Public Health Education
Vaping & Youth Marijuana Use:

MPI Funded by the County of San Diego, Health and Human Services Agency
Enhancing public health and safety through research solutions

Happy to be here!

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SAMSHA - Region 9 PTTC Advisory Board Member

Proposition 64 Advisory Group – CA. Dept of Health Care Services
MPI Focuses on Youth Use

Why?

• We are funded to work with youth ages 12-25.
• These years are crucial both developmentally and educationally.
• The brain continues to develop until 25.
National Statistics
Highest potency in history

Weed is getting stronger
Average THC percentage in federal seizures of imported marijuana, 1985 – 2013

WASHINGTONPOST.COM/WONKBLOG
Source: White House Office of Nat’l Drug Control Policy
In the 1980’s marijuana’s THC content on average was 5-10%.

Mostly herb or plant form smoked in blunt or bong.

Today’s marijuana potency in herb can be upwards of 25% and oils and waxes 30 - 99%. Eating, vaping, drops/tinctures
Nationally:
Teens More Likely to Use Marijuana Than Cigarettes

Monitoring the Future 2018 Survey Results
Slide credit Dr. Roneet Lev
Vaping as a Method of Marijuana Consumption Is Increasing Among Teens

Monitoring the Future 2018 Survey Results
Slide credit Dr. Roneet Lev
Marijuana-related Hospitalizations and ED Visits Increasing in Colorado


Slide credit Dr. Roneet Lev
ED Visits for Cannabis-Related Diagnoses Increasing in San Diego County

Emergency Department Visits with Cannabis Related Diagnosis San Diego County

Up 830%

The Center for Community Research prepared this analysis for the San Diego County Marijuana Prevention Initiative with data from the California Department of Public Health, March 2016.
Cannabis Use Disorder

- Americans who reported using marijuana in the past year more than doubled between 2002 and 2013, and the increase in marijuana use disorders during that time was nearly as large.
Evolving Product
Weed 101

• Marijuana is a bunch of chemicals disguised as a plant!
  • The pot/marijuana/cannabis plant has over 400 chemicals. A little over 100 in the cannabinoid family.
  • THC is a cannabinoid chemical that is psychoactive.
  • CBD is also a cannabinoid chemical that counteracts the THC high.
Why is potency so high?

• Increasing potency due to:
  • Big Industries getting involved (Hiring scientists and researchers to make more potent products).
  • Cross breeding
  • Improved gardening techniques
  • Genetic modification of plants
  • Extraction methods
  • Consumption methods (edibles, vaping)
Extraction Process

Butane hash oil lab explosions on the rise locally
Concentrates - Wax, Hash Oil, Edibles

*(bud containing – 26% THC, concentrates can contain 30-99%)*
Testing for California pot products

- Mandatory testing of cannabis products effective 7/1/2018.
  - 20% failure rate
- High levels of pesticides, solvents and bacteria, including E. coli and salmonella, according to data provided by the state Bureau of Cannabis Control.
How do you know the product has CBD in it?
Can you trust the label?
THC is often present in products claiming to be pure CBD. In some products labeled CBD, no amounts of CBD were present.
CBD-infused products are being sold everywhere in California — but are they legal?

By Laura Newberry Los Angeles Times  11 hrs ago

LOS ANGELES — Greg and Gary Avetisyan make no secret of it: They proudly sell all manner of products infused with CBD, from essential oils to bath bombs to fruity teatime beverages that promise calming relief in a frantic world.

CBD, short for cannabidiol, is a molecule derived from cannabis. But unlike its chemical cousin THC, it won't get you high. What it might do, according to some research, is alleviate anxiety, seizures, chronic pain and dozens of other ailments.

The Avetisyan brothers' belief in the alleged benefits of the extract is so steadfast that they opened California's first CBD-only store, Topikal, in Tarzana last year and opened a second along the Venice Beach boardwalk in April.

In the eyes of California, however, the Avetisyan's products are being sold illegally, even though they are non-psychoactive.
Local Data
Marijuana is the primary drug of choice for youth ages (12-17) in SD County funded drug treatment.

Higher use rate than alcohol for this age group.

Treatment providers observing higher level THC ratios in urine drug tests.
Poison Control 2011-2015

- Increases 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). 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). 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.

Table 1. Cannabis-related San Diego County Emergency Department Discharges by Year

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td>Total ER Discharges</td>
<td>573,858</td>
<td>601,102</td>
<td>612,310</td>
<td>641,091</td>
<td>635,302</td>
<td>671,815</td>
<td>698,303</td>
<td>727,510</td>
<td>781,289</td>
</tr>
<tr>
<td>Primary Cannabis-related Diagnosis Only</td>
<td>86</td>
<td>107</td>
<td>77</td>
<td>111</td>
<td>136</td>
<td>188</td>
<td>205</td>
<td>171</td>
<td>232</td>
</tr>
<tr>
<td>Primary Cannabis-related Discharge Rate* by Total ER Discharges</td>
<td>15.0</td>
<td>17.8</td>
<td>12.6</td>
<td>17.3</td>
<td>21.4</td>
<td>20.8</td>
<td>20.4</td>
<td>23.5</td>
<td>29.7</td>
</tr>
<tr>
<td>Primary Cannabis-related Discharge Rate* by County Population</td>
<td>2.9</td>
<td>3.5</td>
<td>2.5</td>
<td>3.6</td>
<td>4.4</td>
<td>6.0</td>
<td>6.5</td>
<td>5.4</td>
<td>7.2</td>
</tr>
<tr>
<td>All Cannabis-related Diagnosis (Primary &amp; Secondary Diagnosis Combined)</td>
<td>1,108</td>
<td>1,734</td>
<td>1,851</td>
<td>2,362</td>
<td>3,722</td>
<td>4,300</td>
<td>5,311</td>
<td>7,354</td>
<td>10,302</td>
</tr>
<tr>
<td>Cannabis-related Discharge Rate* by Total ER Discharges</td>
<td>193.0</td>
<td>288.5</td>
<td>302.3</td>
<td>367.3</td>
<td>585.9</td>
<td>640.0</td>
<td>760.6</td>
<td>1011.4</td>
<td>1318.6</td>
</tr>
<tr>
<td>Cannabis-related Discharge Rate* by County Population</td>
<td>37.1</td>
<td>57.5</td>
<td>60.7</td>
<td>76.7</td>
<td>119.6</td>
<td>137.2</td>
<td>168.0</td>
<td>231.0</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 305.2 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
Pot is associated with a range of side effects:

- Panic attacks
- Seizures
- Hallucinations
- Psychosis
- Sedation
- CH syndrome
- Dry mouth
- Heart palpitations
- Cognitive impairment and slower reaction times
THC and Mental Health

• Studies have shown that THC can awaken pre-existing mental health issues in people with a genetic history of mental health issues.

• Specifically, psychosis related to schizophrenia.

• Paranoia, anxiety, panic, hallucinations and delusions are some possible side effects.
• **Pregnant women use marijuana more than any other illicit drug.** In a national survey, marijuana use in the past month among pregnant women doubled (3.4% to 7%) between 2002 and 2017.

• Maternal marijuana use dangerous to the baby after birth. May affect the newborn’s brain development and result in hyperactivity, poor cognitive function, and other long-term consequences.

• THC can be present in breast milk up to six days after last use.
Edibles

SO TELL ME ABOUT THIS MAGIC COOKIE

YOU ATE FROM A COMPLETE STRANGER
Hash or Honey Oil

- Oil can be whipped into a butter 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.
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.
1. The identity of the product in a text size reasonably related to the most prominent printed matter on the panel, and the words “cannabis-infused” immediately above in a text size larger than the text size used for the identity of the product.

2. The universal symbol below, printed conspicuously and legibly, not less than a half-inch by a half-inch.

3. Net weight or volume of the contents.

4. THC and CBD content of the package, as well as the THC and CBD content per serving, all expressed in milligrams.
Vaping 101
January 2017 E cigs fall under tobacco use on school campus and CA. Dept of Education required to update policies to include electronic devices.

Penalty is same as tobacco use, referral to intervention program, second offense up to district could be a suspendable offense after a few times.
• The propylene glycol, largely responsible for making your breath look like a cloud of mist, is also found in fog machines has been linked to chronic lung problems among stagehands.

• May also contain lead, nickel, tin, and silver from the machinery inside the devices along with formaldehyde, manganese, toluene.

• May contain other oils and chemicals that when heated up may be harmful to health.
Unique challenges with vaping devices

• Little if any testing occurs for vaping and no testing occurs for marijuana products at the Federal level.

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

• Hard to test the device for verification of substance.

• Explosion risks with some devices! (lithium-ion battery)
The Making of an Epidemic
2015 - Juul starts aggressive social media campaign targeting youth.
• JUUL spent millions of dollars for online marketing.
• Utilized social media platforms (i.e., Twitter, Instagram, YouTube) to promote company-sponsored ads associating JUUL with being cool, fun, relaxing, and having sex appeal.
Epidemic in 3 years

- By 2018 - Juuling/vaping was an epidemic among youth
- Under FDA scrutiny - Juul suspended Facebook and Instagram accounts on November 13th 2018.
Be aware!

Many countries produce JUUL “like” products that look very similar to actual JUUL. They do not have the quality control and product testing that we have in the U.S.
The E-liquids contain few ingredients most notably, nicotine. The high concentration of nicotine that can be consumed all at once if orally ingested makes them a potentially hazardous material.

The e-liquids may be seen as a tasty treat to young children; e-liquids are small and come in appetizing looking flavors and packages that can look like candy to a young eye.
Why were vaping devices allowed to be sold without proper testing?

There’s evidence that scientists, regulators and e-cigarette proponents missed, ignored or downplayed signs that vaping could significantly damage the lungs for nearly a decade, a review of medical literature, government documents and interviews with doctors shows.
Other Vaping Devices
Los Angeles Times

Hoodies, watches and other camouflaged vaping devices confound parents, schools
Vaping marijuana stronger effects

The number of high school students who are vaping: **37 percent of seniors have tried it in 2018, compared to just under 28 percent in 2017.**

Vaporized marijuana results in:

- Stronger drug effects
- Higher peak concentrations of THC in blood
Stiizy – Juul for Pot
THC pods
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."
A 16-Year-Old Teen Suffered Second Degree Burns When an E-Cigarette Exploded in His Face

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 hit my kid's face on fire, toasted 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."
Eight teens were hospitalized in July with seriously damaged lungs in Wisconsin, the state Department of Health Services reported Thursday.

"We suspect that these injuries were caused by vaping," said Dr. Michael Gutzeit, chief medical officer at Children’s Hospital of Wisconsin where the teens were admitted, at a press conference.

Their symptoms, including cough, shortness of breath, and fatigue, worsened over days or weeks before the patients arrived at Children's Hospital. Some reported fever, anorexia, chest pain, nausea and diarrhea. Scans and X-rays showed inflammation or swelling throughout
By Aug. 27, 2019, 215 cases in 25 states.

Patients reported a gradual start of symptoms, including:

- Breathing difficulty
- Shortness of breath
- Chest pain
- Mild to moderate gastrointestinal illness including vomiting and diarrhea
- Fevers or fatigue.

In many cases, patients have also acknowledged recent use of e-cigarette-cartridges containing tetrahydrocannabinol (THC).
By September 2019 - Respiratory Illness Updates

- 14 deaths in four months
- Over 500 hospitalized Nationally
- About 80% of individuals have reported using THC cartridges.
- Average age of patients is 23.
- No uniform testing for product safety!
The marijuana test kit is so small and simple and it detects pot right away.

The kit uses test strips and a pre-treated swab that detect THC, the active ingredient in marijuana.

https://www.s2detect.com/marijuana-test-kit-mtk
“Second Hand” Marijuana Smoke

- In Colorado, THC were found in one in six infants and toddlers admitted to Children’s Hospital (CHC) for coughing, wheezing, and other symptoms of bronchiolitis.

- As with secondhand tobacco smoke, children can be exposed to the chemicals in marijuana when it is smoked by someone nearby.
Prevention & Resources
GOOD SAMARITAN LAWS

• Do not fear calling 911 if you or friend need help!

• Good Samaritan policies protect the caller and overdose victim from arrest and/or prosecution for simple drug possession, possession of paraphernalia, and/or being under the influence.
Stay Healthy

Exercise, travel get off the phones!!!!

Hobbies and social events

Volunteer, build your resume.

Get educated about substance use. Ask the Doctor about substance use.

If you are not feeling well physically or mentally tell and adult.
MPI provides TA to prevention groups, schools and civic organizations.

Examples:

- Information and data for download.
- Drugged Driving Campaign
- Check out our - MPI Prevention TOOLKIT.

Visit our MPI website & YouTube page:
http://www.ccrconsulting.org/mpi
Questions?