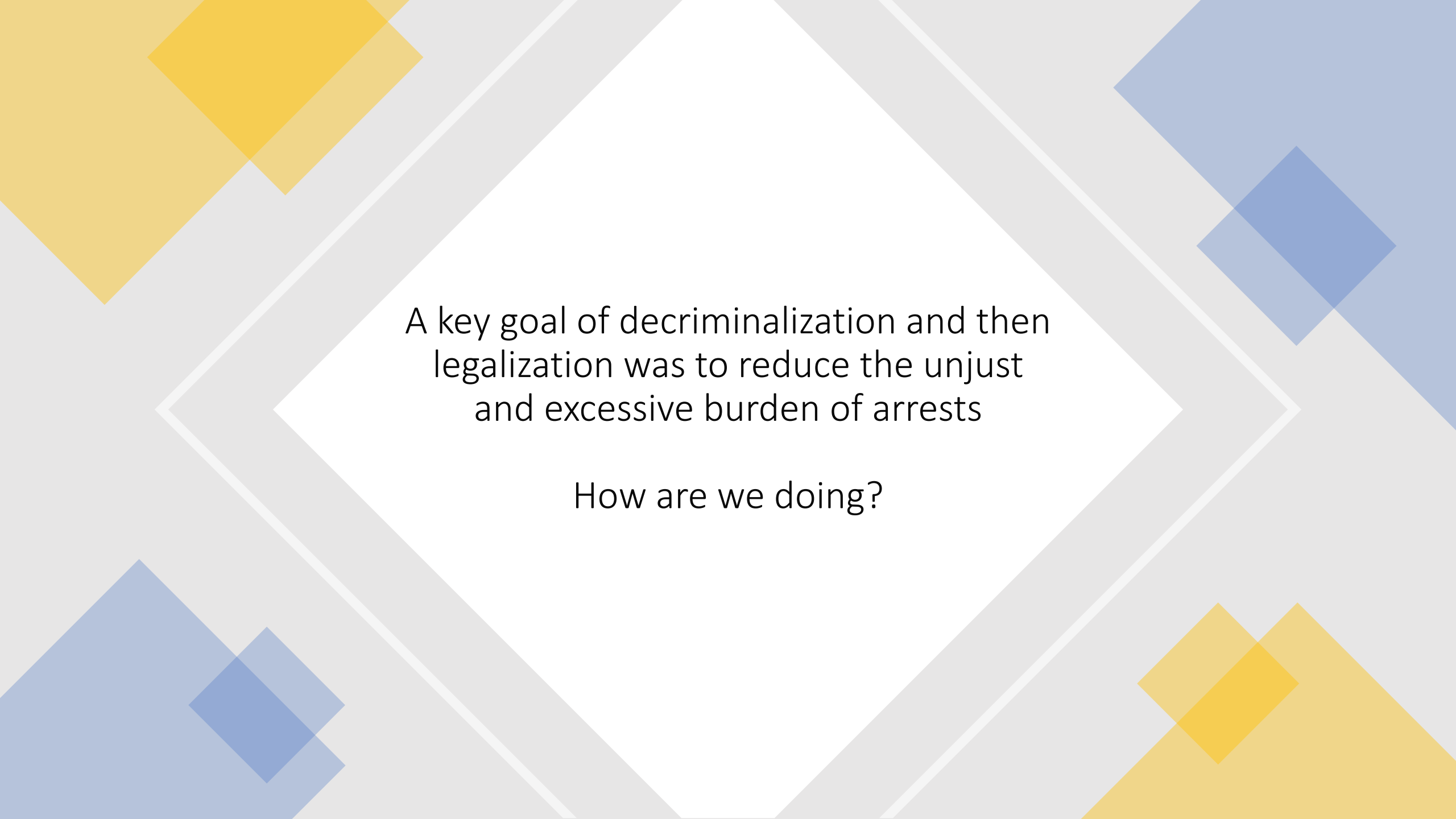


Policy Approaches to Cannabis

New Hampshire behavioral Health Conference
December 4, 2023

Lynn Silver MD, MPH
Senior Advisor
The Public Health Institute



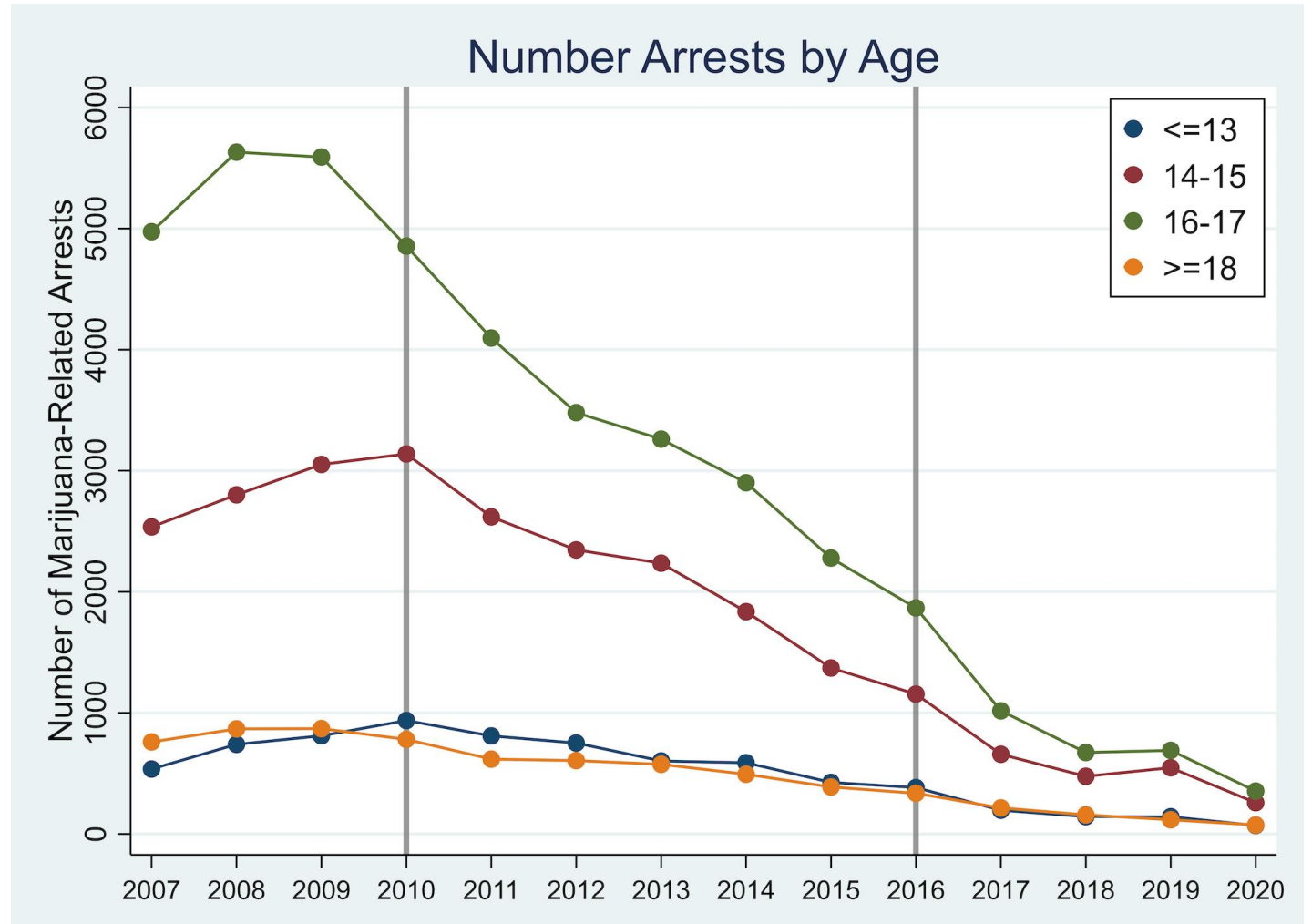
A key goal of decriminalization and then
legalization was to reduce the unjust
and excessive burden of arrests

How are we doing?

CA - Major Progress!

A 98% Decline in Marijuana Possession Arrests California 2009-2020

- 93% of over 200,000 eligible criminal records for minor marijuana offenses expunged by 2023
- **But this can be achieved without creating a for profit sales system**



Source: PHI from FBI Crime Data Explorer

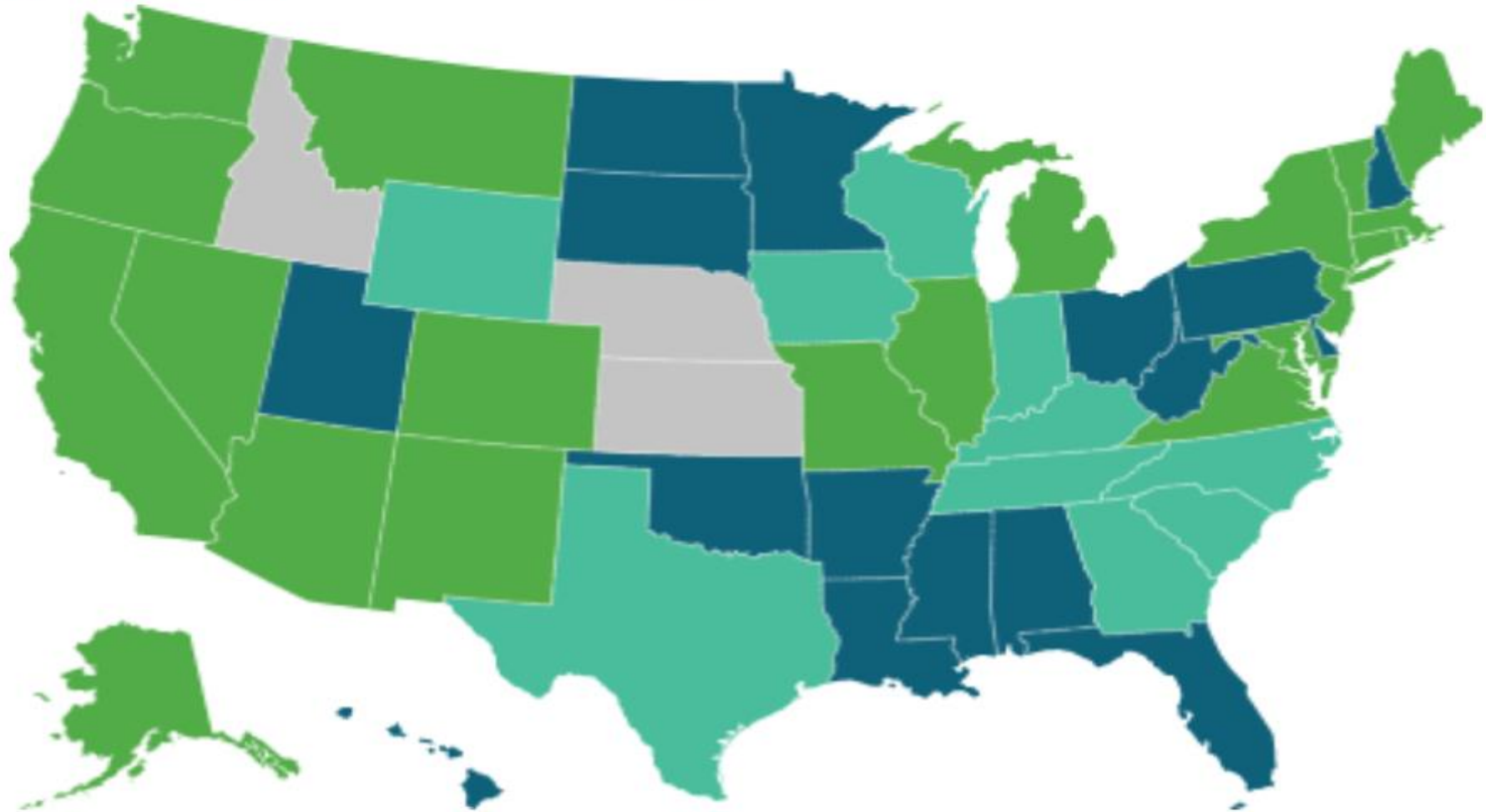
Emerging juggernaut

- Still Schedule 1 federally
- Still a policy of federal “forbearance”
- Cannabis industry is a growing juggernaut with increasing political power
- Companies like Altria and Constellation now leading coalitions to legalize, Altria and BAT bought in via Canada
- Strong pressure for state and Federal legalization of for-profit industry
- Growing global footprint



Where marijuana is - and isn't - legal in 2023

■ CBD/Low THC ■ Medical ■ No public program ■ Recreational & Medical



Map: Addy Bink & Alix Martichoux, NMW • Source: [National Conference of State Legislatures](#) • [Get the data](#) • Created with [Datawrapper](#)

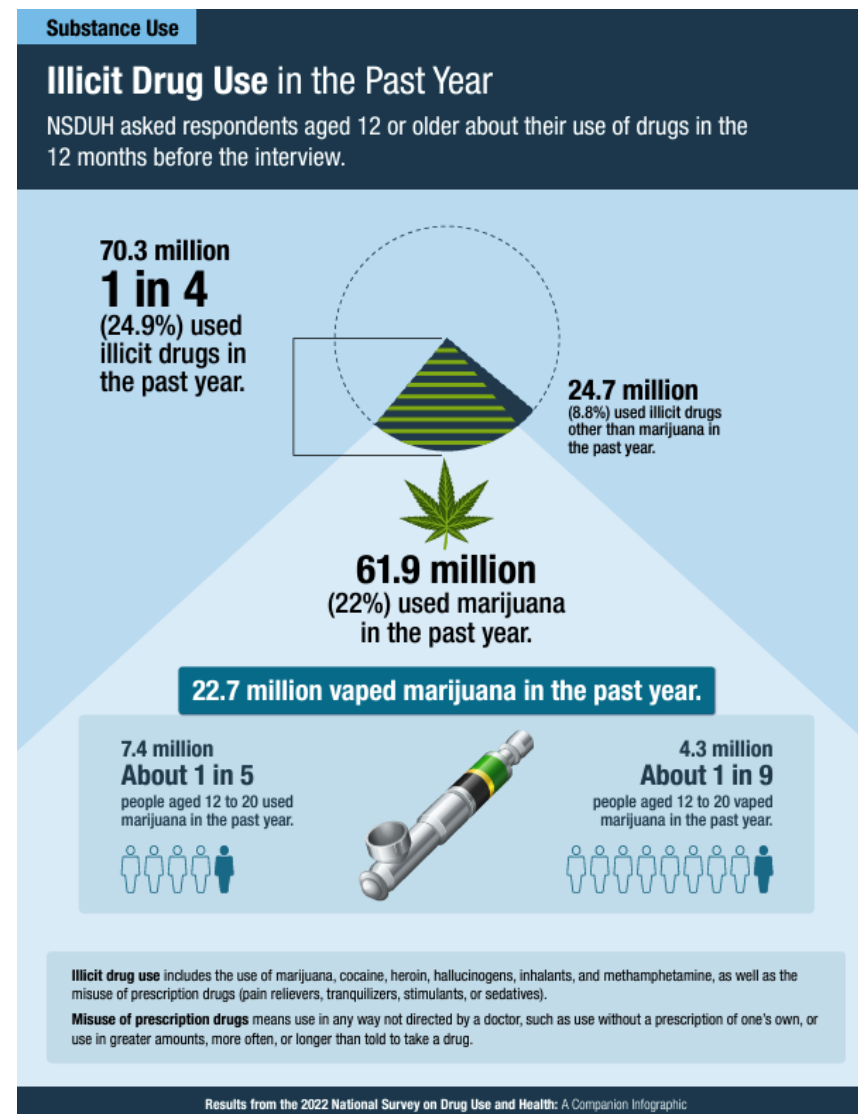


Use trends and health
effects

Cannabis Use Disorder and Cannabis Use in 2022

5.1% of 12-17
year-olds had
CUD in 2022

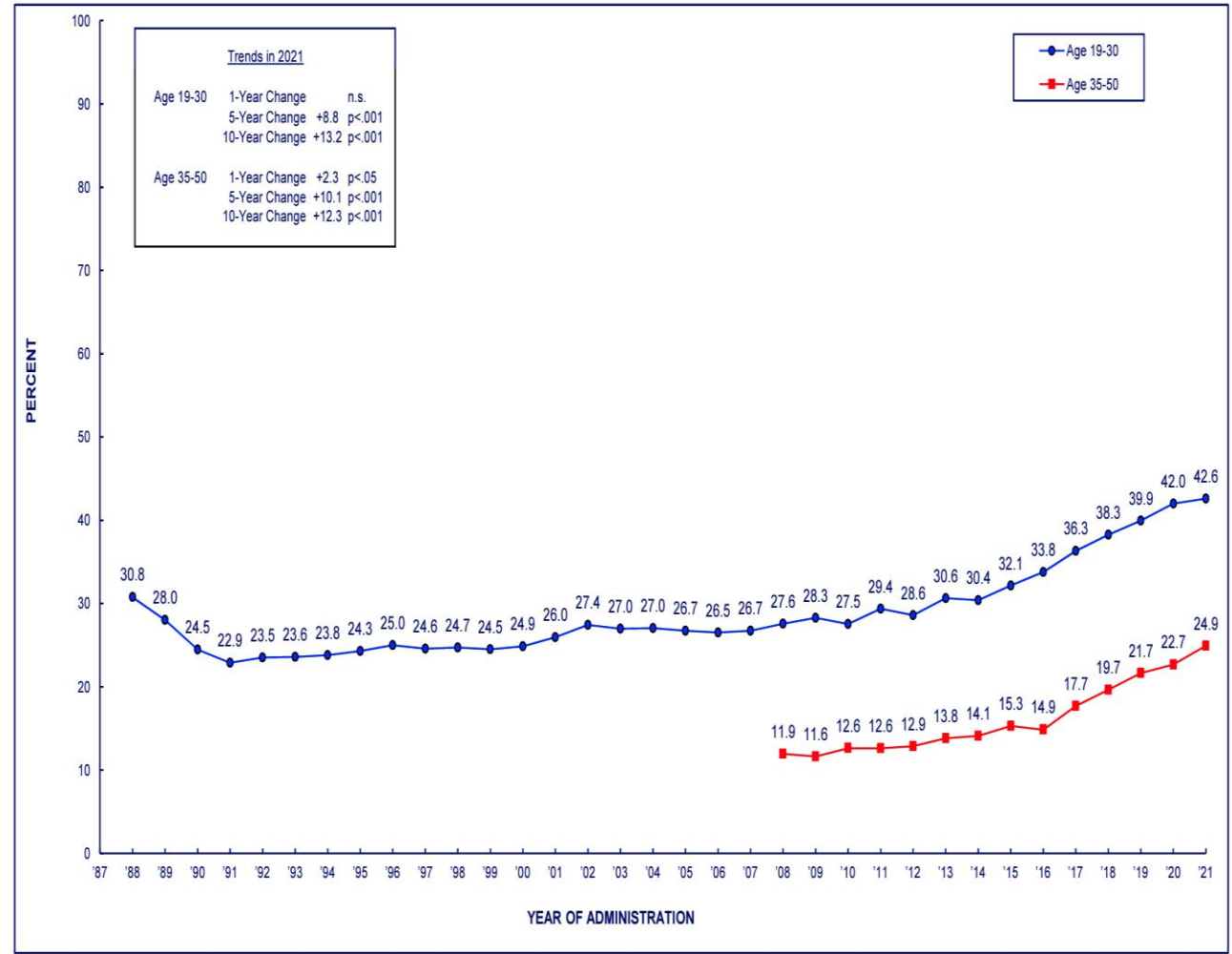
16.5% of 18-
25 y.o had
CUD in 2022



Source: SAMHSA National Survey on Drug Use and Health 2022; Table 5.3B

Trends: Marijuana Use 12 Month Prevalence in Adults 1987- 2021

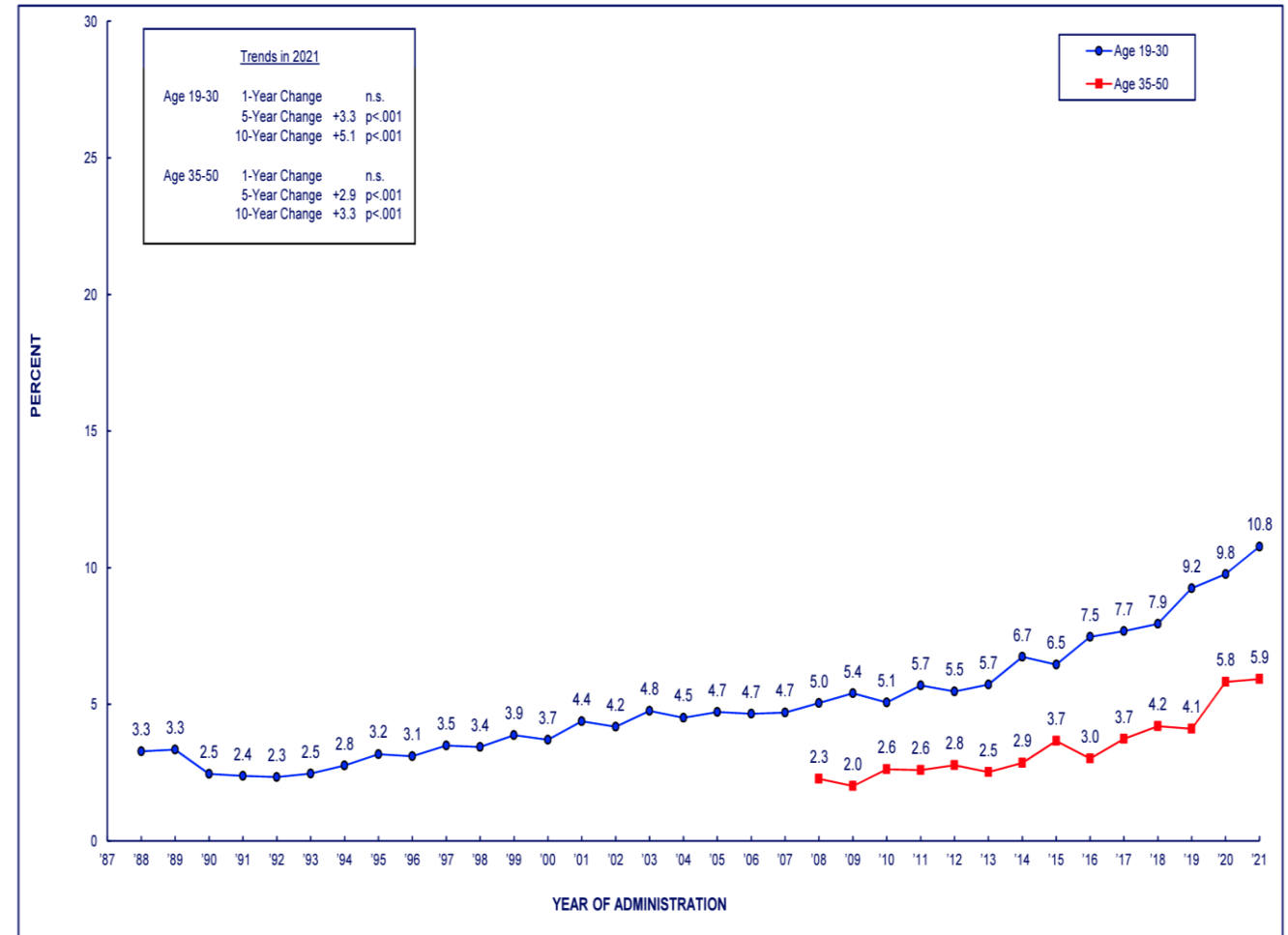
FIGURE 1
MARIJUANA
Trends in 12-Month Prevalence
among Respondents of Modal Ages 19 through 50, by Age Group



Source: Monitoring the Future 2021

Trends:
Daily Marijuana Use
in US Young Adults
TRIPLED 1987-2021
*One in ten youth
walks around high
every day*

FIGURE 3
MARIJUANA
Trends in 30-Day Prevalence of Daily Use
among Respondents of Modal Ages 19 through 50, by Age Group



Source: Monitoring the Future 2021

Why Worry? Some Proven Evidence of Benefit



Chemotherapy induced nausea



Approved pharmaceutical Epidiolex (cannabidiol) for rare difficult to control form of epilepsy



Certain forms of chronic pain



Multiple sclerosis associated spasticity



Why worry about legalizing sale? Substantial Evidence of Harm with Use

Low birth weight

Schizophrenia and psychoses

Increased motor vehicle crashes

Respiratory illness, including severe lung disease with vaping

Problem use associated with early onset of use and frequency of use

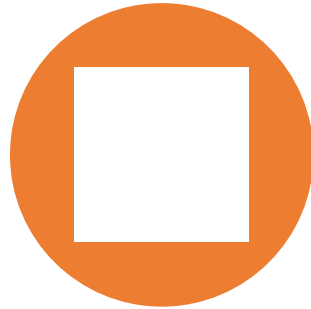
Source: National Academies of
Science, Engineering, and Medicine, 2017, CDC 2019



Rapidly emerging evidence



COGNITIVE, ACADEMIC
AND SOCIAL EFFECTS



GROWTH IN CANNABIS
USE DISORDER



ACCIDENTAL INGESTION
AND OVERDOSE



CARDIOVASCULAR
DISEASE

Source: Page, Circulation. 2020; NASEM, 2017; US Surgeon General, 2019

Cannabis the traditional botanical
– *vs Cannabis the industrialized product*

- Traditional cannabis was 3-5% THC
- Today's flower is 15-30%
- Concentrates reach 99%; vapes 70-90%
- Marketed as fruity as “pineapple express vapes” or candylike “zkittles” resin
- Or Candy like edibles

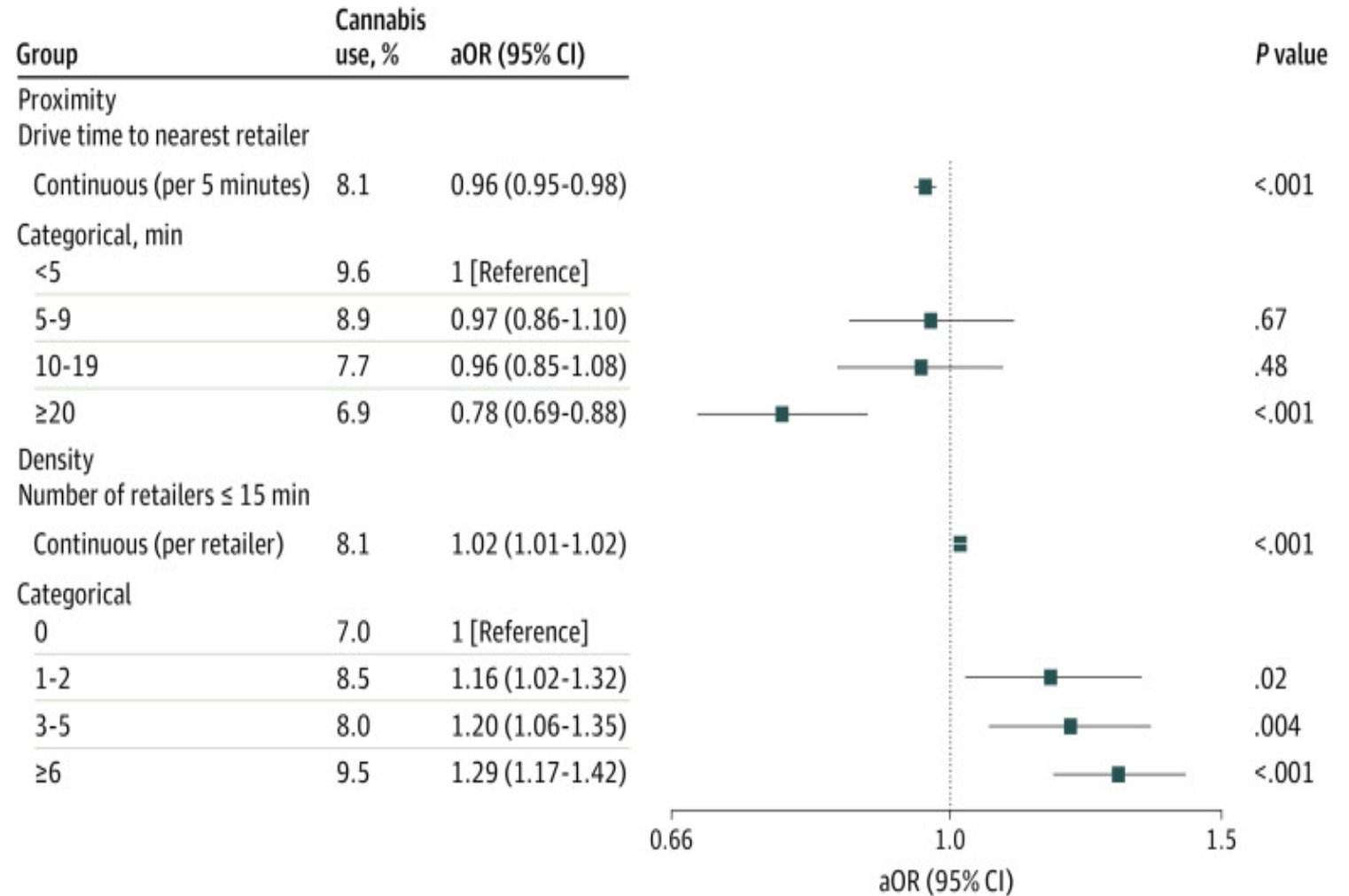


Prenatal cannabis use associated with distance to and density of legal cannabis retailers in Northern California in 2018

Cross sectional study of 39,278
pregnancies in Kaiser Permanente



Adjusted Odds Ratios (aOR) for Prenatal Cannabis Use by Proximity to and Density of Cannabis Retailers Northern California 2018 (n=39,278)



Source: Young-Wolff KC, Slama NE, Padon AA, Silver LD, et al JAMA Network Open 2022.



Use during pregnancy associated with

More low
birth weight

More
prematurity

More NICU
admission

Long Term Harm
in utero exposure
associated with
psychopathology
and neurological
impacts at
age 9 – 12

- 11 489 children mean age, 9.9
- 655 (5.7%) were exposed to cannabis prenatally.

Cannabis exposure associated with greater offspring psychopathology

- Psychotic like episodes
- Lower cognition, and gray matter volume
- Internalizing, externalizing, attention, thought and, social problems
- Sleep problems

Two follow-up studies of same cohort found more sluggish cognitive tempo, social problems, rule-breaking behavior, conduct problems visuo-perceptual processing ability and intracranial volume

Source: Paul, JAMA Psychiatry. 2021 ; Baranger JAMA Pediatrics 2022, Hiraoka Dev Cog Neuroscience 2023

Frequent
“High
Potency”
Cannabis use
(> 10%) and
new psychosis

- **Daily** cannabis use associated with **three-fold higher odds of psychotic disorder**
- **Daily use of high-potency** types of cannabis associated with **five-fold higher odds of psychotic disorder**
- **Population attributable fraction** of first episode psychosis to high potency (>10% THC) :
 - **12·2% (95% CI 3·0-16·1) across the 11 sites**
 - 30·3% (15·2-40·0) in London
 - 50·3% (27·4-66·0) in Amsterdam.

Source: Di Forti, Lancet Psychiatry 2019

Increased psychosis in teens – A California Doc

“I don't know how to say this exactly, but kids who smoked a joint daily or a couple times daily, they could lose motivation and look depressed and all those kinds of things.

Kids who vape or use cartridges or edibles daily they get psychotic. ...I can think of three or four off the top my head the last five months who actually were psychotic. I was trying to talk to them and they were, yeah, they were psychotic. Drug-induced psychosis and that we didn't use to see so much.”

An addiction medicine pediatric provider in CA

Source: Young-Wolff 2023 preliminary data not for citation



Increased Suicide Risk

- Studied 281,000 Americans ages 18-34 years 2008-2019
- Cannabis use disorder, daily cannabis use, and even nondaily cannabis use associated with higher risk of :
 - Suicidal ideation
 - Plan
 - Attempt
- For people without major depression prevalence of suicidal ideation for those with vs without CUD was:
 - 13.9% vs 3.5% among women
 - 9.9% vs 3.0% among men; $P < .001$
- Is significant but not only factor contributing to rising suicide rate



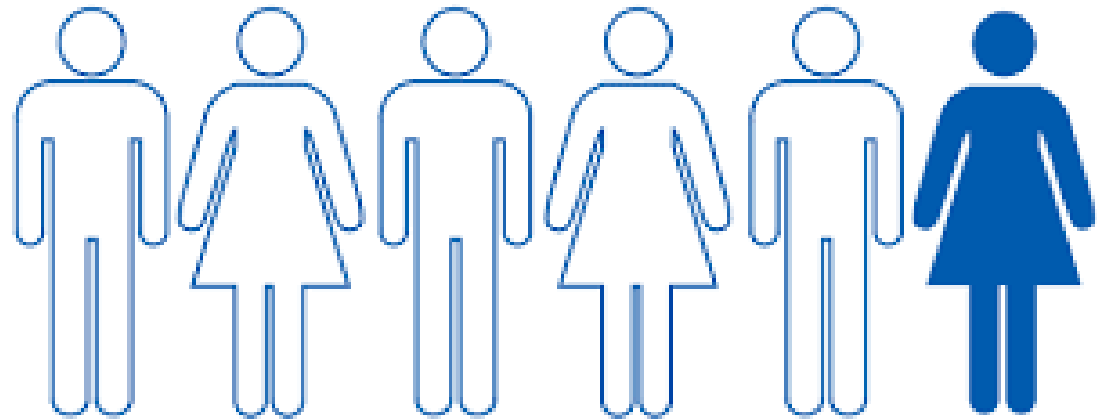
Smoke is Smoke

- Just 1 minute of cannabis smoke impaired heart endothelial tissue for at least 90 minutes, more than tobacco smoke
- Particulate matter from smoking a joint is 4.4 times that from a cigarette
- Particulate matter in vaping only consumption lounge spiked 28 fold when open
- Engineering solutions do not work for smoke (tobacco or for cannabis)

Sources: Wang 2016 JAHA; Ott 2022 Sci Total Environ; Murphy 2021 Env Health Persp; ASHRAE 2020

Cannabis use disorder

- Developed in approximately 9% of users (in potency pre-history)
- One in six of those who start in adolescence
- More recent data suggests as much as 30% develop CUD

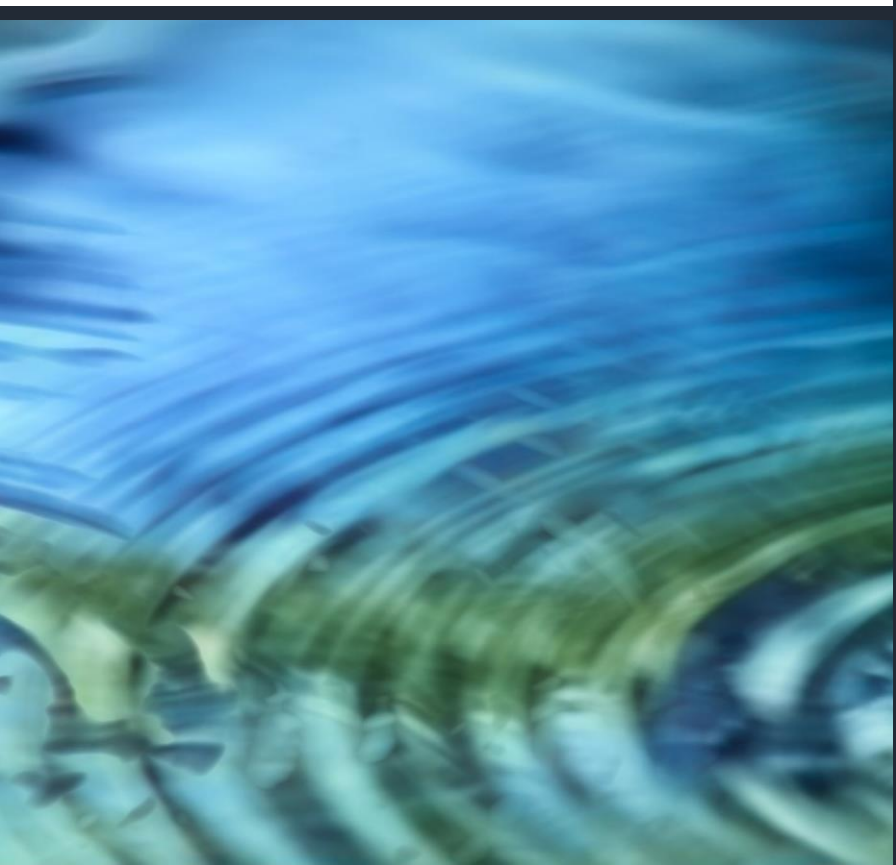


Does cannabis give you cancer?

“Moderate” evidence
that cannabis use is
NOT associated with
lung or head and neck
cancers

“Limited” positive
evidence that it is
associated with
testicular cancer

Bad News: California Examples



Tripling of daily or near daily use in adults 26+ 2008-9 to 2018-2019

Major increases in use during pregnancy, vary with retailer density

75% Increase in cannabis related ER visits in CA 2016-2020, including increasing psychosis

1800% increase in cannabis ER visits for seniors

Sources, UCLA, 2022; Young-Wolff 2021; PHI 2022

Cannabis Industry 2023 -Ramping up the lobbying game

Disseminating
misinformation

Demanding tax cuts

Demanding
Legalization &
Deregulation

Demanding end to
local control

Compromising
smoke free air in
parks, “cannabis”
restaurants and bars

Expanding
intoxicating “hemp”



Still large illicit
markets driven
largely by
overproduction

Three Dangerous Areas Where the Cannabis Industry is Borrowing from Big Tobacco's Playbook



Manipulating Potency thereby
Increasing the Risk of Addiction
and Psychosis



Creating flavored and other
diverse products aimed at
attracting youth



Misleading marketing &
Marketing appealing to youth

Rising Potency -Does this sound familiar?

Judge Kessler in *US v Philip Morris*

“Defendants have long known that nicotine creates and sustains an addiction to smoking and that cigarette sales, and ultimately tobacco company profits, depend on creating and sustaining that addiction..... Defendants have designed their cigarettes to precisely control nicotine delivery levels and provide doses of nicotine sufficient to create and sustain addiction.”



To what extent are our
cannabis policies addressing
these challenges?

Many States: State Regulatory Frameworks – A Recipe for Addiction

Allow extensive marketing

Few restrictions on potency or flavors

Health and therapeutic claims allowed and marketing inadequately monitored

No or insufficient limits on number of licenses unless banned or restricted by local government, vast overproduction in many states

Invisible and weak health warnings

Weak state equity provisions in licensing

Positives include local control, taxation, expungement of records, specialized business in many states, emerging potency limits and plain packaging



And the result
is.....





The cannabis industry has a kids' menu too – because we have let them

80% OF KIDS
WHO EVER USED TOBACCO
STARTED WITH A
FLAVORED PRODUCT

Lifelong addiction often starts out sweet.

30% THC
Flower
Imitating
Kids Cereal





Grape Flavored
“Blunts” with
added
concentrates



Edibles

Plus Pride Rainbow Sherbet 100mg



Pickup at ECO Cannabis

\$21.73 each

[View retailer](#)

Exclusively for in-store customers.



Favorite



Share

Pride Rainbow Sherbet



Ex. Stillzy grape flavor
vape with 380mg THC
in 0.02 oz.



Feel Better



HUGS

ADULT USE AND
MEDICAL CANNABIS

2035 STOCKTON BLVD.

004364

Social Media Ads Leading Flavored Vape Maker Stiiizy





Stiiizy is in Riverside, California.

September 19, 2021 · 🌐

That lil paper clip hasn't let me down to this day 🙌🔥 100



👍❤️ 1K

51 Comments 730 Shares

👍 Like

💬 Comment

↗ Share

The Mysterious Case of the Disappearing Health Warning



Where's the Cannabis Warning Label?

Current Cannabis information labels fail to protect or inform California Consumers. Don't believe us?
Can you find the required warning label on these commonly sold cannabis products?



Tonik: Pina Colada flavored beverage with ten 10 mg THC doses.



Kiva: Sour cherry flavored gummies with ten 10 mg doses of THC. Warning hidden on back of peel-off label. Edible product easily attractive to children



Cocoa Pebbles: Very high potency (30%THC) flower imitating cereals marketed to kids.



Wonder: Ultra high potency oil with sixty-three 10 mg doses in insulin syringe like container.



Monkey Bread: Very high potency resin for inhalation 86% THC, with eighty-six 10 mg dose equivalent. Health warning hidden inside box.



Kikoko Mints: Mints marketed as "little helpers" with 5 mg THC dose. Health warning hidden on p.4 of peel-off on bottom of packaging.



The Return of Joe Camel





The return of smoke- filled bars & restaurants

(On-site consumption sites)

The background is a blurred image of a financial chart or ledger. A pen is visible in the upper right corner, resting on the paper. The chart features a jagged line graph and some numerical data points. The text "Is this the legal market we want?" is overlaid in the center in a white, sans-serif font.

Is this the legal market we
want?

Formula for Trouble



High and Growing Levels of Exposure +

Mass Commercialization of More and Riskier
Products +

Significant Associated Harms =

Formula for Significant
Population Health Harm



What should
we be doing?





Uncertainty

Evidence base for cannabis policy practices is still nascent

Lessons from tobacco control and other fields, especially for policy, system and environmental change provides strong guidance

But the real world won't wait – we are forced to regulate and legislate amongst uncertainty, to the best of our ability



Our best shot for now

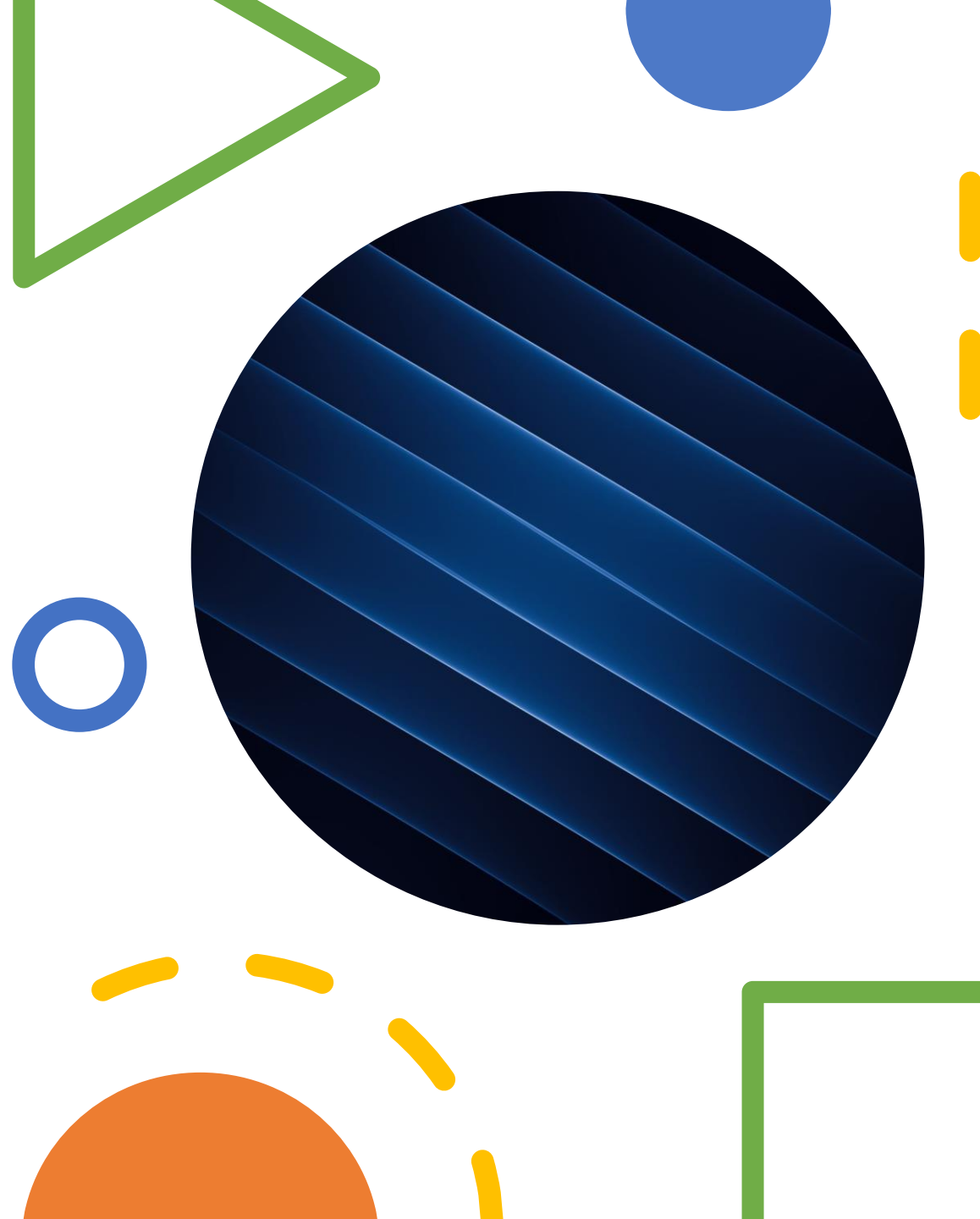
Goals and Strategies

**Not Drive Up
Consumption**

**Protect Youth
and Public
Health**

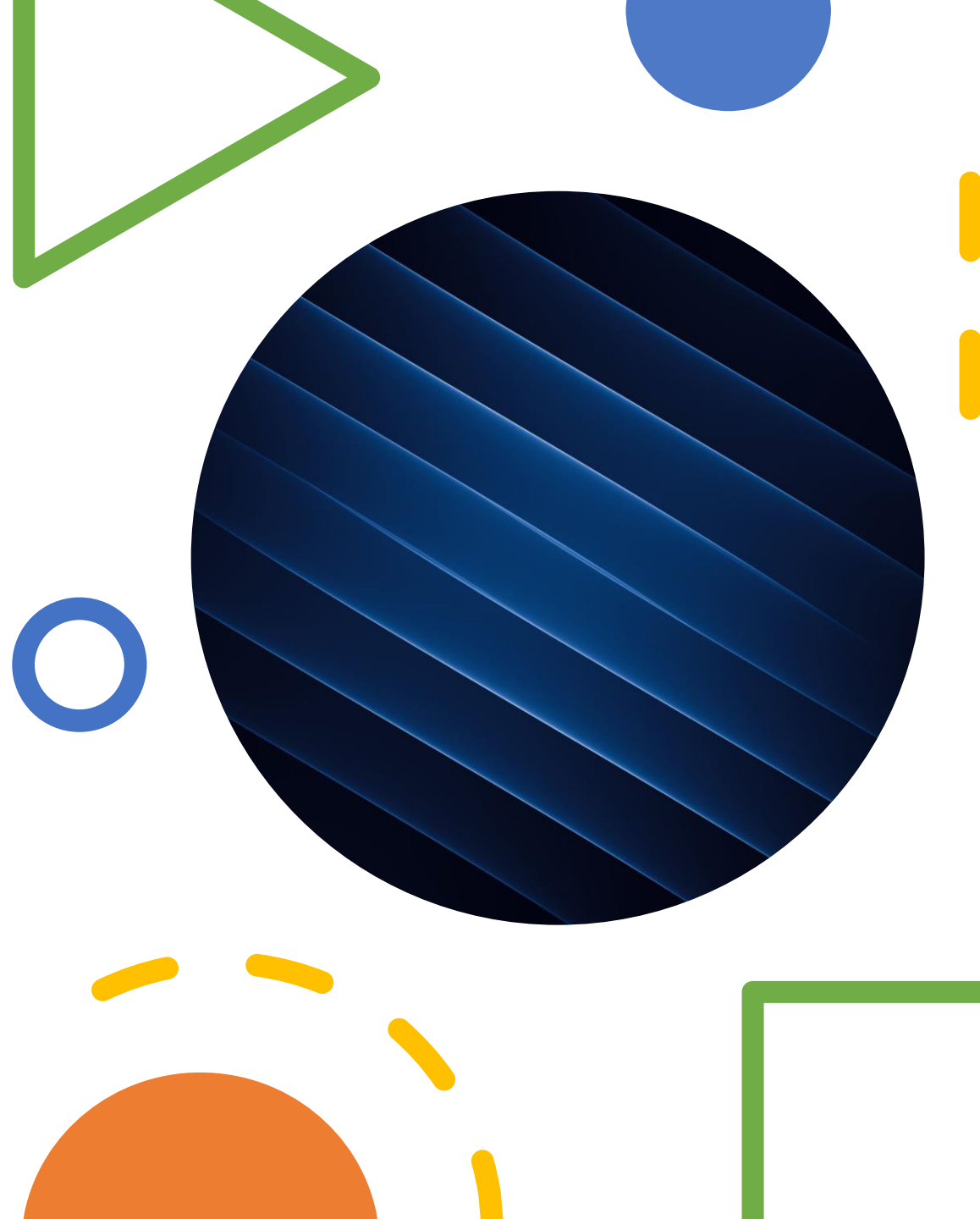
**Build Social
Equity**

- **Public Health Primacy**
- **Strong Product Regulations**
- **Rightsize Commerce Infrastructure and Limit Profit Driven Commerce**
- **Taxes and Pricing**
- **Protect Smoke-Free Air**
- **Preserve Local Control**
- **Disallow Conflicts of Interest**



Build Social Equity

- End unjust incarceration and automatically expunge criminal records
- You don't need to allow commerce at all nor for-profit stores to achieve these equity benefits



A large orange circle is positioned on the left side of the slide, partially cut off by the edge.

Key Principles for Regulation *IF legalizing commerce*

- Allow legal access but minimize or eliminate profit drive
- Consider public or not-for-profit state run system
- Structure to not drive-up consumption



Public Utility or Monopoly or Non-profit Model options



Quebec
(public monopoly stores & online)



State alcohol monopolies
(e.g., VA, UT)



State operated system or via contracted or
licensed nonprofit



Learning from Quebec, & Alcohol Monopolies

Allowing legal sales of a harmful product
without promoting consumption



Quebec

- Created Société Québécois du Cannabis in 2018
- Retail sector is all state controlled public stores
- Express purpose is to allow legal access **without** increasing consumption
- 30% THC Limit on concentrates
- 5mg edible serving
- No sweets, confectionaries, desserts, chocolates or other products attractive to under 21
- No substance destined to modify odour, flavor or color

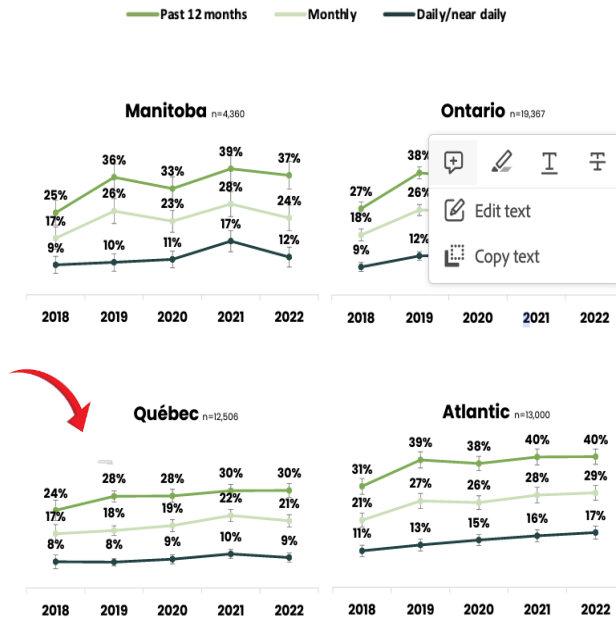


Quebec Exclusive State Controlled System Outcomes

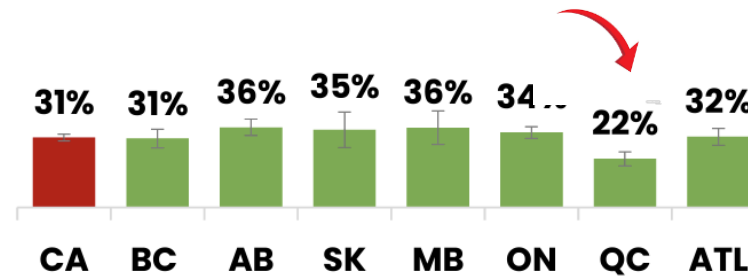
- Transition from illicit to legal market 75% by 2023 and similar to other provinces, higher than in many US legal states.
- Overall satisfaction 80% and with service is 88-90%
- The most profitable cannabis businesses in Canada are owned by government (MJBizDaily 9/20/22)
- Less growth in population consumption patterns

Quebec model had less consumption, did not shift people to getting high potency products from illegal market

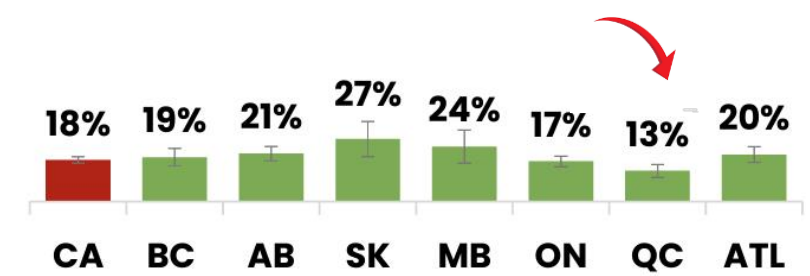
Trends in cannabis prevalence



Vape oils



Solid concentrates



Can we do this in US?

- Yes, but concerns over federal illegality for public employees
- Alternative is to use incubate/create a nonprofit to manage the system or to contract a nonprofit
- Like contracting an electric company to provide power
- Use contract in addition to law to create guardrails, including advertising restrictions that may be limited by law under first amendment
- Superavit captured for state and/ local government goals
- Less pressure on legislature?

The New Hampshire
Cannabis Society?



Situation in New Hampshire

- Legalization previously blocked
- Governor Sununu believing it would pass now or soon, indicated interest in a state-controlled option
- Commission convened to discuss state-controlled option this fall
- Failed to reach agreement, closed work and reported out last week
- But, drafted a bill that would have created a state managed franchise system; discussed in report
- Governor added last minute condition for no more than 15 stores and prohibition on lobbying – not agreed upon



Franchises: Bad Idea

Franchises are like McDonald's

Recommendation for position

If legalization is moving forward

Fight for a public store or single contracted nonprofit entity only to run system under state control – Quebec style

- Limit marketing and types of products – you can always expand but nearly impossible to pull back
- Limit cultivation to expected amount to be sold through stores

Public/non-profit option or no go

Franchises are for profit businesses that will naturally want to maximize sales



Other Principles Where Cannabis is being Legalized

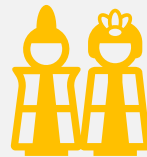
Key Principles: Products



Create authority to regulate products not just issue licenses



Limit product diversification and increasing potency



Prohibit designs and flavors attractive to youth

A magnifying glass is positioned over a bar chart. The chart displays two data series, one in blue and one in green, across four quarters labeled Q1, Q2, Q3, and Q4. The magnifying glass is centered over the Q2 and Q3 bars. The text 'Consider pre-market approval of products' is overlaid in white. A '1,000' label is visible on the right side of the chart's vertical axis.

Consider pre-market approval of products

Product Regulations

- **Manufacturing**

Don't allow "kid's menu" products (e.g., copycat candies, snacks & pop)

Clearly define attractiveness to youth

Products should NOT resemble 🌿 cartoons, fictional characters, non-cannabis kids foods, people, animals, toys, or existing food brands

Ban artificially derived cannabinoids (e.g., delta-8)

Standardized dosing for products (e.g., 5mg for edibles in easily defined, geometric shapes)

Limits on THC content



Product Regulations

Manufacturing

- Regulating product design and content is as or more important than testing
- Pre-marketing product approval is valuable





Recreational cannabis is being sold in New Hampshire as “Hemp”

- Visit any Smoke Shop or CBD shop
- Edibles prohibited by liquor commission but still sold
- Highly intoxicating inhaled products being sold illegally
- HB611 prohibited products with >0.3% THC – natural or synthetic but expires 10/7/2024
- Needs renewal and better enforcement
- *Picture: Blunts and vapes and resin with 89% THC's being sold in Derry smoke shops 11/2/2023*

What is hemp

- The 2018 Farm Bill authorized legal sale, including interstate, of *Cannabis sativa* with less than 0.3% Delta-9-THC by dry weight
- Called “hemp”
- Opened a Pandora’s box of loopholes and creative chemistry
- While ostensibly CBD only, in fact huge volumes of intoxicating cannabinoids products are being sold as hemp
- Many with artificial cannabinoids like Delta-8, same dangerously potent like THC-P



HEMP

As part of HB 611 renewal
recommend a complete
ban of any hemp product
with:

- > 1 mg THC or any
intoxicating compounds per
package to facilitate
enforcement
- Any synthetic cannabinoid

Key Principles: Price

Tax	Tax, tax based on THC content ; tax enough (WA is 37%)
Capture	Capture revenue for prevention, youth, community reinvestment
Prohibit	Prohibit discounting

Key Principles: Retailers

Limit the number
and footprint of
retailers

Approx 1:20,000
people or less

Keep Retailers
specialized
business (no food,
clothes, etc)

Keep them away
from schools &
homes (Buffers
min 1000 feet)

Key Principles: Information and Marketing

Limit marketing & health claims to the maximum extent allowable

Warn and inform consumers



Plain Packaging Canada, CT, MA, NJ and Front of Pack Warnings in Canada



Search 

products

learn about cannabis

about the sqdc

home / oils

oils (17 products)

your selection

Oils 

Sort by: **relevance** 

← 1 →

species

 Indica (2)

 Sativa (3)

 Hybrid (5)

Blend (7)



IMPORTANT HEALTH WARNINGS ABOUT CANNABIS

ARE YOU PREGNANT OR BREASTFEEDING?

According to the U.S. Centers for Disease Control (CDC), cannabis use during pregnancy can be harmful to your baby's health, including causing low birth weight and developmental problems.



Cannabis use may be associated with **greater risk of developing schizophrenia or other psychoses**; risk is highest for frequent users.

Smoking cannabis long-term may **make breathing problems worse** and vaping has been associated with serious lung disease.



DRIVING WHILE HIGH IS A DUI.

Cannabis use increases your risk of motor vehicle crashes.

NOT FOR KIDS OR TEENS!

Starting cannabis use young or using frequently may lead to problem use and, according to the Surgeon General, may harm the developing teen brain.



Information and Marketing

- **Advertising**

Don't allow billboard advertising and limit storefront/other advertising

Where advertising allowed, limit to "85 to 90%" adult audience criteria

(Ex: NYS)



Key Principles:
Protect smoke
free air

No on-site consumption
or outdoor temporary
licenses

Protect smoke-free air
progress



Key Principles: Regulatory Authority



Preserve local control



Do not allow conflicts of interest



Establish regulatory authority under public health or health-oriented body

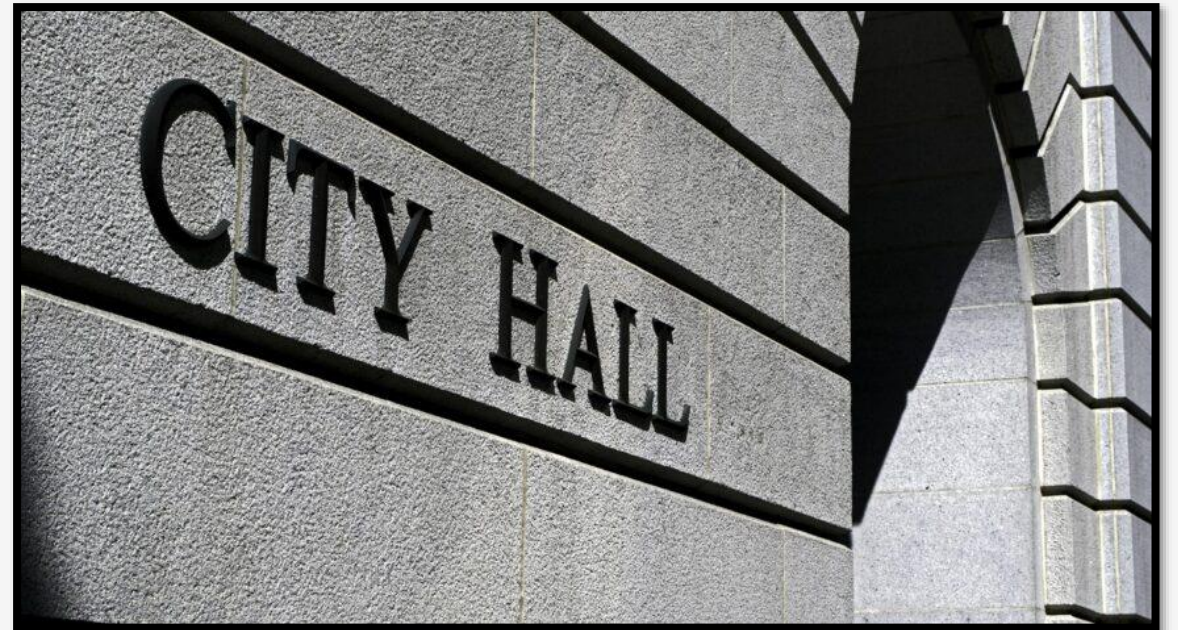


Growing the industry beyond meeting current demand not a goal

Local Control

Preserve local jurisdictions' ability to...

- Opt out
- Tax locally
- License
- Control number and types of outlets
- Regulate sale and marketing beyond state law
- It's ok if a little slower



[This Photo](#) by Unknown Author is licensed under [CC BY-ND](#)

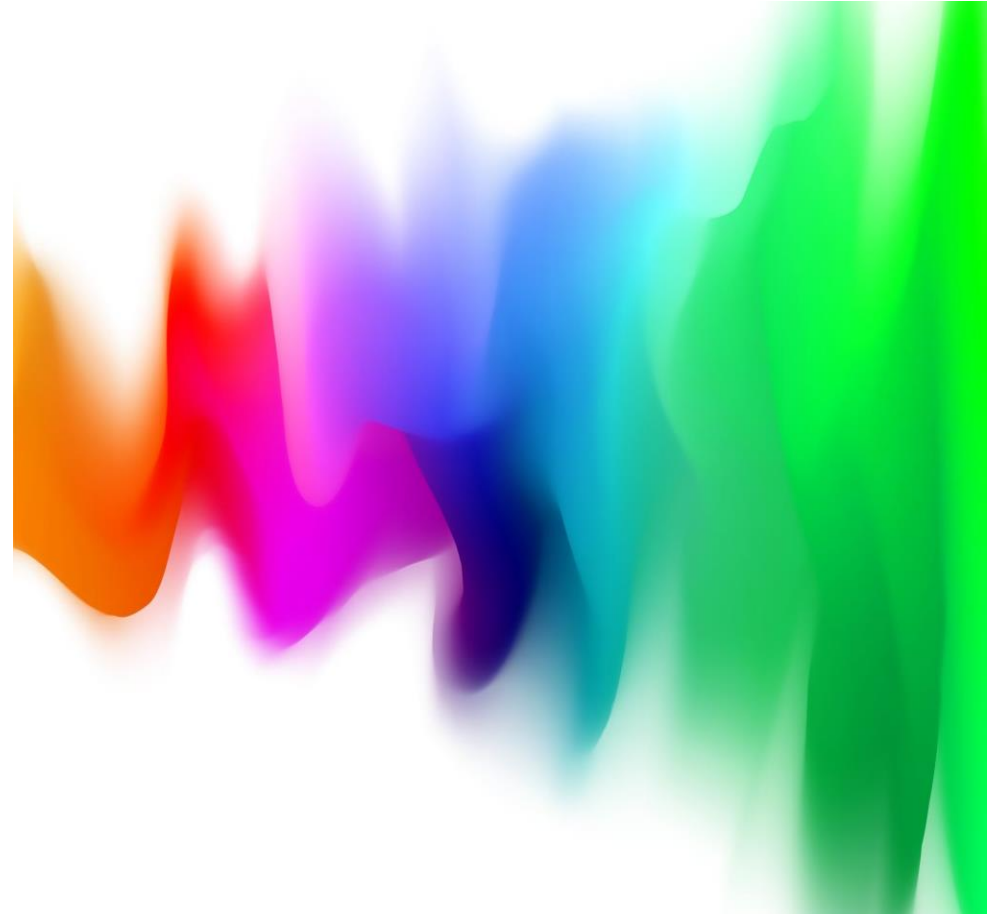
In Summary, regulation should:

MINIMIZE health harms of legalization

- Fetal & child health
- Mental health
- Youth initiation and addiction
- Driving fatalities
- Etc.

BALANCE criminal justice advances with public health objectives...

- NOT driving up consumption
- PREVENTING excessive growth of a for-profit industry
- BUILD greater health and social equity
- PREVENT substance abuse



Engage! NH Youth Need You in 2024

- If you don't step up and speak out, you will get the cannabis system the industry wants soon
- Policymakers need to hear as loudly from you, from parents, from educators from those affected by addiction, as from industry



Summary of these ideas

PRINCIPLES FOR PROTECTING YOUTH, PUBLIC HEALTH & EQUITY IN CANNABIS REGULATION

The war on drugs has resulted in large scale unjust incarceration and other harmful social impacts. At the same time, legalizing cannabis without robust regulation and promoting the growth of an unfettered for-profit industry threatens our developing youth and public health, and risks further exacerbating social, economic, and health disparities. As a society, we have a collective responsibility to prevent or mitigate such harms. Where legalization is occurring, we can better accomplish this by putting in place strong guardrails and policies that protect youth, promote public health, and advance social equity. These should include:

PROTECT CHILDREN & YOUTH



- Eliminate the Cannabis Kids Menu. Prohibit any products, packaging or marketing that is attractive to children or youth, such as cannabis-infused beverages, flavored products intended for inhalation, flavored wrappers, and products that resemble candy.
- Limit the number of retail outlets to fewer than 1 per 15,000 people.
- Require buffer zones between retail outlets and schools (including colleges), public libraries, and other youth-serving facilities.

PROMOTE EQUITY & MITIGATE HARMS FROM THE WAR ON DRUGS



- Decriminalize cannabis possession, reduce cannabis-related incarceration and automatically expunge past criminal convictions for non-violent cannabis-related crimes (e.g. CA, IL).
- Capture most or all tax revenue for substance abuse prevention and treatment, mitigating negative social impacts of the war on drugs, and public education campaigns.
- Prioritize equity in licensing applicants and hiring requirements (e.g. residents of communities impacted by high drug incarceration rates, people with past cannabis convictions).

AVERT THE EMERGENCE OF A NEW TOBACCO-LIKE INDUSTRY



- Favor public or nonprofit monopoly models to allow legal access without creating a profit-driven market (Quebec cannabis model or state alcohol monopoly models).
- Preserve local control so communities can innovate and learn.
- Prohibit conflicts of interest in regulatory bodies, advisory commissions, and for regulators and prescribers.

PROTECT PUBLIC HEALTH



- Assure that not driving increased consumption is a system goal.
- Place public health authorities in leadership roles.
- Require prominent health warnings in stores and provide safer use information to consumers.
- Inform vulnerable groups of the risks of use, such as low birth weight when used during pregnancy, psychosis and schizophrenia and other mental health effects, traffic incidents and immigration risks.
- Extend smoke-free air restrictions to consistently prohibit smoking and vaping cannabis indoors in workplaces, multi-unit housing and in public outdoors spaces.

LIMIT DANGEROUS PRODUCT DIVERSIFICATION & MARKETING



- Limit THC content, require stocking of lower THC products, and standardized 5 mg THC doses of concentrates.
- Prohibit the use of flavor additives and limit marketing of flavor names known to attract kids.
- Limit aggressive cannabis marketing, especially when visible to youth and children.
- Require warning labels on any advertising & prominent pictorial warnings on packages.
- Prohibit therapeutic or health claims for cannabis products.
- Use a specialized business model for retailers (no food or other product sales).

Download complete model ordinances for retailing, marketing and taxation at www.gettingitrightfromthestart.org.

For more information, email apadon@phi.org.

Thank You!

Lynn Silver, MD, MPH, FAAP

lsilver@phi.org

917-974-7065

www.gettingitrightfromthestart.org

Join Our Listserv

Contact Us



Getting it Right
·from the Start·

Regulation of Recreational Marijuana