

June 9, 2017

Ms. Lori Aiax Chief Bureau of Marijuana Control Department of Consumer Affairs Sacramento, CA

E-mail: BMCR.comments@dca.ca.gov

Re: Proposed Regulations **PROVISIONS APPLICABLE TO ALL BUREAU OF MARIJUANA CONTROL APPLICANTS AND LICENSEES**

Dear Ms. Ajax,

We take this opportunity, on behalf of *Getting it Right from the Start* – a project of the Public Health Institute – to express serious concerns regarding the strength of public health protections specified in the proposed regulatory framework for medical cannabis, as well as to raise key issues we believe should be included in upcoming regulations for recreational adult use marijuana licensing. These include adopting more of the precautions used in sister states which have legalized. We urge that you consider the recommendations provided here.

While legalization of recreational marijuana use will have important social benefits for our state, particularly in reducing incarceration for marijuana related offenses and other criminal justice issues, we believe the regulatory process for both medical and recreational marijuana should fully incorporate the consideration that marijuana, while it has some medical benefits and positive effects, also continues to generate significant harmful effects. The National Academy of Sciences, as recently as January of 2017, reviewed the scientific evidence of both benefits and harms, sponsored by the California Department of Public Health amongst others. While much research is still needed to clarify both benefits and harms, areas where their extensive review of the evidence confirms or supports the existence of harmful effects are summarized in Table 1. The breadth of the potential harms and effects noted calls for caution and prudence in the extent of accessibility and allowable marketing of this newly legalized product. This is especially the case given the extraordinary size of California's existing crop, which greatly exceeds current demand in the state. This creates a very strong incentive for aggressive marketing, promotion of heavier consumption, and capture of new clients of all ages than existed in other states. Past aggressive marketing behaviors of the tobacco industry and of the patent medicine industry are already in use.

These are not light matters and there are significant implications for the health, safety and well-being of the people, in particular the youth, of California. The serious potential harms require that legalization should not imply *normalization*. The social interest in ending trafficking and excessive incarceration should not lead to newly unfettered promotion of a harmful substance.

The cannabis industry should not be allowed to replicate the historic aggressive marketing practices of the tobacco or alcohol industries which led to generations of dependent users, whose suffering we have been working to remedy for decades. Current cannabis marketing already does this, mimicking, for example, Joe Camel, one of the most successful advertising

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 cannabis use

Increases in cannabis use frequency are associated with progression to developing problem cannabis

Moderate Evidence of Harm

Increased risk of overdose injuries, including respiratory distress, among pediatric populations in U.S. states where cannabis is legal

Impairment in the cognitive domains of learning, memory, and attention (with acute cannabis use)

Increased symptoms of mania and hypomania in individuals diagnosed with bipolar disorders (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

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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

^{*}Substantial Evidence: There is strong evidence to support or refute a statistical association between cannabis or cannabinoid use and the health endpoint of interest. Moderate Evidence: There is some evidence to support or refute a statistical association between cannabis or cannabinoid use and the health endpoint of interest. Limited evidence: There is weak evidence to support or refute a statistical association between cannabis or cannabinoid use and the health endpoint of interest.

campaigns ever in generating the addiction of teens to a harmful product.ⁱⁱ In 1991, the *Journal of the American Medical Association* published a study showing that by age six, nearly as many children could correctly respond that "Joe Camel" was associated with cigarettes as could respond that the Disney Channel logo was associated with Mickey Mouse.ⁱⁱⁱ

As the state's Blue Ribbon Commission on Marijuana and Lieutenant Governor Newsom stated, marijuana "should not be California's next Gold Rush." Instead, it prescribed that sheltering youths and communities must lay at the heart of any proposed regulation.

To protect youth, all parts of the regulatory framework should include rigorous provisions constraining marketing. Dispensaries and products should not be allowed to be marketed in locations with significant youth exposure such as on billboards, outdoor advertising, TV or radio. These marketing practices have been limited more strongly in other states such as Washington. Additionally, there is no standard for adjudicating what is a valid health claim. Unlike pharmaceuticals, where clear standards exist for establishing valid indications, no such system exists for marijuana, nor will one be feasible for some years to come, given current Federal obstacles to high quality research. Current marketing materials for medical marijuana include unsubstantiated claims, for example "shrinking tumors or antibacterial." Photos of current marketing practices are included at the end of this document.

The following are specific recommendations on issues of concern to public health, for the regulation of both the medical and adult markets, although the specific drafts under study are for medical marijuana.

Appeal to minors in packaging and products by distributors or dispensaries:

We recommend that the sections on any packaging provided by distributors or dispensaries assure that such packaging not be appealing to minors:

Recommend: Packages and labels shall not be made to be attractive to minors, defined as persons below the legal age of consumption. Packaging and labeling may not contain content that is likely to appeal to minors, including but not limited to, cartoon characters (meaning any drawing or other depiction of an object, person, animal, creature or similar caricature using comically exaggerated features), animals, anthropomorphized creatures (meaning the attribution of human characteristics to animals, plants or other objects, or the similar use of anthropomorphic technique), bright colors, other pictures or images that would appeal to minors. Use of the word "candy" and/or "candies" on the product, packaging or labeling for retail marijuana or retail marijuana product is prohibited. Packaging may not look like candy, or other products primarily consumed by or marketed to minors or products that could reasonably be mistaken for that branded product, especially by minors. IV,V,VII

Appeal to minors and exposure of minors through advertising by holders of manufacturing, distribution or retailing licenses:

We recommend that the following language addressing restrictions of marketing be added for all licensees:

Licensees may not advertise or market cannabis products or brand names of cannabis products or businesses on billboards, sign spinning, online unsolicited digital pop-ups, broadcast, cable or radio. Use of the licensed cannabis product brand or business name is not allowed even if the advertising is purchased by a business licensed for other purposes. Licensees may not market at sporting events, festivals, fairs or other community events where attendance of persons less than 21 years of age is allowed. Any advertising or marketing

placed in print or digital communications shall only be displayed where at least 85vii,viii percent of the audience is reasonably expected to be 21 years of age or older, as determined by reliable, up-to-date audience composition data at the local market level. A licensee who advertises via webpage must utilize appropriate measures to ensure that individuals visiting the web page are over 21 years of age. A licensee may not engage in advertising via marketing directed towards location-based devices, including but not limited to cellular phones, unless the marketing is a mobile device application installed on the device by the owner of the device who is 21 years of age or older and includes a permanent and easy opt-out feature.

Digital marketing communications on a site or web page controlled by the brand advertiser that involve direct interaction with a user should utilize commercial age-identification and/or filtering software with parental notification features, and require active input of date of birth by the user prior to full user engagement of that communication to determine that the user is of legal purchase age. User-generated content on a site or web page controlled by the brand advertiser must be monitored and moderated on a regular basis. Digital marketing communications that are intended to be forwarded by users should include instructions to individuals downloading the content that they should not forward these materials to individuals below the legal purchase age.^{xi}

Advertising or marketing shall not be attractive to minors, defined as persons below the legal age of consumption, and cannot contain cartoons (meaning any drawing or other depiction of an object, person, animal, creature or similar caricature using comically exaggerated features), characters with attributes of unnatural or extra-human abilities, such as imperviousness to pain or injury, X-ray vision, tunneling at very high speeds or transformation, animals, anthropomorphized creatures (meaning the attribution of human characteristics to animals, plants or other objects, or the similar use of anthropomorphic technique), toys, celebrities who appeal to youth, or actors who appear to be under age 21 or are under age 25; advertising or marketing cannot use elements of magic or fantasy, music with appeal to youth, cannot depict consumption of the product, allude to consumption of the product (for instance showing smoke but not the person smoking), or portray persons experiencing effects after consumption; advertising cannot associate the product directly or indirectly with rebellion or achievement in any venture including but not limited to: wealth, society, romance, or physical activity. xii,xiii,xiv

Dispensaries may have up to two signs of up to 50 square feet indicating the name or location of their business, one directly on the premises and one in the parking lot or other entry. Advertising of marijuana products or paraphernalia may not be visible from outside the store.

The current proposed restrictions on advertising are severely inadequate and stand in strong contrast to Washington and Colorado's more robust controls to protect children from exposure to marijuana advertising. Colorado for example banned billboards and popup ads, both of which inevitably expose children. Yet, already as one comes over the Bay Bridge into San Francisco a giant billboard with a cute, three eyed Joe Camel type cow in a top hat advertises Korova "unrivaled potency" marijuana to every passing child (see Figure 1 and 2). Without a stronger regulatory framework for marketing, rampant advertising exposure of children and youth in broadcast, cable, print and digital media will follow. We recommend restricting cannabis advertising to certain print and digital media with a higher youth audience threshold. These more stringent thresholds are recommended because the trailer bill proposed language suggesting a 71.6% adult target market is adopted from alcohol industry self-regulatory guidelines which have been found in research to be wholly

inadequate to protect youth from advertising exposure.xv xvi A report from the National Research Council and Institute of Medicine recommended a maximum 15% threshold. It reported that this as standard would preclude alcohol advertising on only 34.0 percent of television programming if the base included children ages 2 and above, and 19.2 percent of programming if the base were limited to person age 12 and above (the group between the ages of 12 and 20 comprises the young people who are most at risk of initiating underage drinking). Additionally, research has shown that it is the local market data which needs to be assessed, not national, as there is considerable variation across locales.

Note that a systematic review of the literature on youth perceptions of advertising for alcohol and tobacco found specific advertising content features to which minors are particularly susceptible due to their unique developmental stage, propensity for high-risk behaviors, and relative inexperience with consumption of these substances. A subsequent analysis found a positive association between the use of such features in alcohol brand advertisements and youth consumption of those brands, and no association with adult alcohol consumption of those brands, suggesting they have particular appeal for youth.xvii Rigorous controls on cannabis marketing are perhaps the most promising route to reducing risk of increasing youth and problem use while permitting legal commerce of cannabis and cannabis products. Recent conversations with Colorado cannabis officials also noted the importance of covering the product brand name under regulation whether the advertiser is the cannabis producer or a firm using part of the same name, a strategy that was used in that state to bypass restrictions.

Retail licenses: Prohibit Sale with food

We strongly recommend that retail licenses for neither medical nor adult recreational use of marijuana be issued to holders of food service establishment licenses. Given the significant evidence of harm, cannabis products should not be treated as food or served with or as part of meals. It will also be impossible to prevent cross contamination of foods and cannabis products.

Premises § 5145: Suggest additions

- 1. A license dispensary shall be in a location with its own entrance. It shall not be located in a mall property with common entrances. It may be located in a strip mall if the entrance is independent of other establishments.
- 2. A dispensary shall not be located within 300 feet of a movie theater entrance.
- 3. A licensed dispensary shall not share a premise or entryway with a licensed food service establishment, pharmacy, or alcohol license holder, unless located at least two floors separate from the establishments or two businesses away
- 4. A licensed food service establishment may not hold a marijuana dispensary license.

Note that in Colorado, dispensaries are required to be "stand-alone" and the officials from the state department of health interviewed felt that this was a good decision.

Suggest addition of "Density" criteria for recreational marijuana retail establishments

When writing the regulations for recreational marijuana, it will be wiser to start slowly with the opening of recreational marijuana access in the state, with enough dispensaries to encourage transition from illicit to legal market but not so many as to create a need for

aggressive marketing to remain economically viable. In our interviews with one medical marijuana dispensary owner, he noted that restrictions on the number of dispensaries would help avoid the need for aggressive marketing. With a modest but adequate number of businesses, each business will have sufficient market to survive. This criteria can be reassessed after 5 years and additional licenses issued if advisable. But what we know from decades of tobacco and alcohol regulation is that it is almost impossible to decrease the number of existing businesses once licensed.

We recommend an initial criterion of no more than 1 dispensary of either medical or recreational marijuana per 15,000 inhabitants statewide or 2609 licenses issued in the State in the first 5 years. By way of comparison, there are currently 6459 pharmacy licenses in the State or 1:6059 inhabitants. These provide access to residents across the state. Since a significant number of jurisdictions will not be allowing cannabis sales this may be a reasonable starting point and the quota can be increased over time as needed.

Non transferable

We strongly support the provision in § 5039 that licenses are non transferable. Ability to transfer licenses to new owners has made it very difficult to reduce the number of alcohol or tobacco licensees through attrition in many jurisdictions. Keeping licenses nontransferable is the best way to do that. A new or prospective owner can still apply for a license but a licensee cannot assume that the ability to transfer their business is part of its value. This provision is essential to establish from the beginning as at a later time it may be viewed as reducing the value of an existing business.

Hours § 5146:

Suggest limiting openings hours to 7pm PT. Research from alcohol has shown that reduction of density and hours of alcohol outlets has been associated with reduced crime, drunk driving incidents and violence.

Denver, Colorado, for example, adopted 7 pm.

Suggest addition of revocation criteria for retail licensees whose establishments:

- a. Adversely affects the health, peace, or safety of persons living or working in the surrounding area;
- b. Contributes to a public nuisance;
- c. Have resulted in repeated objectionable activities

It has been the experience of community coalitions in low-income neighborhoods where liquor stores proliferated that these establishments often served as points of neighborhood disruption, drug dealing, and other problems. Community organizations expressed concern that these patterns not be duplicated with marijuana dispensaries. It will be important to assure that cannabis dispensaries are not associated with those problems in the community and that there are mechanisms to revoke licenses if this occurs.

Display § 5163

We strongly support the limitation of the availability of cannabis goods in dispensaries, whether medical or recreational, detailed in points a-f

Additionally, we suggest that wall displays with multiple units of products not be permitted – these so-called power-walls are powerful marketing tools used effectively by the tobacco

industry. They have been banned in many countries. No more than one example of a given product should be visible to consumers on display.

Daily limits § 5172

We suggest that more stringent daily limits be developed for sales for recreational marijuana when those regulations are prepared.

Suggest adding restrictions on use of discounts and coupons to: Customer Samples § 5172

Use of promotions, discounts and coupons are a well-known marketing mechanism widely used by the tobacco industry to encourage addiction and initiation and to increase sales. Their effectiveness in increasing consumption is confirmed by the fact that point of sale discounts absorb a significant part of the tobacco industry marketing budget. Washington, for example, has banned this practice for marijuana dispensaries. We recommend not allowing these instruments in either the medical or recreational markets.

Language mirroring that used in some California local tobacco control laws could be used: *Definition:*

Price reduction instrument" means any coupon, voucher, rebate, card, paper, note, form, statement, ticket, image, or other issue, whether in paper, digital, or any other form, used for commercial purposes to receive an article, product, service, or accommodation without charge or at a discounted price.

No licensee shall: (1) honor or accept a price reduction instrument in any transaction related to the sale of cannabis to a consumer; (2) sell or offer for sale cannabis to a consumer through any multi-package discount or otherwise provide to a consumer any cigarettes for less than the listed price in exchange for the purchase of any other cannabis product by the consumer; (3) sell, offer for sale, or otherwise provide any product other than cannabis to a consumer for less than the listed price in exchange for the purchase of cannabis by the consumer; or (4) sell, offer for sale, or otherwise provide cannabis to a consumer for less than the listed price.

Exit Packaging § 5184

We recommend that any interior packaging such as a bag of edibles also be opaque so as not to be attractive to children if removed from the external packaging.

Employee Training

We suggest adding an employee training section for dispensary licensing that all budtenders and store managers be required to undergo mandatory training for advising customers on issues related to the safe use of different product types, similar to the responsible use training for bartenders. The California Department of Public Health should develop a key content curriculum for this purpose.

Required warning signs to consumers in retail establishments (whether medical or adult use)

We recommend that marijuana dispensaries be required to display the following warning sign facing the customer in the center of the main product display area where customers will are served at a height between 5' and 7' with size of at least 3 feet by 4 feet, in prominent, legible font occupying the sign with margins of up to 6", stating:

"WARNING: The State of California warns consumers that

Marijuana use:

- During pregnancy is associated with low birth weight of babies. Use during pregnancy is not advisable.
- Increases the risk of motor vehicle crashes. Do not use while operating a motor vehicle.
- Is associated with development of psychoses and schizophrenia, especially in frequent users.
- At an early age or high frequency is associated with problem use.

Effects of edibles may only be felt only 2 or more hours after eating them.

Possession or use of small amounts of marijuana, while legal in California, may still cause problems under Federal law for immigrants, for people on parole if not using drugs is a condition of parole, or if taken out of state. "

The clinical warnings are based on the findings denoted as having "substantial evidence" in the recent National Academy of Science 2017 review of the benefits and harms of marijuana. We are happy to provide additional information on the sources of this information or further details. We also recommend that the California Department of Public health be charged with assessing optimal warning language based on the current science as well as research on consumer understanding and updating warning language every three years based on findings as well as determining where rotating messaging should be used.

Given the growing body of literature on potential negative effects on cognition when marijuana is used during youth, especially heavy use, we recommend evaluating the following warning for inclusion:

"Use of this product by individuals under age 25 may be related to cognitive difficulties."

Track and trace availability for evaluation

We recommend adding the requirement to register consumer age in the track and trace system which will permit assessment of use under age 25, the period when brain development is still occurring. We recommend that the track and trace system data be fully available through the California Public Records Act. If this change is not made in the law, at a bare minimum it should be available through data use agreements. The track and trace program database should be available not only for enforcement but also for bona fide research purposes, including at public and private non-profit research institutions as well as public health departments to permit understanding of the nature of this new market for a product with significant known harms and to allow its study in conjunction with health data to understand impact. Understanding what types of products are used, and how that correlates with youth and problem use, illness and adverse events is essential. Confidentiality as currently specified would place industry concerns over understanding of the public health impact of legalization. The Washington state database is publicly available and the Oregon state health officer informs us that Oregon's data is available through public records request. Prop 64 did not specify confidentiality for track and trace, only for patients.

We recommended changes in the trailer bill to this effect and would recommend a similar regulatory framework.

Health claims

We recommend adding provisions for distributors and retailers that cannabis advertising and marketing materials may not make claims that recreational or medical cannabis products have curative or therapeutic effects.

While the CDPH drafted regulations for manufacturing specify that labeling should not contain "(e) Claims of health benefits or other physical benefits", these regulations do not cover marketing materials. No such claims should be allowed on cannabis packaging or advertising materials, given the absence of any clear regulatory framework to distinguish substantiated and unsubstantiated health claims for cannabis effectiveness at this time. See Figure 3 for examples. Practitioners and prescribers must rely on published scientific literature and prescribing guidelines. Oregon's rules, for example state: **From Oregon 845-025-8040 Advertising Restrictions:** "(1) Marijuana advertising may not: (e) Make claims that recreational marijuana has curative or therapeutic effects;"

We would greatly appreciate that your offices take into consideration the incorporation of these changes for the protection of public health.

Respectfully,

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References:

¹ National Academies of Sciences, Engineering, and Medicine. 2017. The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research. Washington, DC: The National Academies Press. doi: 10.17226/24625.

ii In 1991, the *Journal of the American Medical Association* published a study showing that by age six nearly as many children could correctly respond that "Joe Camel" was associated with cigarettes as could respond that the Disney Channel logo was associated with Mickey Mouse, and alleged that the

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"Joe Camel" campaign was targeting children, [3] despite R. J. Reynolds' contention that the campaign had been researched only among adults and was directed only at the smokers of other brands. At that time it was also estimated that 32.8% of all cigarettes sold illegally to underage buyers were Camels, up from less than one percent. [4] Subsequently, the American Medical Association asked R. J. Reynolds Nabisco to pull the campaign. R. J. Reynolds refused, and the Joe Camel Campaign continued. In 1991, Janet Mangini, a San Francisco-based attorney, brought a suit against R. J. Reynolds, challenging the company for targeting minors with its "Joe Camel" advertising campaign. In her complaint, Mangini alleged that teenage smokers accounted for US $476 million of Camel cigarette sales in 1992. When the Joe Camel advertisements started in 1988, that figure was only at US$6 million, "implicitly suggesting such advertisements have harmed a great many teenagers by luring them into extended use of and addiction to tobacco products.
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- iii Fischer, PM, Schwartz, MP, Richards, JW, Goldstein, AO, Rojas TH. <u>Brand Logo Recognition by Children Aged 3 to 6 Years</u>, *Journal of the American Medical Association*. December 11, 1991,
- ^{iv} Colorado Department of Revenue, Marijuana Enforcement Division, Retail Marijuana Rules. 1CCR 212-2 R 1001 Labeling and Packaging Requirements: General Applicability
- v Oregon Liquor Control Commission, Division 25, Recreational Marijuana, General Requirements Applicable to all Marijuana Licensees: 845-025-7000 Packaging and Labeling
- vi Alaska Department of Commerce, Regulation of Marijuana Industry. Chapter 306. Chapter 306.510. Acts prohibited at marijuana product manufacturing facility.
- vii Jernigan, D., Ostroff, J., & Ross, C.J. (2005). Alcohol Advertising and Youth: A Measured Approach, *Journal of Public Health Policy, 26*; 312-325
- viii National Research Council and Institute of Medicine. *Reducing Underage Drinking: A Collective Responsibility*. Washington, D.C.: National Academies Press; 2004.
- ix Centers for Disease Control (2013). Youth Exposure to Alcohol Advertising on Television 25 Markets, United States, 2010. *Morbidity and Mortality Weekly Report, 62*, 877-880.
- ^x Oregon, 845-025-8060. Advertising Media, Coupons, and Promotions
- xi Distilled Spirits Council's Guidance Note on Responsible Digital Marketing Communications, September 30, 2011. Accessed at:
- $http://www.discus.org/assets/1/7/DISCUS_Digital_Communications_Guidelines.pdf$
- xii Oregon, 845-025-8040. Advertising Restrictions
- xiii Alaska, Chapter 306.360. Restrictions on advertising of marijuana and marijuana products.
- xiv Padon, A.A., Rimal, R.N., DeJong, W., Siegel, M. & Jernigan, D. (2016). Assessing Youth-Appealing Content in Alcohol Advertisements: Application of a Content Appealing to Youth (CAY) Index. *Health Communication*, 0, 1-10.
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- xvii Padon, A.A., Rimal, R.N., & Jernigan, D.H. (2014). Linking Alcohol Advertising and Underage Drinking: Triangulation of Data from Content Analysis, Youth Survey, and Market Exposure Data. American Public Health Association Annual Conference, New Orleans, LA, 15-19 November
- xvii Fletcher, LA, Toomey, TL, Wagenaar, AC, Short, B, Willenbring, ML (2000). Alcohol home delivery services: a source of alcohol for underage drinkers. *Journal of Studies on Alcohol, 61*, 81-84.

Examples of Marketing Materials that Target Youth or are Misleading

Figure 1. Examples of "Joe Camel" style cannabis advertising, known to appeal to youth, on a California billboard (identical to the one at the Bay Bridge entrance) and the original Joe Camel ads



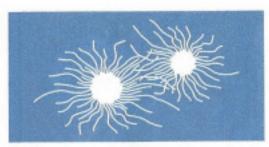


Figure 2. Examples of "Joe Camel" style advertising, known to appeal to youth and" from California marketing materials, with very high dose edibles





Figure 3. Examples of what appear to be exaggerated, false or misleading health claims in marketing materials, such as shrinking tumors, treating depression, inflammation, diabetes and bacterial infections, bone stimulant, immunosuppressive and neuroprotective action



CANCER

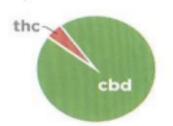
dose for Recommended symptom management is 20 Mc THC daily, but varies from patient-to-patient, 10-20 MG of CBDs will help with appetite and anxiety. For Chemo-related N/V, up to 20 MG of THC may be needed per dose but start low as a precaution. Oral doses are effective, if you are able. Sprays, tinctures 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.

THC Robust 1:5



THC Robust ratio is recommended by many oncologists for support with tumors and other ailments related to cancer.

This ratio is most commonly known as the ratio for "Rick Simpson Oil" and is highly psychoactive.



Abundant 20:1 Patients find CBD Abundant ratio helpful for spasms, convulsions, tremors, endocrine disorders, anxiety, depression, psychosis and other mood disorders, and overall wellness.

CBD counteracts the effects of THC. therefore has reverse (non) psychoactive effects.



Provides anti-inflammatory, anti-pain, antianxiety, anti-psychotic, and anti-spasm relief cannabis without the "high." CBD has analgesic, antibacterial, anti-diabetic, antidepressant, anti-emetic, anti-epileptic, anti-inflammatory, anti-insomnia, anti-ischemic, antipsoriatic, anti-proliferative, antipsychotic, antioxidant, antispasmodic, anxiolitc, bone stimulant, immunosuppressive, intestinal anti-prokinetc, neuroprotective, and vasorelaxant effects. CBDA converts to CBD when heated. CBDA is non-psychoactive and has antibacterial and anti-inflammatory properties and has also been shown to be anti-inflammatory, anti-emetic, and anti-proliferative.