



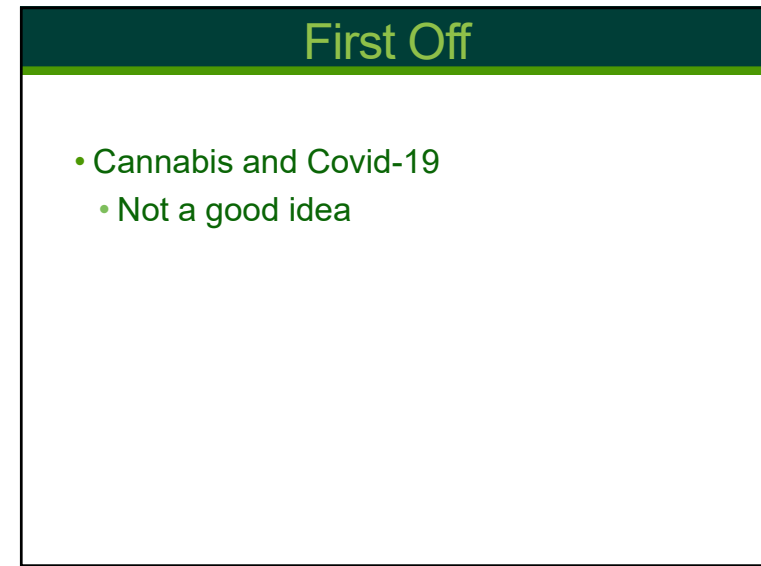
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## The Times They Are A Changin'



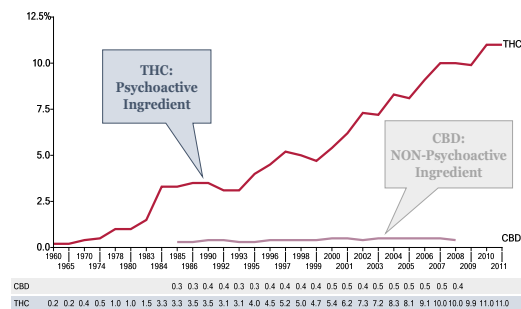
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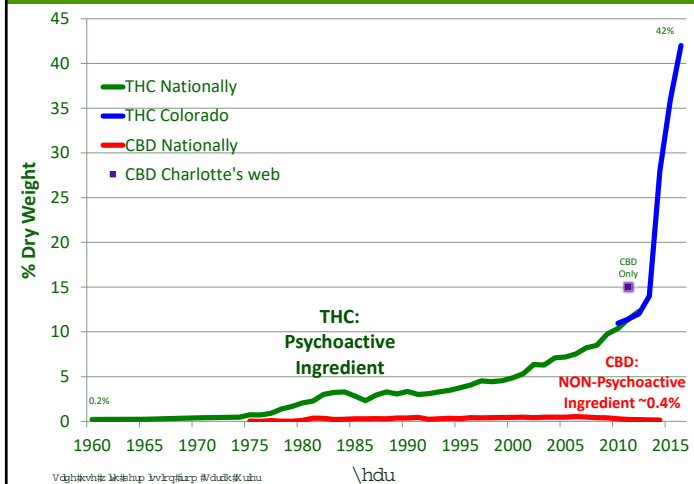
Marijuana has become significantly more potent since the 1960s

Average THC and CBD levels in the United States



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## Cannabis: % THC Over Time



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## Gardening vs. Chemistry



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## What is Substance Use Disorder (Addiction)

2–3 criteria indicate a mild disorder, 4–5 a moderate disorder, 6 or more, a severe disorder

1. Taking the substance in larger amounts or for longer than you meant to
2. Wanting to cut down or stop using the substance but not managing to
3. Spending a lot of time getting, using, or recovering from use of the substance
4. Cravings and urges to use the substance
5. Not managing to do what you should at work, home or school, because of substance use
6. Continuing to use, even when it causes problems in relationships
7. Giving up important social, occupational or recreational activities because of substance use
8. Using substances again and again, even when it puts the you in danger
9. Continuing to use, even when the you know you have a physical or psychological problem that could have been caused or made worse by the substance
10. Needing more of the substance to get the effect you want (tolerance)
11. Development of withdrawal symptoms, which can be relieved by taking more of the substance.

DSM 5

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## Marijuana & Addiction



The DSM-5 clearly spells out the objective criteria for addiction, and for the first time “cannabis withdrawal” is listed as a diagnosis.

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## Econ 101

- Less than 300 cannabis facilities in 2014
- 1,190 Cannabis facilities exist in Colorado in 2017
- 2,709 in 2019
- How can Colorado support this amount of retail?
- How does this growth continue?
- Why does the old 80/20 rule matter here?

(actually more like 84/20 in CO)

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## THC and Addiction

- This is very real and not easy to treat
- Often requires long stays in treatment and anti-psychotic medications
- Traditional rates were around 10%
- Rates today are reaching up to 30% as a result of increased potency (Janni Leung et al 10/20)
- Many of these addicted patients require physical detox and medical intervention

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## Contributing Factors to Marijuana Dependence



Age of  
Onset  
Frequency  
of Use  
THC  
Potency

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## Normalization of Cannabis



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## Tapping Emotional Connections

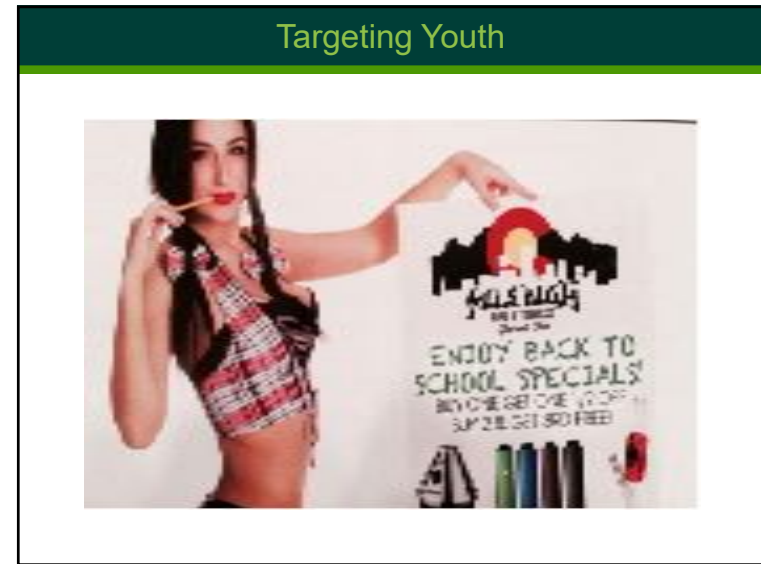


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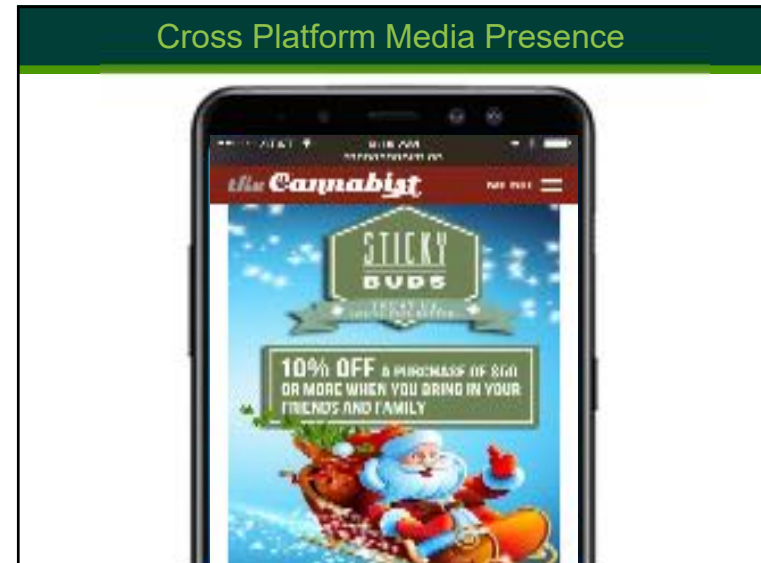
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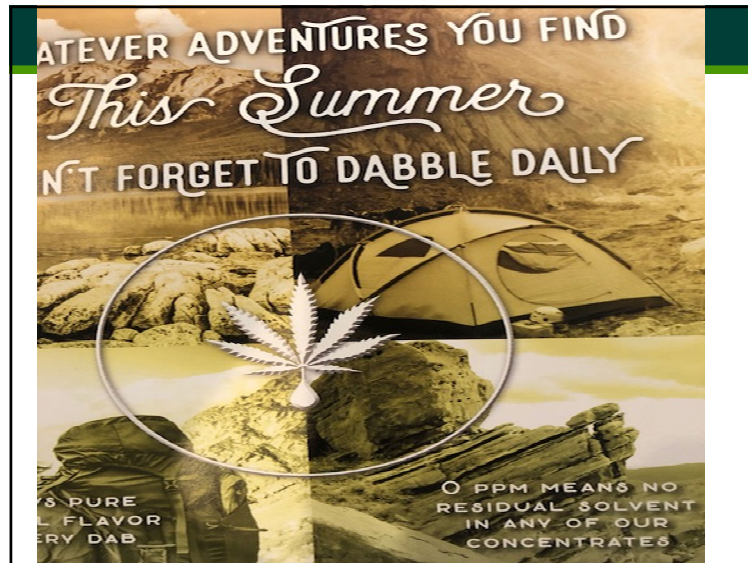


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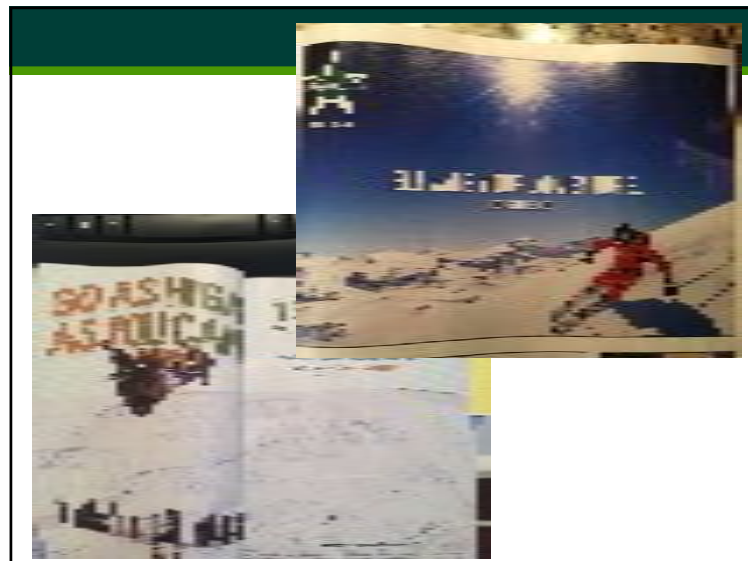




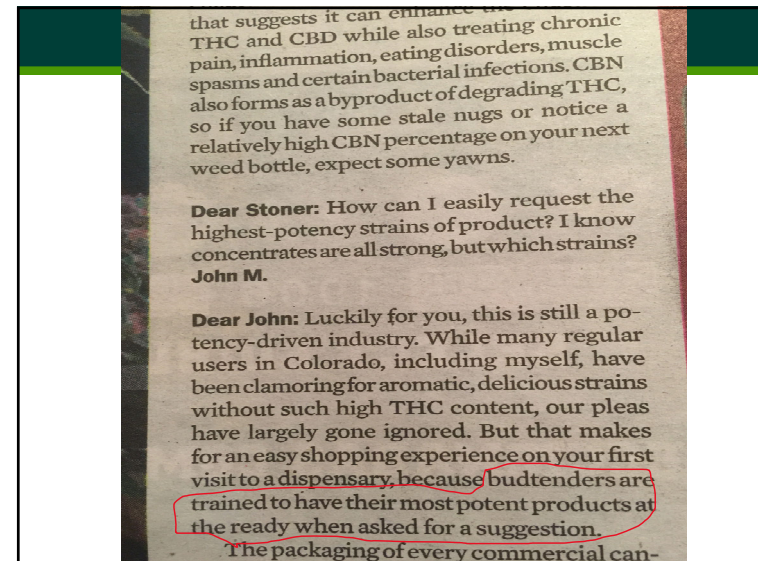
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## Lancet Study of “Skunk Weed”

- Daily use sees a 5x increase in psychosis
- Weekend use sees a 3x increase
- 24% of psychosis cases in the study group caused by weed alone

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# The Denver Post

## Vape CEO: Pot Concentrates Will Soon Outpace Cannabis Flower

3/31/16

“...Colorado will sell more concentrates in 2017 than flower...”

"I See Concentrates being a part of people's daily regimen..."



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## Ralph Was Right!

**Since 2014 the Colorado Department of Revenue Marijuana Enforcement Division has released an “Annual Update”**

- In 2014 the word “concentrate” is found nowhere in the 42 page report
- In 2015 concentrates show up once in the report under “Retail Testing.” this reference includes a one sentence summary of what they are and a note that 4% of the concentrates tested each month failed a contaminant test
- 2016 continues to mention concentrates only in relation to contaminants found within them but not part of the “market” alongside flowers and edibles
- By 2017’s report we see that 27,890 lbs of concentrates sold in the state totaling 4,559,597 “units”
- In 2019 it jumped to 40,229 lbs



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*strain gang*  
BY BLOOMING BEGG

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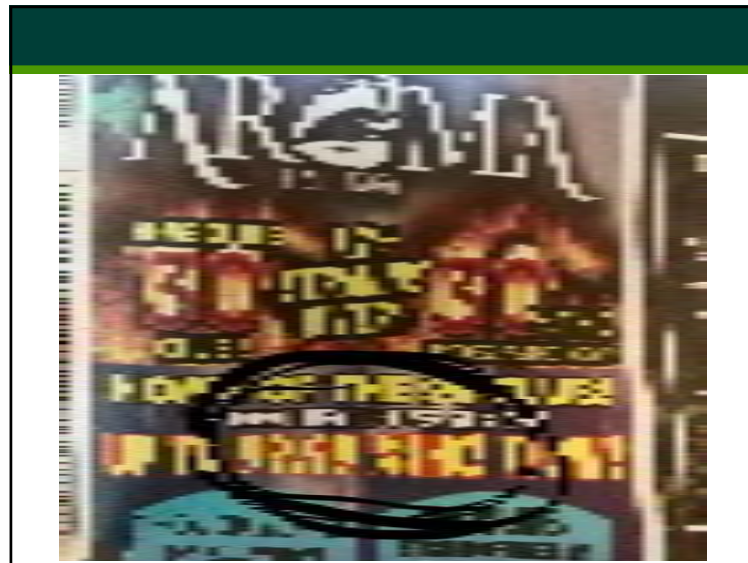
Crack Is Back

**C**rack is a back, crack is a kick, Stearns says. So, as a hunter? Well, kids, I'm hunting you that small crack in bed. Some crack is really good, really good. I'm not talking about the stuff that Moses Carter cooked in his kitchen and said to G. you'd be free to have me. No, I'm talking about Green Crack — the classic, energetic strain formerly known as Dutch, and to be enjoyed by individuals of "Green Crack," Dr. Snop Dog because of the aphrodisiac that enabled him to get and take care of his family.

After bumping scene 212 on the way to Madison Ave, 20 East 12th Avenue, I'm already in a West Coast state of mind and ready to enjoy some stardom with a soft-on-a-Friday afternoon. Since this was my first time at the dispensary, I asked the budtender to show me almost everything he had in stock—but my choice wasn't difficult. While the *Plantsville Express* and *Chim* are somewhat moodily intriguing, with their trim bud and Sativa aroma, a few folks have given these strains a near-permanent, and I

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## Making Butane Hash Oil (BHO)



<https://www.youtube.com/watch?v=3TMIhuWQISA&t=374s>

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...empower them. instead of seeing all the hatred and sadness." ©

### LAB SOCIETY

**LEARN the Science**  
Beginner education  
Advanced consulting

**BUILD the Lab**  
Scientific glassware & lab essentials  
Lab setup services

**UPGRADE your Lab**  
Short path distillation kits  
Professional analytics and tools

720.684.6857  
www.labsociety.com  
4699 Nautilus Ct. Suite 503, Boulder, CO 80301

LS

sensimag.com MARCH 2018 71

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**Mine your own gold™**  
My Press™ is a portable, lightweight, personal rosin press. Designed and engineered from scratch in Colorado.

**ONLY \$420!**

Designed by **MUSTACHE DADS**

**MY PRESS**  
SOLVENTLESS

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## Consumption Trends



<https://www.youtube.com/watch?v=5o4fPpgwCzA>

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## Consumption Trends



<https://www.youtube.com/watch?v=uxan2qvNlls>

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## Consumption Trends



<https://www.youtube.com/watch?v=SlPMFpKBBmY&t=191s>

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## "Weed" Redefined



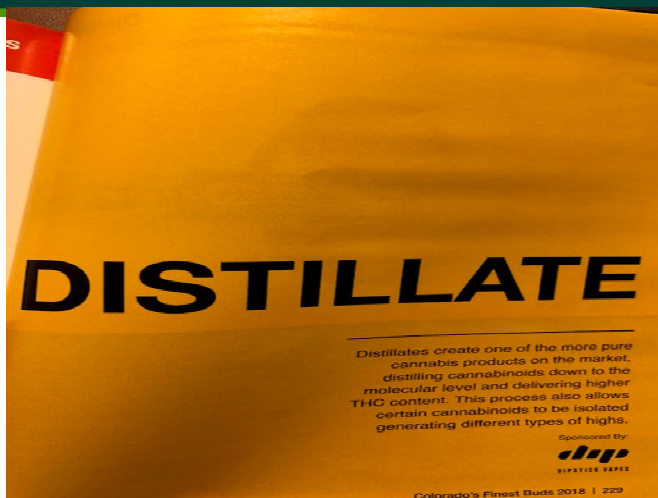
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## "Weed" Redefined



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## "Weed" Redefined



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## "Weed" Redefined



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## "Weed" Redefined



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## "Weed" Redefined



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Some of our products cannot be combined with any other offer. Valid 6/1/18-6/30/18.

**GOOD MEDS EXCLUSIVE**

*Sweet Summer Deals*

**GOOD MEDS EXCLUSIVE LIVE RESIN DEALS**

\$495 (oz) & \$134.10 (7g): Member  
\$540 (oz) & \$152.10 (7g): Non-Member

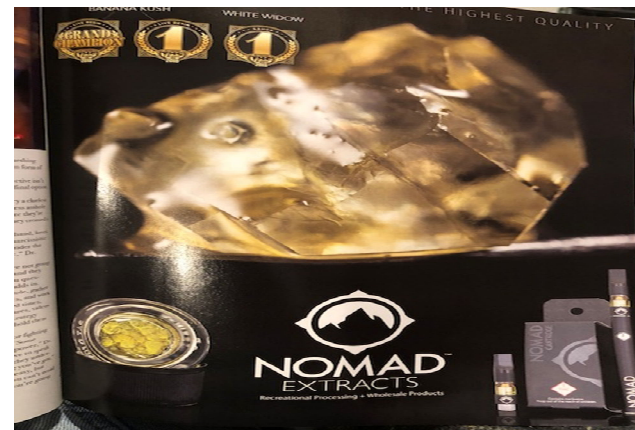
**THROUGH SUNDAY, JUNE 24**  
**LIMIT 56 GRAMS, WHILE SUPPLIES LAST**

**GOOD MEDS ENGLEWOOD**  
5451 S. Federal Blvd  
Englewood, Colorado

**GOOD MEDS LAKEWOOD**  
8420 W. Colfax Ave.  
Lakewood, Colorado

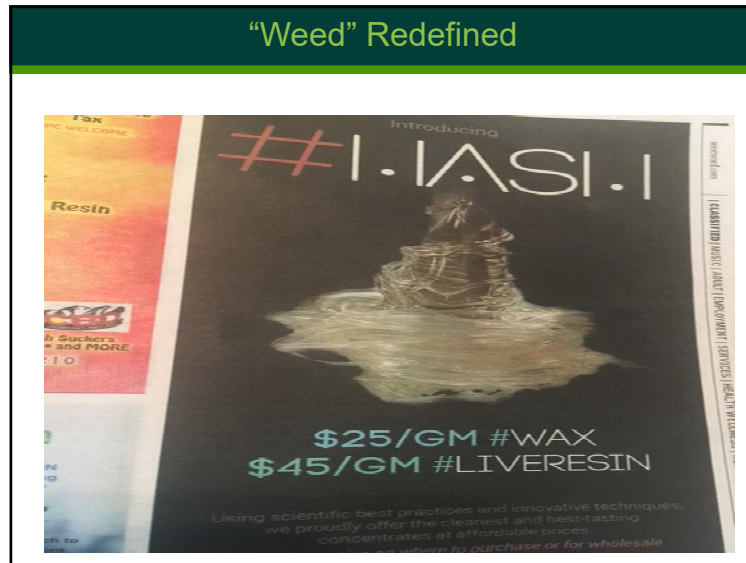
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## "Weed" Redefined



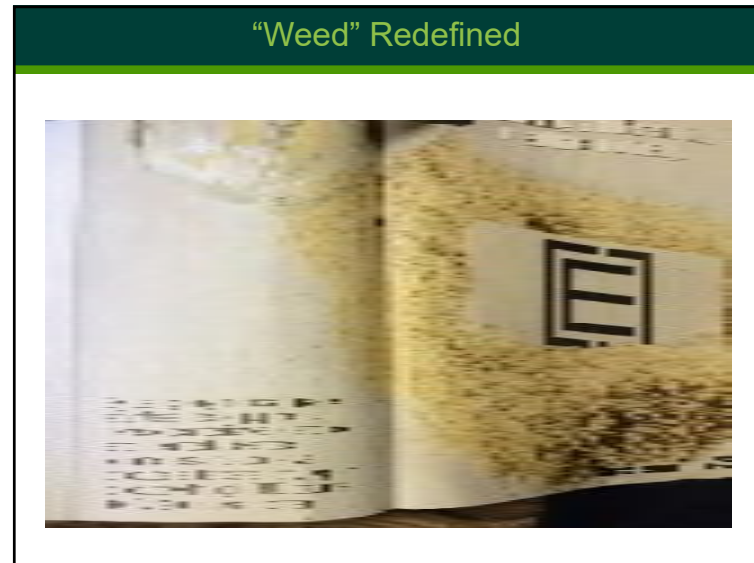
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## "Weed" Redefined



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## "Weed" Redefined



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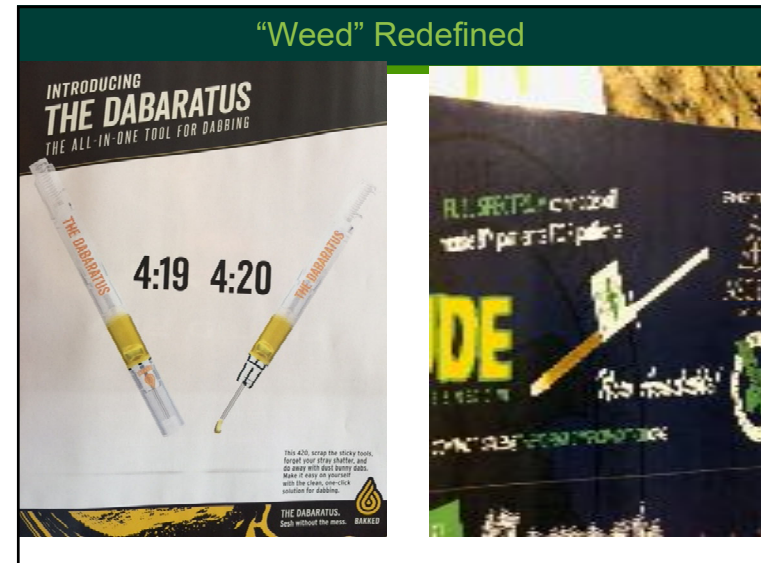


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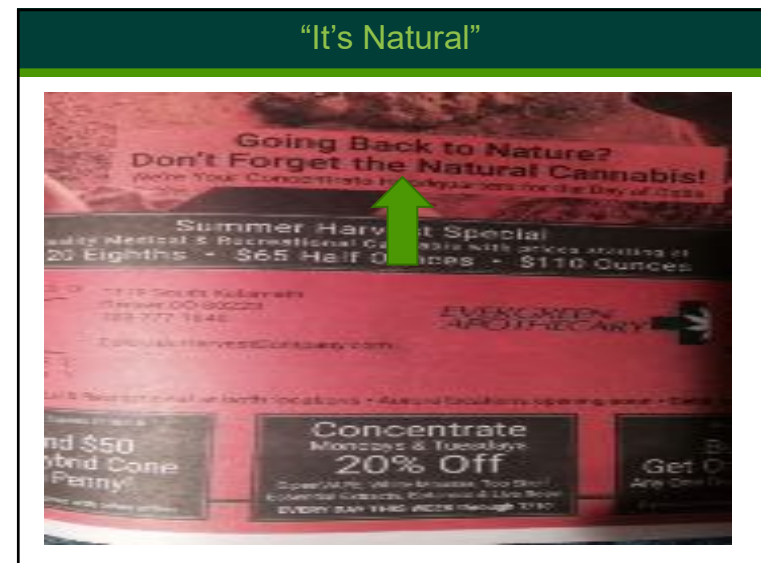
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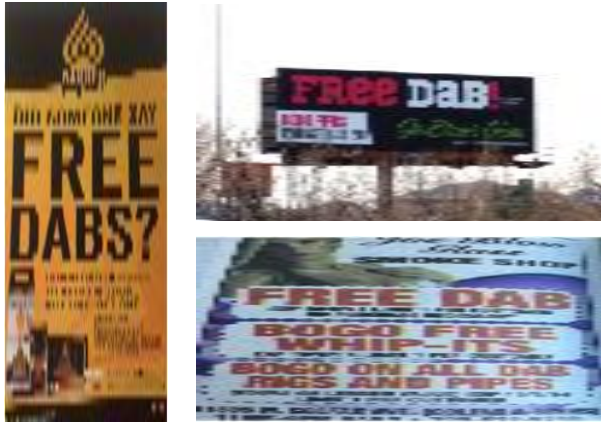
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## Driving Trial, Sound Familiar?



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## Vapes



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## Vapes



### Titanium Grasshopper leaps to next level of discretion, packs surprising power (review)

90  
PUBLISHED NOV 20, 2016, 4:18 PM • UPDATED NOV 20, 2016, 6:15 PM

by Chris Thurman, *The Cannabis Chef*

The days of Tim "Good Man" Spicer have long passed, but he still a sucker for more power.

There's something really satisfying about using a well-made, powerful tool. There's a reason people buy tools like this. It's not just about the power, it's about the feel.



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## Vapes



71

## The Incredible, Edible Weed



72

## Edibles

43# j#b#jddgrvh  
Vr# # 11



73

## Edibles



74



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## A New Record!



Korova Black Bar 1000mg \$35

Expiring soon!  
Get \$20 off each Korova Edible Bar while available!

KUSH SPAIN  
03

10-10  
Newest Batch CO

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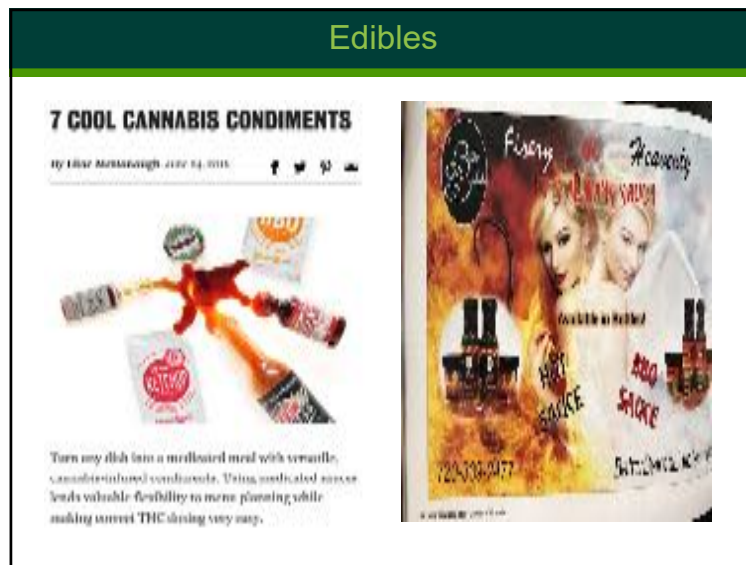




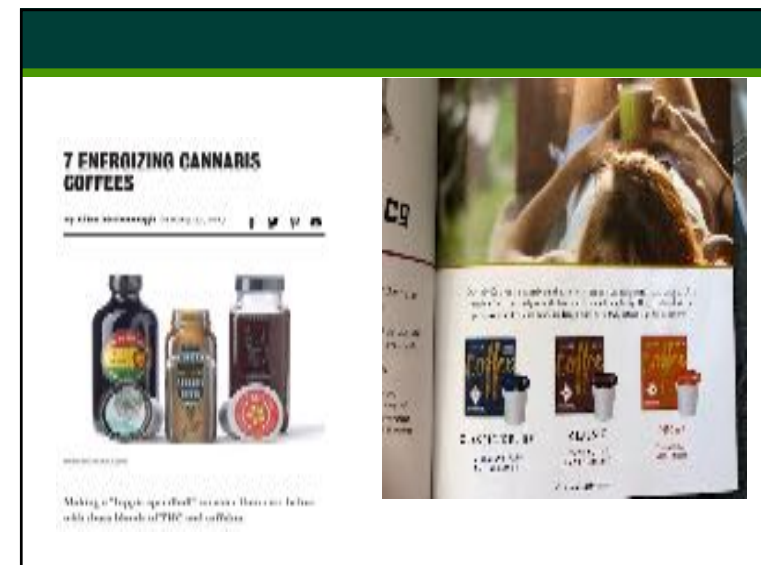
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## Edibles



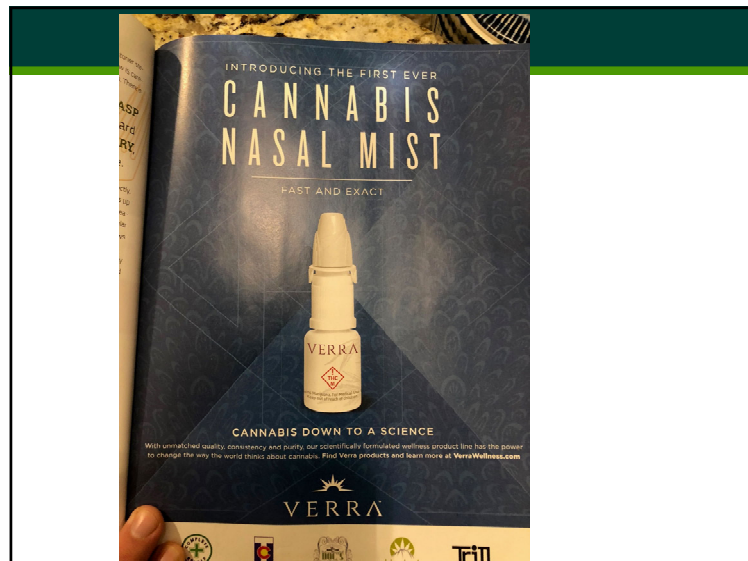
### Marijuana Infused Ice Cream

Embrace a never-ending munchies too as you indulge in a sweet bowl of marijuana infused ice cream. This sugary treat comes laced with grade-A bark that'll leave you feeling like your loved ones. Every flavor melted into a delicious harmony.

**\$15.00**



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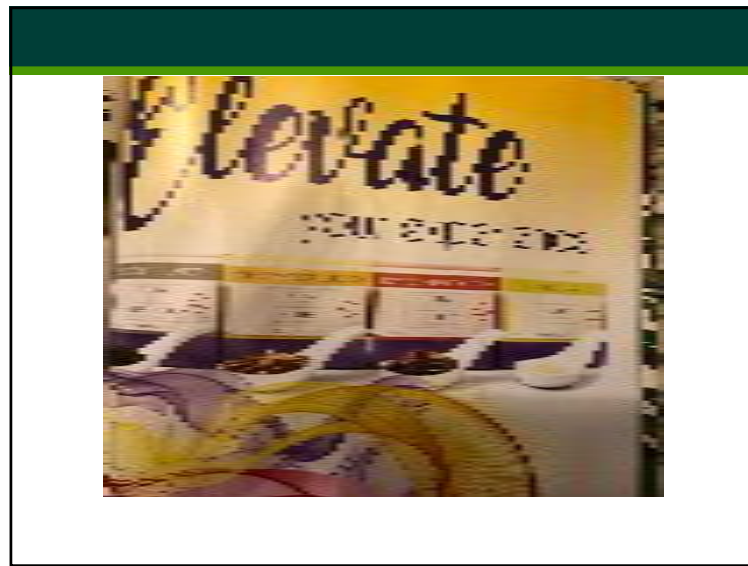
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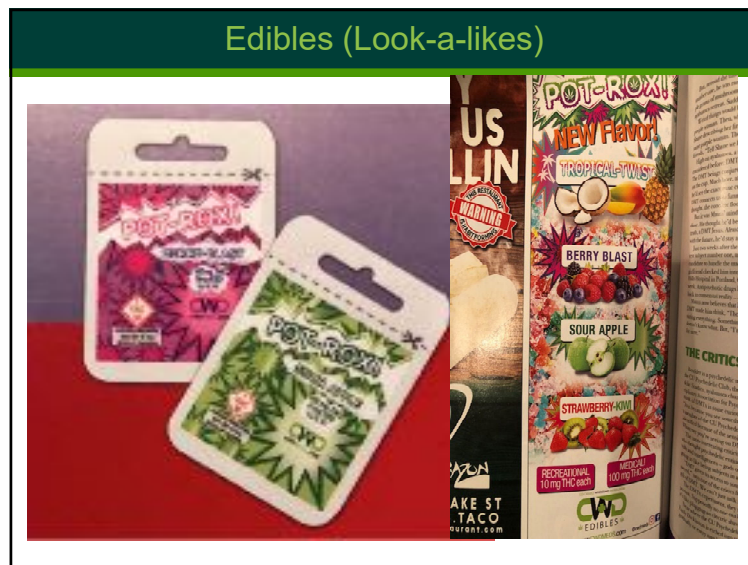




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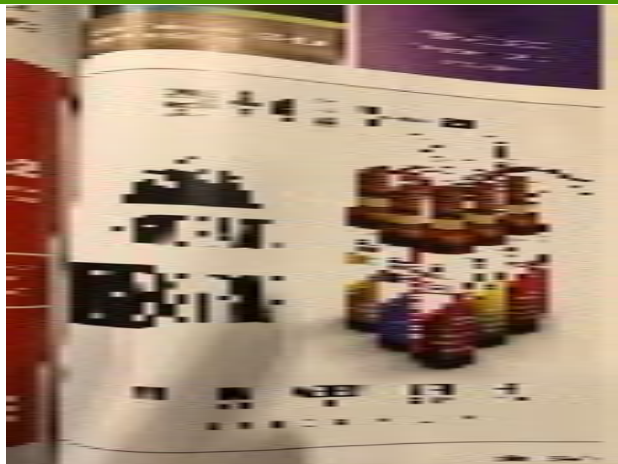
## Edibles



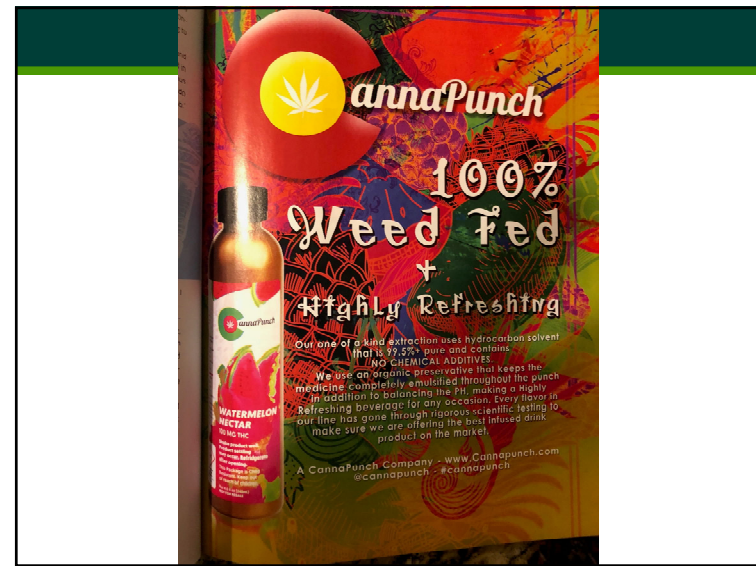
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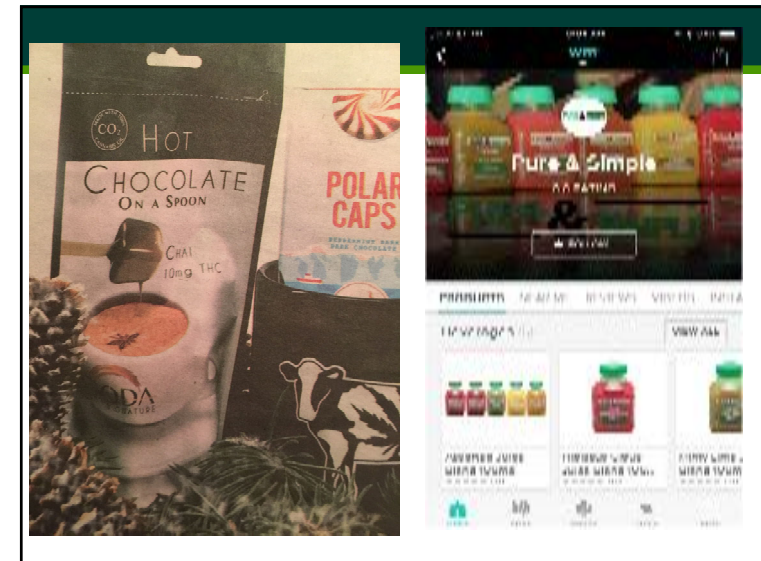


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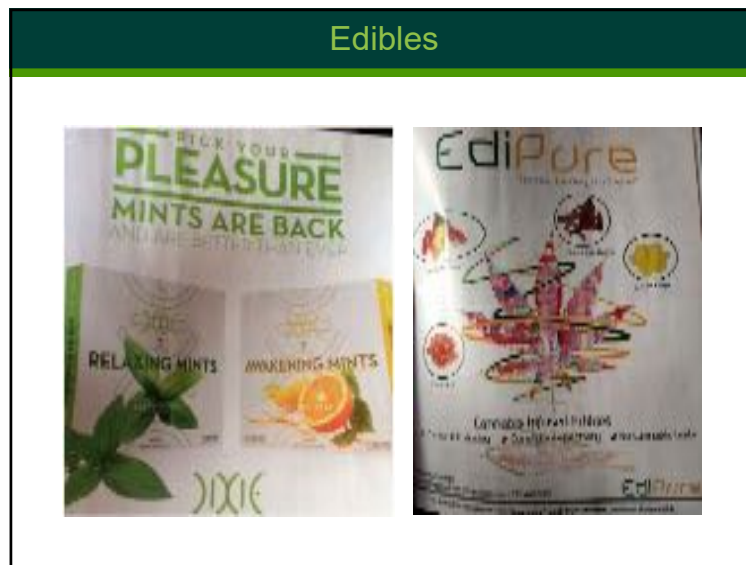




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## Edibles



101

## Edibles



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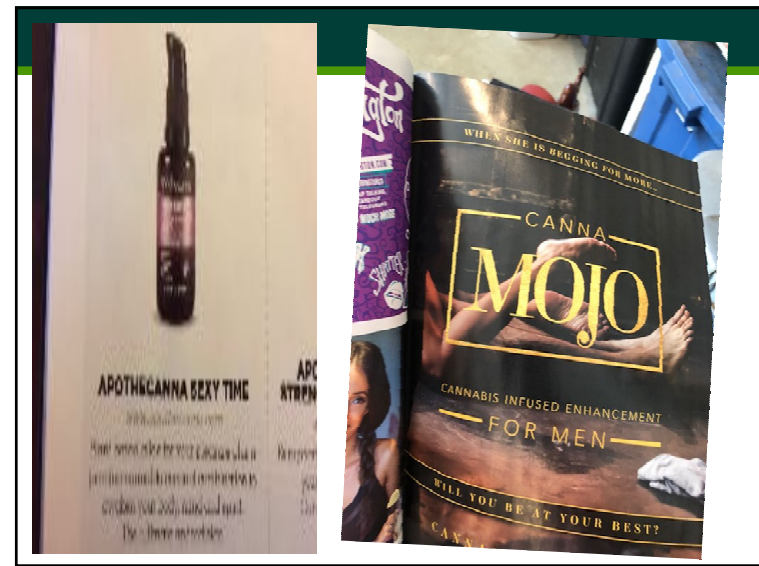
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## EVERYTHING!



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WARNING: THERE MAY BE HEALTH RISKS ASSOCIATED WITH THE CONSUMPTION OF THIS PRODUCT. THIS PRODUCT CONTAINS MARIJUANA AND ITS POTENCY WAS TESTED WITH AN ALLOWABLE PLUS OR MINUS 15% VARIANCE PURSUANT TO 12-43.4-202(3)(A)(V)(VE), C.R.S. THIS PRODUCT WAS PRODUCED WITHOUT REGULATORY OVERSIGHT FOR HEALTH, SAFETY, OR EFFICACY. THE INTOXICATING EFFECTS OF THIS PRODUCT MAY BE DELAYED BY TWO OR MORE HOURS. THERE MAY BE ADDITIONAL HEALTH RISKS ASSOCIATED WITH THE CONSUMPTION OF THIS PRODUCT FOR WOMEN WHO ARE PREGNANT, BREASTFEEDING, OR PLANNING ON BECOMING PREGNANT. DO NOT DRIVE A MOTOR VEHICLE OR OPERATE HEAVY MACHINERY WHILE USING MARIJUANA.

THE RETAIL MARIJUANA PRODUCT CONTAINED WITHIN THIS PACKAGE COMPLIES WITH THE MANDATORY CONTAMINANT TESTING REQUIRED BY RULE R 1501.

THE SERVING SIZE OF ACTIVE THC IN THIS PRODUCT IS 10 MG. THIS PRODUCT CONTAINS 10 SERVING OF MARIJUANA, AND THE TOTAL AMOUNT OF ACTIVE THC IN THIS PRODUCT IS 100 MG.

THIS PRODUCT MAY CONTAIN MILK, TREE NUTS, PEANUTS, AND SOY.

STORE THIS PRODUCT IN A COOL, DRY PLACE.

THIS PACKAGE IS CHILD RESISTANT.

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PUSH IN  
TAB 1

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## MANY CHOICES

ONE ULTIMATE EXPERIENCE.

CHEWS  
WISELY

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## Cannabis and Mental/Physical Illness

### PROFILES IN COURAGE

PATIENT:  
Tigerlilly

AGE:  
28

CONDITION/  
ILLNESS:  
Anxiety and  
depression.

USING MEDICAL  
CANNABIS SINCE:  
2008



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### Mental Health Consequences: Casual Use

- Risk of depression: 1.4x (Casual?)
- Acute Anxiety
- Increased risk of anxiety disorders (Casual?)
- Worsened outcomes in bipolar disorder (Casual?)
- Risk of attempted suicide requiring hospitalization: 2x (Casual?)

Reviewed in Hall, 2014; Di Forti et al 2014, Giordano et al 2014

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### Cannabis & Psychosis

- Use of cannabis associated with 1.4x increased risk of psychosis
- Regular associated with a 2x risk of psychosis
- High potency cannabis, more frequent use, and genetic susceptibility (slc, comt, akt1) can increase risk to 8x
- Use before age 18 has 2.4x risk of dx of schizophrenia (dose response)

Reviewed in Hall, 2014; Di Forti et al 2014, Giordano et al 2014  
Radhakrishnan et al Gone to Pot – A review of the Association between Cannabis and Psychosis

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### Physical Health Consequences: Acute

- Impaired memory
- Impaired motor coordination
- Slowed Reaction Time
- Increased Singular Focus
- Reduction in Perceptual Accuracy
- Increased heart rate
- Increased risk of angina, heart attack and stroke in those with and without previous heart attack
- Electrolyte imbalances
- Respiratory issues (difficulty for individuals to intake oxygen)

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### Physical Effects of Chronic Use

- Changes in physical structure of the brain
- Immune system decrease
- Reduced weight and height (adolescents)
- Increased risk of testicular cancer (dose response related)
- Reduced Sperm Count

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## Testing and Driving

- Impairment **can't** be measured with a test other than done by a DRE
- Fat Soluble – 72 Days...
- Method of ingestion makes testing tricky
- Presence of THC does not necessary indicate intoxication, -5ng/ml does not indicate sobriety

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## To Learn More...

- Project SAM (Smart Approaches to Marijuana)
- NIDA
- SAMSHA
- SMART CO
- Lots of others, but use a critical eye  
(I subscribe to lots of pro-cannabis and commercial cannabis sites and newsletters)

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