From: Marilyn Ezzy Ashcraft

**Sent:** Tuesday, September 05, 2017 2:04 PM **To:** LARA WEISIGER; DEBBIE POTTER; Jill Keimach

**Subject:** Fwd: NO on pot stores in Alameda

More opposition correspondence.

Marilyn

Marilyn Ezzy Ashcraft Councilmember, City of Alameda (510) 747-4745

Begin forwarded message:

From: Kim Rankin < <a href="mailto:kimrankin@gmail.com">kimrankin@gmail.com</a>>
Date: September 1, 2017 at 12:50:57 PM PDT

To: <tspencer@alamedaca.gov>

Cc: <mvella@alamedaca.gov>, <joddie@alamedaca.gov>, <mezzyashcraft@alamedaca.gov>,

<<u>fmatarrese@alamedaca.gov</u>>

Subject: NO on pot stores in Alameda

Dear Mayor Spencer and City Council Members,

I'm writing as an Alameda homeowner and parent to voice my opposition to marijuana businesses in our town. I don't care if it's legal or not: PLEASE prevent our beautiful town from turning into pot-smelling cities like Berkeley and San Francisco, where people openly loll on the sidewalks smoking weed. We moved here in 2011 and purchased our home to raise our son in a wholesome, safe environment. Please keep drugs out of Alameda!

Thank you,

Kim Rankin

From: Marilyn Ezzy Ashcraft

Sent: Tuesday, September 05, 2017 2:02 PM
To: LARA WEISIGER; DEBBIE POTTER; Jill Keimach

**Subject:** Fwd: Vote NO onTuesday night

And another one.

Marilyn

Marilyn Ezzy Ashcraft Councilmember, City of Alameda (510) 747-4745

Begin forwarded message:

**From:** <<u>suemcdev@comcast.net</u>>

**Date:** September 4, 2017 at 8:41:13 PM PDT

To: <mvella@alamedaca.gov>, <joddie@alamedaca.gov>, <mezzyashcraft@alamedaca.gov>,

<fmatarrese@alamedaca.gov>

Subject: Vote NO onTuesday night

Dear Ms Vella, Ms Ashcraft, Mr Matarrese and Mr Oddie,

I have lived in Alameda for over 20 years. I have been so happy and proud to raise my family in this great community of Alameda. I have seen many changes to our town. I am not happy about the latest possible change of adding marijuana selling businesses in Alameda. This is a family community. We have schools, preschool, daycare all over this island. I truly believe that adding this type of business to our town will bring unwanted crime into our community. Park Street is one of the hubs for our community and families. Adding a marijuana dispensary on Park Street is not what a family wants to see when they are out and supporting our local businesses. This will not only bring crime to our neighborhoods but also have a negative effect on local business.

Please vote NO on this proposal.

Thank you, Sue Devlin 30 Shannon Circle

From: Marilyn Ezzy Ashcraft

**Sent:** Tuesday, September 05, 2017 2:00 PM **To:** LARA WEISIGER; DEBBIE POTTER; Jill Keimach

**Cc:** Amy Wooldridge **Subject:** Fwd: Cannabis Issue

Here's another one.

Marilyn

Marilyn Ezzy Ashcraft Councilmember, City of Alameda (510) 747-4745

Begin forwarded message:

From: Bill Delaney < bdelaneyca@yahoo.com>
Date: September 5, 2017 at 1:47:33 PM PDT

To: Marilyn Ezzy Ashcraft <mezzyashcraft@alamedaca.gov>

**Subject: Cannabis Issue** 

**Reply-To:** Bill Delaney < bdelaneyca@yahoo.com>

Marilyn.

First of all, thank you for making a change in the weather today!! :-)
The heat over the weekend was as hot as I can ever remember here!

Unfortunately, I won't be back in Alameda this evening in time to participate in the meeting in Council Chambers. I just

saw that the start time is 5:30 PM. I may try to come by late in the meeting if I get away from the meetings I'm in today earlier.

I wanted to speak on the issue of safe distances for cannabis use from public parks and the children that use them.

It would seem reasonable that the distant be 1,000 feet. Other cities have used that distance and I believe it would

be better than 600 feet for example.

I am not in favor of growing and selling cannabis in Alameda, except for medical purposes, but I'm willing to support

what the majority wants here, as long as we pay extra attention to the children and the families.

My concerns are based on data that shows increased crime and gun related offenses near cannabis outlets, hospital

visits, traffic violations,etc. It simply seems unreasonable to offer just one more type of distraction when people are

walking, riding a bike or driving a vehicle.

Good luck with tonight's meeting. BTW, I am in favor of the thinking of Serena Chen and Lena Tam regarding this issue.

Best Regards,

Bill Delaney 1700 Dayton Avenue Alameda, CA 94501

From: Marilyn Ezzy Ashcraft

**Sent:** Tuesday, September 05, 2017 1:59 PM **To:** LARA WEISIGER; DEBBIE POTTER; Jill Keimach

**Subject:** Fwd: Opposition to opening Marijuana businesses in Alameda

Hi All,

I am forwarding these e-mails, in case you haven't seen them. If appropriate, I would like them included as correspondence on this item. Thank you.

Marilyn

Marilyn Ezzy Ashcraft Councilmember, City of Alameda (510) 747-4745

#### Begin forwarded message:

**From:** Jolyn Stockton <<u>s\_stockton@sbcglobal.net</u>>

Date: September 5, 2017 at 1:54:08 PM PDT

To: <gKlym@alameda.k12.ca.us>, <mezzyashcraft@alamedaca.gov>,

<mvella@alamedaca.gov>, <fmatarrese@alamedaca.gov>, <gharris@alameda.k12.ca.us>,

<jennwilliams@alameda.k12.ca.us>, <amckereghan@alameda.k12.ca.us>,

<joddie@alamedaca.gov>

Cc: Sfolsens < sfolsens@aol.com>

Subject: Re: Opposition to opening Marijuana businesses in Alameda

Dear Ms Vella, Ms Ashcraft, Mr Matarrese, Mr Oddie,

We are in complete agreement with the Olsen's. Furthermore, we question the council's complete change of opinion to your January 2016 ordinance regarding allowing Marijuana dispensaries in the city of

Alameda. <a href="https://alameda.legistar.com/LegislationDetail.aspx?ID=2545909&GUID=B95D1627-8BA2-4AFB-93F8-2F062DEB5219&FullText=1">https://alameda.legistar.com/LegislationDetail.aspx?ID=2545909&GUID=B95D1627-8BA2-4AFB-93F8-2F062DEB5219&FullText=1</a>.

The safety of our children should be paramount, and by allowing Marijuana to be sold in areas where children congregate such as Park St., Webster St., Harbor Bay Shopping Center and South Shore Center is short sighted, unpredictable and very precarious.

A decision that can make such a negative impact on our community should not be taken lightly, and not be driven by economics. Mr. Oddie is quoted as saying "My bottom line is revenue for the city." The safety and wellbeing of our community should be the most important agenda for our city council.

We urge you to really think about the negative impact such a major decision can make on our children, our community, and our future, please vote NO on this proposal.

Thank you for you time and consideration,

Jolyn and Scott Stockton

On Sep 1, 2017, at 2:11 PM, Sfolsens <<u>sfolsens@aol.com</u>> wrote:

Dear Ms Vella, Ms Ashcraft, Mr Matarrese, Mr Oddie,

We are long time law-abiding homeowners and residents of Alameda raising small children who were made aware of a proposal to allow multiple Marijuana businesses to open in our area.

We would like it formally recorded for Tuesday, September 5th's City Council meeting and vote that we both adamantly **oppose** this proposal.

Allowing these type of businesses in our community draws a proven criminal element and threatens the safety of our vulnerable children, including but not limited to, when they are school grounds. We have over 30 preschool, elementary, middle and high schools in our city that is a mere 23 square miles in size. It is incredibly short sighted and ignorant to assume allowing this type of business in our community will not cause irreparable damage.

We have spread the news of this proposal on various social media outlets to the Alameda parent population. You can expect further comments of opposition as a result.

Please vote NO on this proposal.

Thank you,

Natalie & Kent Olsen sfolsens@aol.com
19 Chilmark Lane
Alameda 94502

https://patch.com/california/alameda/marijuana-businessesalameda?utm\_source=facebook.com&utm\_medium=social&utm\_term=kid s+%26+family+&utm\_campaign=autopost&utm\_content=alameda

From: Trish Spencer

Sent: Tuesday, September 05, 2017 7:47 AM

To: Serena Chen

**Cc:** Jill Keimach; DEBBIE POTTER; LARA WEISIGER; Janet Kern; John Le **Subject:** Fwd: What Cities Should Consider When Regulating Marijuana

**Attachments:** Getting it Right from the Start - CO.pdf

Dear Ms. Chen,

Thank you for your email. I appreciate this additional information. By copy of this email I'm sharing yours with staff so that they may also have it before tonight's meeting.

Sincerely,

Trish Spencer

Mayor, City of Alameda

----- Original message -----

From: Serena Chen <serenatchen@gmail.com>

Date: 9/4/17 7:46 PM (GMT-08:00)

To: Trish Spencer <TSpencer@alamedaca.gov>, Frank Matarrese <FMatarrese@alamedaca.gov>, Malia Vella

<Malia.vella@gmail.com>, Marilyn Ezzy Ashcraft <MEzzyAshcraft@alamedaca.gov>, Jim Oddie

<JOddie@alamedaca.gov>

Subject: Fwd: What Cities Should Consider When Regulating Marijuana

Dear Mayor Spencer, Vice Mayor Vella, and Council Members Ashcraft, Matarrese, and Oddie:

Before Alameda embarks on allowing cannabis businesses, please consider incorporating best practices from health advocates who have spent decades reversing/reducing some of the harms that alcohol and tobacco have caused.

My colleagues in substance abuse prevention have just shared this great info from a national cannabis (prevention/public health-focus) summit they attended in Denver last week.

The attached presentation - *Getting it Right from the Start* -- from the Oakland-based Public Health Institute offers specific recommendations for local cannabis regulations that prioritize public health and youth prevention (through local licensing, taxation, and marketing/advertising guidelines).

RAM (Rethinking Access to Marijuana) is a coalition of community-based organizations in LA County who have created some very helpful handouts in their efforts to educate the community about the need to minimize youth harms from mj use. The Marijuana Policy Decision Matrix is very helpful.

http://www.lacountyram.org/uploads/1/0/4/0/10409636/policymenu\_ram\_jan2017\_final2.pdf

These two documents were standouts, but I haven't had enough time to go through all of them, which are available through this link. There is a gold mine of handouts available through this website: <a href="https://ncc.expoplanner.com/cs17/handouts">https://ncc.expoplanner.com/cs17/handouts</a>.

Regards,

*Serena*Serena Chen



# Public Health Considerations for Local Marijuana Regulation

Cannabis Summitt
Denver, Colorado, August 30, 2017

Lynn Silver, MD, MPH

Senior Advisor

Public Health Institute

Director: Getting it Right from the Start

Alisa Padon, PhD

Research Scientist

Public Health Institute

Co-Director: Getting it Right from the Start

## 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:

Legal Analysis

Qualitative Research Model Laws

Building engagement for action

Technical Assistance



Local Regulation of Recreational Marijuan

### The Project is:

- Developing a <u>model local ordinance</u> for licensing marijuana retailers and marketing using decades of accumulated experience from tobacco and alcohol control.
- Carrying out <u>research with stakeholders</u> 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 <u>legal analyses</u> of relevant issues (local licensing, constraints on markets, equity impact, and local taxation).
- Developing a listserv and other <u>technical assistance</u> to support communities and exchange experiences and questions.
- Providing <u>public health oriented input and TA</u> to local and state regulatory processes and stakeholders.



### Why Worry?

Marijuana does have significant negative health impact, especially when heavy users start young



Table 1. Harmful Effects of Cannabis Use Identified by the National Academy of

Sciences in 2017 by Strength of Evidence 1*				
Substantial Evidence of Harm				
Increased risk of motor vehicle crashes				
Maternal cannabis smoking is associated with lower birth weight of the offspring				
Development of schizophrenia or other psychoses, with the highest risk among the most frequent users				
Worse respiratory symptoms and more frequent chronic bronchitis episodes (with long-term cannabis				
smoking)				
Initiating cannabis use at an earlier age is a risk factor for the development of problem				
<u>cannabis</u> use				
Increases in cannabis use frequency are associated with progression to developing problem cannabis use				
Moderate Evidence of Harm				
Increased risk of overdose injuries, including respiratory distress, among pediatric				
gopulations in U.S. states where cannabis is legal				
Impairment in the cognitive domains of learning, memory, and attention (with acute				
<u>cannabis</u> use)				
Increased symptoms of mania and hypomania in individuals diagnosed with bipolar				
<u>disorders</u> (with regular cannabis use)				
A small increased risk for the development of depressive disorders				
Increased incidence of suicidal ideation and suicide attempts with a higher incidence				
among heavier users				
Increased incidence of suicide completion				
Increased incidence of social anxiety disorder (with regular cannabis use)				
The development of substance dependence and/or a substance abuse disorder for				
substances including, alcohol, tobacco, and other illicit drugs				
Limited Evidence of Harm				
Impaired academic achievement and education outcomes				
Increased rates of unemployment and/or low income				
Impaired social functioning or engagement in developmentally appropriate social roles				
Maternal cannabis smoking and pregnancy complications for the mother				
Maternal cannabis smoking and admission of the infant to the neonatal intensive care unit				
Triggering of acute myocardial infarction (cannabis smoking),				
Ischemic stroke or subarachnoid hemorrhage				
Increased risk of prediabetes				
An increased risk of developing chronic obstructive pulmonary disease (COPD) even when				
controlled for tobacco use (occasional cannabis smoking				
An increase in positive symptoms of schizophrenia (e.g., hallucinations) among individuals with psychotic				
disorders				
The likelihood of developing bipolar disorder, particularly among regular or daily users				
The development of any type of anxiety disorder, except social anxiety disorder				
Increased symptoms of anxiety (near daily cannabis use)				
Increased severity of posttraumatic stress disorder symptoms among individuals with post-traumatic				
stress disorder				
The initiation of tobacco use				

Changes in the rates and use patterns of other licit and illicit substances

## 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 <u>reduce</u> illegal market and drug related <u>incarceration</u>
- Keep marijuana <u>boring</u> to reduce market growth/youth attraction
- Correct false perceptions of harmlessness and fight "normalization"
- Take steps to <u>prevent expansion and diversification</u> 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 law



## #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











## Potential in store warnings:

### THE CITY/COUNTY OF XXXXXX 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 XXXXXX 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



## #1C- Product Types

### 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



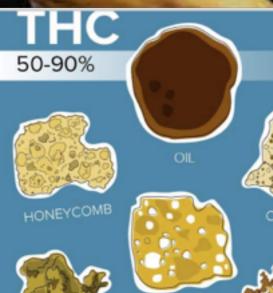
















Hopped Up Hot Wings w Marijuana Hot Sauc



## **#1C- Product Types**

### Consider:

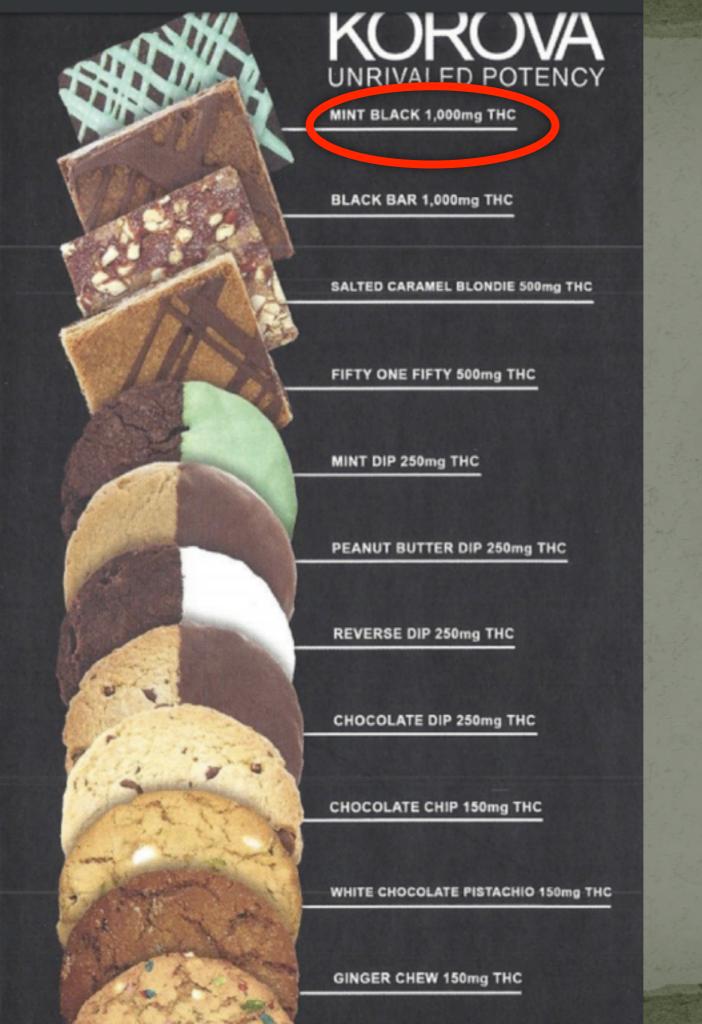
- Restrictions/ban on flavored flower
- Restrictions on diversity/flavors/types of edibles
- Rigorous prohibition of animals, cartoon figures, fruits, baked goods, candies, etc. that attract youth
- Require individually wrapped 10 mg THC or less edible servings (Oregon model)
- Disallowing excessive 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



### **#2- Taxation**

NIO	vv y	Jui Dui	лψ.
weight	avg. cost	cost per gram	savings
1 gram	\$17	\$17/gram	
3.5 grams (1/8 oz.)	\$45	\$12.85/gram	**
7 grams (1/4 oz.)	\$80	\$11.42/gram	***
14 grams (1/2 oz.)	\$150	\$10.71/gram best value	****
28 grams (1 oz.)	\$290	\$10.35/gram	****

"graphics brought to you by our good buds WSTONErdays"

2 POW VOLIR builds

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; Commedia, 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



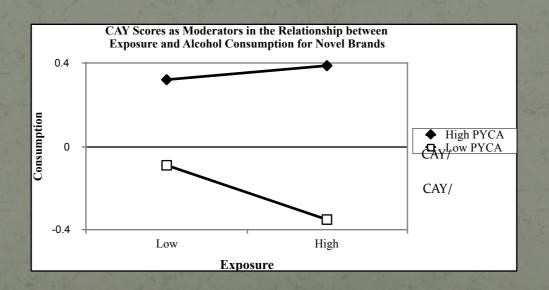
# Empirical Research on Content Appealing to Youth (CAY)

- 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 ( $\beta = .33$ , p < .001)
- Brands using CAY were consumed less by adults ( $\beta = -1.15$ , p < .001)
- Brands new to the market who used CAY and heavily advertised were the most consumed by youth





## #3 Advertising and Marketing

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





# 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



Hom

Men

Womer

Accessories

Policies

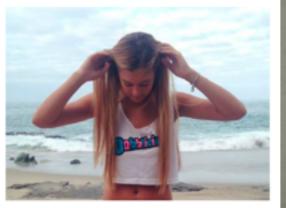
About

Contact Us







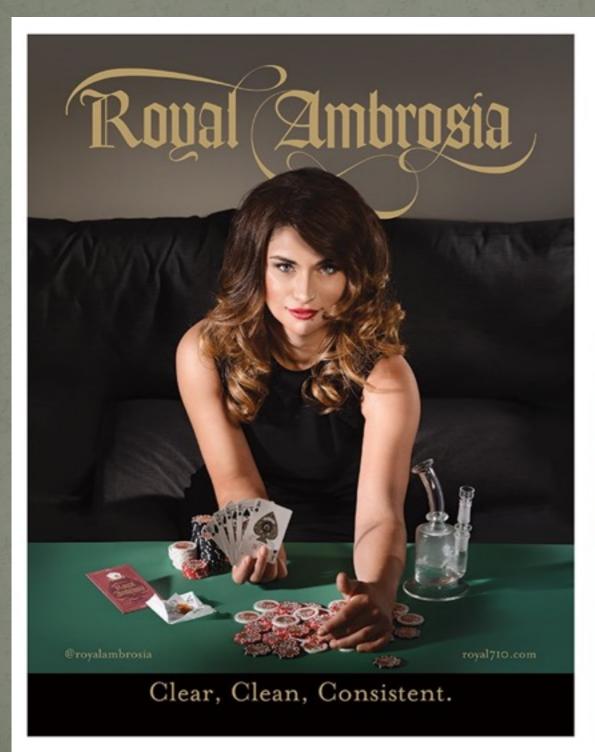


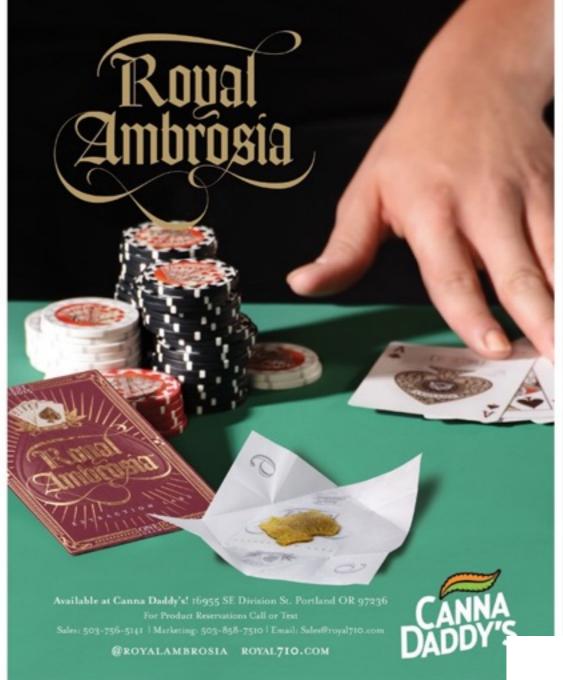
# Sex and Rebellion





# Shatter as winning





# Cat memes





# Packaging & Labeling: Strain Names





**BLUE DREAM** 

SATIVA



**GIRL SCOUT** COOKIES **HYBRID** 



**GRAPE APE** 

INDICA



**TANGIE** 

HYBRID

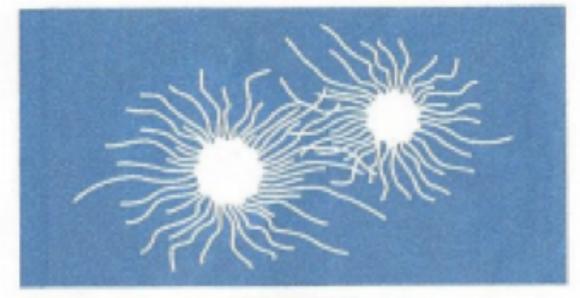


**STRAWBERRY** COUGH INDICA



**LEMON HAZE** 



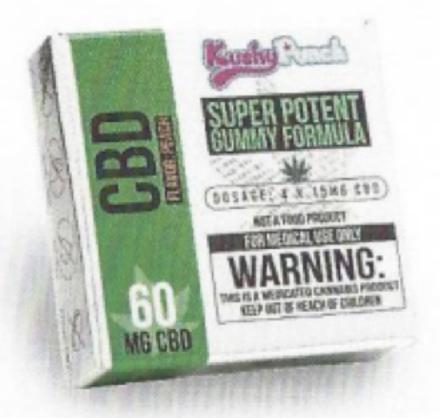


Exagerrated or misleading claims

### CANCER

Recommended symptom dose for management is 20 Mc THC daily, but varies from patient-to-patient. 10-20 MG of CBDs will help with appetite and anxiety. For Chemo-related N/V, up to 20 Mc 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, antianxiety, 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



# #4 Collaboration

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

Lynn Silver, MD, MPH
<a href="mailto:lsilver@phi.org">Isilver@phi.org</a>
917-974-7065

Alisa Padon, PhD

apadon@phi.org

www.gettingitrightfromthestart.org

Join our ListServ

Contact us





### **LARA WEISIGER**

From: Sarah Henry

Sent:Friday, September 01, 2017 1:32 PMTo:LARA WEISIGER; DEBBIE POTTERSubject:FW: Impacts of Marijuana White PaperAttachments:First 5 Marijuana Position Paper 72817 .pdf

**From:** Heather Little [mailto:heatherlittle9691@gmail.com]

Sent: Friday, September 01, 2017 1:30 PM

To: Trish Spencer <TSpencer@alamedaca.gov>; Frank Matarrese <FMatarrese@alamedaca.gov>; Malia

- <malia.vella@gmail.com>; Jim Oddie <JOddie@alamedaca.gov>; Marilyn Ezzy Ashcraft
- <MEzzyAshcraft@alamedaca.gov>; Jill Keimach <JKeimach@alamedaca.gov>; John Knox White
- <jknoxwhite@gmail.com>; David Burton <DBurton@alamedaca.gov>; Ronald Curtis <rcurtis@alamedaca.gov>; Kristoffer

Koster < KKoster@alamedaca.gov>; David Mitchell < DMitchell@alamedaca.gov>; Sandy Sullivan

<SSullivan@alamedaca.gov>; Lorre Zuppan <LZuppan@alamedaca.gov>

**Cc:** Sarah Henry <SHenry@alamedaca.gov> **Subject:** Impacts of Marijuana White Paper

Good afternoon members of City Council and Planning Board,

Knowing that there will be conversations and decisions on September 5th about adopting an ordinance on whether or not Alameda will allow sale, growth or distribution of marijuana within our city limits, I would like to offer you this position paper that might help inform your decisions.

Thanks! Heather



# IMPACTS OF MARIJUANA EXPOSURE ON CHILDREN 0-5 THE URGENCY TO ACT

#### **EXECUTIVE SUMMARY**

The passage of Proposition 64 in California, legalizing recreational marijuana, is set to drastically change the relationship of Californians to marijuana. As a voice for children 0-5, the First 5 Association is concerned that with anticipated greater use and acceptance of recreational marijuana, more young children may experience unintended health effects. Research shows legitimate health concerns in other states that have legalized marijuana, including increased unintentional exposures in young children leading to hospitalization. In addition, the public health research is beginning to reveal short term and long term health and development impacts for children of women who smoke marijuana during pregnancy.

Because of these potential health impacts on young children, First 5 urges careful attention by state leaders, state agencies, and other policy makers to the opportunities for enacting regulatory safeguards and allocating available resources to prevention and intervention services that can address potential impacts to this critical group of children. With an anticipated \$1 billion dollars in revenue from marijuana taxation at the state level alone, California has a prime opportunity to allocate funding for initiatives that would inform young parents about these impacts and support prevention and intervention programs aimed to support young children and families at the most critical stage of brain development.

First 5 Commissions have been incorporating information about marijuana exposure into their work for some time, developing marijuana prevention and intervention services targeting pregnant mothers who use marijuana. As a statewide network of public agencies with existing infrastructure and partnerships, First 5 is uniquely positioned to scale up these efforts and implement the necessary prevention and intervention activities that will benefit young children across the state. However, additional revenue and regulatory support are needed to ensure that this work is consistent, scaled, and coordinated with broader marijuana education and harm reduction programs.

#### **INTRODUCTION**

The legalization of recreational marijuana in California, set in motion by the passing of Proposition 64, is anticipated to change the use and acceptance of the drug among Californians. The increased availability along with the changing perceptions of marijuana will necessitate that California look at the unintended effects these changes may have on young children aged 0-5. Past and emerging research on maternal marijuana use shows that there may be both short-term and long-term health effects for children whose mothers use marijuana during pregnancy. There has also been a notable increase in unintentional exposures in young children leading to hospitalization in states where marijuana has been legalized.

The emerging research shows health impacts to young children and policy makers must work to dedicate funding for investments in early childhood development. First 5 Commissions across the state have begun to address this issue by championing targeted educational campaigns for pregnant mothers

and young families. In addition, First 5 has programs in place across California's 58 counties that provide the existing infrastructure to implement services and campaigns to reach young parents and health practitioners. This policy paper details the existing research on health impacts of marijuana on young children; evidenced-based interventions and preventative efforts, the potential for Proposition 64 tax revenues to implement many of these programs across the state.

### **HEALTH IMPACTS OF MARIJUANA ON CHILDREN (Ages 0-5)**

There is growing scientific research related to marijuana-related health impacts on young children. The legalization of recreational marijuana in Colorado has prompted more research in recent years from the Colorado Department of Public Health and Environment, in accordance with a mandate from the State after legalizing recreational marijuana in 2012.

Marijuana exposure and proximity for young children

States that have legalized recreational marijuana have found an increased number of unintentional exposures for children leading to hospitalization. A 2016 article published in *JAMA Pediatrics* found that the average marijuana-related visits to the Children's Hospital of Colorado nearly doubled, increasing from 1.2 per 100,000 population to 2.3 per 100,000 two years after legalization. While these incidents of marijuana exposure have primarily been unintentional and accidental, the research indicates that California is likely to see an increase in incidence of exposures of young children, as recreational marijuana is legalized.

Marijuana exposures in children commonly involve edible marijuana products, such as cookies and candies, that are desirable to children who are developmentally inclined to put items in their mouths. The Colorado Department of Health has found that most pediatric exposures to marijuana involve infused edible products, made by adding concentrated Tetrahydrocannabinol (THC) into foods, that are not in child resistant containers. Moreover, the Department estimates that approximately 14,000 families in Colorado have children under the age of 15 in the home with potentially unsafe marijuana storage. Children in California may be similarly at risk, as California marijuana retailers have no requirements for selling products in child resistant packaging.

Legislative efforts are already underway to address these health concerns: AB 175 (Chau) would regulate the packaging on marijuana edible products and AB 350 (Salas) would limit the shape of marijuana edible products to ensure they are not attractive to small children. The First 5 Association strongly supports both efforts to help rein the unintended consequences of increased access and exposure to marijuana. However, while both bills will help address these public health concerns, we anticipate that packaging restrictions will not completely eradicate the potential for poisoning, point to the need for further parent education.

The symptoms and effects of marijuana intoxication in children vary. The Children's Hospital of Colorado reports that symptoms of marijuana intoxication in kids include being unbalanced, sleepiness, poor respiratory effort, and less commonly, induced coma. As the legalization of marijuana will potentially increase the availability of marijuana in more California households, the extent of unintentional marijuana exposures in young children is an area that requires greater research, outreach and education, and potentially further regulations beyond the current legislative efforts.

### Known effects of marijuana use during pregnancy on children

In addition to increased pediatric exposures and hospital visits, there is scientific evidence that THC passes from the mother to the unborn child through the placenta, potentially affecting the baby. The Colorado Department of Health's guidance to health providers on talking to pregnant mothers recommends saying "there is no known safe amount of marijuana for your baby." <sup>iv</sup> Although studies about birth outcomes are limited, research has found that marijuana use during pregnancy may be associated with increased risk of still birth and heart defects, and decreased birth weight in exposed offspring. A study of fetal growth among over 7,000 pregnant mothers found that maternal marijuana use during pregnancy was associated with growth restriction in mid and late pregnancy and with lower birth weight of the infant. Indicators of restricted growth in the uterus, such as decreased birth weight, can increase chances of adverse long-term development outcomes.

Emerging studies also link maternal cannabis use to developmental delays later in life that may not appear until adolescence. For example, there is evidence that marijuana use during pregnancy is associated with increased attention problems. Two studies found that prenatal marijuana exposure had a negative effect on the attentiveness of children at 6 years and 10 years, respectively. There is also evidence that maternal marijuana use resulted in decreased IQ scores and decreased cognitive function in offspring.

Less is known about the effects of breastfeeding on babies of mothers who use marijuana, although there is biological evidence that THC is present in the breast milk of mothers who use marijuana. Infants who drink this breast milk absorb and metabolize the THC. The American College of Obstetricians and Gynecologists recommends that due to insufficient data on the effects of marijuana use on infants during lactation, marijuana use should be discouraged. ix

Still, proposition 64 aptly recognized the importance of public awareness about the adverse effects of marijuana use during pregnancy and while breastfeeding. In fact, the proposition spells out the health advisory label that must be placed on marijuana products:

GOVERNMENT WARNING: THIS PACKAGE CONTAINS MARIJUANA,
A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND
ANIMALS. MARIJUANA MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21
YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT
MARIJUANA USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL.
CONSUMPTION OF MARIJUANA IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE
MACHINERY PLEASE USE EXTREME CAUTION\*

As society's relationship with marijuana will inevitably change due to due legalization, further research is needed regarding the public health impact on children of marijuana use by their pregnant and breastfeeding mothers. Several issues make it difficult to quantify the effect of maternal marijuana use on children. One, mothers using marijuana during pregnancy are more likely to be using tobacco and alcohol also, which makes it harder to discern the fetal outcomes from individual substances. In addition, research is often based on reports by pregnant women who are proven to under-report. And finally, over the last 4 decades the percentage of THC in marijuana has shown to have increased, with one study indicating that between 1993 and 2008, THC concentration rose from an average of 3.4% to 8.8%. This shows that the impacts of children's exposure to cannabis —both prenatally and during early development- could be more severe given the higher concentrations of THC.

Future longitudinal studies that measure the impact of prenatal marijuana use as offspring reach adolescence will more fully reflect the impact of marijuana potency and could identify further regulatory needs to mitigate potential harmful effects.

### Teen births and marijuana

The potential impacts of marijuana use during pregnancy may be an even higher risk for adolescents, who are more likely to use marijuana during pregnancy. Colorado Department of Health notes that of any age group, those from 15-19 years of age reported the highest use of marijuana during pregnancy. In fact, 14% of pregnant women aged 15-19 reported using marijuana during their pregnancy, compared to just 4.3% of women aged 25-34. The statistically higher rate of marijuana use for pregnant teens increases exposure to the potential effects of marijuana on the children of this age group.

For California, these numbers are alarming as we consider the female teen pregnancy rate in California, with some counties as high as 45 teen births per 1,000 young women ages 15-19<sup>xiii</sup>, compared the national average of 20.3 for the same age group. Adolescents may be especially hard hit, as the legalization of recreational marijuana has shown to significantly increase use among adolescents. A study of students in Washington found that among eighth and tenth graders, marijuana use significantly increased while perception of harmfulness decreased after legalization. In California, teen drug use, especially during pregnancy, may increase as legalization decreases the stigma and risk associated with use.

The approach to marijuana legalization in California has been closely tied to broad conversations about the need to ensure careful regulation with a special focus on the likely impacts of legalization on youth. The Blue Ribbon Commission on Marijuana, whose final report clearly stated that "youth are ... in need of the best protection and assistance the state can provide." While this report frames many of the reasons a focus on youth is important in the legalization environment, the report does not consider the higher risk posed to youth who may be pregnant or parenting. First 5 seeks to work with youth-serving organizations to explore opportunities for collaboration, building on evidence that the earliest intervention efforts are the most successful and on the complementary capacities across the early childhood and youth development fields.

### Developing a Public Health Framework for Marijuana

Continuing to cultivate research on the marijuana-related health impacts on young children is imperative, particularly as the marijuana industry in California continues to emerge. Evidence from past decades of tobacco and alcohol control reveal that without a strong public health framework around the potential health impacts of marijuana could limit the effectiveness of drug prevention and intervention efforts. Dr. Stanton Glantz, who has researched the tobacco industry's attacks on tobacco control, advocates for a comprehensive public health education and regulatory framework modeled on the California Tobacco Control Program, before the marijuana industry fully develops in California.\*\*

#### FIRST 5 EDUCATION AND PREVENTION SERVICES

### First 5 Educational Campaigns

First 5 Mendocino was the first commission to address the health impacts of marijuana, with an education campaign specifically addressing the harmful effects of marijuana use during pregnancy on child development. The primary audience is expectant and recent mothers, particularly those with

average and high marijuana use. First 5 San Joaquin has developed updated materials with more recent research aimed at the same audiences. A statewide public awareness and education campaign could extend the reach and potentially change health outcomes for young children and their parents.

As directed under Proposition 64, the Department of Health Care Services is charged with creating a public information program about the harms of marijuana during pregnancy and while breastfeeding. First 5 encourages their role in doing so and would welcome the opportunity to share these materials with the nearly 800,000 children and their families served by First 5 last year. The First 5 Association is currently exploring ways to build on these campaigns to ensure that most vulnerable families are reached and served.

### First 5 Prevention Services

While there is an important role for targeted marijuana education for at-risk communities and families, the most likely and important vehicle for reaching families is and will continue to be the broader child development services and supports. Most notably these services include: home visiting for parents with newborns, developmental screenings with connections to community supports, and mental health services with an emphasis on trauma intervention and prevention.

First, home visiting is arguably the most evidenced-based practice for child neglect and abuse prevention, which is too often spurred by addition and drug use. Offered a voluntary program (meaning a parent has invite a home visitor into their residence to receive services), home visiting focuses on helping parents where they feel concerned or have questions about their parenting styles/ skills, connecting families to resources, and helping parents understand and cope with toxic stress.

One nationally published study of the Nurse Family Partnership (NFP) documented children whose mothers did receive the intervention were less likely to report using cigarettes, alcohol, and marijuana, and were less likely to report having internalizing disorders such as anxiety and depression at 12 years of age. In addition to these specific effects on drug use in later life, NFP has documented cost-savings impacts including: increased employment for mothers, reductions in welfare and food stamps, and improved school readiness for children.

First 5 is California's largest funder of home visiting programs, investing nearly \$88 million and serving nearly 37,000 families across 44 counties in 2016 alone. Currently, state does not dedicate General Fund dollars towards home visitation programs, although they do administer a \$22 million federal program, Maternal, Infant, Early Childhood Home Visitation (MIECHV) program. MIECHV is currently up for reauthorization in Congress of September 2017.

Second, First 5s efforts to build comprehensive systems to identify and treat children with developmental delays can play a critical role in community-based education and outreach efforts that include information about marijuana use and health impacts on young children. The Help Me Grow system, funded by First 5, provides the necessary resources and referrals to address common developmental delays (e.g.: speech delays, behavioral problems, hearing and vision problems, and even autism) that often go undiagnosed until a child reaches elementary school. When caught early, developmental delays, caused by exposure to marijuana or otherwise, are easier to treat and more cost-effective than later interventions. Currently in 17 counties across the state, Help Me Grow is expanding thanks to local First 5 commissions' investments and provides the support to parents that will reduce the health impacts of marijuana on their young children.

Lastly, First 5 commissions have also invested deeply across California in evidence-based early childhood mental health services, which focus on the social-emotional needs of young children in the context of the critical role of parents and caregivers in a child's well-being. Maternal mental health is particularly critical, as maternal depression can impact a mother's ability to meet their infant's needs. Investments in early childhood mental health capacity expertise in child care and preschool programs, screening for maternal depression, child-parent play groups which focus on supporting healthy attachment, and ensuring that all professionals working with children can identify and support social-emotional learning are critical components of a robust early childhood system of care.

### **ADDITIONAL QUESTIONS**

As First 5 Commissions begin to engage local partners – nurses, home visitors, preschool directors, family resource staff, and others – on the likely impacts of marijuana legalization on their work in communities, we are learning that there are many unanswered questions about the many ways young families will be impacted by the legalization of recreational marijuana, including:

- Second-Hand Smoke Exposure: How are infants and young children affected by second hand exposure to marijuana smoke?
- Working with Intoxicated Parents: How should preschool programs and other providers respond
  when parents appear to be marijuana intoxicated when they come to participate in programs or
  pick up their children? Can they send children home in cars with parents who may be
  intoxicated? What kinds of policies should they have in place?
- What other programs in addition to home visitation and direct parent education about prenatal exposure might be effective interventions for families where drug use has been identified?

### A TIME FOR ACTION

A fully effective prevention approach to marijuana use by vulnerable populations, as outlined as a key goal in Proposition 64, requires an assessment of the critical role that *early* prevention plays. Decades of research shows that funding programs and services during the first years of life and during pregnancy have the greater potential to change one's trajectory and delivers the largest return on investment. Simply put, prevention of any nature cannot be fully accomplished without an early prevention component that focuses on our youngest children and their families.

Furthermore, emerging research shows the health impacts of marijuana on young children and pregnant women. Through the legalization, and thus the normalization, of marijuana, we anticipate that such health impacts will only increase unless otherwise addressed.

First 5 looks to support the public and community sectors in developing comprehensive, culturally competent, and locally-reinforced approaches to ensure that marijuana legalization unfolds in California without unintentionally creating new barriers to the healthy development of our state's most important resource, its children.

### **SOURCES**

- The American College of Obstetricians and Gynecologists. "Marijuana Use During Pregnancy and Lactation" July 2015. Accessed April 12, 2016, http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Marijuana-Use-During-Pregnancy-and-Lactation
- Barry, Rachel A. and Stanton A. Glantz. "A Public Health Analysis of Two Proposed Marijuana Legalization Initiatives for the 2016 California Ballot: Creating the New Tobacco Industry," Center for Tobacco Control Research and Education, UCSF (2016)
- Children's Hospital Colorado. "Acute Marijuana Intoxication" Accessed February 22, 2016, https://www.childrenscolorado.org/conditions-and-advice/conditions-and-symptoms/conditions/acute-marijuana-intoxication/
- Colorado Department of Public Health and Environment "Pregnancy Risk Assessment Monitoring System (PRAMS) 2014 Survey Results" in Monitoring Health Concerns Related to Marijuana in Colorado: 2016. (2016): Accessed February 22, 2017, https://www.colorado.gov/pacific/cdphe/marijuanahealth-report
- Colorado Department of Public Health and Environment "Marijuana Pregnancy and Breastfeeding Guidance for Colorado Health Providers" March 2015. Accessed April 12, 2017 https://www.colorado.gov/pacific/sites/default/files/MJ\_RMEP\_Pregnancy-Breastfeeding-Clinical-Guidelines.pdf
- Colorado Department of Public Health and Environment "Marijuana Use During Pregnancy and Breastfeeding" in Monitoring Health Concerns Related to Marijuana in Colorado: 2016. (2016)

  Accessed February 22, 2017, https://www.colorado.gov/pacific/cdphe/marijuana-health-report
- Colorado Department of Public Health and Environment "Unintentional Marijuana Exposures in Children" in Monitoring Health Concerns Related to Marijuana in Colorado: 2016. (2016):

  Accessed February 22, 2017, https://www.colorado.gov/pacific/cdphe/marijuana-health-report
- Conner, SN, V Bedell, K Lipsey, GA Macones, AG Cahill, and MG Tuuli. "Maternal Marijuana Use and Adverse Neonatal Outcomes: A Systematic Review and Meta-analysis" Obstet Gynecol 128, no. 4 (2008): Accessed February 22, 2017, doi: 10.1097/AOG.000000000001649
- El Marroun, Hanan, Henning Tiemeier, Eric A.P. Steegers, Vincent W.V. Jaddoe, Albert Hofman, Frank C. Verhulst, Vim wan den Brink, Anja C. Huizink. "Intrauterine cannabis exposure affects fetal growth trajectories: the Generation R Study." *Journal of the American Academy of Child and Adolescent Psychiatry* 48, no. 12 (2009): 1173–81. doi:10.1097/CHI.0b013e3181bfa8ee
- ElSohly, Mahmoud A., Zlatko Mehmedic, Susan Foster, Chandrani Gon, Suman Chandra, James C. Church. Changes in Cannabis Potency Over the Last 2 Decades (1995–2014): Analysis of Current Data in the United States. *Biological Psychiatry* 79, no. 7 (2016): Accessed March 23, 2017: DOI: http://dx.doi.org/10.1016/j.biopsych.2016.01.004
- Fried, Peter A., Barbara Watkinson, Robert Gray. "Differential effects on cognitive functioning in 9- to 12-year olds prenatally exposed to cigarettes and marihuana" *Neurotoxicol Teratol* 20, no. 3 (1998): 293-306.

- Goldschmidt, Lidush, Gale A. Richardson, Jennifer Willford and Nancy L. Day. "Prenatal Marijuana Exposure and Intelligence Test Performance at Age 6" *Journal of the American Academy of Child and Adolescent Psychiatry* 47, no 3 (2008): 254-263.
- Goldschmidt, Lidush, Nancy L Day, and Gale A. Richardson. "Effects of prenatal marijuana exposure on child behavior problems at age 10. *Neurotoxicol Teratol*. 22, no. 3 (2000): 325-36
- Gunn, JKL, CB Rosales, KE Center, A Nunez, SJ Gison, C Christ and JE Ehiri. "Prenatal exposure to cannabis and maternal and child health outcomes: a systematic review and meta-analysis" *BMJ Open* 6, no. 4 (2016) doi:10.1136/bmjopen-2015-009986
- Kidsdata.org. "Teen Births" Accessed March 16, 2017, http://www.kidsdata.org/topic/60/teen-births/summary
- Leech, S.L., G.A. Richardson, L Goldschmidt, and N.L. Day. "Prenatal substance exposure: effects on attention and impulsivity of 6-year-olds." *Neurotoxicol Teratol*, 21, no. 2 (1999): 109-118.
- Linn, S., Schoenbaum, S. C., Monson, R. R., Rosner, R., Stubblefield, P. C., & Ryan, K. J. "The association of marijuana use with outcome of pregnancy." *American Journal of Public Health*, 73 no. 10 (1983): 1161–1164.
- Mark, Katrina, Andrea Desai, Mishka Terplan. "Marijuana use and pregnancy: prevalence, associated characteristics, and birth outcomes" *Arch Womens Ment Health* 19, no. 1 (2016): 105-111.
- Mehmedic, Zlatko, Suman Chandra, Desmond Slade, Heather Denham, Susan Foster, Amit Patel, Samir A. Ross, Ikhlas Khan, Mahmoud ElSohly. "Potency trends of Δ9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008." *J Forensic Sci.* 55, no 5. (2010): 1209–17.
- The National Academies Press. "The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research" (2016): Accessed March 16, 2017, http://www.nap.edu/24625
- Wang, George Sam, Marie-Claire Le Lait, Sara J. Deakyne, Alvin C. Bronstein, Lalit Bajaj, and Genie Roosevelt. "Unintentional Pediatric Exposures to Marijuana in Colorado, 2009-2015." *JAMA Pediatrics* 170, no. 9 (2016): Accessed February 22, 2017, DOI: 10.1001/jamapediatrics.2016.0971
- Warner, Tamara D., Dikea Roussous-Ross, and Marylou Behnke. "It's not your mother's marijuana: effects on maternal-fetal health and the developing child." *Clin Perinatol*, 2014. 41, no. 4 (2014): 877-894.

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George Sam Wang et al. "Unintentional Pediatric Exposures to Marijuana in Colorado, 2009-2015." JAMA Pediatrics 170, no. 9 (2016): Accessed February 22, 2017, DOI: 10.1001/jamapediatrics.2016.0971

ii California Legislative Information, 2017 Legislative Session, bill text available at: http://leginfo.legislature.ca.gov

Children's Hospital Colorado. "Acute Marijuana Intoxication" Accessed February 22, 2016, https://www.childrenscolorado.org/conditions-and-advice/conditions-and-symptoms/conditions/acute-marijuana-intoxication/

<sup>&</sup>lt;sup>iv</sup> Colorado Department of Public Health and Environment "Marijuana Pregnancy and Breastfeeding Guidance for Colorado Health Providers" March 2015.

<sup>&</sup>lt;sup>v</sup> Hanan El Marroun et al. "Intrauterine cannabis exposure affects fetal growth trajectories: the Generation R Study." *Journal of the American Academy of Child and Adolescent Psychiatry* 48, no. 12 (2009): 1173–81. doi:10.1097/CHI.0b013e3181bfa8ee

vi S.L. Leech et al. "Prenatal substance exposure: effects on attention and impulsivity of 6-year-olds." *Neurotoxicol Teratol*, 21, no. 2 (1999): 109-118.

vii Lidush Goldschmidt et al. "Effects of prenatal marijuana exposure on child behavior problems at age 10. Neurotoxicol Teratol. 22, no. 3 (2000): 325-36.

Lidush Goldschmidt et al. "Prenatal Marijuana Exposure and Intelligence Test Performance at Age 6" Journal of the American Academy of Child and Adolescent Psychiatry 47, no 3 (2008): 254-263.

<sup>&</sup>lt;sup>ix</sup> The American College of Obstetricians and Gynecologists. "Marijuana Use During Pregnancy and Lactation" July 2015. Accessed April 12, 2016.

<sup>&</sup>lt;sup>x</sup> Control, Regulate and Tax Adult Use of Marijuana Act (Proposition 64), December 7, 2015. Available at: <a href="https://www.oag.ca.gov/system/files/initiatives/pdfs/15-0103%20(Marijuana)">https://www.oag.ca.gov/system/files/initiatives/pdfs/15-0103%20(Marijuana)</a> 1.pdf

 $<sup>^{</sup>xi}$  Zlatko Mehmedic et al. "Potency trends of Δ9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008." *J Forensic Sci.* 55, no. 5 (2010):1209–17.

xii Colorado Department of Public Health & Environment. "Marijuana Use During Pregnancy and feeding" in Monitoring Health Concerns Related to Marijuana in Colorado: 2016.

xiii Kidsdata.org. "Teen Births" Accessed March 16, 2017, http://www.kidsdata.org/topic/60/teen-births/summary

xiv Center for Disease Control. "Birth Provisional Data 2016", Report No. 002, June 2017. Available at: https://www.cdc.gov/nchs/data/vsrr/report002.pdf

<sup>&</sup>lt;sup>xv</sup> Blue Ribbon Commission on Marijuana Policy. "Youth Education and Prevention Working Group Policy Brief." Accessed July 10, 2017, https://www.safeandsmartpolicy.org/wp-content/uploads/2015/05/Youth-Education-and-Prevention-Policy-Brief.pdf

xvi Rachel A. Barry and Stanton A. Glantz. "A Public Health Analysis of Two Proposed Marijuana Legalization Initiatives for the 2016 California Ballot: Creating the New Tobacco Industry," Center for Tobacco Control Research and Education, UCSF (2016)