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To: Contra Costa Board of Supervisors

From: Daniel Peddycord, Director of Public Health
Dr. Chris Farnitano, Health Officer
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Re: Staff Report on considerations related to Commercial Cannabis Health Permit Ordinance

Date: July 27, 2021

On May 18, 2021, Contra Costa Health Services and the Department of Conservation and Development provided a report to the Board of Supervisors regarding the emerging cannabis industry and the current permitting of commercial cannabis activities in Contra Costa County. The Health Services update included information specific to the current prohibition on the sale and delivery of electronic smoking devices and related cannabis products under the County's Commercial Cannabis Health Permit Ordinance (Chapter 413-3 of the County Ordinance Code) and similar prohibitions on the sale of electronic smoking devices and related tobacco products under the County's Secondhand Smoke and Tobacco Product Control Ordinance (Division 445 of the County Ordinance Code).

During the report, the Board of Supervisors asked for additional information on several issues, including the status of cannabis product safety review conducted by the State, and directed staff to return with an update.

This report seeks to provide responses to the questions asked by the Board and provide updated information.

I. Background

In June 2017, the Board of Supervisors adopted Ordinance Nos. 2017-01 and 2017-10 to address a dramatic increase in the use of vaping products by youth attracted to flavored tobacco products. Those ordinances were adopted to reduce the accessibility and exposure of tobacco products to minors and the public generally by: prohibiting the sale of flavored tobacco products and menthol cigarettes within 1,000 feet of a public or private school, playground, park, or library; establishing restrictions on the retail sales of emerging tobacco products, such as electronic smoking devices; prohibiting tobacco retailing in pharmacies; and establishing a cap on the number of tobacco retailer's licenses issued by the County.

On May 8, 2018, the Board of Supervisors accepted the Contra Costa Health Services' staff report, which included recommendations for a health ordinance to regulate commercial activity associated with recreational adult use cannabis. The recommendations focused on protecting youth from exposure to and use of an emerging line of products, such as electronic smoking devices (vapes) as well as the flavored products associated with the use of these devices. The Board directed staff to prepare a cannabis health ordinance for the Board's consideration that, among other health protections, would prohibit the sale or delivery of flavored cannabis products for which the primary use is inhalation either by smoke or vapor from an electronic smoking device.

On August 7, 2018, the Board adopted Ordinance No. 2018-23 to require all persons engaged in commercial cannabis activities or engaged in cannabis deliveries to any location in the unincorporated area of the county to obtain a county health permit in addition to all other licenses and permits required by the County and the State. Consistent with the County's policy to protect youths from the impacts of tobacco, the ordinance established permit standards that prohibit the sale or delivery of flavored cannabis products for which the primary use is inhalation either by smoke or vapor from an electronic smoking device.

On November 19, 2019, the Board adopted Ordinance No. 2019-34 to address ongoing health concerns related to tobacco and cannabis e-liquids and electronic smoking devices. The ordinance prohibits (1) the sale of any e-liquid or electronic smoking device that is required to obtain, but has not yet obtained, a premarket review order from the U.S. Food and Drug Administration pursuant to the federal Family Smoking Prevention and Tobacco Control Act, and (2) the sale or delivery of any e-liquid that contains tetrahydrocannabinol or any other cannabinoid, or any electronic smoking device that can be used to deliver tetrahydrocannabinol or any other cannabinoid in aerosolized or vaporized form. The ordinance also aligned the County's tobacco control policy with its cannabis control policy by prohibiting the sale of flavored tobacco products and menthol cigarettes.

II. General Statement on Health

Contra Costa Health Services acknowledges that the negative impacts associated with the use of tobacco is an issue of health equity, and in response we have developed and implemented protective policies to address this. While many segments of the community have been targeted by the tobacco industry (ie., youth/young adults, women, LGBTQ+, etc.), none have experienced the aggressive marketing of tobacco products, in particularly the highly addictive menthol flavored tobacco products, more than the African American community. Over 84% African American adults and 94% of Black youth who smoke are using menthol products (Giovino, 2015). These striking statistics arise from the predatory marketing of these products in the Black Community since the 1960's where there are more advertisements, more lucrative promotions, and cheaper prices for menthol cigarettes compared to other communities (Henriksen et al., 2011; Seidenberg et al., 2010). According to the American Cancer Society's "Cancer Facts and Figures for African Americans 2013-2012, smoking-related illnesses kill more African Americans than AIDS, car crashes, murders and drug and alcohol abuse combined. In an effort to reduce disease and preventable deaths associated with combustible tobacco product use, Food and Drug Administration banned menthol as a characterize flavor in cigarettes and ban all characterizing flavors (including menthol) in cigars in April 2021.

The dangers and harm to human health from tobacco smoking are well established and strongly parallel emerging research related the inhalation/smoking of cannabis products (Bryanmiller et al., 2020).

Inhalation by use of electronic smoking devices adds an additional risk due to how the heat of vaporization can impact the chemical composition of the raw product (cannabis oils) and their associated flavors (terpenes) and the leaching of a variety of known toxins (including heavy metals) into the vaporized smoke, from the constituents in the cartridge itself. This danger is closely associated with electronic smoking devices that are prone to overheating.

By no means, does the Contra Costa Health Department condone the use of electronic smoking devices as a safe alternative to the use of cannabis by traditional smoking methods. Simply put, neither form of use is "safe" and the use of these products may well lead to a number of acute and long term impacts to cardio-vascular and lung health that closely mirror the use of similar tobacco products. According to an article published January 2020 in the *Journal of the American College of Cardiology*, while the psychogenic substances in tobacco and cannabis differ, when smoked many cardiotoxic chemicals are similarly produced. Cannabis smoking can lead to increases in heart rate and blood pressure; smoking cannabis use has been linked as a trigger to myocardial infarction; and cerebrovascular events such as ischemic strokes have been

reported in association with cannabis use (JAM Coll Cardol. 2020 Jan, 75 (3) 320-332). An added, more time sensitive and insidious concern is its well documented impact on mental health, substance use disorders and related psycho-social well-being (Hammond, et all, International Review of Psychiatry 2020, Vol 32, No. 3, 221-234)

After years of seeing positive trends in the reduction in youth tobacco use, the introduction of electronic smoking devices dramatically changed this trajectory. At the National level, the 2019 Monitoring the Future Survey (MTFS) reported a significant increase in Nicotine Vaping and THC vaping and indicated that **THC vaping among 12th graders is the second largest increase for any substance within the 45 years of the MTFS.**

III. Points of Clarification

1. **Status of Cannabis product safety review by the State**:

Lesson from Tobacco Control:
In recognition of the growing concerns related to the health and product safety of electronic smoking devices and related e-juices, the Federal Food and Drug Administration (FDA) put in place a pre-market product safety review process for Tobacco Products. By both Federal law and local County Ordinance, no related products can be sold until those products have been approved by the FDA for the consumer market. As of the drafting of this report, no electronic smoking device or related products have yet been approved.

At the State Level, a number of protections are in place related to the sale of flavored tobacco products and delivery (SB 793 and SB 39). SB 793 assigned by the Governor in August of 2020, prohibits the retail sale of all flavored tobacco products – **including flavored electronic cigarettes** – to address an unprecedented surge in youth nicotine consumption. Additionally, vaping devices are considered tobacco products under California law, whether used to consume nicotine, cannabis, or other substances, yet the sale of flavored e-juices (cartridges) continues in the cannabis market.

Similar legislative protections are not well established for the emerging cannabis market at either the State or Federal Level and why it is recommended to take note of lessons learned from decades of tobacco control. However the **Province of Canada and most recently Health Canada** (the Canadian counterpart to the Centers for Disease Control and Prevention (CDC) in the United State has proposed the following: ,

- **Regulatory Efforts to address Flavors in Cannabis Products and their Appeal to Youth:**
  - In June of 2021 Health Canada proposed national regulations to address the rapid increase in youth use of cannabis. The proposed regulation that would significantly restrict flavors that can be added to all the types of extracts (concentrates) for inhalation: https://gazette.gc.ca/rp-pr/p1/2021/2021-06-19/html/reg4-eng.html

  - These regulatory amendments would align with those already in place in the Province of Quebec, since October of 2019. There is no such regulation at the US Federal Level, leaving it to States and local jurisdictions. A summary of proposed Canadian Regulation is as follows:
  - **Description:** The proposed amendments to the *Cannabis Regulations* would restrict the production, sale, promotion, packaging, or labelling of inhaled cannabis extracts from having a flavour, other than the flavour of cannabis. The proposed amendments would apply equally to inhaled cannabis extracts sold for medical and non-medical purposes.
  - **Rationale:** Restricting flavours in inhaled cannabis extracts is expected to make these products less appealing to youth, which would help address the rapid rise in youth vaping. This proposal is consistent with the objective of the *Cannabis Act* of protecting young persons and others from inducements to use cannabis and would align with proposed amendments to the *Tobacco and Vaping Products Act* (TVPA) and the proposed regulations for vaping products.

As was noted in the Board report May 18, 2021, the inter-related influence (Triangulum) between tobacco, cannabis, and electronic smoking devices has served to increase the use and co-use of cannabis and tobacco products. As the use of e-cigarettes has increased in popularity, so has the use of cannabis through vaping[i]. California youth now use e-cigarettes more than cigarettes (10.9 percent vs. 2.0 percent in 2017-2018), with **cannabis use higher than overall tobacco use** (14.7 percent vs. 12.7 percent)[ii]

Additionally, The Centers for Disease Control and Prevention reported that from 2017 to 2018 youth use of any tobacco product shot up 38.3 percent among high school students alone. Researchers said the dramatic increases they found wiped out what had been a downward trend in overall youth tobacco product use. https://www.cdc.gov/vitalsigns/youth-tobacco-use/

Application to Cannabis Control:

In consideration of the current pre-market process for review of tobacco products similar interest has been expressed for review of electronic smoking devices and their associated cartridges (e-juices) for the consumer cannabis market. Given that cannabis is not yet fully recognized as a legal product by the Federal Government, no such process exists at the Federal level, leaving such review to the appropriate State agency.

Product Review Process at the California Department of Cannabis Control.
Note that on July 1, 2021 the Bureau of Cannabis Control (BCC) and the Manufactured Cannabis Safety Branch at the California Department of Public Health (CDPH) and a related Division in the Department of Agriculture have merged under a common Departmental Structure:

Testing of Product Constituency
All batches of cannabis products, including vape cartridges are tested prior to sale for cannabinoid content, residual pesticides, residual solvents and processing chemicals, microbial impurities, heavy metals, mycotoxins, and foreign materials. It is worthy to note that manufactured cannabis products are tested after they are packaged and labeled. www.cdph.ca.gov/mcsb, www.cannabis.ca.gov

- **Youth Appealing Products and Flavors related to e-juices (cartridges)** used in electronic smoking devices:
  - **State law** prohibits the sale of products that are overtly appealing to youth, but the process of enforcement and verification is still evolving.
  - **Pre-market Review:** As part of licensing process, manufactures of electronic smoking devices and cartridges must list the products they intend to convey to the retail market as part of their application process. However, **these products are NOT subject to a pre-market review** for their packaging, labeling or ingredients (such as flavors). This review is done after the product is on the market during the annual inspection process noted below.
  - **After-market review**. During the annual retail inspection conducted by the Department of Cannabis Control, product found to be packaged and labeled in such a manner to be overtly appealing to youth can be pulled from the market and banned from distribution and sale.
  - **Complaint Based Compliance**: The Department of Cannabis Control relies heavily on complaints associated with the manufacture and sale product that may be appealing to youth. Often complaints come from other manufactures, a form of industry self-monitoring. An on-line complaint form is the route most commonly used.

Flavors:
- **Terpenes** are a naturally occurring molecule in cannabis that are associated with both smell and taste (flavor). Terpenes are common in many plants. For example, it is the terpenes (pinene) in the resin of Christmas trees that give them their distinctive pine smell. The terpenes in cannabis including those that smell and taste of either lemon or mint. Hence, banning all flavors in vaping associated cannabis

products is challenging and the Department of Cannabis Control continues to evolve in finding a balance that is a reasonable reflection of the smells and flavors associated with naturally occurring terpenes.

- **Additive flavors and smell:** For cannabis, current State law does not prohibit the addition of flavors and smell to e-juices (cartridges) used in electronic smoking devices, as long as not packaged and marketed in such a way as to be overtly appealing to youth. Staff are not aware of legislative protections, such as SB 793, which ban flavors in tobacco products, that apply to the sale of cannabis products.

- **Electronic (Vaping) Smoking Devices & Dangers of Overheating:**
  - Overheating of the cartridges has been associated with introducing toxic metals into the liquids used in vaping devices. This was highlighted in early 2019 when "lead testing" when into effect for cannabis vaping products in California. It was discovered that vaping devices that used metal filaments were prone to leaching lead into the oils (e-juices) in the cartridges when overheated. Subsequently, many of these devices were pulled from the market. Some manufactures have converted to using ceramic filaments in an effort to reduce the dangers associated with overheating.

  - A particularly challenging aspect to overheating continues to be associated with the batteries used in these devices. Cheaper batteries, often manufactured in China, have proven to a troubling aspect in the current regulatory process, as it is the contents in the vape cartridge (cannabis product), not the electronic device, the cartridge as a container, or the battery itself that is subject to regulation by the Department of Cannabis Control.

- **Flavors and Overheating:**
  As one of the primary purposes of this report is to examine vaping it is critical to understand how both natural (terpenes) and added flavors are impacted by heating and to emphasize that what may be deemed safe, even by the Food and Drug administration, for ingestible food, can by no means be extrapolated to the same constituents when they heated, aerosolized and inhaled. The following two points are emphasized by colleagues at the Public Health Institute (PHI), under the leadership of Dr. Lynn Silver, Senior Advisor (PHI), Adjunct Professor at UCSF and former Health Officer.

  - Terpenes are compounds that are naturally present in cannabis and other plants. There are a wide variety, and many contribute to aromas including limonene, pinene etc. But the fact that they are of plant origin and in some cases may be safe for eating that does not mean they are safe for inhalation whether by burning or vaporizing. Some have already been found to be toxic for inhalation such as pinene.

  - Additionally, **inhalation exposure** can have different effects from oral exposure because: 1) The respiratory tract is more sensitive than the gastrointestinal tract, and 2) After oral ingestion, a substance can be detoxified through "first-pass metabolism" in the liver before reaching systemic circulation, but substances introduced into the body via inhalation go directly into systemic circulation before detoxification. The **Flavor and Extract Manufacturers Association (FEMA),** which is the organization that has compiled and analyzed research to get thousands of terpenes Generally Recognized as Safe (GRAS) status by the Food and Drug Administration, published guidance **stating that it is false and misleading for flavor additive manufacturers and marketers to represent or suggest that flavor ingredients, like terpenes, are safe for inhalation simply because they have GRAS status for use in food.**

- **Emerging Research - (Dangers of Heating in Electronic Smoking Devices)**

  A recent study published in October of 2020 examined the dangers associated with high filament temperatures in cannabis vaping devices including their association with serious lung injury (EVALI) event of 2019-20. It was noted that those devices containing vitamin E acetate (VEA) could be

mediated by chemical reactions with internal cartridge components and high filament temperatures. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0240613

An excerpt of the study reads as follows:

Methods
We investigate the composition and internal components of 2019 EVALI patient-associated THC vaping devices compared to other THC and nicotine devices from 2016–19, specifically the metal, ceramic, and polymer components likely to be exposed to heat. To do this, we have disassembled forty-eight components from eight used and unused vaping devices under a microscope and analyzed them using X-ray fluorescence, scanning electron microscopy, and Fourier-transform infrared micro-spectroscopy.

Conclusions
The two THC cartridges used by EVALI patients exhibited evidence of localized high temperatures, including charring of the ceramic heating elements and damaged wire surfaces. The newer THC cartridges possessed more ceramic and polymer insulation than older THC or nicotine devices. The combination of ceramics, metals, and high temperatures in newer THC cartridges is consistent with conditions hypothesized to produce VEA reactions during vaping. **Nickel and chromium components were detected in all devices, and others contained copper, lead, tin, gold, silicon-rich rubbers, or fluorinated microplastics.** These components have the potential to thermally degrade and volatilize if heated sufficiently. These findings do not imply that harmful exposures would occur under all usage conditions and are most relevant to harm reduction efforts based on avoiding higher internal temperatures. This study was limited to a small sample of cartridges obtained from investigations. Future work should test more device types and internal temperatures under controlled usage conditions.

*Note: While this study sample was small it highlights how much more research is need on the interaction between the vaping cartridges, the oils they contain and the flavors that are either natural or added and their use in electronic smoking devices before we fully understand their risk to consumers and what is deemed a safe exposure limit for vaporized inhalation. Of important note is that **there is little, if any, State Regulation in this specific area of concern**. The safety of these compounds for inhalation remains unclear.

2. **Status of the policy approach related to cannabis products across the multiple jurisdictions in Contra Costa County:**

Given the decades of history and progress made to align local tobacco control policy across the multiple city jurisdictions with that of the County it was recognized that little, to date, has been done to explore similar alignment related to the emerging cannabis industry in Contra Costa County. Further, that this lack of alignment creates an environment of unfair competition between business/retail entities who are permitted to operate across the multiple jurisdictions of the County.

This assessment, while accurate, should be qualified by noting that, unlike tobacco control efforts, there is no dedicated team or additional resources or staffing that has been assigned to address this gap. This is one of the reasons staff recommends a cautious approach to cannabis product policy at the County level and to consider lessons learned from the Tobacco industry when seeking to apply product protections, related to cannabis at the local level.

Once a cannabis policy and control team has been established, and with the approval of the Board of Supervisors, such alignment of policy efforts across the county could be addressed.

3. **Does the ban on sale of cannabis vaping products apply to those who retail medical marijuana? If so, can we consider an exclusion, specific to medical marijuana?**

   The County's current ban on sale and delivery of cannabis vaping products applies to both medical and recreational adult-use cannabis. The Board could exclude the sale and delivery of medical cannabis from the ban by adopting an ordinance amending the County's commercial cannabis health ordinance. If the Board directs staff to exclude medical cannabis from the ban, staff will draft the required ordinance. It is advised that they are regulated equally.

4. **Do the legal challenges related to local regulation of cannabis delivery (mobile delivery) being faced in Santa Cruz impact our ability to regulate delivery in the unincorporated county?**

   In a recent Fresno County Superior Court case, Santa Cruz County and 24 cities challenged the validity of a Bureau of Cannabis Control regulation that provides that a delivery employee may deliver cannabis to any jurisdiction within the State of California. The county and cities argued that the regulation conflicted with provisions of the Medicinal and Adult-Use Cannabis Regulation and Safety Act that guarantee local control over commercial cannabis activities. In November 2020, the judge dismissed the lawsuit after the BCC conceded that the regulation does not prevent a local agency from requiring permits or completely prohibiting delivery within the agency's jurisdiction. The court's ruling stated that the BCC regulation does not preempt local ordinances regarding cannabis delivery and does not preclude enforcement of local ordinances. (Fresno County Sup. Ct., Case No. 19CECG01224.) Contra Costa County's commercial cannabis health ordinance is not affected by the outcome of the litigation.

5. **What revenues, if any, have been received by Contra Costa County related to the sale, delivery, distribution, manufacturing or growing of cannabis? If revenues have been received, how have they been used or allocated?**
   The County has realized some modest cannabis tax revenue, to date, as of May 2020. Below is the breakdown by fiscal year.

   - *FY 20/21: $55,041 through May 12, 2021
     **($60,000 was budgeted to offset a portion of a new Business Tax Specialist position and tax software system in the TTC Dept)*
   - FY 19/20 $43,367 accrued to General Fund balance
   - FY 18/29 $13,819 accrued to General Fund balance

     Total $112,227

IV. Summary of Health Concerns related to lung health and use of electronic smoking devices and the intersection with the 2019-2020 cases of serious lung injury (E-cigarette or vaping associated lung injury (EVALI).

On August 9th of 2019, the California Department of Public Health (CDPH) issued a Health Alert related to Sever Acute Pulmonary Disease associated with vaping cannabis/cannabidiol oil - EVALI (e-cigarette or vaping associated lung injury). According to the CDC, 82% reported using THC-containing products (January 14, 2020) Nationwide, 50% of EVALI patients who reported using THC-containing products provided data on product source (as of January 7, 2020):

Multiple cases were cited in California and across the nation with patients in acute respiratory distress requiring hospitalization. CDPH monitored EVALI cases and from June 2019 to February 2020 CDPH identified 210 EVALI cases which included 4 deaths. Many but not all of these cases were associated with vaping of THC from unlicensed sources, some cases could be attributed to products purchased in the legal commercial market. In April 2020, CDPH received new reports from 5 California jurisdictions of 8 EVALI cases that were hospitalized in April 2020. There were the first reported cases since SARS-COV-2 identified as cause of COVID-19. The median age of the 8 patients was 17 years, all had tested negative for SARS –CoV-2 and reported having recently vaped THC. Due to the similar symptoms caused by EVALI and COVID-19, it remains unclear whether EVALI cases have been underreported. Health providers are advised to maintain clinical suspicion of EVALI during pandemic. CDPH advisories continue to state that e-cigarette use, or vaping is hazardous to your health and urge everyone to quit vaping no matter the substance or source [iii].

Significance of EVALI Health Crisis

Summary of EVALI Statistics From CDC: As of February 18, 2020, a total of 2,807 hospitalized e-cigarette, or vaping, product use-associated lung injury (EVALI) cases or deaths have been reported to CDC from 50 states, the District of Columbia, and two U.S. territories (Puerto Rico and U.S. Virgin Islands).

1. Sixty-eight deaths have been confirmed in 29 states and the District of Columbia (as of February 18, 2020), including 4 in California.

2. Among the 2,668 hospitalized EVALI cases or deaths reported to CDC (as of January 14, 2020):
3. 66% were male
4. The median age of deceased patients was 49.5 years and ranged from 15-75 years (as of February 18, 2020).
5. The median age of patients was 24 years and ranged from 13–85 years.
6. By age group category:
7. 15% of patients were under 18 years old;
8. 37% of patients were 18 to 24 years old;
9. 24% of patients were 25 to 34 years old; and
10. 24% of patients were 35 years or older.

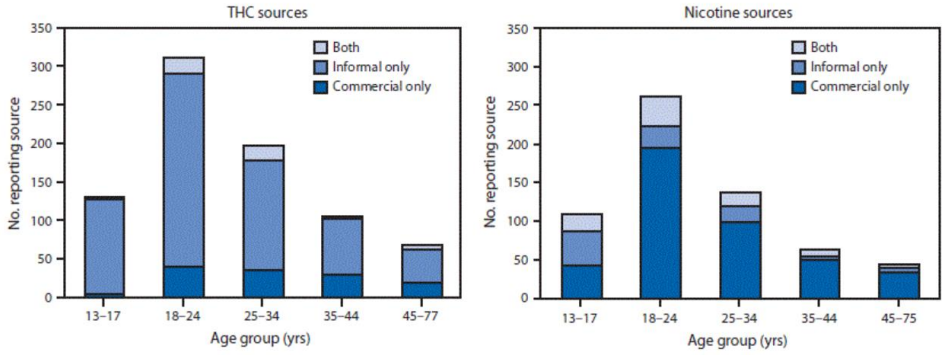
Type of Products Used: 2,022 hospitalized patients had data on substance use, of whom (as of January 07, 2020):

- **82% reported using THC-containing products**; 34% reported exclusive use of THC-containing products.
- 57% reported using nicotine-containing products; 13% reported exclusive use of nicotine-containing products.

Product Source for THC- containing Products: (See Figure 1)
50% of EVALI patients who reported using THC-containing products provided data on product source (as of January 7, 2020):

- **16% reported acquiring products only from commercial sources** (recreational and/or medical dispensaries, vape or smoke shops, stores, and pop-up shops).
- **6% reported acquiring products from both commercial and informal sources**.
- 78% reported acquiring products only from informal sources (family/friends, dealers, online, or other sources).

FIGURE 1. Reported product sources,*,†,§ by age group,¶, among hospitalized e-cigarette, or vaping, product use–associated lung injury (EVALI) patients — United States, August 2019–January 2020**



- One limitation of the CDC investigation is that **data on product source was missing for 50% of THC-containing product users**. CDC continues to recommend that the best way for persons to ensure that they are not at risk is to consider refraining from the use of all e-cigarettes, or vaping products.

Causative Research:

Research published in the *New England Journal of Medicine* (Feb 20, 2020), found Vitamin E-acetate in the bronchoalveolar-lavage fluid of 48 of 51 (94%) EVALI patients studied. Of these patients THC was detected in 94% and Nicotine in 64% https://www.nejm.org/doi/full/10.1056/NEJMoa1916433

As noted above, **overheating of electronic smoking devices** has been associated with the leaching of various toxic substances into the liquids of cartridges used in these products.

It is further acknowledged that staff with the Department of Cannabis Control report that the majority of EVALI cases in California, associated with cannabis vaping products, were from the illicit cannabis market vs. the legal regulated marketplace.

However, this and other research noted above highlights the critically important point, that when a substance is overheated and vaporized (in this case some, but not all, contained Vitamin E-Acetate) it alters the substance itself in such a manner as to be harm to human health.

Associated Harms of Vaping:

- Several studies have found associations between cannabis vaping and respiratory issues among youth. A recent University of Michigan study using a national probability sample over 14,000 adolescents (12-17 years of age) found that youth who vape cannabis are at roughly 2 times greater risks for respiratory symptoms indicative of lung injury than teens who smoke cigarettes or cannabis, or vape nicotine (Boyd, et al. 2021).

- Another example is a 2020 cross-section study (Braymiller et al.) published in the *Journal of the American Medical Association* which found an association between levels of cannabis vaping and symptoms of bronchitis. The study found that cannabis vaping at any level of use was associated with increased odds of bronchitis symptoms with a stronger association found for use on 1 to 2 days in the past 30 days.

- It is relevant to note that vaping introduces ultra-fine partials into the lung, that are significantly smaller, and potentially more harmful than the 2.5mircons often associated with extremely poor air quality.

    - Information from the 2017-2019 California Healthy Kids Survey, *Marijuana Use Among California Secondary Student*-Report reveal concerning trends in youth use of cannabis and associated vaping products. Over 16% of 11th graders indicated they had used cannabis in the past 30 days and 84% of those users had vaped cannabis through an electronic smoking device.

    - Cannabis vaping at any level was associated with increased odds of bronchitis symptoms, and cannabis vaping 3 or more times in the last month was associated with increased odds of wheeze, even after simultaneously adjusting for nicotine vaping, cigarette smoking, and combustible cannabis use [iv].

    - In a 2017 American Medical Association article by renowned researcher Stanton Glantz and colleagues it was noted that nationally in 2016 more adolescents used marijuana than tobacco; 25% vs. 11% for high school seniors; 16% vs. 5% for high school sophomores. Further the article noted that other than nicotine and cannabinoids that tobacco and marijuana smoke are similar and that the California Environmental Protection Agency has identified marijuana smoke as human carcinogen based on the smoke's toxicology.

It is from this cautionary approach and emerging scientific evidence, that Contra Costa Health Services recommended many of the specific health regulations designed to help protect youth, and other sensitive populations from the potential adverse effects of cannabis use.

V. Policy options for the Board related to the prohibition on the sale and delivery of cannabis electronic smoking devices, e-liquids, and related flavored products

- OPTION 1 (Public Health staff recommended option)
  Maintain the current prohibition on the sale and delivery of cannabis electronic smoking devices and cannabis e-liquids.
    - Currently, the sale or delivery of any e-liquid that contains tetrahydrocannabinol or any other cannabinoid, or any electronic smoking device that can be used to deliver tetrahydrocannabinol or any other cannabinoid in aerosolized or vaporized form, is prohibited. The sale or delivery of flavored cannabis products for which the primary use is human inhalation by smoking or vaping (i.e., non-edibles) is also prohibited.

- OPTION 2
  Direct staff to prepare an ordinance that allows the sale and delivery of all cannabis electronic smoking devices and cannabis e-liquids, except flavored cannabis vaping products.
    - This option would maintain the prohibition on the sale or delivery of flavored cannabis products for which the primary use is human inhalation by smoking or vaping (i.e., non-edibles), limiting these products to those derived entirely from the raw cannabis plant and containing no added flavors.
    - Maintaining the prohibition on flavored cannabis vaping products is consistent with efforts to reduce impacts to, and incidences of addiction in, children.

- OPTION 3
  Direct staff to prepare an ordinance that allows the sale and delivery of all cannabis electronic smoking devices and cannabis e-liquids, including flavored cannabis vaping products.

- OPTION 4
  Direct staff to prepare an ordinance that allows the sale and delivery of medicinal cannabis electronic smoking devices and cannabis e-liquids but prohibits the sale and delivery of adult-use recreational cannabis vaping products.
    - The amended ordinance would need to distinguish between medicinal and adult-use recreational cannabis products, which the current ordinance does not.

VI. Additional Considerations

- Direct staff to further investigate and report back on state and national regulations and product manufacturing standards for electronic smoking devices and e-liquids.

- Direct staff to seek additional resources that would: 1) allow quarterly inspections of retail cannabis establishments in the unincorporated county to identify product that is not consistent with state or local policy, seeking to remove such product from the retail environment. 2) provide adequate staffing and expertise to track and advise on health-related policy and programmatic activity related to the cannabis and to work with City jurisdictions on seeking to create an alignment of local policy approach across those jurisdictions.

- Consider requesting that the Department of Cannabis Control develop a more comprehensive premarket review process before product is approved for the consumer market.

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[i] Meng Y, Ponce NA. The Changing Landscape: Tobacco and Marijuana Use Among Young Adults in California. UCLA Center for Health Policy Research; June 2020

[ii] Zhu S, Zhuang YL, Braden K, et al. Results of the statewide 2017-18 California Student Tobacco Survey. San Diego, CA: Center for Research and Intervention in Tobacco Control (CRITC), University of California, San Diego;2019

[iii] https://www.cdph.ca.gov/Programs/CCDPHP/Pages/Vaping-Health-Advisory.aspx

[iv] Braymiller JL, Barrington-Trimis JL, Leventhal AM, et al. Assessment of Nicotine and Cannabis Vaping and Respiratory Symptoms in Young Adults. *JAMA Netw Open*. 2020;3(12):e2030189. doi:10.1001/jamanetworkopen.2020.30189