

To: Mayor and City Council

From: Alison Foulis, City Clerk

**Subject: Response to Marin County Civil Grand Jury Report: Vaping: An Under-the-Radar Epidemic**

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**Recommended Motion/Item Description**

Approve response to Marin County Civil Grand Jury Report: Vaping: An Under-the-Radar Epidemic.

**Background**

The 2018-19 Marin County Civil Grand Jury has issued a report that requires a response from the City of Belvedere. The response must conform to the format required by Penal Code Section 933.05.

**Findings**

For this report, the Civil Grand Jury examined the growing health crisis of vaping among Marin’s youth. The Grand Jury found that instances of vaping, which involves inhaling the aerosols created when fluid in electronic smoking devices such as e-cigarettes and similar products are heated, have grown dramatically, particularly among Marin County seventh, ninth, and 11<sup>th</sup> graders. To address this issue, the Grand Jury has recommended efforts to educate students and parents, restrict access, and support students who are addicted. For cities, the Grand Jury suggests banning the sale of flavored tobacco products with coordinated law enforcement efforts.

The City of Belvedere last updated its smoking ordinance (BMC Chapter 8.18<sup>1</sup>) in 2016. At that time, no substantial changes were made to the existing regulations on the sale of tobacco products because there were no current tobacco retailers in Belvedere and unlikely to be any in the future. It was determined that additional regulations would be time consuming and costly to implement with little public benefit. There are still no tobacco retailers in the City at this time.

**Attachments**

- Response to Grand Jury
- Grand Jury Report: Vaping: An Under-the-Radar Epidemic.

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<sup>1</sup> <http://www.cityofbelvedere.org/DocumentCenter/View/371/818>

**RESPONSE TO GRAND JURY REPORT FORM  
City of Belvedere**

**Report Title:** Vaping: An Under-the-Radar Epidemic  
**Report Date:** May 9, 2019  
**Public Release:** May 16, 2019  
**Response By:** Bob McCaskill, Mayor of City of Belvedere

**RECOMMENDATIONS**

- Recommendation numbered R5 will not be implemented because it is not warranted or is not reasonable.
- Recommendation numbered R8 has been implemented.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_  
Bob McCaskill, Mayor

Number of pages attached:   1

**RECOMMENDATIONS:**

- R5. All municipalities in the county that have not banned the sale of flavored tobacco products should do so within the next year.**

Response: The City of Belvedere supports the efforts to curtail vaping among Marin County's youth and agrees that a ban on flavored tobacco products would help address this. However there are currently no tobacco retailers in the City of Belvedere and it is unlikely there will be any potential retailers in the future. At this time, the City does not see the benefit of an ordinance change which would have no practical effect on the sale, or lack thereof, of flavored tobacco products in Belvedere.

- R8. All law enforcement agencies should coordinate the enforcement of sales bans on flavored tobacco.**

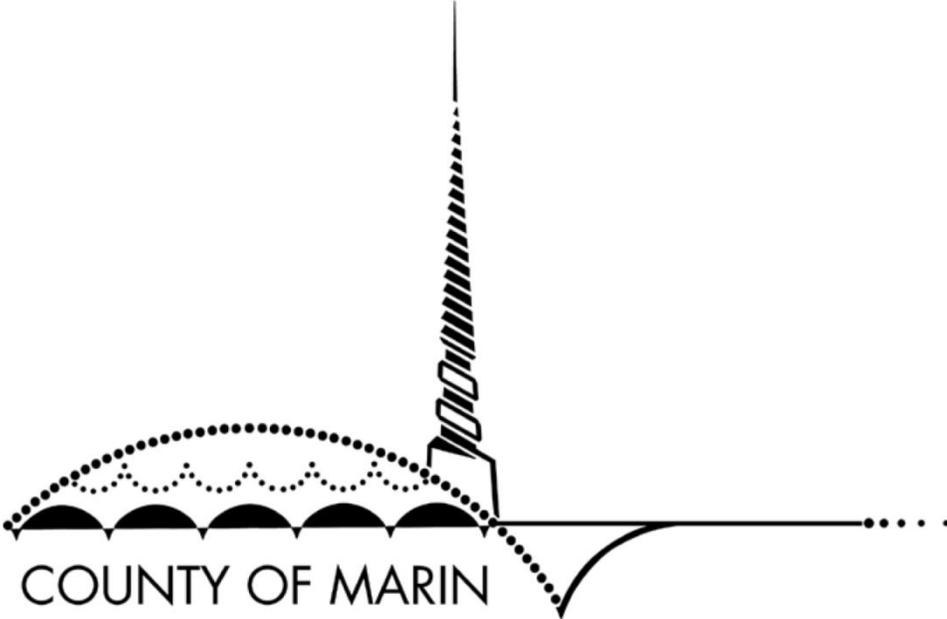
Response: The City of Belvedere Police Department supports Marin County law enforcement agencies in their efforts to enforce flavored tobacco sale bans. While there are no tobacco retailers within Belvedere city limits, the Police Department will continue to support other Marin departments with their enforcement activities when requested and as needed.

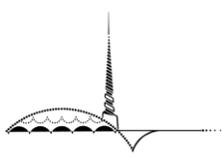
# Vaping

## An Under-the-Radar Epidemic

Report Date: May 9, 2019

Public Release Date: May 16, 2019





## Vaping: An Under-the-Radar Epidemic

### SUMMARY

Marin County is in the midst of a health crisis concerning its youth—vaping. Vaping among Marin County seventh, ninth, and 11th graders has more than doubled in the past two years, with 47% of 11th graders admitting to having vaped. As bad as these numbers are, they may actually be higher, as teens notoriously under-report on these types of surveys.

Most people do not realize the severity and the extent of damage vaping can inflict. Vaping is inhaling aerosols created when fluids in electronic smoking devices (e-cigarettes and similar products) are heated. Most vaping products contain highly addictive nicotine, as well as other harmful substances. As a result, vaping can cause irreparable damage to vapers' health and subject them to problems that will plague them for the rest of their lives.

Vaping liquids come in an extensive array of adolescent-appealing flavors. Vaping products are gateway drugs and young vapers frequently move on to smoking cigarettes. Since the aerosol produced by vaping is often odorless and smokeless, vaping can be hard to detect. Parents and teachers may not realize that their children and students are vaping. Local school officials have called vaping their number one problem.

The billion-dollar corporations that make and supply vaping products have expressly designed, flavored, and marketed their products to hook adolescents. Most youngsters don't realize that a single vaping cartridge contains as much nicotine as a pack of cigarettes. Used cartridges can be refilled with other harmful substances including marijuana extracts.

To combat vaping, a four-pronged approach is needed:

- Limit the availability of flavored tobacco.
- Educate students, teachers and parents.
- Enforce the new tobacco sales bans.
- Support students already addicted to nicotine.

The county and many municipalities have adopted ordinances banning flavored tobacco products. Although a ban on the sale of flavored tobacco in all jurisdictions in Marin County would have the greatest impact on reducing adolescent vaping, that uniformity does not exist yet. To be effective, the ban must be county-wide, and be enforced. Some Marin law enforcement agencies have received grants to educate students and enforce tobacco sales laws.

The Marin County Office of Education (MCOE) and the County of Marin Department of Health and Human Services, along with community organizations, are providing strong leadership to curtail adolescent vaping. Peer-to-peer education programs are reaching students in high and middle schools.

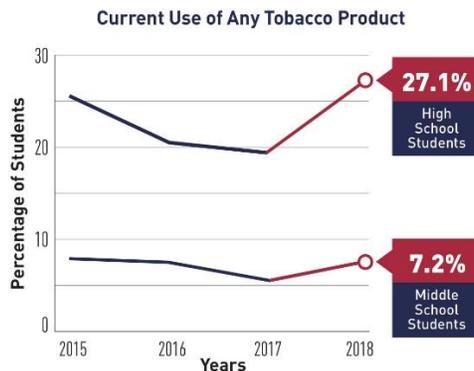
The County of Marin Department of Health and Human Services and the Marin County Office of Education should tap into the resources of Marin’s largest healthcare providers. Together with Kaiser Permanente, Sutter Healthcare, and the Marin Healthcare District they can jointly develop much needed adolescent nicotine addiction programs.

If Marin County is to continue being the “healthiest county in California,” it must increase its efforts to educate students and parents, restrict access, and support students who are addicted.<sup>1</sup>

## BACKGROUND

Parents, educators, and public health officials have noted an alarming increase in the use of electronic cigarettes and other vaping devices by young people. In his presentation to the Marin County Board of Supervisors, Dr. Matthew Willis, Marin’s Public Health Officer, cites data from the recent Healthy Kids Survey that found, “Almost a third of Marin 11th graders are regularly using harmful, nicotine-containing products that are highly addictive.”<sup>2</sup> Forty-seven percent admitted to having tried vaping. Vaping among Marin County seventh, ninth, and 11th graders have more than doubled in the past two years, with the largest increase, from 11 percent to 28 percent, among 11th graders.”<sup>3</sup> National data, illustrated below, also show similar rises. These percentages may well be higher, as teens notoriously under-report on these types of surveys.<sup>4</sup>

E-cigarettes, which come in a wide variety of youth-luring flavors, are the tobacco product of choice for teens in the United States. According to a 2018 survey by CDC, 4.9 million children in the US were using e-cigarettes.<sup>5</sup> A 2018 National Youth Tobacco Survey noted “alarming increases” between 2017 and 2018 in tobacco use among middle and high school students. Tobacco use had been declining in recent years. That trend has been reversed with the increased use of vaping products.<sup>6</sup>



Recent Tobacco Use Trends - National

<sup>1</sup> Halstead, Richard. “[Marin continues run as healthiest county in California, study reports.](#)” *Marin Independent Journal*. 19 Mar. 2019.

<sup>2</sup> “[Alarming New Data on Youth Vaping in Marin Increase among teens draws concern of County health officials.](#)” *County of Marin*. 21 Sep. 2018.

<sup>3</sup> “[California Healthy Kids Survey.](#)” *California Department of Education*. 23 Aug. 2018.

<sup>4</sup> Gulker, Max. “[Vaping: Risky for Teens, But a Safe Target for the FDA.](#)” *American Institute for Economic Research*. 13 Sept 2018

<sup>5</sup> “[Progress Erased: Youth Tobacco Use Increased During 2017-2018 4.9 million middle and high school students used tobacco products in 2018.](#)” *Centers for Disease Control and Prevention*. 11 Feb. 2019.

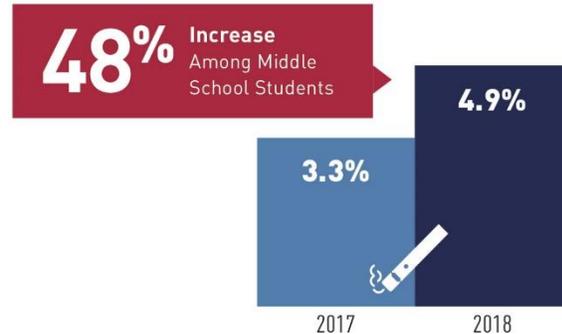
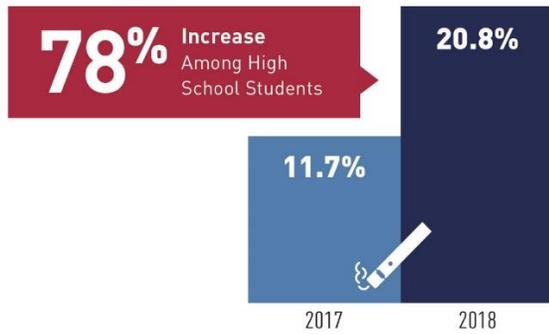
<sup>6</sup> “[Youth Tobacco Use: Results from the National Youth Tobacco Survey.](#)” *U.S. Food and Drug Administration*. 11 Feb. 2019.



E-Cigarettes increase 2018 vs 2017

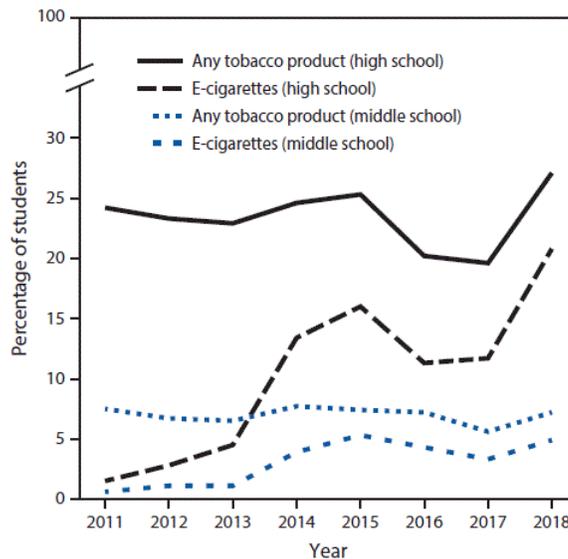


Flavored E-Cigarettes increase 2018 vs 2017



Increases in Vaping by High and Middle School Students

In the United States, tobacco is the leading cause of preventable deaths. It causes 480,000 deaths annually and costs Americans more than \$300 billion each year.<sup>7</sup> In Marin County, the healthcare costs and loss of productivity amounts to \$138 million or \$551 per resident.<sup>8</sup>



Percentage of middle and high school students who currently use e-cigarettes and any tobacco product National Youth Tobacco Survey, United States, 2011–2018<sup>9</sup>

<sup>7</sup> [“Economic Trends in Tobacco On This Page Tobacco-Related Spending Tobacco Production Tobacco Sales Economic Costs References Tobacco-Related Spending.”](#) Centers for Disease Control and Prevention. 4 May 2018.

<sup>8</sup> [“Cost of Smoking in Marin.”](#) Marin Health and Human Services. Last Accessed 7 Apr. 2019.

<sup>9</sup> Cullen, Karen A. et al. [“Notes from the Field: Use of Electronic Cigarettes and Any Tobacco Product Among Middle and High School Students — United States, 2011–2018.”](#) Centers for Disease Control and Prevention..Vol. 67(45); 16 Nov. 2018. pp. 1276–1277.

## APPROACH

In preparing this report, the Grand Jury focused on identifying:

- The prevalence of vaping among students in Marin County.
- The reasons for the popularity of vaping.
- The health dangers of vaping.
- The healthcare costs of tobacco use to Marin residents.
- Vaping as a gateway to cigarette smoking.
- Current actions being taken to address vaping by youth.
- Current and proposed legislation.
- Importance of consistency in accessibility with neighboring towns.
- Additional approaches that might help address the problem.
- Support for adolescents who have become addicted.

The Grand Jury attended presentations sponsored by health, civic and community groups. It reviewed and analyzed numerous articles, scientific studies, laws, regulations, and proposed and recently enacted legislation. To obtain the most current information, a series of in-depth interviews were conducted. Those interviewed included experts from the County of Marin Department of Health and Human Services and the Marin County Office of Education.

## DISCUSSION

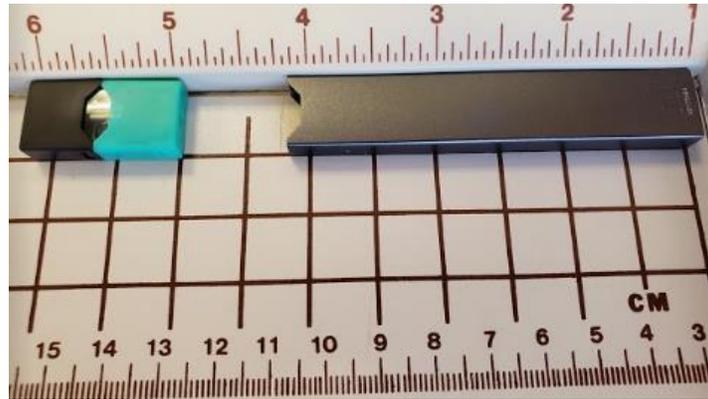
The first modern electronic cigarette (e-cigarette) was patented in the United States in 1965 by Herbert A. Gilbert but wasn't widely used. Tinkerers subsequently created other vaping devices. However, they didn't gain popularity until 2004 when the firm Hon Lik made the first modern e-cigarette in China. In the next few years, e-cigarettes began appearing in Europe and the US. Since their introduction, e-cigarettes have gone through many incarnations, refinements, and designs, some of which are shown below.<sup>10</sup>



Various Vaping Devices

<sup>10</sup> “[Vaporizers, E-Cigarettes, and other Electronic Nicotine Delivery Systems \(ENDS\)](#).” *U.S. Food and Drug Administration*. 5 Feb. 2019.

Current vaping devices consist of a cartridge filled with a vaping fluid, a battery, and a heating element. In some devices, the batteries are rechargeable. When the vaping device is turned on, the liquid in the cartridge, also referred to as e-liquid or vape juice, is heated, and produces an aerosol mist that the user inhales or “vapes”. The mist created is not a vapor that diffuses in air and disappears, but is an aerosol containing toxic substances that enters the lungs of those who breathe it.<sup>11,12,13</sup>



The Size of JUUL and a JUUL Cartridge

As can be seen from the graphic above, JUUL, the most popular vaping device in the United States, is about four inches long and ½ inch wide. Since they’re so compact, they’re easy to conceal and can be hard for adults to recognize. Parents and teachers frequently mistake vaping devices for other harmless objects such as flash drives and cosmetic containers.

Although the ingredients in e-liquids vary, most contain nicotine. Numerous studies have shown that nicotine is damaging to health.<sup>14,15</sup> As early as 1763, nicotine was commercially marketed as an insecticide, and is still in use as such today. Products containing nicotine have been classified as “hazardous waste” by the Environmental Protection Agency (EPA) because they damage waterways, drinking water, and animals. Therefore, e-cigarettes and vaping liquids must be disposed of according to the EPA’s rules governing hazardous waste.<sup>16</sup>

Nicotine is highly addictive.<sup>17,18</sup> Nicotine addiction has a greater impact on youth. “The rapidly developing brains of children and adolescents are particularly susceptible to nicotine addiction”, declared the American Academy of Pediatrics (AAP).<sup>19</sup> “Given the difficulty adolescents have

<sup>11</sup> Stebler, Carolyn. “[These Are The 7 Most Toxic Vaping Flavors, According To Science.](#)” *Bustle*. 21 Jun. 2018.

<sup>12</sup> Konkel, Lindsey. “[E-cigarettes don’t need nicotine to be toxic Vaped liquids produce gases that can damage and kill human cells.](#)” *Science News for Students*. 30 Mar. 2018.

<sup>13</sup> “[Some e-cigarette ingredients are surprisingly more toxic than others.](#)” *University of North Carolina Health Care*. 27 Mar. 2018.

<sup>14</sup> “[Public Health Consequences of E-Cigarettes.](#)” *National Academies of Sciences, Engineering, and Medicine*. 2018.

<sup>15</sup> “[Public Health Consequences Of E-cigarettes Conclusions By Level Of Evidence.](#)” *National Academies of Sciences, Engineering, and Medicine*. Jan. 2018.

<sup>16</sup> “[Final Rule: Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine.](#)” *United States Environmental Protection Agency*. 2018.

<sup>17</sup> “[E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General.](#)” *U.S. Department of Health and Human Services*. 2016.

<sup>18</sup> “[Tobacco, Nicotine, and E-Cigarettes Is nicotine addictive?](#)” *NIH: National Institute on Drug Abuse*. Jan. 2018.

<sup>19</sup> “[The American Academy of Pediatrics Issues Sweeping Recommendations on Tobacco and E-Cigarettes.](#)” *The American Academy of Pediatrics*. 2019.

with stopping tobacco use, the need for the prevention of tobacco use initiation is high.”<sup>20</sup> In addition, the U.S. Surgeon General's office noted, “The earlier youngsters start using nicotine -- even in the form of e-cigarettes -- the harder it is for them to quit a habit that could last a lifetime.”<sup>21</sup>

Nicotine can harm the developing adolescent brain, which continues to develop until about age 25.<sup>22</sup> It can damage the parts of the brain that control attention, learning, mood, and impulse control.<sup>23</sup> Nicotine also interferes with the way synapses in the brain function. Synapses are the connections between nerve cells that are established when new memories are created or new skills are learned.

Using nicotine during adolescence may also increase risk for future addiction to other drugs.<sup>24</sup> Addiction to nicotine is extremely difficult to overcome and quitting poses unique challenges for young vapers. At this time, no cessation programs exclusively designed for youth are available in Marin County.

### **Devices and Their Contents**

Vaping devices differ from product to product. They have different looks, packaging, mechanisms, and designs.<sup>25</sup> Most vaping cartridges contain nicotine, but those that do not, have other harmful ingredients, for example: formaldehyde, a known carcinogen; nitrosamines, which have been linked to cancer; and diacetyl, linked to serious lung disease; and metals such as nickel, tin, and lead.<sup>26</sup> Other e-liquid ingredients that are generally considered safe, may cause damage to users' health when heated and inhaled. At this time, further toxicity studies on a range of e-liquids are underway, so the long-term effects are not yet fully known.

Since e-cigarettes also deliver different amounts of nicotine and toxins, it's hard for users to know what they're inhaling. Sixty-three percent of those who used JUUL, the largest selling vaping product in the U.S., didn't know that JUULs always contain nicotine.<sup>27</sup>

An entire electronic vaping cartridge, also called a “pod,” can be consumed in a few hours. The amount of nicotine differs from brand to brand, pod to pod. Until recently, cartridges for JUULs were thought to contain the same amount of nicotine as a pack of cigarettes.<sup>28</sup> A recent study by Stanford University researchers shows the nicotine content may be higher, up to the equivalent

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<sup>20</sup> Siqueira, Lorena.. "[Nicotine and Tobacco as Substances of Abuse in Children and Adolescents.](#)" *Pediatrics*. Vol 139 / Issue 1. Jan. 2017.

<sup>21</sup> "[E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General.](#)" *U.S. Department Of Health And Human Services*. 2016.

<sup>22</sup> Dwyer, Jennifer B., McQuown, Susan C., Leslie, Francis M.. "[The dynamic effects of nicotine on the developing brain.](#)" *Pharmacology & Therapeutics*. Vol. 122, Issue 2, May 2009. pp. 125-139.

<sup>23</sup> "[The American Academy of Pediatrics Issues Sweeping Recommendations on Tobacco and E-Cigarettes.](#)" *The American Academy of Pediatrics*. 2019.

<sup>24</sup> "[Electronic Cigarettes \(E-cigarettes\).](#)" *National Institute on Drug Abuse*. Jun. 2018.

<sup>25</sup> "[Vaporizers, E-Cigarettes, and other Electronic Nicotine Delivery Systems \(ENDS\).](#)" *U.S. Food and Drug Administration*. 5 Feb. 2019.

<sup>26</sup> "[Toxic Metals Found in E-Cigarette Vapor.](#)" *WebMD*. Last accessed 7 Apr. 2019

<sup>27</sup> "[is your kid using juul or another e-cigarette? here's how you can help them quit.](#)" *truth initiative*. 21 Feb. 2019

<sup>28</sup> Tyree, Elizabeth, Evans, Danner. "[Poison center warns of JUUL use; 1 pod has 5% nicotine or 1 pack of 20 cigarettes.](#)" *WSET 13 News*. 29 Aug. 2018.

of two or more packs of cigarettes. Other e-cigarette companies are following Juul's lead, creating a "nicotine arms race."<sup>29</sup>

Empty cartridges can be refilled with substances that are obtainable online, including cannabis. Internet videos give step-by-step instructions on how to refill used vape cartridges. They explain what tools are needed, point out liquids that can be inserted, and detail where those items can be purchased. Pods can also be refilled with marijuana oil, waxes, and other concentrates. Some online videos are sponsored by the makers of the products featured in the video demonstrations.

Vaping cannabis is another popular way of getting high since it's virtually smokeless and odorless. As a result, students have become more emboldened to vape cannabis extracts in and around school. The cannabis available for pods can be extremely potent. The hallucinatory ingredient (THC) in the cannabis used today is often two to three times more potent than it was in previous generations.

Vaping pods are also ideal for housing a distilled form of cannabis called Butane Hash Oil (BHO) or "dabs." Vaping BHO is called "dabbing." The term dab arose because "a little dab 'll do ya." Dabs are created by stuffing cannabis into a tube similar to a turkey baster and then adding butane. Crystals or droplets of high-potency cannabis form. The crystals are then heated to remove the butane. During the cooking process, volatile pools of gas form, which can be ignited by a single spark. Major fires have occurred because of the dab-making process.<sup>30</sup>

Dabs have been compared to crack cocaine and called "pot on steroids." "A single inhalation of [the] concentrate delivers THC and other cannabinoids that are equivalent to three to ten inhalations of herbal cannabis," *Health News* reported.<sup>31</sup>

## **Second-hand Smoke Exposure and Other Dangers**

Second-hand exposure from e-cigarettes is not as dangerous as exposure to cigarette smoke. However, it contains a variety of other toxic chemicals, including some carcinogens and significant amounts of nicotine.<sup>32</sup> Second-hand exposure from vaping is harmful to vulnerable people, including children, and pregnant women.<sup>33</sup>

Recent studies reveal that vaping increases risk of heart attacks by 25% compared to the heart attack rate among non-vapers.<sup>34,35</sup> High doses of nicotine have been found to be responsible for

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<sup>29</sup> Armitage, Hanae. "[Juul instigated a "nicotine arms race", researchers say.](#)" *Wu Tsai Neurosciences Institute Stanford University*. 8 Feb. 2019.

<sup>30</sup> "[How to Make Medical Marijuana Wax \(the dabs\).](#)" *NCSM*. Accessed on 16 Apr. 2019.

<sup>31</sup> Heiz, David. "[Dabbing: The New, Explosive Way to Smoke Marijuana.](#)" *Health News*. 13 Mar. 2015.

<sup>32</sup> Jan Czogala, Jan et al. "[Secondhand Exposure to Vapors From Electronic Cigarettes.](#)" *Nicotine & Tobacco Research*, Volume.16, Issue 6. Jun. 2014, pp. 655–662

<sup>33</sup> Hanan Qasim, Hanan et al. "[Impact of Electronic Cigarettes on the Cardiovascular System.](#)" *Journal of the American Heart Association*. Volume 6, Number 9. 30 Aug. 2017.

<sup>34</sup> "[E-cigarettes linked to heart attacks, coronary artery disease and depression.](#)" *American College of Cardiology*. 7 Mar. 2019.

<sup>35</sup> Thompson, Dennis. "[Vaping Tied to Rise in Stroke, Heart Attack Risk.](#)" *WebMD*. 30 Jan. 2019.

seizures especially among children and the FDA has started to investigate whether seizures have been caused by the use of vaping devices.<sup>36,37</sup>

The dangers from vaping are not limited to the effects of inhalation. Defective batteries and poor manufacturing of vaping products have caused explosions and fires resulting in serious injuries.<sup>38</sup> In addition, children, adults, and pets have been poisoned after they swallowed, inhaled, or absorbed e-liquid through their eyes and skin.<sup>39,40</sup>

“Liquid nicotine is extremely toxic,” The Academy of Pediatrics (AAP) notes. “As little as half a teaspoon can be fatal if ingested by an average size toddler. In 2014, there were more than 3,000 calls to U.S. poison control centers for liquid nicotine exposure, and one toddler died.<sup>41-42</sup> As of 2016, the federal government requires liquid nicotine to be sold in childproof packaging.<sup>43</sup> The AAP urges parents who use e-cigarettes to store the products and any refill materials in child-resistant packaging and out of the reach of children.<sup>44</sup>

## Student Use

The California Healthy Kids Survey found that in 2018, 47% of eleventh grade students in Marin reported that they had used e-cigarettes or vapes.<sup>45</sup> Twenty-eight percent said they had used them in the past month and 13% of current users had used them on school premises.<sup>46</sup> About 80 percent of youth do not see great risk of harm from regular use of e-cigarettes. Vaping has become so widespread among adolescents because vaping products are:<sup>47</sup>

- Used by their friends or family members.
- Readily available - they're easily obtained through friends, the internet, convenience stores, gas stations, and pharmacies.
- Believed to be less harmful than other forms of tobacco such as cigarettes.
- Sold in enticing flavors that taste like candy and desserts, and marketed in attractive, well-designed packaging that can elude parental discovery.
- Targeted to youth through relentless, youth-oriented, saturation advertising campaigns that portray vaping as cool and glamorous.

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<sup>36</sup> [“Statement from FDA Commissioner Scott Gottlieb, M.D., and Principal Deputy Commissioner Amy Abernethy, M.D., Ph.D., on FDA’s ongoing scientific investigation of potential safety issue related to seizures reported following e-cigarette use, particularly in youth and young adults.”](#) U.S. Food and Drug Administration. 3 Apr. 2019.

<sup>37</sup> [“Nicotine Poisoning: Can You Overdose?”](#) WebMD. Last accessed 7 Apr. 2019.

<sup>38</sup> [“Tips to Help Avoid ‘Vape’ Battery Explosions.”](#) U.S. Food and Drug Administration. 17 Dec. 2018.

<sup>39</sup> Mohney, Gillian. [“‘First Child’s Death From Liquid Nicotine Reported as ‘Vaping’ Gains Popularity Cases of liquid nicotine exposure has more than doubled since last year”](#) ABC News. 12 Dec. 2014.

<sup>40</sup> [“E-CIGARETTES AND PETS DO NOT MIX.”](#) Pet Poison Helpline. Last accessed 25 Mar. 2019.

<sup>41</sup> [“The American Academy of Pediatrics Issues Sweeping Recommendations on Tobacco and E-Cigarettes.”](#) The American Academy of Pediatrics. 2019.

<sup>42</sup> [“Liquid Nicotine Used in E-Cigarettes Can Kill Children.”](#) HealthyChildren.org. 28 Dec. 2018.

<sup>43</sup> *ibid.*

<sup>44</sup> [“The American Academy of Pediatrics Issues Sweeping Recommendations on Tobacco and E-Cigarettes.”](#) The American Academy of Pediatrics. 2019.

<sup>45</sup> [“California Healthy Kids Survey.”](#) California Department of Education. Last Accessed 7 Apr. 2019.

<sup>46</sup> [“Youth Alcohol, Tobacco, and Other Drug Use.”](#) CALSCHLS. Accessed 7 Apr. 2019.

<sup>47</sup> [“Reasons for Electronic Cigarette Use Among Middle and High School Students — National Youth Tobacco Survey, United States, 2016.”](#) Centers for Disease Control and Prevention. Vol.67(6); 16 Feb. 2018. pp.196–200.

- Influenced by marketing produced by the deep-pocketed multi-billion-dollar tobacco companies with expertise in manipulating youth.
- Designed to generate hard-to-resist peer pressure.
- Often advertised by manufacturers as an effective means to quit smoking.
- Easier to conceal in areas where smoking is prohibited.

When questioned, adolescent e-cigarette users stated that they vaped because they thought it was less harmful than smoking tobacco cigarettes. Although some said they vaped to stop or cut down on smoking cigarettes, no major scientific study has found that e-cigarettes are an effective tobacco dependence treatment product. The AAP reported, “In fact, e-cigarette use among teens is associated with a higher likelihood of using regular tobacco and lower rates of smoking cessation.”<sup>48</sup>

Many adolescents don’t think that vaping is harmful to them because it feels different from smoking cigarettes. For example, it does not taste or smell the same and it can make them feel good by reducing their stress. They also say it doesn’t bother other people and is easier to use in areas where smoking cigarettes is prohibited.<sup>49</sup>

When it comes to student vaping, the impact of peer pressure cannot be underestimated; it’s immense. Peer pressure is a powerful driving force that causes many youngsters to start and continue vaping.<sup>50</sup> Since vaping is so prevalent in schools, the peer pressure on students to vape is constant and unrelenting. Sadly, vaping by students in Marin is increasing at an alarming rate and shows no signs of letting up.

Schools report that vaping in the bathrooms has become commonplace, forcing some schools to restrict access, or install “vape detectors”.



A vaping detector and a sign posted in school bathrooms

<sup>48</sup> “[The American Academy of Pediatrics Issues Sweeping Recommendations on Tobacco and E-Cigarettes.](#)” *American Academy of Pediatrics*. 2019

<sup>49</sup> Jones, Laura. “[Vaping - the rise in five charts.](#)” *Business Reporter, BBC News*. 31 May 2018.

<sup>50</sup> Hwang, Jun Hyun and Park, Soon-Woo. “[Association between Peer Cigarette Smoking and Electronic Cigarette Smoking among Adolescent Nonsmokers: A National Representative Survey.](#)” *National Center for Biotechnology Information*. 3 Oct. 2016.

Vaping can be hard to detect since the aerosol emitted is often odorless and smokeless, even in closed environments such as classrooms. Students have not been detected vaping in class when they blew the aerosol they inhaled into their sleeves, a practice known as “cuffing”. Some students “ghost,” a term for holding the aerosol they inhale in their lungs, where it breaks down and becomes less visible when exhaled.

Vaping may be less harmful than smoking cigarettes because it emits fewer toxic chemicals, but vaping is definitely not safe. As previously noted, the aerosols produced during vaping, contain toxic substances that are damaging to people’s health.

### **Gateway to Cigarettes**

Ironically, vaping is seen as an aide to smoking cessation. On the contrary, a Mayo Clinic study concluded that e-cigarettes are a gateway for vapers to start smoking combustible cigarettes.<sup>51</sup> "I think the data is pretty clear so far, in the limited studies we have, that it looks like it is a gateway for youth smoking," says Dr. Taylor Hays, Director of the Mayo Clinic Nicotine Dependence Center. He further asserts that teens who have never smoked a cigarette are three to four times more likely to start smoking in the future if they use e-cigarettes.

Another study, published in the *International Journal of Adolescent Medicine and Health*, concludes not only are e-cigarettes *not* an effective tool for smoking cessation among adolescents, they are actually associated with higher incidence of cigarette smoking later.<sup>52</sup>

### **Role of Parents**

Parents often don’t know that their children are vaping. Some parents may not realize how often their kids are vaping, that it can become addictive, and how seriously it can damage their child’s health. Parents also may not recognize that their children have become addicted. They think that vaping “isn’t that harmful” or that “it’s better than smoking cigarettes.” Others don’t find vaping a problem because they equate it to smoking marijuana, which they did, or still do.

Parents must learn the facts about vaping and understand the harm it can cause. They must be vigilant and learn to recognize the various types of vaping products that now exist. Parents have to look more closely and not simply assume that their children’s gadgets are flash drives, highlighters, or cosmetic containers. They have to learn about cuffing and ghosting, and to be on guard.

Misunderstandings and lack of knowledge about vaping and the damage it can cause are fueling today’s vaping epidemic. Until parents and their adolescent children pay attention and get the facts, this epidemic will keep spreading. Parents have the responsibility to play a strong role in protecting their children. That role begins by getting accurate information and relaying it to their children.

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<sup>51</sup> Howland, Jason. "[Mayo Clinic Minute: Is vaping a gateway to smoking?](#)" Mayo Clinic Minute. 13 Mar. 2018

<sup>52</sup> Chatterjee, Kshitij et al. "[Is vaping a gateway to smoking: a review of the longitudinal studies.](#)" *International Journal of Adolescent Medicine and Health*. Vol. 30 Iss. 3. 9 Aug. 2016.

## The Players

Vaping is a huge, international industry. The companies that dominate the market are powerful, multi-billion-dollar mega-corporations that have broad reach, deep pockets, and extensive experience and expertise in marketing tobacco products -- they know how to lure kids in.

Here is a list of the major players in the field:

JUUL is the largest selling e-cigarette in the United States. It has a share that ranges between 70% to 75% of the domestic vaping market.<sup>53 54</sup> Recently, Atria Group, Inc., the makers of Phillip Morris cigarettes, purchased a 35% interest in JUUL for a reported \$12.8 billion. Altria also owns the vaping brand MarkTen, and Marlboro, Parliament, and Virginia Slim cigarettes.

Logic is owned by Japan Tobacco, Inc. (JTI), and was listed as number 312 on the Fortune 500 list. The Japanese Government owns 33.35% of JTI, which has the largest share of the vaping market worldwide.

Vuse is owned by R.J. Reynolds Tobacco, the company that also owns Camel, Newport and Doral cigarettes. It has a 9% share of the vaping market.

BLU is owned by Frontem Ventures B.V., a division of Imperial Brands, which also owns Kool, Winston, Gitanes, and Gauloises cigarettes.

The popularity and dynamic growth of vaping has led many newcomers to rush into the market. Some may be “fly-by-night” operations that see vaping as an opportunity for quick profits. They may produce “knock off” or copycat products of questionable content and quality. Since vaping involves chemical compounds, heat, and volatility, more health issues and accidents could occur.

## Advertising and Promotion

The vaping industry has conducted massive, saturation advertising campaigns to promote its products. In its April 14, 2014 issue, AdAge reported that six of the eight largest vaping makers spent nearly \$60 million on advertising and promotion. That same report also stated that some vaping companies are increasing their advertising budgets by 100% year after year.



JUUL Advertisement

<sup>53</sup> Kraver, Richard. “[JUUL Ends 2018 With 76 Percent Market Share.](#)” *Winston Salem Journal*. 8 Jan. 2019.

<sup>54</sup> “[JUUL Labs' 73 Percent Market Share & \\$15 Billion Valuation Has Come With a “Rapid Proliferation” of Copycat Products.](#)” *The Fashion Law*. 18 Oct. 2018.

For years, the industry targeted youth and glamorized vaping with ads such as the one reproduced above.<sup>55</sup> Recently, vaping advertisements have shifted gears and are promoting their products as vehicles to help cigarette smokers cut down or stop smoking tobacco. After demands by the FDA and other agencies, the industry's new advertisements declare that vaping is not for those under age, state that their products contain nicotine, and make it clear that nicotine is addictive.

E-cigarette makers work to create a “buzz” by making frequent appearances on the internet, social media news feeds, and timelines. Brands, like JUUL, have relied heavily on social media to market and promote their products.<sup>56</sup> One manufacturer sponsored the Sasquatch! Music Festival in Washington, which featured a vapor lounge with surprise guest appearances from top performers, device charging stations, an interactive social media photo booth and samples of Blu eCigs. JUUL sponsored a “Music in Film Summit” at the 2018 Sundance Film Festival in Utah.

These marketing tactics are banned for cigarette and smokeless tobacco. The 2009 Family Smoking Prevention and Tobacco Control Act prohibited cigarette and smokeless tobacco companies from sponsoring music, sports, and other cultural events because of evidence linking these tactics with youthful tobacco use.<sup>57</sup> Other types of tobacco products, including e-cigarettes, are not bound by these restrictions.<sup>58</sup>

Full page ads run in major local and national newspapers by JUUL are an example. They make vaping seem like it's a healthier alternative than smoking tobacco. JUUL promotes itself as a “switching product,” but its web site notes that it's not intended to be used for cessation. The company also states on its website that JUUL is not for “... the cure or treatment of nicotine addictions (e.g. smoking cessation), relapse prevention, or relief of nicotine withdrawal symptoms.”<sup>59</sup>

Although most websites that sell vaping products ask users to confirm that they're not minors, those sites do not verify users' ages. They simply accept what their users declare. As a result, under age vapers can easily order vaping products online.

Unfortunately, the warnings and “safeguards” that industry ads now contain may be too little too late because so much damage has already been done. Vaping among adolescents is well established and rapidly growing; it has infiltrated middle schools and is deeply embedded in high schools. Vaping is a multi-billion-dollar business and while the vaping industry prospers, our children endanger their present and future health and that of those around them.

Vaping advertisements frequently appear in newspapers, on TV, online, on YouTube, and Twitter. Some are celebrity endorsed. Ads that zero in on youth are also delivered directly on mobile phones and apps. To counter the industry's advertising, the FDA delivers its own information on sites where teens spend most of their time—online and in school. In its “Real

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<sup>55</sup> Belluz, Julia. “[The vape company Juul said it doesn't target teens. Its early ads tell a different story.](#)” *Vox*. 25 Jan. 2019.

<sup>56</sup> “[4 marketing tactics e-cigarette companies use to target youth e-cigarettes marketing.](#)” *Truth Initiative*. 9 Aug. 2018.

<sup>57</sup> “[Family Smoking Prevention and Tobacco Control Act - An Overview.](#)” *U.S. Food and Drug Administration*. 31 Oct. 2018.

<sup>58</sup> *ibid*

<sup>59</sup> “[Our Responsibility.](#)” *JUUL*. 2019. Last accessed 17 Apr. 2019.

Cost Campaign,” the FDA provides prevention information on youth-targeted websites and social media. It also offers materials for use in high schools nationwide, such as posters for school bathrooms.<sup>60</sup>

Vaping companies also use scholarship offers to recruit young users.<sup>61 62</sup> By offering college scholarships, vaping companies get their brands listed on university websites and get students to write essays about the potential benefits of vaping. This tactic has successfully landed vaping brands on the sites of some of the nation’s best-known universities, including Harvard. However, it has been criticized as a thinly disguised ploy to attract young customers.<sup>63</sup>

The scholarships awarded vary between \$250 and \$5,000 and the essays have been on the following subjects:

- The benefits of vaping
- Types of e-cigs and recommendations on which is the best
- The effects of vaping in comparison to smoking cigarettes
- The benefits of vaping marijuana for medical reasons

As advertising campaigns by the tobacco industry increase, so too must campaigns to counter the industry’s claims. Anti-vaping campaigns must be focused on teens and parents. They must clearly and powerfully set forth the facts and explain the scope and dangers of the vaping epidemic.

## Flavorings

Flavorings in tobacco smoke mask their irritating properties and make vaping and other types of smoking easier to tolerate, which promotes addiction. The Truth Initiative reported that 43% of young vapers said they tried e-cigarettes because of their flavor. E-liquid cartridges are available in an incredible number of varieties: thousands of flavors plus cannabis concentrates. Vaping cartridges are filled with a variety of seductive flavors that youth equate to sweets. Flavors such as crème brulee, mixed berry, melon, Life Savers, and Kool-Aid mimic kids’ favorite candies, ice creams, and desserts. For the younger teens, flavors such as rainbow, unicorn poop, and dragon eggs are available. As a result, vaping by high school students is more common than vaping by adults.

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<sup>60</sup> “[The Real Cost Campaign](#).” *U.S. Food and Drug Administration*. 5 Feb. 2019.

<sup>61</sup> Schwartz, Drew. “[E-Cig Companies Are Giving Out College Scholarships for Essays on Vaping In what looks like the latest ploy to market vapes to teens](#).” *Vice*. 11 Jun. 2018.

<sup>62</sup> “[Vaping essays: e-cigarette sellers offering scholarships E-cigarette scholarships raise concerns over marketing vaping to teens](#).” *NBC News*. 18 Jun. 2018.

<sup>63</sup> “[The Scholarship Initiative: Vaping companies giving back?](#)” *Vape Straight*. 24 Aug. 2018.



Youth Targeted Device

New vapers are more likely to use flavored vaping products because when inhaled, they're not as harsh as cigarettes. Middle school students, an emerging vaping market, often begin to vape because of the flavors. Some flavorings, including menthol, act as an anesthetic that calms newer smokers' lungs. They also give newcomers the sense that they're less harmful than unflavored products.

According to studies, mentholated tobacco products also cause problems. When inhaled, they have a soothing effect so they're more deeply inhaled and harder to quit.<sup>64</sup> Mentholated products have a greater impact and are used more in African American communities than in other communities.<sup>65</sup> <sup>66</sup> African American neighborhoods are also targeted disproportionately by advertising; up to ten times as many advertisements for mentholated products are run in African American communities than in other neighborhoods. Therefore, it is no surprise that African American communities have more and greater tobacco-related health problems compared with other groups.<sup>67</sup>

Removing flavoring from vape juice as well as from cigars, pipe tobacco, cigarettes, and cigarillos will decrease vaping's attractiveness to youth. It will also help adult smokers and vapers to quit.

### Community Response

In Marin County, school and health officials recognize that student vaping is epidemic and are working hard to stop it. The Grand Jury applauds their efforts and understands that they're waging an uphill fight. Vaping is deeply entrenched in high schools and has an increasing presence in middle schools. The peer pressure on students to vape is enormous and usually trumps warnings by parents, teachers, and other adults.

<sup>64</sup> Stebler, Carolyn. "[These Are The 7 Most Toxic Vaping Flavors, According To Science.](#)" *Bustle*. 21 Jun. 2018.

<sup>65</sup> "[MENTHOL: THE ORIGINAL FLAVORED TOBACCO PRODUCT.](#)" California Tobacco Control Program. Last Accessed 7 Apr. 2019.

<sup>66</sup> "[Know More About Menthol Cigarettes.](#)" *Smokefree.gov*. Last Accessed 7 April 2019.

<sup>67</sup> "[THE LINK BETWEEN AFRICAN AMERICANS AND MENTHOL CIGARETTES.](#)" *Tobacco Free Florida*. Last Accessed 7 Apr. 2019.

Community organizations have come together and have been extremely proactive in working to curtail student vaping. Local organizations that have taken leadership roles in this fight include:

- The Marin County Office of Education.
- The County of Marin Department of Health and Human Services.
- The Coalition Connection.
- The Marin County Tobacco Control Program.
- Smoke-Free Marin.
- Marin Prevention Network.
- Bay Area Community Resources.
- MCOE School/Law Enforcement Partnership.

Anti-vaping efforts have taken a four-pronged approach. They have focused on:

- Prevention efforts aimed at students.
- Prevention efforts aimed at parents.
- Community education.
- Making vaping products harder to get.

These organizations have been functioning for a long time in their successful efforts in reducing smoking. This existing structure has allowed swift mobilization to address vaping. The Stanford Tobacco Prevention toolkit has been updated to include vaping.<sup>68</sup> In-class state curriculum for tobacco education pre-dates vaping and has been supplemented to include vaping.

Getting essential information about the dangers of vaping to students, parents, and the community is essential. Students should be informed about the damage to their health caused by vaping and how it could affect them for the rest of their lives. Parents need to be aware of the extent and severity of the vaping epidemic, how to identify vaping devices, and recognize that their kids are vaping. They must learn how to deal with children who vape and where to get help. The community must understand that a wide-scale, vaping epidemic exists and be aware of the dangers it can cause. The community must also press its elected officials to promptly enact measures that would make vaping products more difficult to obtain.

Prevention efforts for parents are all about education. In Marin, more than 15 presentations have been made, where parents and other community members learn about vaping. They learn what vaping devices look like, how to recognize when their kids are vaping, the terminology around vaping, and the dangers involved. These presentations have reached over 400 participants.

Students are resistant and have heard the warnings. Even if they know the risks, they think that they're immune and that the potential damage from vaping won't affect them. Adolescents don't listen to adults. They consider adults to be sermonizers, intruders, and out-of-touch authority figures who do not understand them and their world.

The most promising approach for reaching students is through peer-to-peer programs. Peers are powerful influencers; they're the trend setters whom youth look up to and follow. Peer-to-peer

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<sup>68</sup> ["The Tobacco Prevention Toolkit."](#) Stanford Medicine. Last Accessed 7 Apr. 2019.

programs operate on the premise that just as peer pressure can lead students to vape, peers can prevent them from starting—or, if they’ve started, to stop.

Peer-to-peer programs try to get to students early via their peers. First, high school students are selected to be peer educators. Then the peer educators are trained on how to approach and inform others about the dangers of vaping. Primarily, they focus on middle schoolers and underclassmen. For example, if a junior is chosen to be a peer educator, he or she will make presentations to middle schools and tenth-graders. Peer educators will also make presentations to health, science, and other classes at their schools and to school staff, parents, and community groups. They hold one-on-one conversations with other students, and develop programs, such as videos and infographics, customized for their schools and audiences.

Peer-to-peer programs in Marin County are underway at the following high schools: Novato, San Marin, Marin Oaks, Tamalpais, Redwood, Drake, San Rafael, and Madrone. Programs have also been launched in some middle schools. This past school year, 72 peer educators have been trained and are actively working to curtail student vaping. Over 2,000 students have been reached.

### **Laws and Legislative Proposals**

In 2016, the U.S. Food and Drug Administration issued regulations (the Deeming Rule) extending the agency’s regulatory authority to all tobacco products, including e-cigarettes and similar delivery systems. The Rule requires health warnings on products that were not on the market on February 15, 2007.

Specifically, the Deeming Rule:

- Bans distribution of free samples.
- Requires warnings on products containing nicotine.
- Requires statements warning consumers that nicotine is addictive.
- Restricts youth access by prohibiting sales to people younger than age 18.
- Requires photographic proof of age for purchasers of tobacco products.

The implementation of the Deeming Rule was postponed by the FDA until 2022. The agency announced that it planned to issue rules on a larger initiative to reduce nicotine related deaths. However, the bans on sales to persons under 18 and on distributing free samples remain in effect.

On March 13, 2019, the FDA released its long-awaited proposed guidelines to restrict sales of most flavored vaping products sold in stores.<sup>69</sup> Three flavors - tobacco, menthol, and mint - would be exempted since the agency believes that they appeal more to adults than to teenagers. Under the proposal, stores would be required to verify the age of their customers or have separate age-restricted areas for vaping products. The proposed rules would also require companies to use third-party age verification technology for online sales.

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<sup>69</sup> “[FDA's Deeming Regulations for E-Cigarettes, Cigars, and All Other Tobacco Products.](#)” *U.S. Food and Drug Administration*. 16 Nov. 2018.

In late 2018, bills were introduced in the California Senate to ban the sale of flavored e-cigarettes and all other flavored tobacco products to combat use by youth (SB-38). Legislators introduced a bill to set stricter rules for age verification in sales of tobacco products online and by mail (SB-39). In early 2019, the California Assembly began work on AB-739 to restrict sales of flavored tobacco, including menthol. All three of these bills are in the initial stages of the legislative process.

Legislation has also been introduced on the federal level. SB 655<sup>70</sup> and HR 1498<sup>71</sup>, dubbed the Stop Appealing Flavors and E-cigarettes to Kids Act (SAFE Kids Act), were submitted in March 2019.

Marin County has enacted an ordinance banning the sale of flavored tobacco products including vaping liquids and mentholated cigarettes. The ban takes effect on July 1, 2019 and applies to unincorporated areas in the county. Sales in one tobacco specialty store have been permitted to continue until January 1, 2020.

In addition to the county, a number of municipalities in Marin have enacted flavored tobacco bans. A listing of those jurisdictions appears on the chart below. Although a ban on the sale of flavored tobacco in all jurisdictions in the county would have the greatest impact on reducing adolescent vaping, that uniformity does not yet exist. To be effective, a ban must be county-wide. Bans in individual jurisdictions won't be a strong deterrent if vaping products can be bought by simply taking a short drive.

The chart below shows the entities in Marin County that have adopted flavored tobacco ordinances as of April 17, 2019. Some municipalities do not have tobacco sales.

	Flavored Tobacco Ordinance?	Includes Menthol?	Effective Date
<b>County of Marin</b>	✓	✓	7/1/2019*
<b>Belvedere</b>	✗	✗	✗
<b>Corte Madera</b>	✓	✓	1/1/2020
<b>Fairfax</b>	✓	✗	12/6/2018
<b>Larkspur</b>	✓	✓	1/1/2020
<b>Mill Valley</b>	✗	✗	✗
<b>Novato</b>	✓	✗	1/1/2018
<b>Ross</b>	✗	✗	✗
<b>San Anselmo</b>	Pending	✓	1/1/2020
<b>San Rafael</b>	Under Consideration	✗	✗
<b>Sausalito</b>	✓	✓	11/1/2018
<b>Tiburon</b>	✗	✗	✗

\*One business exempted until 1/1/20

<sup>70</sup> “[S. 655: SAFE Kids Act.](#)” *GovTrack*, 5 Mar. 2019.

<sup>71</sup> “[H.R. 1498: SAFE Kids Act.](#)” *GovTrack*, 5 Mar. 2019.

Programs are underway in the county to enforce the sales' bans and more are planned. The Central Marin Police Authority has been conducting checks, which include sting operations, fines, and license suspensions. The Sheriff's Department has entered into a Memorandum of Understanding with the Marin Prevention Network to conduct compliance checks at locations where tobacco is sold. The aim is to check each location at least once each year and if possible, twice a year. The Sheriff's Department has received a three-year grant from the California Department of Justice Tobacco Grant Program for \$150,000. Central Marin Police Authority has also received a grant for tobacco education and enforcement.<sup>72</sup>

### **Bypassing Flavored Tobacco Laws**

While flavored tobacco laws are important in limiting access, they are not a panacea. Adolescents are resourceful and the vaping industry is more than willing to assist their creativity. Unflavored, or "tobacco flavored," products are still allowed under the flavored tobacco bans, albeit with age restrictions. Concentrates that can add flavor to unflavored vape juices are readily available.

Some young vapers have figured out how to obtain vaping products without arousing parental suspicions. A widely-used method involves purchasing gift cards issued by companies such as Visa and MasterCard, using those cards to buy vaping products online, and have their purchases shipped to pick-up lockers or friends' houses, where they are retrieved.

Some internet sites have an age verification process that matches the buyer's name and other information with public records. This process is easy to bypass, however, by entering a parent's or other adult's information. Some sites located off-shore do not even ask users for age verification. Sites that skirt or violate tobacco sales laws can be set up, moved or removed as soon as they're discovered by regulators.

Students who act as distributors in schools can be hard to detect. They buy in bulk, frequently with the aid of an adult, and then market their purchases, with markup, on campus. Most high school students know a supplier.

### **Cessation Programs**

Some adolescents are addicted to nicotine and help for them is limited. To stop vaping, young people have to overcome unique challenges that other people do not face, especially peer pressure and their need to be independent and rebel. These adolescents need specially customized treatment to break their addiction.

E-cigarettes have not been approved as smoking cessation aids by the U.S. Prevention Service Task Force. In fact, no smoking cessation medications are FDA approved for use by children or adolescents younger than age 18. As previously noted, at this time, no cessation programs designed for young vapers are available in Marin County.

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<sup>72</sup> ["CITY OF LARKSPUR Staff Report April 3, 2019 City Council Meeting."](#)

The County of Marin Department of Health and Human Services and the Marin County Office of Education should tap into the resources of Marin's largest healthcare providers. Together with Kaiser Permanente, Sutter Healthcare, and the Marin Healthcare District they can jointly develop much needed adolescent nicotine addiction programs.

Adolescent vapers who want to stop vaping currently have few viable alternatives. They can attend cessation programs developed for adults. However, these programs don't address their special needs. Many may try to abstain and go cold turkey. This method is so difficult that most do not succeed. Young vapers may attend private or group sessions with a cessation counselor, but after a session or two, they often don't return for follow-up. To date, no Nicotine Replacement Therapy (NRT) medication or device has been approved for youth (The Journal of Pediatric Pharmacology and Treatment).<sup>73</sup>

Although research on e-cigarette cessation is in its early stages, solid research on how to help the users successfully quit traditional tobacco products exists. This research and many of its recommendations may be applicable to vaping.<sup>74</sup> For example, digital tools and programs have been proven to help smokers quit.

The vaping industry claims that its products are "switching products," but their success rate in helping smokers to stop their tobacco use is extremely weak. A recent study published in the New England Journal of Medicine by British researchers showed that 16% of tobacco smokers, who switched to vaping, stopped smoking for at least one year. On the other hand, only 8% stopped smoking tobacco by using patches, lozenges, and chewing gum.<sup>75</sup> Although the success rate of cessation via vaping was twice that of patches, lozenges, and chewing gum, a 16% rate of success would not pass the FDA threshold required for the approval of any other medication or device. Simply put, a 16% success rate is dismal.

Furthermore, those who quit smoking cigarettes by vaping, run the risk of continuing to be addicted to nicotine and remaining subject to the health dangers it causes. Since nicotine is highly addictive, virtually all vapers find it hard to quit, but young vapers find it especially difficult.

In the absence of better alternatives, 1-800-QUITNOW is a toll-free number operated by the National Cancer Institute (NCI) that will connect the caller directly to a tobacco quitline.<sup>76</sup> While these programs are oriented to adults, some materials or referrals may be available for teen addicts. Truth Initiative has expanded its quit-smoking resources to include an e-cigarette quit program.<sup>77</sup> This free text message program was created with input from teens, college students and young adults who have attempted to, or successfully, quit e-cigarettes.

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<sup>73</sup> "[Smoking Cessation Treatment for Adolescents](#)." *J Pediatr Pharmacol Ther.* 2010 Oct-Dec; 15(4): 249–263.

<sup>74</sup> "[is your kid using juul or another e-cigarette? here's how you can help them quit](#)," *truth initiative.* 21 Feb. 2019.

<sup>75</sup> Hajek et al. "A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy." *New England Journal of Medicine.* Vol. 380 pp. 629-637. 14 Feb. 2019.

<sup>76</sup> "[Smoking & Tobacco Use - Quit Smoking](#)." *Centers for Disease Control and Prevention.* 11 Dec. 2017.

<sup>77</sup> "[quitting e-cigarettes](#)." *Truth Initiative.* 18 Jan. 2019.

## **FINDINGS**

- F1. Most vaping products are nicotine delivery systems that are designed to appeal to youngsters, are highly addictive, and may cause life-long health problems.
- F2. Student vaping in Marin County is an epidemic that is increasing and reaching younger students including those in middle schools.
- F3. The Marin County Office of Education and the Department of Health and Human Services are leading diligent efforts to curb youthful vaping, but the public does not fully understand that vaping is an epidemic and the health damage it causes.
- F4. Many students in schools in Marin County are not aware that vaping products contain nicotine, that it is highly addictive, and can severely damage their health.
- F5. Many parents don't know about vaping. They can't recognize vaping devices, are not aware that their children are vaping, and may not know the severe damage to health vaping can inflict.
- F6. Vaping cartridges can be refilled with substances including cannabis extracts that are several times stronger than the marijuana smoked by previous generations.
- F7. Peer pressure leads many adolescents to take up and continue using vaping products. Peer to peer programs and coaches effectively help students deal with peer pressure.
- F8. All government bodies in Marin County do not ban the sale of flavored tobacco. To be effective, a ban must be county-wide and be vigorously enforced.
- F9. Adolescents who want to stop vaping face unique problems that make it extremely difficult for them to quit. To date, no cessation programs that address their special needs exist in Marin County.
- F10. Vaping aerosols are odorless, smokeless, and hard to detect. However, commercial devices to detect vaping aerosol are available and can be installed in school areas where vaping commonly occurs.
- F11. Mentholated tobacco products are damaging to health, but not all flavored tobacco ordinances in the County ban them.

## RECOMMENDATIONS

- R1. The County of Marin Department of Health and Human Services, the Marin County Office of Education and all school districts should increase initiatives to provide students, parents, and the community with more information and support on vaping prevention and cessation. Initiatives should include digital and social media content, including materials for middle and high schools.
- R2. Marin County Office of Education should create and make available resources for students, parents, teachers, and the community stressing the dangers of vaping and where cessation assistance can be obtained.
- R3. The Marin County Office of Education should partner with high school coaches and the Marin County Athletic League, educate them on the dangers of vaping, and develop a program to stress those dangers to the members of their teams.
- R4. Each school district should install vaping detectors in school bathrooms and other areas where vaping frequently occurs.
- R5. All municipalities in the county that have not banned the sale of flavored tobacco products should do so within the next year.
- R6. Novato and Fairfax should amend their tobacco ordinances to include menthol flavored tobacco products.
- R7. The County of Marin Department of Health and Human Services should work with the local medical community, including Kaiser Permanente, Sutter Healthcare and the Marin Healthcare District to establish teen nicotine cessation programs.
- R8. All law enforcement agencies should coordinate the enforcement of sales bans on flavored tobacco.

## REQUEST FOR RESPONSES

Pursuant to Penal code section 933.05, the grand jury requests responses as follows:

From the following governing bodies:

- County of Marin Board of Supervisors (R1, R7)
- Marin County Office of Education Board of Directors (R1, R2, R3, R4)
- Belvedere City Council (R5, R8)
- Fairfax Town Council (R6, R8)
- Mill Valley City Council (R5, R8)
- Novato City Council (R6, R8)
- Ross Town Council (R5, R8)
- San Rafael City Council (R5, R8)
- Sausalito City Council (R8)
- Tiburon Town Council (R5, R8)

- Dixie School District Governing Board (R1, R4)
- Kentfield School District Board of Trustees (R1, R4)
- Lagunitas School District Governing Board (R1, R4)
- Larkspur - Corte Madera School District Board of Trustees (R1, R4)
- Mill Valley School District Board of Trustees (R1, R4)
- Novato Unified School District Board of Trustees (R1, R4)
- Reed Union School District Board of Trustees (R1, R4)
- Ross School District Board of Trustees (R1, R4)
- Ross Valley School District Board of Trustees (R1, R4)
- San Rafael School District Board of Education (R1, R4)
- Sausalito-Marín City School District Board of Trustees (R1, R4)
- Shoreline Unified School District Board of Trustees (R1, R4)
- Tamalpais Union School District Board of Trustees (R1, R4)
- Marin Healthcare District Board of Directors (R7)
- Central Marin Police Authority Police Council (R8)

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted in accordance with Penal Code section 933 (c) and subject to the notice, agenda and open meeting requirements of the Brown Act.

From the following individuals:

- Marin County Sheriff (R8)

The following individuals are invited to respond:

- Medical Group Administrator, Kaiser Permanente, San Rafael (R7)
- CEO, Sutter Health Care, Novato Community Hospital (R7)

Note: At the time this report was prepared information was available at the websites listed.

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.