Low blood pressure and tachycardia or rapid heart rate
THC were found in one in six infants and toddlers admitted to Children’s Hospital (CHC) for coughing, wheezing, and other symptoms of bronchiolitis.

Our study demonstrates that, as with secondhand tobacco smoke, children can be exposed to the chemicals in marijuana when it is smoked by someone nearby,"
At what level of exposure do child welfare agencies intercede, what about mandated reporters?

“There is an urgent need for further research using study designs that control for concomitant drug use during pregnancy and lactation, the overall health status of women who use marijuana, and the frequency of its use. Current commercially available marijuana has significantly higher concentrations of THC than those used in previous studies.”

Source: Academic Journal of Pediatrics and Neonatology - 2016
DRUGGED DRIVING CAMPAIGN KICK OFF JUNE 11, 2015
“No one should be driving under the influence of any substance that can impair your driving ability.”

California’s drugged driving law is found at Sec. 23152 of the California Vehicle Code: It states that:

(c) It is unlawful for a person who is addicted to the use of any drug to drive a vehicle. This subdivision shall not apply to a person who is participating in [an approved] narcotic treatment program.

(e) It is unlawful for a person who is under the influence of any drug to drive a vehicle.

(f) It is unlawful for a person who is under the combined influence of any alcoholic beverage and drug to drive a vehicle.

In California it’s a crime to drive while impaired from drug use. No blood testing standard is established in California – that is, there is no fixed amount of drugs within the blood system that determines conviction. Whether a driver is impaired is determined on a case-by-case basis and at the discretion of the prosecutor.

California also prohibits driving by someone who “is addicted to the use of any drug” unless the person qualifies as participating in an approved recovery program. “Addicted” refers to emotional and physical dependence on a drug so that it is taken compulsively. See People v. O’Neil, 62 Cal.2d 748 (1965).
Cannabis has a definite effect on driving similar to other RX, with swerving effects at the highest levels 3 hours after consumption of fairly low cannabis dose.

Key Findings:

- Slower breaking times
- Impaired ability to judge speed and distance
- Poor lane maintenance

The CMCR is allowed to study up to 12% THC in driving simulators. NIDA caps the amount at 12%. We know that dispensaries are advertising THC products ranging from 20% - 90%.
VAPING
VAPING DEVICES

- Dry Herb Vape
- Hash Oil & Wax Vape
- Wax Vape - Dabbing
The devices burn so hot they create formaldehyde.

E-liquid is a neuro toxin (risk from ingestions of small amounts).

You can vape, dab, a variety of substances with virtually no odor.

Hard to test the device for verification of substance.

Explosion risks! (lithium-ion battery)
Vaper Severely Injured When His E-Cigarette Blows Up In His Face, Creating A New Hole In His Mouth

BY BRANDON WENERD - 09.10.15

There’s a lot of fuss about whether or not vaping is safer than smoking. We’ve posted like four articles on the subject in the past year here at BroBible (here, here, here, and here). It’s a contentious subject with no clear answers. The only conclusion is that both have their inherent risks that all users should be aware of.

The story of 23-year-old James Lauria is an awful one, however. According to Fox 5 DC, he was casually vaping when his e-cigarette device exploded in his face.

“It’s just a normal day,” explained James. “I’m at work and things quieted down and I stepped away for a second like I always do. Next thing I know, it exploded and I was on my way to a hospital in an ambulance, and that is the last thing I remember.”
The U.S. Food and Drug Administration, started regulating e-cigarettes in May 2016.

FDA has identified about 66 explosions in 2015 and early 2016, after recording a total of 92 explosions from 2009 to September 2015.

A California, attorney, won a nearly $2 million judgment in a product liability lawsuit for a woman burned by an e-cigarette last year. He said he has a growing list of similar cases, most of which involve batteries and other components manufactured in China that have been subject to little safety oversight.
E-cigarette explosions prompt three lawsuits in California

Vicente Garza
October 16, 2015

- Severe injuries to his mouth, tongue, and left index finger
- 7 day hospitalization
- Two surgeries on his tongue
- Two surgeries on his left index finger, including amputation at the knuckle
- Ongoing treatment at the Grossman Burn Center

A man has suffered second-degree burns after his faulty e-cigarette set his trousers on fire at a petrol station in the US state of Kentucky. CCTV footage from the Quality One store in the town of Owensboro shows the sparks start shooting out of his trousers.

E-cigarettes are all the rage these days, as the grim fates of chain smokers make traditional drugs increasingly unpopular. But as researchers continue to look into whether the e-cigarette presents the same risks as its predecessor, it would seem there’s another horrifying hazard e-cigs pose that cigarettes never did: explosions.

Such was the fate of 16-year-old Ty Greer, a teen in Alberta, Canada, who suffered second degree burns and broken teeth after his e-cigarette spontaneously exploded just inches from his mouth while he was using it in his car.

"It lit my kid’s face on fire. Busted two teeth out," Perry Greer, Ty’s father, told the Canadian Press. "It burned the back of his throat, burned his tongue very badly. If he wasn’t wearing glasses, he possibly could have lost his eyes. ... He wanted to die. That is how much pain he was in."

A 16-Year-Old Teen Suffered Second Degree Burns When an E-Cigarette Exploded in His Face

mis.com 20 hours ago

Savings Are Blooming

In Case You Missed It

Doctors' message to Asian Americans: Watch out for diabetes even if you're young and thin
RECENT CHANGES TO STATE LAW
Schedule 1 Drug:
• No medical value
• High propensity for abuse and addiction
New - Bureau of Marijuana Control

**BMCR now Bureau of Marijuana Control** – lead agency in developing regulations for medical and adult use and responsible for licensing retailers, distributors, testing labs and micro businesses.

**CA Dept. of Public Health – Office of Manufactured Cannabis Safety** responsible for regulating manufacturers of edibles for both medical and non use.

**CalCannabis Cultivation Licensing**, a branch of the **CA Dept. of Food and Agriculture** – develop regulations to license cultivators for both medical and non, track and trace program to record seed to sale through distribution.

The minimum age of a “purchasing patient” is 21-years-old. The rules then state that if you’re 18 or younger, you can only enter a licensed dispensary with a doctors recommendation and your parent, legal guardian or primary caregiver.

Who is enforcing this?
• Licensing – responsibility is on the State agency to determine whether the applicant has necessary local authorization.

• “No” clear limit on cultivation sites.

• Over concentration of licenses are “not” a factor when considering new licenses.

• Age?
LOCAL CONTROL

Municipalities should act now by adopting local policies regulating or banning, cultivation, manufacturing, retail sale, transportation, storage, delivery and testing.
BE AWARE!
The potent opiate behind surging drug overdose deaths across the U.S. is now cropping up in the marijuana supply, according to officials in Ohio.

Pain medication with a rapid onset and short duration of action.

Often cut into other drugs.

Fentanyl is 50 to 100 times more potent than morphine.
EROWID – DRUG LIBRARY

The Vaults of Erowid

Financial Support

We are a nonprofit that runs the #1 drug information website in the world. We have a million people a year, and have costs like any other large website. To protect our independence, we don’t run ads.

If Erowid is useful to you, take a minute to keep it online and ad-free.

- Become a Member
- Renew Membership
- Make a Donation
- Donate Cryptocurrency (Bitcoin)
- Become a Monthly Donor

Want to Donate: ($10 minimum for subscription to Schwarz)

- $5
- $10
- $30
- $45
- $75
- $125
- $250
- Other

Why Donate to Erowid Center?

The issues surrounding the use of psychoactive drugs are complex. Prohibition discourages the spread of accurate information in favor of “Just Say No” rhetoric. But prohibition has failed and we need to move on to education. Information sources need to prioritize accuracy rather than maintaining politically driven anti-drug messages.

Erowid Center provides free, balanced, up-to-date information about psychoactive plants and drugs. We don’t convince users to abstain or legislators to pass particular laws. We provide the information necessary for people to make their own rational choices.
FALSE CONTAINERS AND ITEMS THAT HAVE OTHER MEANING!
POPULAR BUTANE PRODUCTS
CHECK SOCIAL MEDIA!

Youth post everything!
Use Restrictions on your iPhone, iPad, and iPod touch

You can use Restrictions, also known as parental controls, to block or limit specific apps and features on your iPhone, iPad, or iPod touch.

Turn on Restrictions
1. Tap Settings > General > Restrictions.

Adult content - access restricted

Please confirm that you're over 18 or leave the website

I'm over 18
Exit
Employers may drug test.

If your child is obtaining a driving permit, drug test.

There are over the counter drug tests available.

Synthetic drug testing is more expensive but available.

THC can stay in the body 30-40 days.
Need more Research!

- Studies using higher potency pot products.
- Studies on how pot products affect the body and mind. (vaping pot)
- Studies on how marijuana affects pregnant woman, newborns and fertility.
- Studies on driving and coordination.

NIDA caps the amount of THC allowed in studies at 12%.
Pot shops are currently advertising THC products ranging from 30% - 90%.
MPI RESOURCES AVAILABLE

- MPI develops and disseminates data documents and educational materials

Examples:
- Community Readiness Assessment Report
- 60,000+ Informational Postcards on marijuana,
- Materials available in English and Spanish
- Trainings available for youth, parents, everyone!

Materials can be downloaded from MPI website:

http://www.mpisdcounty.net/
QUESTIONS?