Public Health Considerations for Local Marijuana Regulation
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Conflict of Interest

We declare that we have no financial conflict of interest

Support:
Our Mission

To collaboratively develop and test models of optimal local marijuana policy with the goal of reducing harms, youth and problem use. These models will be based on the best scientific evidence and guided by the principles of protection of public health, social equity and safety.
The Project is working in California through:

- Qualitative Research
- Legal Analysis
- Model Laws
- Building engagement for action
- Technical Assistance

Getting it Right from the Start
Local Regulation of Recreational Marijuana
The Project is:

- Developing a **model local ordinance** for licensing marijuana retailers and marketing using decades of accumulated experience from tobacco and alcohol control.

- Carrying out **research with stakeholders** from other states who have legalized, local jurisdictions, academic marijuana experts, addiction and legal experts, taxation experts, marijuana businesses and community groups to identify best practices based on what we know and don’t know.

- Developing **legal analyses** of relevant issues (local licensing, constraints on markets, equity impact, and local taxation).

- Developing a listserv and other **technical assistance** to support communities and exchange experiences and questions.

- Providing **public health oriented input and TA** to local and state regulatory processes and stakeholders.
Marijuana does have significant negative health impact, especially when heavy users start young.

Why Worry?

**Table 1. Harmful Effects of Cannabis Use Identified by the National Academy of Sciences in 2017 by Strength of Evidence**

<table>
<thead>
<tr>
<th>Substantial Evidence of Harm</th>
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<tbody>
<tr>
<td>Increased risk of motor vehicle crashes</td>
</tr>
<tr>
<td>Maternal cannabis smoking is associated with lower birth weight of the offspring</td>
</tr>
<tr>
<td>Development of schizophrenia or other psychoses, with the highest risk among the most frequent users</td>
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<tr>
<td>Worse respiratory symptoms and more frequent chronic bronchitis episodes (with long-term cannabis smoking)</td>
</tr>
<tr>
<td>Initiating cannabis use at an earlier age is a risk factor for the development of problem cannabis use</td>
</tr>
<tr>
<td>Increases in cannabis use frequency are associated with progression to developing problem cannabis use</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moderate Evidence of Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased risk of overdose injuries, including respiratory distress, among pediatric populations in U.S. states where cannabis is legal</td>
</tr>
<tr>
<td>Impairment in the cognitive domains of learning, memory, and attention (with acute cannabis use)</td>
</tr>
<tr>
<td>Increased symptoms of mania and hypomania in individuals diagnosed with bipolar disorders (with regular cannabis use)</td>
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<tr>
<td>A small increased risk for the development of depressive disorders</td>
</tr>
<tr>
<td>Increased incidence of suicidal ideation and suicide attempts with a higher incidence among heavier users</td>
</tr>
<tr>
<td>Increased incidence of suicide completion</td>
</tr>
<tr>
<td>Increased incidence of social anxiety disorder (with regular cannabis use)</td>
</tr>
<tr>
<td>The development of substance dependence and/or a substance abuse disorder for substances including, alcohol, tobacco, and other illicit drugs</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Limited Evidence of Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired academic achievement and education outcomes</td>
</tr>
<tr>
<td>Increased rates of unemployment and/or low income</td>
</tr>
<tr>
<td>Impaired social functioning or engagement in developmentally appropriate social roles</td>
</tr>
<tr>
<td>Maternal cannabis smoking and pregnancy complications for the mother</td>
</tr>
<tr>
<td>Maternal cannabis smoking and admission of the infant to the neonatal intensive care unit</td>
</tr>
<tr>
<td>Triggers of acute myocardial infarction (cannabis smoking), ischemic stroke or subarachnoid hemorrhage</td>
</tr>
<tr>
<td>Increased risk of prediabetes</td>
</tr>
<tr>
<td>An increased risk of developing chronic obstructive pulmonary disease (COPD) even when controlled for tobacco use (occasional cannabis smoking)</td>
</tr>
<tr>
<td>An increase in positive symptoms of schizophrenia (e.g., hallucinations) among individuals with psychotic disorders</td>
</tr>
<tr>
<td>The likelihood of developing bipolar disorder, particularly among regular or daily users</td>
</tr>
<tr>
<td>The development of any type of anxiety disorder, except social anxiety disorder</td>
</tr>
<tr>
<td>Increased symptoms of anxiety (near daily cannabis use)</td>
</tr>
<tr>
<td>Increased severity of posttraumatic stress disorder symptoms among individuals with post-traumatic stress disorder</td>
</tr>
<tr>
<td>The initiation of tobacco use</td>
</tr>
<tr>
<td>Changes in the rates and use patterns of other licit and illicit substances</td>
</tr>
</tbody>
</table>
What We are Working On

We are working on local regulation of:

- The retail interface with the population
- Marketing
- Taxation
Key Questions for Local Regulation

If the goal is to protect youth, reduce problem use and other negative public health and social impact while reducing incarceration should you:

- Ban or allow sales?
- Give your jurisdiction time to get it right before stores open, and if so, how much?
- Adopt a local retailer license and if so, with what provisions?
- Tax, and if so, how, and for what purposes?
- Permit marketing and/or advertising and if so, with what limits?
- Try to compensate for decades of unjust incarceration
Our General Approach

- Allow sales to reduce illegal market and drug related incarceration
- Keep marijuana boring to reduce market growth/youth attraction
- Correct false perceptions of harmlessness and fight “normalization”
- Take steps to prevent expansion and diversification of the market - CA produces 10 million tons and consumes 2 million - there will be huge interest in expanding consumption and hooking youth
- Learn from tobacco and alcohol experience
- Promote economic justice but recognize that this economic opportunity comes at a cost similar perhaps to lead poisoning in certain youth
- Fully use local authority

Next: Some ideas compatible with California laws
#1 Local Retail Licensing Ordinances

- Based on long experience with tobacco control, we recommend adopting a local retail license or permit ordinance, ideally managed by public health.

- Critical vehicle to regulate a wide range of issues of public health concern.

- Take the time to get it right, even if it involves a few months delay.
#1A- Restricting Density

Consider:

- Restricting the number of permitted retailers is an important first step.
- Setting criteria to prioritize applications - for example, from non-profits and “equity” applicants.
- Equity criteria - for example, prioritizing long-term residents of neighborhoods/census tracts with a disproportionate burden of drug-related incarceration.
- Assure distance from youth serving institutions including colleges.
#1B - Setting

Consider:

- Requiring specialized, free-standing establishments, not in malls or restaurants
- No licensing of facilities that sell food or pharmacies, in addition to statewide restriction on alcohol and tobacco licensees
- No on-site consumption
- Require face to face transactions and prohibit delivery
- Require prominent in store warnings on health risks and risks for immigrants
- Require cannabis to be out mostly out of view, no power walls or self serve
- No mobile units or fairs
Mobile Local Marketing: Reaching the Cannabis Mobile Customer

High There! Hopper
Potential in store warnings:

THE CITY/COUNTY OF XXXXX INFORMS IMMIGRANT MEMBERS OF OUR COMMUNITY:
Even in California, using or possessing marijuana or working in the marijuana industry is legally dangerous for any noncitizen. This includes lawful permanent residents, undocumented persons, students, and others. Marijuana is illegal under federal law, and federal law controls immigration. If you truly need to take medical marijuana, see an immigration attorney for advice.

“HEALTH WARNING - THE CITY/COUNTY OF XXXXX INFORMS:
★ DO NOT USE MARIJUANA WHILE PREGNANT OR BREASTFEEDING. SMOKING MARIJUANA DURING PREGNANCY IS ASSOCIATED WITH LOW BIRTH WEIGHT IN BABIES.
★ DON’T DRIVE WHILE HIGH: MARIJUANA INCREASES YOUR RISK OF A MOTOR VEHICLE ACCIDENT.
★ NOT FOR KIDS OR YOUTH! MARIJUANA INTERFERES WITH ATTENTION, MOTIVATION, MEMORY AND LEARNING. WHEN USED HEAVILY DURING TEEN YEARS IT CAN LEAD TO LOWER GRADES AND MAY LOWER IQ.
★ MARIJUANA USERS HAVE MORE RISK OF DEVELOPING SCHIZOPHRENIA
★ SMOKING MARIJUANA LONG TERM CAN MAKE BREATHING PROBLEMS WORSE
Consider:

- Local government does have authority to ban sales of specific product types in California

- Seek to limit products that appeal to youth, encourage excess consumption or have greater risk

- Marijuana specific evidence base is still weak, but evidence from tobacco experience on flavors and youth & minorities is rich
KOROVA

MINT DIP

KOROVAEDIBLES.COM - MEDICATE RESPONSIBLY
#1C- Product Types

Consider:

- Restrictions/ban on flavored flower

- Restrictions on diversity/flavors/types of edibles

- Rigorous prohibition of animals, cartoon figures, fruits, baked goods, candies, etc. that attract youth

- Require individually wrapped 10 mg THC or less edible servings (Oregon model)

- Disallowing excessive high potency, for example >20% THC for flower or 50% for other products (weed was 4% now frequently 10-15% or higher). Would exclude, wax, shatter for dabbing

- Require stronger or more prominent on package warnings
A 1,000 mg THC Mint Cookie

Is that what we want?
#1D- Retail Pricing

Price will be a major determinant of youth use in spite of <21 prohibition

Vast evidence from tobacco and youth

Consider:

- Adopt bans on discounting/coupons/happy hour or 2 for 1’s etc., already used for tobacco

- Consider minimum price floors (per ounce flower or mg THC) later in the process, after shift to legal market
Taxation is allowed locally in CA, and is expected to affect price and reduce youth use. It has been highly effective in tobacco control. And it raises money.

Consider:

- Local tax
- Tax per mg THC
- Using tax in whole or in part to finance *Local Wellness Funds* to support prevention and health equity or other social needs (especially given likely loss of federal prevention funding)
- Need to move quickly to advocate
- Consider starting low, to encourage legal market and raising gradually, using a higher authorization
#3 Remember Joe Camel? He’s Back
Advertising Exposure

- 94% of youth watch TV
- 2005 TV alcohol advertising expenditures $3.1 billion
  - 150% increase since 1998
  - 71% increase in youth exposure from 2001-2009
- Youth saw 1 alcohol ad/day in 2009
- As many 6-year olds could identify Joe Camel as Mickey Mouse in 1991
- Teens spend around 9 hours/day online
- Brand spend on social media to reach $15 billion in the US this year

Sources: Kaiser Family Foundation, 2010; Competitive Media Reporting, 2005; CAMY, 2009; JAMA, 1991; Common Sense Media, 2015; eMarketer, 2015
Linking Ad Exposure and Behavior

- Exposure to alcohol ads is associated with:
  - Drinking initiation
  - Drinking more & more frequently
  - Positive attitudes
- Media modeling
  - Attractive, similar models
  - Positive expectations of behaviors
- Repeated exposure to modeling
  - Results accumulate
  - Realism of portrayals
  - Obtrusive issue

Empirical Research on Content Appealing to Youth (CAY)

- Production value
- Character appeal
- Genre
- Product appeals
- Reward appeals
- Risky content

Content Appealing to Youth Promotes Underage Drinking

- Brands using CAY were consumed more by youth ($\beta = 0.33, p < .001$)
- Brands using CAY were consumed less by adults ($\beta = -0.15, p < .001$)
- Brands new to the market who used CAY and heavily advertised were the most consumed by youth
Advertising and marketing will be the critical tool used to expand the market and attract youth (though it influences adults as well)

Legalization does not have to be an advertising free for all

Some states have imposed strong restrictions on TV, radio, and billboards, but complex legal issues apply.

1st amendment jurisprudence …
- Allows some compelled speech, e.g. required warnings
- Does not protect commercial speech if banned
- May create future challenges for advertising restrictions (though the federal ban makes this a unique case)
State Regulations

- Oregon
  - No advertising with strain names such as Luke Skywalker or Girl Scout Cookie
- Washington
  - No advertising within 1000 ft of sensitive use – assuming a defacto ban on TV & radio advertising
  - No billboards
- Colorado
  - No billboards or outdoor signs
- Alaska
  - Strong warning label language; no promotions
- California
  - Weak rules to date, allow most advertising. mandates alcohol industry voluntary threshold of 71% adult audience. Some limits on locations, audience and vague language on attractiveness to youth
#3 Advertising and Marketing

Consider:

- Advertising Bans (may face legal challenge)
- Raise state advertising threshold of 71% adult audience to 85% per IOM recommendations
- If ads are allowed, require prominent rotating warnings
- Limit advertising in proximity to sensitive use areas
- Limit sponsorship of sports event, teams, festivals, etc.
- Limit signage
- Apply restrictions to advertising by any person and include names/strains associated with products (Colorado experience)
- Prohibit therapeutic, curative and just plain dishonest claims
- Use a strong definition of attractive to children or encouraging youth consumption for packaging, ads and marketing
Warning from the [County/City]
The National Academies of Science have found that smoking marijuana during pregnancy is associated with low birth weight in babies.
Attractiveness to Youth: Suggested Language

- No cartoons (any drawing or other depiction of an object, person, animal, creature or similar caricature using comically exaggerated features)
- No characters with attributes of unnatural or extra-human abilities
- No animals or anthropomorphized creatures
- No toys
- No celebrities who appeal to youth, or actors who appear to be under age 21 or are under age 25
- No magic or fantasy
- No music with appeal to youth
- No showing use of the product or effects after consumption
- No associations between the product and rebellion or achievement, such as in wealth, society, romance, or physical activity
Advertising that Attracts Youth
Sex and Rebellion
Shatter as winning
Cat memes

IM SO HIGH
RIGHT MEOW

CLEARCHOICE
CANNABIS

2001 S Hosmer St, Tacoma

041831
Packaging & Labeling: Strain Names

- BUBBA GUM (HYBRID)
- BLUE DREAM (SATIVA)
- GIRL SCOUT COOKIES (HYBRID)
- GRAPE APE (INDICA)
- TANGIE (HYBRID)
- STRAWBERRY COUGH (INDICA)
- LEMON HAZE (SATIVA)
Exaggerated or misleading claims

Recommended dose for symptom management is 20 mcg THC daily, but varies from patient-to-patient. 10-20 mcg of CBDs will help with appetite and anxiety. For Chemo-related N/V, up to 20 mcg of THC may be needed per dose but start low as a precaution. Oral doses are effective, if you are able. Sprays, tinctures and suppositories are best for N/V or appetite. There are many studies showing whole plant extract oil has been known to shrink tumors, guidance from your cannabis provider is recommended.
CBD

Provides anti-inflammatory, anti-pain, anti-anxiety, anti-psychotic, and anti-spasm relief
Uncertainty

- We don’t yet know for sure what all the best practices are.
- But we have an ethical obligation to act on the best available evidence from other fields.
- Study and evaluate results.
- It will be much harder to tighten up later.
How can we make any of these happen?

There is a strong industry lobby moving fast to create the next tobacco industry

Consider:

- Build a strong public health consensus agenda for action
- Build collaboration across public health, advisory bodies, community organizations, health providers, academia, and advocacy coalitions
- Build coalitions to support efforts – quickly, modeled on tobacco action coalitions
- Act now – vested interests will be harder to revert tomorrow
Thank you

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