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CA Department of Cannabis Control
Cannabis Advisory Committee
Public Health and Community Impact Subcommittee

We welcome the formation of DCC's new advisory subcommittee devoted to public health. This is a timely topic, as California's cannabis consumers are facing a bewildering proliferation of new products: beverages, tinctures, extracts, sublingual drops, nano-emulsions, herbal vaporizers, vape pens, dab pens and dab concentrates; glass, shatter and budda hash; terpene additives; high CBD products; minor cannabinoids like CBG, CBC, CBN, and Delta-8 THC; high-potency flowers, etc. - not to mention a host of novel, synthetic cannabinoids derived from hemp that have never been tested in humans, which though illegal in California remain widely available on the internet and unlicensed retail outlets.

California's consumers need better guidance on how to choose and use these products safely. California has experienced a significant upswing in cannabis-related emergency room visits in recent years, mostly involving overdoses.¹ Edibles are a leading cause of overdoses because they are readily mistaken for non-medicated food, and their lengthy time to onset of effects makes dosage hard to gauge. Yet another significant cause of overdoses is the increasing availability and use of high-potency products. Some of these, such as hash oil and dab concentrates, can deliver extremely high dosages of THC in a single puff. In addition, there has been a perceptible upswing in the potency of cannabis flowers, buds and pre-rolls. A few years ago, California testing labs told us that the average potency of cannabis they were testing was around 16% THC; today, they are reporting closer to 25%, and many dispensaries are now offering pre-rolls with 30-40% THC. Yet a third problem is the proliferation of untested, highly potent new cannabinoids on the underground hemp market, which, though illegal under AB 45, remain widely available on the internet and retail outlets.

We urge the committee to prioritize improving consumer education and information regarding safe use. Since the advent of adult-use legalization, there has been an unhealthy swing in the market away from medicinal benefits and towards simply

getting high. The content of promotion and advertising has similarly declined, as has budtender education. We are glad that the Governor had appointed a Task Force to assess the potency problem, on which CAC will have representation. **We think it essential that this task force have input from knowledgeable medicinal cannabis physicians, patients and consumer advocates.**

The DCC currently offers limited consumer information on its website with links to webpages on “[Responsible cannabis use](#)” and “[Medicinal cannabis](#).” However, neither provides adequate consumer help or guidance on safe usage in this ever-changing market.

For example, the “Medicinal cannabis” page leads off with the statement that patients with a physician’s recommendation can “buy cannabis products with more THC.” However, it fails to note that medical patients are best advised to “start out low and go slow” with their dosage, not confuse psychoactivity with medical efficacy, and avoid high dosages except in exceptional cases.²

Again, the page on “Responsible cannabis use” states: “Be cautious when inhaling cannabis. We do not fully understand the health effects of vaping or smoking cannabis.”

In fact, we know a lot about vaping and smoking. In particular, consumers should know:

- * Inhalation acts promptly within a few seconds, unlike oral consumption, It therefore helps users more accurately self-titrate and avoid overdoses.

- * Unlike tobacco, cannabis smoking doesn’t cause lung cancer, but is linked to chronic bronchitis and respiratory problems. Furthermore, when combined with tobacco, cannabis smoking increases the risk of emphysema and other smoking-related diseases³

- * Scientific studies have shown that **cannabis vaporization can vastly reduce users’ exposure to harmful smoke toxins by 95 – 99%.**⁴ By the same token, it can greatly reduce second-hand exposure to smoke toxins.

- * Different kinds of vaporizers need to be distinguished. Among the safest are herbal vaporizers that heat natural cannabis to beneath the point of combustion.

- * Electronic vape pens that vaporize cannabis concentrate are quite safe, provided they are properly made. Well-designed vape devices of the kind now widely available on California’s licensed market typically deliver low-to-moderate doses of cannabinoids by maintaining low temperatures and limiting the amount of vapor in each puff.

- * However, vape pens can be dangerous if their concentrates are contaminated by toxic additives, as occurred in the EVALI lung disease epidemic that sickened hundreds of Californians in 2019-20, some of them fatally. Consumers are therefore strongly advised to use only vape cartridges that have been tested and approved for sale by licensed dispensaries.

- * Finally, “dabbing,” in which large dabs of cannabis oil are heated on an open flame, can deliver extremely high doses of THC, enough to overpower naïve users and make them pass out. In no cases can dabbing be recommended for medicinal use.

- * Excessive chronic use or dabbing of high-THC products aggravates the risk of hyperemesis, cannabis psychosis, and other addictive pathology.

Among other consumer tips worth noting:

* The section on driving should emphasize that the risks of impaired driving are magnified when cannabis is combined with alcohol or other drugs.⁵

* The consumer information page says nothing about CBD; how it is not intoxicating like THC, but has medicinal effects; and how it can be safely obtained either through licensed dispensaries or state-licensed hemp manufacturers (of which there are unfortunately too few).

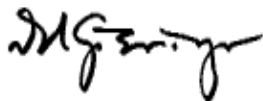
* A word should be said about the other minor, natural cannabinoids CBN, CBC, CBG or Delta-8, that are available in legal products; as well as the risky, untested synthetic cannabinoids that are widely promoted on the illegal hemp market.

* Users should also know about terpenes, which have been found to enhance and alter the effects of cannabis.⁶ Some products have artificially enhanced terpene additives. Excessive terpene levels may not be healthy. Some may be dangerous when inhaled as smoke or vapor.

These are just a few suggestions that come to mind. We urge the committee to undertake a more thorough review of its consumer tips with a view to making them more useful, up-to-date, and credible. Unfortunately, much of this information is not available in published scientific literature, due to government restrictions on what researchers can study. **Therefore, we strongly recommend that this be done in consultation with knowledgeable cannabis physicians, patients and consumer advocates.**

We hope DCC and CDPH will also consider how to disseminate this information more effectively. The DCC website obviously has limited outreach. We are frankly skeptical of trying to squeeze this information into label warnings; our impression is that consumers don't bother to read them in any case. A printed brochure, posted advisories, or media ads might be more effective.

Sincerely,



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¹ Han et al, "Trends in emergency department visits associated with cannabis use in older adults in California, 2005-2019, *J of the Am Geriatric Society*, 20 Nov 2022. "San Diego ERs seeing up to 37 marijuana cases a day- mostly psychosis," *NY Post* Oct 22, 2022.

² Caroline MacCallum and Ethan Russo, "Practical considerations in medical cannabis administration and dosing," *Internal Medicine* 49 (2018)

³ National Academy of Sciences, *The Health Effects of Cannabis and Cannabinoids* (2017) pp. 157, 196.

⁴ D. Gieringer, "Cannabis Vaporization: A Promising Strategy for Smoke Harm Reduction," *Journal of Cannabis Therapeutics*, Vol. 1 #3/4: 153-70 (2001). Gieringer & St. Laurent, "Cannabis Vaporizer Combines Efficient Delivery of THC With Effective Suppression Of Pyrolytic Compounds" *Journal of Cannabis Therapeutics* Vol. 4 #1 (2004). J. Meehan-Atrash et al., "Aerosol Gas-Phase Components from Cannabis E-Cigarettes and Dabbing: Mechanistic Insight and Quantitative Risk Analysis," *ACS Omega* Sept 16, 2019.

⁵ A. Fares et al., Combined effects of alcohol and cannabis on simulated driving, *Psychopharmacology* (Feb. 2021).

⁶ Ethan Russo, Taming THC: potential cannabis synergy and phytocannabinoid-terpenoid entourage effects, *Br J Pharmacol* 163 (2011).