

OVERVIEW

Defining Common Terms

The Current Landscape of Products & Potential Harms

Community Cannabis Monitoring Tool

How Products are Marketed

Why Bans are Needed

Important Components of Policies



CANNABIS SATIVA L: THE CANNABIS PLANT

MARIJUANA: CANNABIS SATIVA L

- Contains over 0.3% delta-9 THC
- Medically legal in Texas, with restrictions

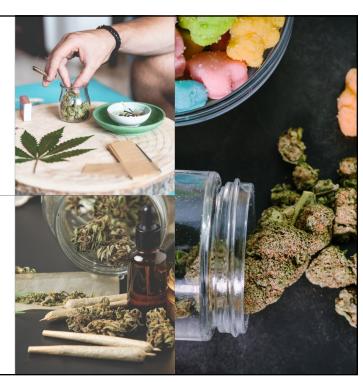
HEMP: CANNABIS SATIVA L

- Contains 0.3% THC or less
- Legal in Texas since 2019

THC/Delta-9 THC

Tetrahydrocannabinol

- Primary intoxicating chemical of the cannabis plant
- Causes the "high"



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CBDCannabidiol

- Cannabinoid
- "Non-psychoactive"
- Comes from marijuana AND hemp plants



Delta-8, Delta-10, THCA, THC-0, THCP, etc.

vegan
gummiles

A10-A8 THC|1,750mg
blueberry pomegranate



- Other cannabinoids
- Natural or synthetic
- Intoxicating or non-intoxicating
- Legal gray area in TX

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BRAIN DEVELOPMENT



MENTAL HEALTH



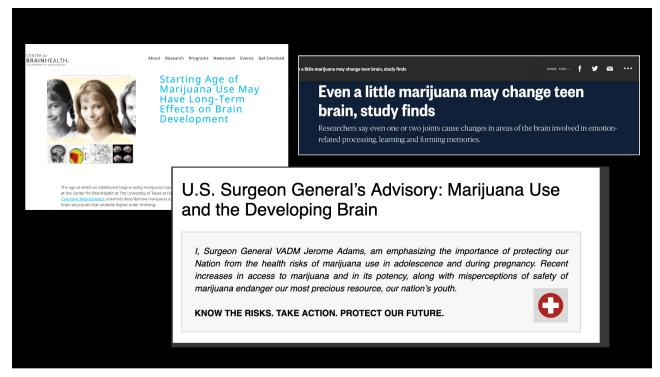
COORDINATION



ADDICTION



MORE THC = MORE CONSEQUENCES



S

Nationwide, recreational legalization increases cannabis use frequency by about 20%, on average.

MONITORING THE FUTURE DATA, 2023



of 12th graders reported past year cannabis use.



of 12 graders reported Delta-8-THC use in the past year.

In 2024, 8th and 10th graders will also be asked about Delta-8-THC use.

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YOUTH USE

17% of Texas 7th-12th graders have used cannabis



1 in 5 Texas high school seniors regularly use cannabis



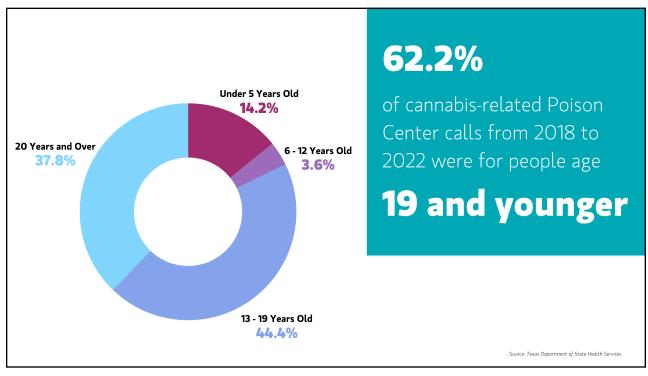
Among CO youth who use cannabis, there's been a 113% increase in vaping as the main delivery method



Source: Texas School Survey, 2022

AMONG HIGH SCHOOL STUDENTS... 1 in 10 7th-12th graders reported using cannabis in the past month of 12th graders reported cannabis is somewhat easy to very easy to access

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Alcohol is the drug most commonly involved in impaired driving crashes. Alcohol combined with cannabis is the second.

It is the most common combination of drugs involved in fatality and serious injury crashes.

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SEMI-SYNTHETIC CANNABIS PRODUCTS

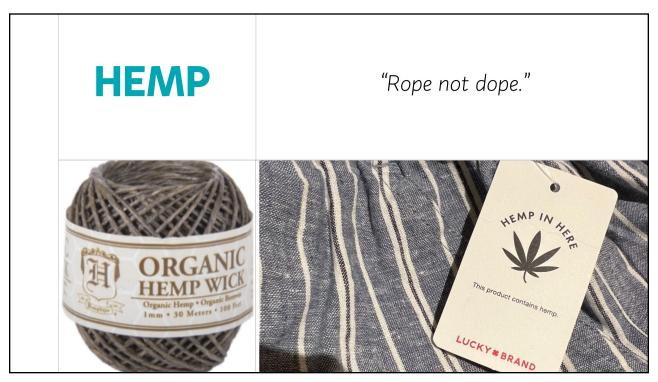
BEFORE 2020

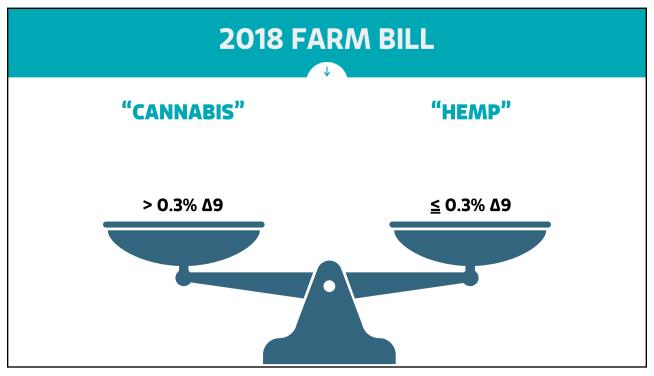
Nearly all intoxicating cannabis products contained delta-9 tetrahydrocannabinol (THC) - it was the most naturally abundant.

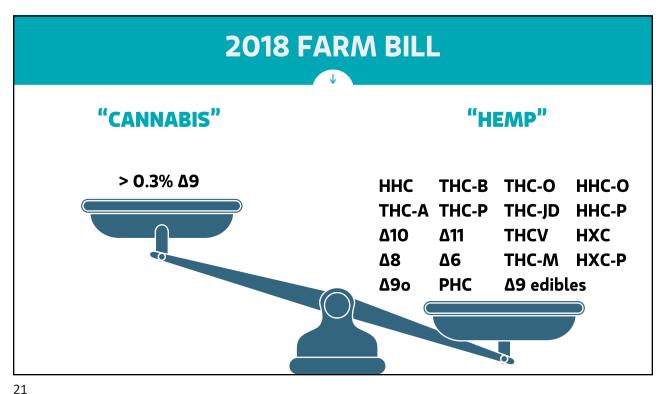
SINCE 2020

Many new types of "hemp-derived" (i.e., chemically created) intoxicating cannabis products entered the U.S. market.

Rossheim, M.E., Tillett, K.K., Vasilev, V., LoParco, C.R., Berg, C.J., Trangenstein, P.J., Yockey, R.A., Sussman, S.Y., Siegel, M., & Jernigan, D.H. (2024). Types and







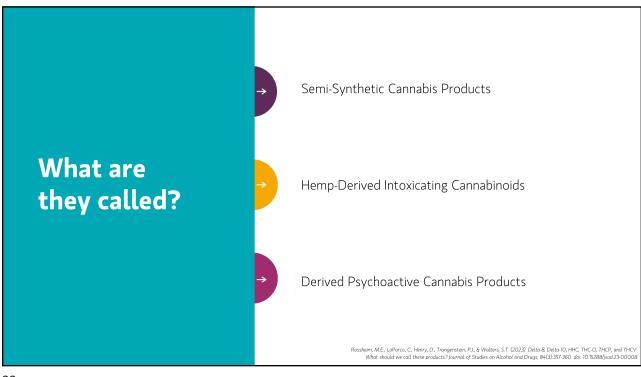
SEMI-SYNTHETIC CANNABIS PRODUCTS

INTOXICATING EFFECTS

- Similar to Delta-9 THC
- Some marketed as more or less potent

2023 ASSESSMENT

- Involved 3 online cannabis retailers
- 26 intoxicating compounds documented in hemp-derived ICPs
- Examples: Delta-8 THC, Delta-10 THC, HHC
- THC-O-acetate (THCP), "fully synthetic" because it does not naturally exist





Harms from Derived Cannabinoids



- Most are new to market & understudied
- Use is associated with acute psychiatric disorders; lung, chest, heart disorders; Injuries and poisonings
- From 2021 2022, US Poison Control Centers managed 82% more cases involving exposure to delta-8 THC
- Studies suggest severe negative health consequences, similar to those from delta-9 THC
- Raises new concerns about product quality and byproducts/contaminants

LoParco, C.R., Rossheim, M.E., Walters, S. T., Zhou, Z., Olsson, S., & Sussman, S. (2023). Delta-tetrahydrocannabinol: a scoping review and commentary. Addiction, 118(6):1011–28. doi: 10.1111/add.1614.

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Shapes social norms and perceptions; makes substances more desirable, acceptable, accessible



Availability, price, and advertising are major determinants of use, especially among young people



Important policy levers for prevention include retail availability, pricing strategies, and restricting advertising to youth



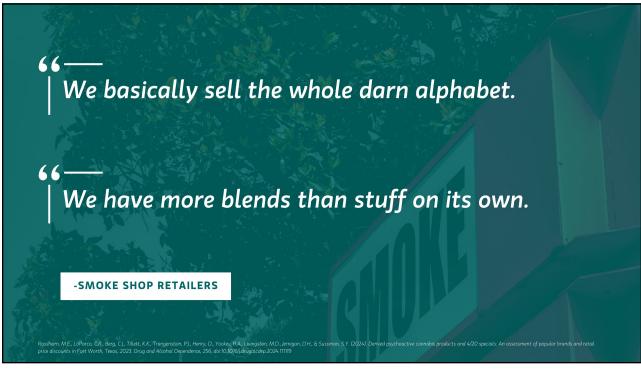
Best practices and best buys



WHY MARKETING MATTERS









DELTA-8 THC RETAIL ASSESSMENT: FT. WORTH, 2021

CONTACTED 1,223 STORES

- 131 selling delta-8 THC at low retail prices
- 96% sold vapes and/or "flower"
- 76% sold edibles

EDIBLES COST LESS

• On average, edibles were \$8.58 less than flower/vapes

LOCATION DISTRIBUTION

• Delta-8 outlets in areas with worse economic conditions

MINIMUM PURCHASE AGE OF 21

- Most reported 21 as minimum purchase age
- 4% reported 18 years or no minimum age

Rossheim, M.E. LoParco, C.R., Walker, A., Livingston, M.D., Trangenstein, P.J., Olsson, S., McDonold, K.K., Yockey, R.A., Luningham, J.M., Kong, A.Y., Henry, D., Walters, S.T., Thombs, D.L., & Jerngan, D.H. (2022). Delta 8 TH. Retal Availability, Price, and Minimum Purchase Age. Cannabis and Cannabinoid Research. doi: 10.1089/car.2022.0079

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MINIMUM PURCHASE AGE OF 21

Potentially different than what they actually do...

- Most reported 21 as minimum purchase age
- 4% reported 18 years or no minimum age

THE WALL STREET JOURNAL

SIGN IN

SUBSCRIBE

Hemp Gummies Are Sending Hundreds of Kids to Hospitals

Surge of THC products, vapes has states struggling to regulate the booming market



Products advertised as containing Delta-8 THC are sold at a smoke shop. GENE JOHNSON/ASSOCIATED PRE

WHERE CAN KIDS BUY THC?

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Delta-8 THC: Online/Youth Access

8 ONLINE PURCHASES

- Easily accessible online
- Age verification methods are self-reported and easily circumvented
- Contact with the customer was never requested at the point of home delivery
- Policies and their enforcement are needed to prevent youth access from online sources

2022 - 2023 SCHOOL YEAR

- 65 students in one Texas ISD caught with THC vapes
- Some used Snapchat & cash apps

Egan KL, Villani S, Saule EK. Absance of Age Verification for Online Purchases of Connobidad and Delite 8: Implications for Youth Access. J Adolesc Health. 2023 Mar 2 S21054-139X(22)00067-8. doi: 10.1016/j.jadohealth.2023.01.020 and https://www.doi:19.tv/article/news/locol/85students-charged-with fellowin-for-bringing-the-vape-tyler-ad-compuses/50136f(59-55-50-4/9-4062-71). Hiscoffeddo

Online Retail Assessment Downloaded top 100 results using resultstoexcel.com Used SimilarWeb to compare web traffic: top 3 sites

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There were 185 different combinations of intoxicating compounds being marketed There were 185 different combinations of intoxicating compounds contained within these 804 products There's little understanding of the health effects from using these compounds individually, let alone in these various combinations **Resther, M.E. Tüdet, K.K., Valde, V., Löffers, C.P., Berg, C.J., Taurgentater, P.J., Yakay, R.A., Sustema, S.Y., Suppl. M., E jamage, D.H. DOZN). Types and Broads of Demodr Psychosolite Camado Psychosolite Cama

4/20 Specials

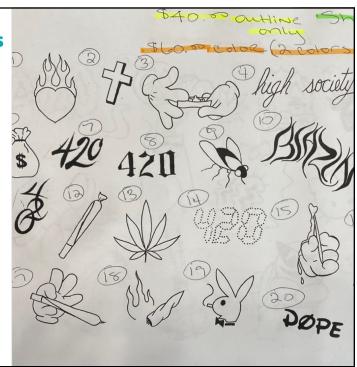
- None of the gas/convenience stores had 4/20 sales promotions
- 58% of smoke shops had 4/20 specials discounting prices
- Common 4/20 specials included sales on:
- Intoxicating cannabis products (69%)
 - Glass (43%)
 - Everything in the store (26%)
- Most specials were a fixed percent off, ranging from 10% to 30% off everything in the store, and up to 50% off intoxicating cannabis products and 75% off glass
- Other specials were a fixed amount off (i.e., from \$5 to \$10 off), buy-two-get-one free, buy-one-get-one (BOGO) free, or BOGO half-off
- Seven stores offered giveaways, most often for smoking devices/accessories

4/20 Promotional Events

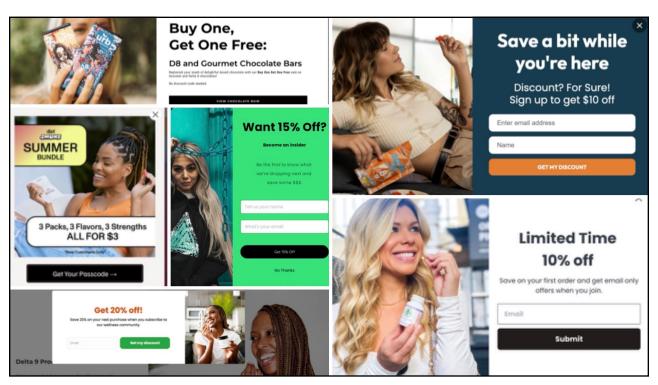
Several stores sponsored 4/20 promotional events, including:

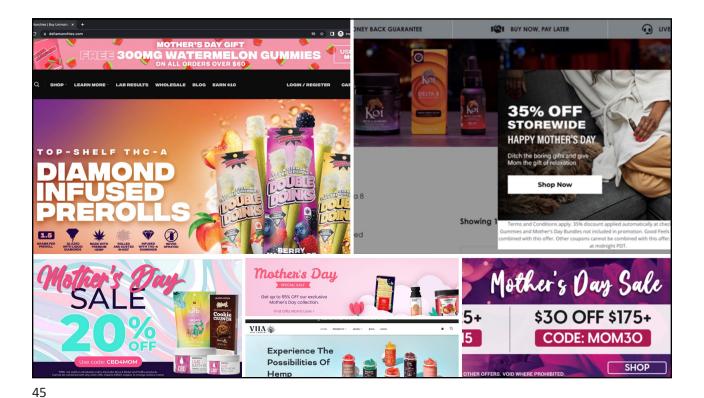
- Free THC gummies
- "Live delta demos where people can test cartridges and try smoking flower in the store"
- In addition to offering 20% off THC products, a "poke and smoke" shop offered \$40 tattoo outlines on 4/20, with numerous tattoo designs related to 4/20 and cannabis
- Another retail store held an event that included food trucks and a DJ

Rossheim, M.E., LoPurco, C.R., Berg, C.J., Tillett, K.K., Trangerstein, P.J., Henry, D., Yockey, R.A., Livingston, M.D., Jernigan D.H., E. Sassman, S.Y. (2024). Derived psychoactive cannotis products and 4/20 specials. An assessment of popular brands and retail price discounts in Fort Worth, Teoss, 2023. Drug and Alcohol Dependence, 256. doi:10.1016/j.inrupjacideja.2024.111119



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Modalities

Disposable vapes (43%)

Edibles (29%)

Vape carts (18%)

Pre-rolls (7%)

Flower (2%)

Dabs (1%)

Vape pods (<1%)

Vape pods (<1%)

WHY DO BRANDS MATTER?

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IN THE UNITED STATES

- 25 alcohol brands comprise nearly half of all alcohol consumed by underage youth
- The first tobacco brand that youth smoke typically becomes their preferred brand

PUBLIC HEALTH & POLICY

- Brand-related insights have been crucial in crafting targeted public health campaigns and policy measures aimed at curbing use among vulnerable populations
- Insights can help inform the development of laws, public health campaigns, and counteradvertising initiatives

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FT. WORTH, TX: BRANDS

- Cake
- Medusa/Modus
- Torch
- Urb
- Kik
- Tyson

- 3Chi
- Casper
- Hidden Hills
- Esco Bars
- Happi
- Hometown Hero

- STNR
- Bomb Bars
- Baked
- Hi On Nature
- Looper
- Space God

Rossheim, M.E., LoParco, C.R., Berg, C.J., Tillett, K.K., Trangenstein, P.J., Henry, D., Yockey, R.A., Livingston, M.D., Jernigan, D.H., & Sussman, S.Y. (2024). Derived psychoactive connability and A/D consider. An accordance of popular broads and settle large discounts in Earth Worth. Towns 2022. Data and Alcohol. Dependence 256. doi:10.1016/j.depublishes.2022.11110

Online Retail Assessment

Among the 118 brands, the most common were:

- Exhale
- Delta Extrax
- Cake
- URB
- Looper
- TRE House

Rossheim, M.E., Tillett, K.K., Vasilev, V., LoParco, C.R., Berg, C.J., Trangenstein, P.J., Yockey, R.A., Sussman, S.Y., Siegel, M., & Jernigan, D.H. (2024). Types and Brands of Derived Psychoactive Cannabis Products: An Online Retail Assessment, 2023. Cannabis and Cannabinoid Research, 1–4, doi: 10.1089/can.2023.0266.

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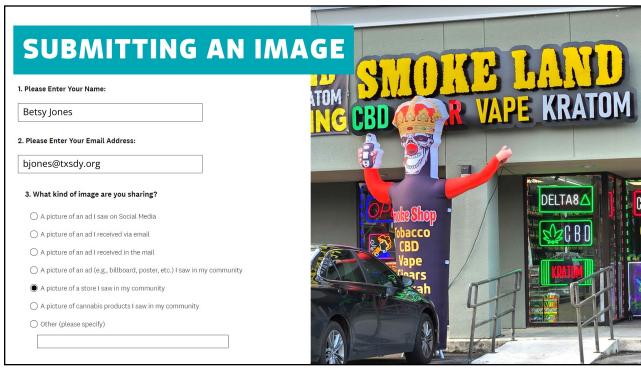
What we already see in Texas...

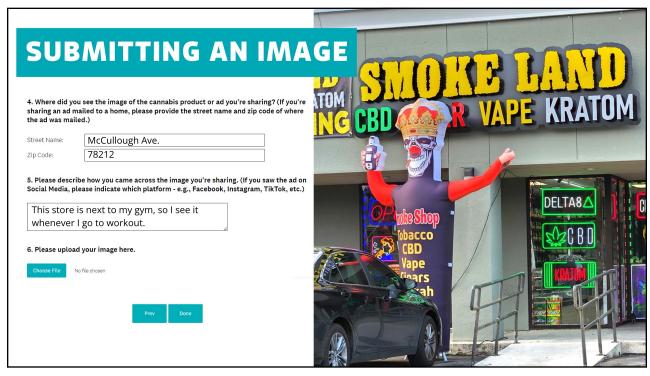
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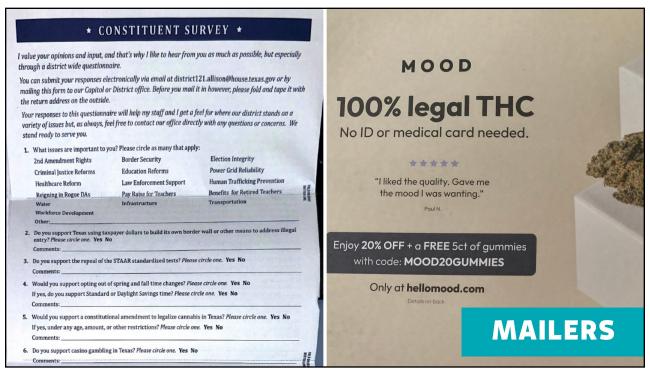












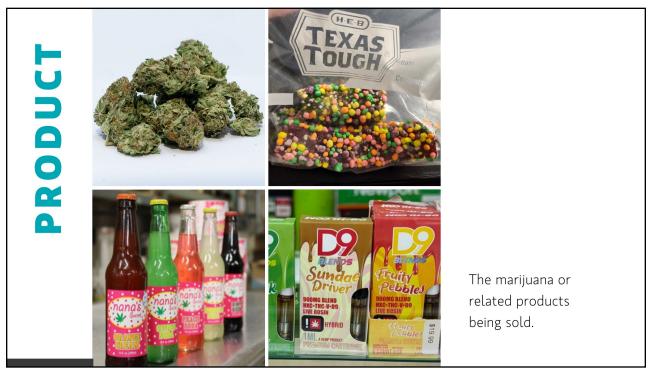


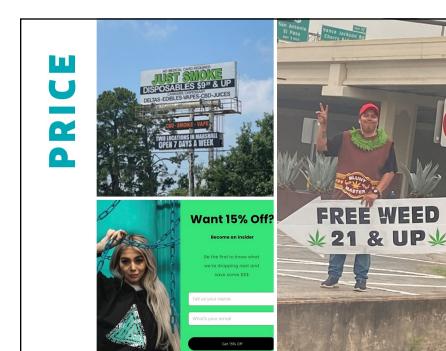
How do the 4 Ps apply?



The 4 Ps of Marketing

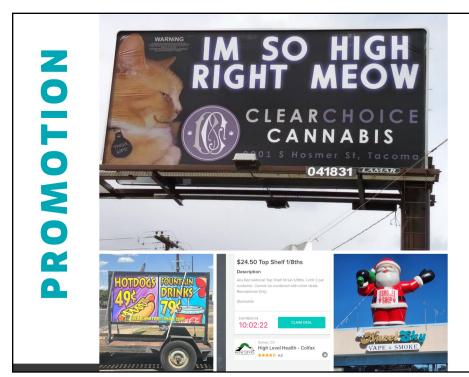
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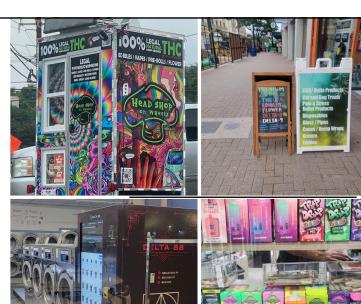
The cost of marijuana products. The higher the cost, the lower the rates of consumption, which results in fewer problems.

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Raising customer awareness of a marijuana-related product or brand; generates sales and creates brand loyalty.

PLACE



The location of sales, service, and smoking. In public health terms, place is known as "cannabis availability."

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DECRIMINALIZATION

Removes criminal penalties for the possession of small amounts of marijuana and imposes penalties other than jail time.

POLICY EFFORTS

MEDICAL

Permits the use of marijuana to alleviate the symptoms of illnesses.

NON-MEDICAL

Permits the use of marijuana for personal, non-medical purposes.

TEXAS POLICIES

Compassionate Use Program

Legalization of Industrial Hemp



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UNDER TEXAS LAW...

The manufacturing and processing of consumable hemp products for smoking is prohibited.

Effective July 5, 2023

The legal definition of smoking includes vaping



LOOPHOLES IN THE LAW

HUNDREDS OF CANNABINOIDS IN PLANT

There are hundreds of cannabinoids with psychoactive properties, such as Delta-8. These products are commonly seen and widely available in smoke shops and gas stations.





DIFFERENT PROPERTIES OF CANNABINOIDS

Different cannabinoids have psychoactive properties. E.g., tetrahydrocannabinol (THCA) converts to psychoactive Delta-9 when heated.



0.3% THC CAN MEAN DIFFERENT THINGS

Delta-9 is measured in the dried flower of the plant, but products aren't always dry. 0.3% of one gummy bear is a significantly larger amount than 0.3% of a dried flower.



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Directive for legislators to study certain policy issues in advance of next session Lt. Governor's office and Speaker of the House issue lists of interim charges based on citizen or lawmaker requests and state priorities Senate and House committees study these topics through hearings, research, and expert testimony

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Why are interim studies important?

- Explore common or emerging issues
- Review recently enacted legislation or failed legislation
- Monitor mandates given to executive agencies
- Hearings are held on interim studies; experts provide testimony
- Sometimes result in a report or recommendations



TEXAS SENATE AFFAIRS COMMITTEE

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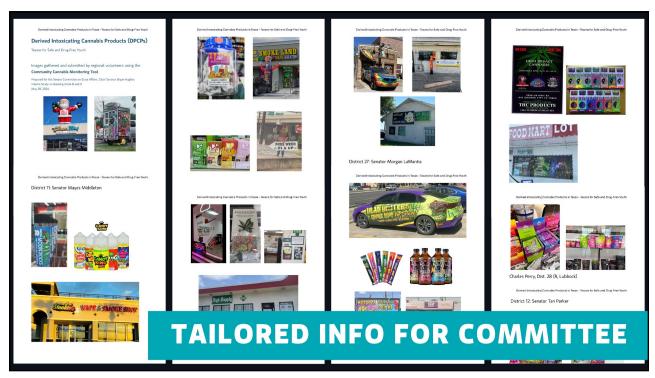
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(D, San Antonio)

Mayes Middleton
(R, Calveston)

Mayes Middleton
(R, Calveston)

Judith Zaffirini
(D, Laredo)



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We need a total ban on intoxicating cannabinoids.

Questions

- How do the effects of various DPCPs (and their combinations) compare to Delta-9 THC in terms of potency, mental and physical health effects? (Shortand long-term)
- Are there populations particularly at risk of harms from using DPCPs? (E.g., young people; taken with other substances, prescription medications; others?)
- How prevalent is the use of each semi-synthetic cannabinoid?
- How valid are our measures? Surveys, biological tests, field sobriety tests...

If we don't have these answers, how can we effectively regulate?

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These products are designed to circumvent any and all regulations!

VAPE SHOPS WITHOUT BANS

Vape shops in states without bans had approximately 16 times the odds of selling intoxicating cannabis products, compared to states with bans (statistically adjusting for active retail of legal non-medical cannabis)

BANS WORK!

BANS NEED TO BE COMPREHENSIVE AND ENFORCED

In states with Delta-8 THC bans, 43% of vape shops still sold some type of intoxicating cannabis product:

- Delta-9 THC 32%
- Delta-8 THC 25%
- HHC 25%
- THCA 21%
- Delta-10 THC 19%
- THCO 9%

Rossheim, M.E., LoParco, C.R., Tillett, K.K., Treffers, R.D., Livingsto M.D., & Berg, C.J. (2024). Intoxicating Cannabis Products in Vape Shop United States, 2023. American Journal of Preventive Medicir

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For states with other laws designed to limit potency/availability, there was no significant association with the availability of intoxicating cannabis products.

Product regulations don't work!!!

In states with limited/no delta-8 THC regulations, 92% sold intoxicating cannabis products

In states with laws designed to limit potency/availability, 90% sold intoxicating cannabis products

It's no surprise that regulations don't work, because these products are being designed to circumvent regulations

Rossheim, M.E., LoParco, C.R., Tillett, K.K., Treffers, R.D., Livingston, M.D., & Berg, C.J. (2024). Intoxicating Cannabis Products in Vape Shops: United States, 2023. American Journal of Preventive Medicine

Why hemp-derived intoxicating cannabinoids must be banned, rather than "regulated."

These products are widely accessible, including to children and adolescents.

These products are harmful, and we won't know the full extent of these harms for many years.

If we don't know all the short- and long-term harms from use, we can't appropriately regulate them.

States are unable to "regulate" their way out of this problem, because these products are being innovated specifically to circumvent all regulations.

Banning the sale of all hemp-derived ICPs is needed to protect our communities and youth

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Mary Miller Amendment

What would it do?

It would NOT ban CBD (despite industry claims)

What would rescheduling mean?

Where is this in terms of process?

How likely is it to happen?

What would happen if it happens?



2024 Farm Bill Reauthorization

Major opportunity to address the negative consequences of the 2018 Farm bill.

State (and local) laws are still needed!!!

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Important Components of Laws

BANS ON ALL HEMP-DERIVED ICPs

- Ban, not "regulate" them (because regulations don't work)
- Comprehensive definition (Not limited to certain ones such as Delta-8 THC)
- Any detectable levels (not some arbitrary threshold)

PRODUCT TESTING

 Of any remaining cannabinoids on the market (such as CBD products)

ENFORCEMENT

- Large fines for those in the supply chain
- Large enough to not just be a cost of doing business, but rather act as a strong deterrent
- Not "purchase, use, possession" (AKA PUP laws) they don't change the retail environment, and disproportionately affect young men of color

WHAT ARE DERIVED PSYCHOACTIVE CANNABIS PRODUCTS (DPCPS)?

- DPCPs have intoxicating properties similar to cannabis, but they are chemically derived, not grown.
- Due to a definition in the 2018 Farm Bill (i.e., Agriculture Improvement Act), these compounds are being regulated as "hemp" despite their intoxicating effects (because they have < 0.3% 0-9 THC by weight).⁵³
 - Companies are now marketing at least 26 different intoxicating cannabis compounds, including Δ-8 THC, Δ-9 THC, Δ-10 THC, Δ-11 THC-A, THC-B, THC-H, THC-JD, THC-O, THC-P, THC-X, HHC and HHC-P.⁴
- In 2023, 1-in-9 12th graders reported ∆-8 THC use in the past year.5

AVAILABILITY AND ACCESS

- DPCPs are available in nearly every state, including most that have banned certain DPCPs such as $\Delta\text{--8 THC},^{t,z}$
 - This is because companies continuously create new types of DPCPs to circumvent these laws.
 - Some of these new DPCPs are marketed as being far more potent than Δ-9 THC.
- DPCPs are easy to buy online: Age verification measures are rarely used and easily circumvented.¹²
- In most states, there are no age laws, so it is up to the retailers whether to sell DPCPs to children. 133
- DPCPs are marketed in ways that are extremely likely to attract children, such as added in candy, chips and chocolates.
- DPCPs are inexpensive (sometimes < \$5), and stores are disproportionately located in low-income areas.^M

Questions or concerns? Please contact: Matthew.Rossheim@unthsc.edu.

DPCPS CARRY RISK OF HARM, ESPECIALLY TO YOUNG PEOPLE.^{1,5-7}

- Most states do not require testing for chemical contaminants, even though DPCPs are commonly synthesized using harsh solvents that are hazardous to human health.¹
- Potency limits are rare, despite conclusive evidence that more potent products carry higher risk of harms.¹
- Research supports that DPCP use is associated with acute psychiatric disorders, including severe psychosis, as well as lung, chest and heart disorders, injuries and poisonings.⁶⁻⁸
- DPCPs are new, so we don't know all the short- and long-term risks from use.
- DPCPs are often consumed accidentally by children because of poor labeling and a lack of child-proof containers.⁹
- This problem appears to be getting worse. In 2022, U.S. Poison Centers managed 82% more △-8 THC cases than in 2021.¹⁰
- These products are marketed to young people. Some DPCP product packaging mimics well-known food brands and flavors that appeal to children, including Cap'n Crunch, Cocoa Puffs, Froot Loops, Nerds Ropes, Starbursts and Sour Patch Kids, among others."

No psychoactive drug should be sold as "hemp."

The 2024 Farm Bill and state laws should help prevent kids from accessing harmful, psychoactive candy.















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THANK YOU!

PLEASE CONTACT US WITH ANY QUESTIONS.







Kayla K. Tillett, MPHKaylaTillett@my.unthsc.edu



