

# TEENS AND THE VAPE DEBATE

Nailing down the details of vaping is a lot like chasing a moving target — new research is coming out as you’re reading this, new devices are being created and teens are sneaking into hallways and bathrooms to try and take another puff of aerosol from an e-cigarette.

While the legal smoking age in California is 21, school districts are having to deal with an onslaught of youth who have taken up a different variant of smoking, vaping using electronic cigarettes.

## TALES OF AN UNDERAGE VAPER

The age of majority may be 21 to vape, according to state and local law, but that doesn’t stop many people from starting young.

Hailey, age 18, started vaping her sophomore year of high school when she was 16.

“That’s when I started driving and going to school more and working two jobs,” she said. “It’s kind of like a stress reliever. I find myself driving easier when I have it in my hand.”

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VAPE  
ISSUE

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BEHIND  
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Thank you for picking up our special section on underage vaping.

The idea originally came up in December, 2018, just before the holidays. We noticed that despite a downward trend of cigarette use, underage vaping was being referred to as a crisis and an epidemic, so we decided to see what the facts were behind such bold claims.

Over the last four months, we have talked to various groups of educators, officials, scientists and users to get the facts, figures and perspectives. What we found in the numbers was both fascinating and sad, as vape use has been shown to be on a dramatic rise.

Yet finding someone underage who vapes is no easy task. Teens tend to have strategies for getting away with things, and unlike educators, we do not interact with them on a regular basis. Nor were we trying to catch them, but rather, learn about why they start and why they continue. We hope our interview sheds light on a teen’s perspective, without which we think shared preventative ideas are invalid.

What surprised us as we compared our interview with a vaper to our interviews with those combatting use was how similar the viewpoints were. It seems like we know the reasons teens begin vaping, but we have a hard time communicating why they shouldn’t start.

The best approach to prevention seems to be fair education. That is, education on vaping that isn’t judgmental, that doesn’t gloss over the allure and doesn’t simply tell young people they are wrong. It seems like we are moving away from the “Just Say No” message that failed our society with other substance abuse.

We discovered all this and more and combined it here. Information is changing quickly and the problem isn’t going away on April 25, the day we publish this piece. Our coverage of this problem isn’t going away either and we hope you will continue to read along with us and join the conversation in the months and years to come.



A SPECIAL SUPPLEMENT TO  
THE CLOVERDALE REVEILLE,  
THE HEALDSBURG TRIBUNE,  
THE WINDSOR TIMES AND  
SONOMA WEST TIMES & NEWS

BEING COOL OR BEING FOOLED?

Local youth’s e-cig use is part of a national epidemic

By  
**Rollie Atkinson**  
SONOMA WEST  
PUBLISHERS STAFF

It took us almost two centuries to accept that tobacco use can kill us. After the U.S. Surgeon General declared tobacco and nicotine to be cancer causing in 1964, we watched the use of tobacco, mainly by smoking cigarettes, decline by 50% in the half century. The numbers of youth under age 18 who started smoking also declined over that same time period. Still, tobacco use in all its forms remains our leading cause of preventable death. Some 480,000 people die every year in the United States from cigarette smoking.

If we ever thought we were conquering the health scourge of tobacco and nicotine, the current horrifying epidemic of underage use of e-cigarettes will clear all our heads of any smoky illusions. Maybe we thought we had taught our children the lesson that tobacco, nicotine and second-hand smoke kill. But the fact that teen use of e-cigarettes, both locally and nationally, has doubled in the last five years shows all of us how wrong we are.

In Sonoma County almost one of every 10 seventh graders have used e-cigarettes. The number of regular e-cig users doubles by high

school, where public health surveys show one of every five teens ingests tobacco and poisonous nicotine on a regular or semi-regular basis.

Our reporting for this special newspaper project has uncovered many misconceptions about e-cigs and vaping and a general lack of awareness about this mounting public health crisis in our local communities.

Just because e-cigs, like the slick high-tech Juul pens and others, don’t emit stinky smoke or leave behind ashes and butts, that doesn’t mean they aren’t just as deadly as a cowboy’s Marlboro or a Mad Man’s Lucky Strike. In many cases, e-cigs are more poisonous because they are more efficient in injecting nicotine and other toxic gases into lungs. The biggest problem here is our youth don’t believe this.

The insidious tobacco industry has been marketing e-cigs and vaping as a safer alternative to cigarette smoking. They put enticing flavors with catchy names in their venomous products. Their billion dollar campaigns (especially Juul’s) claim e-cigs are a way for adults and others to reduce or quit their tobacco habit. U.S. Surgeon General Jerome Adams strongly disagreed last December when he declared teen vaping “a national epidemic.” He said, “I think we can all agree that e-cigs are not a good thing for our youth.”

Our news coverage shows many increasing efforts by local schools and public health care

workers to raise community awareness and launch tobacco-cessation programs in our schools. But as Windsor High School principal Stack Desideri said, “Vaping marries the two things that teenagers love best: risky behavior and cute technology.”

We need to become educated along with our children about the chemistry, health effects and community costs of vaping. It’s not just our teens. Emergency medical calls for children 5 and under involving e-cig exposure or nicotine poisoning tripled last year.

Vaping isn’t cool; it kills. Exposure to nicotine during adolescence can harm brain development and hook young tobacco experimenters to a shortened life of addiction. The response from some parents about their child’s use of e-cigs that “at least it’s not some other drug” is reckless. Even if a youth is using low amounts of nicotine, eventual addiction is very likely.

In 2015, the city of Healdsburg started what has become a national movement for all local and state governments to raise the legal age of tobacco use to 21. Retired M.D. Dr. David Anderson, who championed that crusade, may have thought the anti-tobacco war was beginning to be won. He knows better and we invite you to join him and other health and education leaders at one of our panel discussions on either May 2 (Healdsburg High School) or May 22 (Sebastopol’s Analy High School.)

LAYING DOWN THE LAW ON VAPING

Study shows education is needed for tobacco retailers

By  
**Andrew Pardiac**  
SONOMA WEST  
PUBLISHERS STAFF

Vaping laws are constantly changing as the relatively new technology is addressed by legislators. Many times, vaping is regulated similarly to smoked tobacco or cannabis consumption respective of what is being vaped.

In California, legal vapers must be at least 21 years old.

Terese Voge, Sonoma County Department of Health Services health program manager, said that the county takes a multi-pronged approach to enforcement of underage vaping.

One of the areas focused on by the county to curb underage vaping is at the cash register for all tobacco products. This is due to the stated ease with which minors that do smoke or vape purchase their devices.

The county cites that nationwide 98.5% of tobacco purchases were made at a store, as opposed to buying them from a friend.

County law requires any individual who does not appear 27 years old or older to show a valid ID before they can purchase vape products. However, according to the Young Adult Tobacco Purchase Survey (YATPS), one in five retailers did not check for ID.

“Of the 164 tobacco retailers surveyed, 28 retailers, 17.1%, sold tobacco products to a young adult under the age of 21. Twelve of the stores were gas/convenience stores, eight were small, non-chain markets, four were liquor stores, two were large markets, one was a large grocery store chain and one was a donut shop,” according to the YATPS report.

Overall tobacco products were requested because “many of the retailers in the target sample did not carry e-cigarettes (i.e., Juul, Vuse, or Blu).”

“E-cigarette was requested 37.4% of the time,” during the survey, of combustible tobacco products sold.

“The high local sales rate of 17% is similar to the state’s tobacco sales to young adults of 19%,” the report concludes.

Even when checking underage “investigators” ID, clerks would examine and still sell the product in some cases, according to YATPS.

“Also, qualitative data indicate that several other cashiers almost sold to youth and need more training,” the report states.

“The survey revealed that retailers need instruction on asking for identification to ensure this is standardized procedure across all retailers,” Voge wrote. “Moreover, retailers need instruction on how to properly check identification for the legal age. Further, reminders need to be sent that the legal age of tobacco purchase is 21. Retail owners and managers could benefit from tools and internal policies that



Photo Andrew Pardiac

**HEALTHY ROSTER** — Terese Voge, health program manager, Ariel Thomas-Urlik, health information specialist II, Jay Macedo, program planning and education analyst and Greg Damron, health information specialist II, from left, stand outside their office in Santa Rosa. They, along with Carley Moore, senior health information specialist, Allison Berk, health information specialist II, and Ana Quintana, senior office assistant, are the Impact Sonoma team that works to prevent and combat underage vaping.

emphasize a clerk’s role in following the law.”

And while the role of the Sonoma County Health Services is to educate offenders, the county also enforces the law through more punitive measures with the Sheriff’s Office.

Consequences of selling to a minor can vary from a fine to suspension of license to charges for contributing to the delinquency of a minor, depending on the severity of the offense.

NEW CULTURE

The county is trying to create a culture where vaping does not have the sleek appeal that some advertisements suggest, similar to how the glamour of tobacco has been largely eliminated from today’s culture.

“We want to appeal to people’s own senses,” Voge said.

Vape products lack the negative qualities of traditional smoking, such as smell, harshness and coughing, though those are not eliminated. Still, it makes for a new challenge when trying to show the risks of vaping to people who tend to favor more risk-prone behavior.

But, even if someone decides to vape, the county still provides services. The county works with schools and students not only to prevent use, but to help with addiction when a student decides to quit.

At the Santa Rosa Junior College health center, students are asked specifically if they vape when they come in, and can be directed to cessation programs if they desire.

Voge said that people who successfully quit during smoking cessation programs can also serve as spokespeople for cessation.

FLAVOR BAN

Windsor has a special ordinance which further regulates vaping. The ordinance bans flavored vape pens as well as flavored juice for vape mods.

During a Windsor Wellness meeting in town, Greg Damron, health information specialist II with the county, came to talk about Windsor’s success with the ordinance.

“This was a major step forward,” Damron said of the ordinance, citing how flavored products have been shown to be more attractive to younger potential vapers.

Damron said that the county worked closely with the town to craft the ordinance.

According to Voge, Changelab Solutions and Center for Policy and Organizing are two institutions the county has drawn on for models for legislation, which it has shared with municipalities.

Damron said that strict regulation of vape products would not in his opinion raise the risk of a

vaping black market, as there is little room for profit and illegal purchases through traditional means, like using a fake ID, are still common.

Cloverdale also has a flavor ban on its tobacco products, which includes vaping. This does not include the flavor menthol, a traditional mint-like flavor which has been used in cigarettes for decades.

In addition, Cloverdale does not allow pharmacies to sell vaping products.

APARTMENTS AND HOTELS

Cloverdale, Sebastopol and Windsor do not allow vaping or smoking in multi-family complexes and Healdsburg has recently amended its ordinance to include this prohibition.

These regulations help protect youth from secondhand exposure, as they are especially susceptible to it and the rule accounts for the possibility of apartment complexes using common air-conditioning and heating ducts.

Healdsburg’s new update will now also ban smoking in all of its hotels.

In Sebastopol, vaping is allowed in up to 20% of hotels in the city, according to the municipal code. And a person may vape in a theater as part of the performance, so long as it is an integral part of the show.



# THE FACTS BEHIND THE FOG

By  
**Heather Bailey  
and Zoë Strickland**  
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In order to attempt to tackle the vast issue of underage vaping, we’ve compiled some information about how vaping works — studies that have been done on whether it’s safe, if it helps people quit, how individual devices work, as well as a glossary of terms that may prove useful when reading up on vaping.

### HOW IT WORKS

Devices used for vaping can vary in shape, size and power — and ultimately, in name. From hand-built mods to e-cigarettes to small, badge-shaped pods, keeping track of vaping and the devices used to do it can be difficult.

Though each device has differences and some, like mods, can be customized, they all contain the same primary operating components.

“Generally a vaping device consists of a mouthpiece, a battery, a cartridge for containing the e-liquid or e-juice and a heating component for the device that is powered by a battery,” reads an article from the Center on Addiction.

The battery then heats up the heating component, usually a coil with wicks or cotton, which helps create an aerosol, oftentimes referred to as “vape.”

Some devices also contain small control displays that enable the user to control the volts, watts and/or ohms released by the device. Changing the settings can increase or decrease the power output of the device, therefore changing the vapor cloud size or e-liquid flavor intensity.

Among the other ways vaping can be customized is the nicotine amount. While e-cigarettes and mods are often used by adults who want to quit smoking — you can purchase e-liquid with varying levels of nicotine and slowly work your way down to limited amounts — when it comes to younger people, vaping often works in the opposite direction, building them up rather than taking them down.

Electronic cigarettes like the Suorin Drop, SMOK Rolo Badge or traditional vape pens have refillable cartridges, where users can put in e-liquid that they’ve purchased. Other devices like Juul or PHIX have a pod system operation, where users buy pre-made pods that contain the flavor of their choosing. While premade pods come with set nicotine milligram amounts, e-liquid can vary based on how much nicotine is diluted in the mixture being bought.

“The original design of the devices was based on that. I get the nicotine, I get the sense of smoking but I’m stepping

down,” said Stacy Desideri, the principal of Windsor High School. WHS is currently working to try and combat student vaping. “The problem with that, with teenagers, is they don’t do the math and they often don’t know what’s in their device. They don’t check what they buy and what they use, so they think they are having a nicotine-free product, but then they borrow from a friend and may get a high nicotine dose.”

When it comes to the different devices that people, including teens, are using to vape, there’s been steady stream of different vaping vessels. Ariel Thomas-Urlik, health information specialist II with the Sonoma County Department of Health Services, said that she’s observed four different generations of electronic cigarettes: cigalikes, which look like traditional cigarettes but adopt an e-cig operating method and are meant to be more disposable; e-cigs, which introduced a rechargeable component; mods, which are easier to modify and began to utilize a tank system of storing liquid rather than a cartridge system; and pod-based devices, which have become more common, especially among younger people.

Since pod-based devices like the Suorin Drop or the SMOK Rolo Badge are small enough to fit in the palm of the user’s hand, they allow the user to be more discreet. Thomas-Urlik said that, when looking at students who vape, many of them favor pod-based vessels specifically because of how easy they are to use.

“They can be charged with a general USB cord, and they’re meant to be reused,” she said.

“Just in terms of devices, with youth especially ... being discreet is now the trend,” said Terese Voge, health program manager for the Sonoma County Department of Health Service’s public health division. When using mod devices was more popular, many people focused on how big you could get the aerosol cloud. “Now, kids are figuring out how to be more modest and zeroing out the aerosol.”

Both Voge and Thomas-Urlik mentioned that since devices can be charged with the same cord used to charge a phone, and since they come in smaller, quirkier shapes, parents oftentimes mistake vaping devices for other things, like highlighters.

Adding to the effort to be more discreet, zeroing out is a method of “stealth vaping” that has become popular. Zeroing out involves using different methods of inhalation to limit the amount of aerosol released from a drag off a

vaping device. Various websites devoted to vaping detail how to zero out, advising users to vary the lengths of their inhales and exhaling with pursed lips.

“This isn’t the same nicotine as what’s in a cigarette — it’s much more potent,” Voge said. “It’s very inviting with flavors, it doesn’t have a harsh smell, it doesn’t burn the throat.”

According to Desideri, she’s heard of similar issues popping up with people who vape THC rather than nicotine.

“At a seminar put on by the CHP, the officer said in the 80s when a person would smoke a joint, it had a 1% THC concentration, look at this label, it says, 93.6% THC,” Desideri said. “It’s like smoking 93 joints, so when we talk about smoking marijuana today we’re not talking about the same product that our generation or our parents’ generation may have interacted with ... 10 years ago you might have a student who was a little high, now they are getting frighteningly high, as in maybe they need medical intervention.”

One of the most challenging aspects of underage vaping, Voge said, is the fact that people start vaping before they fully understand the risks. What starts out as a fun flavor can escalate into an addiction.

“Now that this has been happening for a while ... when they go to try and stop using, it’s really challenging to quit. They get into a world they didn’t mean to get into,” Voge said.

### SAFER DOESN’T MEAN SAFE

Is vaping safer? The answer, frustratingly, is it depends. While the aerosol vapor has less of the harmful quantities and types of chemicals found in traditional cigarettes, that doesn’t make them harmless. They also have chemicals not found in traditional cigarettes.

Studies have found that vaping can cause mouth or throat irritation, nausea and coughing. Chemicals found in different vaping products have included formaldehyde and benzene.

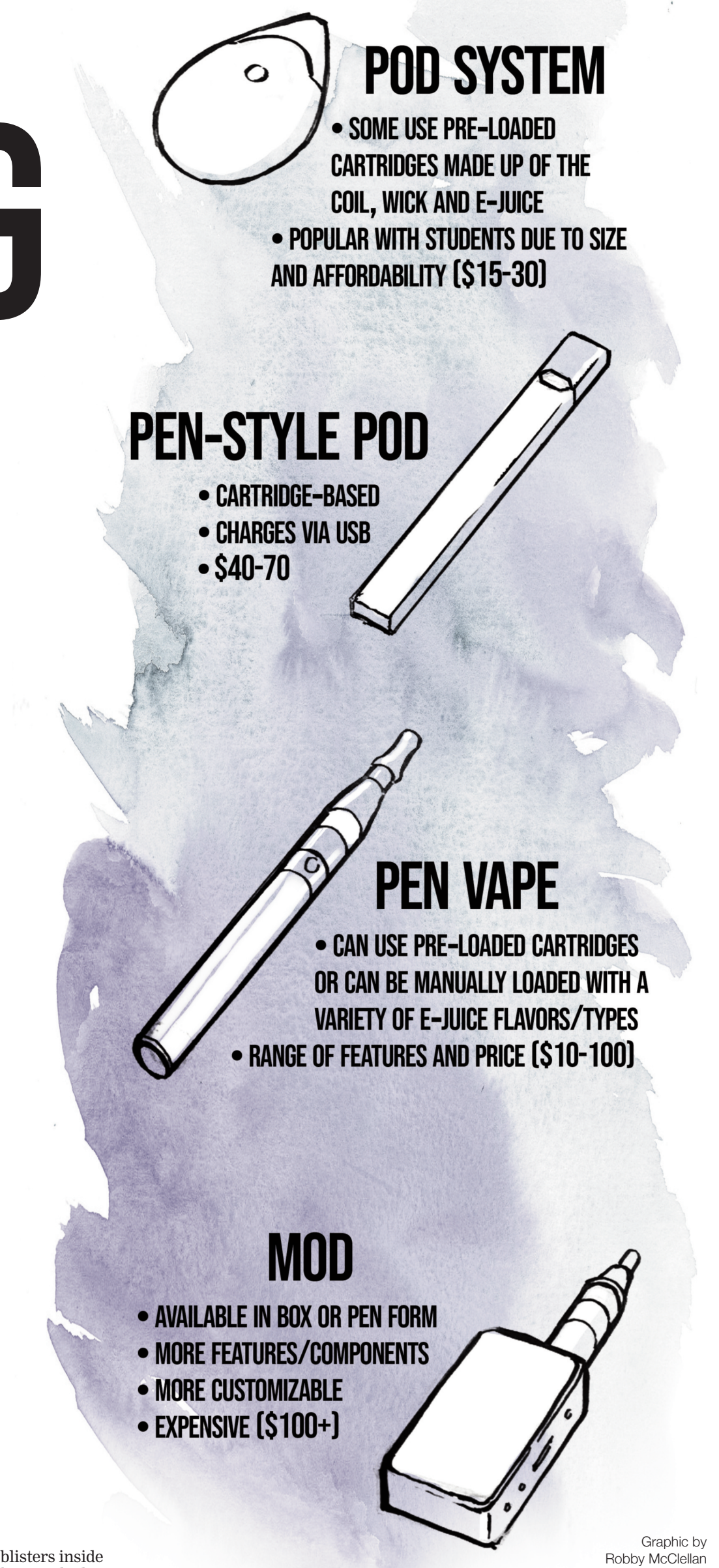
According to a study for National Center for Health Research (NCHR) by Brandel France de Bravo, MPH, Laura Gottschalk, Ph.D., John-Anthony Fraga and Jared Hirschfield, “a preliminary study presented at the 2018 annual meeting of the American Chemical Society found that vaping could damage DNA. The study examined the saliva of five adults before and after a 15-minute vaping session. The saliva had an increase in potentially dangerous chemicals, such as formaldehyde and acrolein. Acrolein has been proven to be associated with DNA damage, for example, and DNA damage can eventually cause cancer.”

A National Institutes of Health study on mice found an increase in the genetic mutations associated with lung and bladder cancer in animals exposed to the vapor.

It’s also, according to current research, not a known quantity yet, due the youth of the technology.

“Cancer takes years to develop, and e-cigarettes were only very recently introduced to the United States. It is almost impossible to determine if a product increases a person’s risk of cancer or not until the product has been around for at least 15 to 20 years,” said the NCHR study.

“We know cigarettes cause lung cancer, we know (chewing tobacco) carries an increased risk of mouth cancer,” said Desideri. “We know because we researched, we have long-term studies about the effects. We only have 10 years of research on these devices. They are seeing significant impacts in immune systems, mouth sores, popcorn lung, aspiration issues and



Graphic by  
Robby McClellan

blisters inside lungs. The long-term effects of the chemicals in these have not been studied and they just don’t know the effects of the inhalants like glycerin and the other chemicals they use for transport. They just don’t know and again, because vaping is safer, to (teens) it means safe, and that’s scary. Because it’s a big risk.”

There is also uncertainty as to whether vaping is safer for second-hand ingestors. A study published in the International Journal of Hygiene and Environmental Health found that the use of e-cigarettes results in increased concentrations of volatile organic compounds (VOCs) and airborne particles, both of which are potentially harmful when inhaled.

However, research also shows that the effect of these exposures is significantly greater for teen users. Multiple studies in the U.S. and abroad have shown the nicotine exposure is harmful to the developing brain of anyone under the age of 25, and has shown to interfere with both memory and attention processing.

“Exposing a developing brain to an addictive drug such as nicotine can potentially lead to permanent alterations in brain chemistry,” according to a study at the Mayo Clinic. “That can disrupt the growth of connections within the brain that control learning and attention. It also may make the brain more vulnerable to other forms of addiction in the future.”

There are also dangers to just handling the devices.

“I always wear gloves,” said Desideri. “The oils with nicotine are skin soluble, and I have had a moment or two when I’ve had to handle a device, and my skin gets tingly, and I know it’s getting into my system; and I never

know exactly what’s in it. It might be a high-octane nicotine, and I don’t ever want to take that risk, and I don’t want my staff to either. I insist we all wear gloves when do searches and when anyone forgets I give reminders. Every teacher has a box of gloves for protection,” she said.

She also had the experience of seeing the dangers and instability of the devices when she took her stash home on a weekend to clean them for demonstration purposes. She soaked the devices in soapy water for several hours and then put them outside on her unlit barbecue to dry, and several started to smoke and catch fire.

“I got very nervous and left them outside for 48 hours,” she said.

Finally, there are also increased risks to small children who may accidentally come into contact with vaping products. The liquid is highly concentrated, so absorbing it through the skin or swallowing it is far more likely to require an emergency room visit than eating or swallowing regular cigarettes. In 2012, less than 50 kids under the age of 6 were reported to poison control hotlines per month because of e-cigarettes. In 2015, that number had skyrocketed to about 200 children a month, almost half of which were under the age of 2.

And none of this addresses the simple fact that nicotine is a highly addictive compound, creating a high degree of dependency in the user, and damning teens who start vaping to a long-term struggle with addiction.

Studies show people who try vaping under the age of 18 are three-and-a-half times as likely to eventually end up smoking regular cigarettes.

The easiest way to quit is to not become addicted in the first place.

### DOES VAPING HELP YOU QUIT?

This is where the science gets complicated. Because the answer is both yes and no.

Some of the initial marketing of e-cigarettes touted their utility in smoking cessation. The idea was that if you were a current, regular smoker, you started with a high percentage of nicotine, and then stepped down over time so that eventually you were smoking nicotine-free juice. In addition to the non-cold-turkey approach, it also allowed smokers to indulge their oral fixation.

Studies performed comparing e-cigarette use to other smoking cessation products showed that it was nearly twice as likely to be effective.

According to a study by published in the New England Journal of Medicine, 900 people who wanted to quit smoking were randomly assigned either e-cigarettes or other nicotine replacement products (such as nicotine patches and gum). Study participants received additional counseling every week for four weeks. After a year, a measure of exhaled carbon monoxide confirmed who had in fact stopped smoking.

Researchers found that while approximately twice as many people assigned to vape had successfully stopped smoking as compared to the other methods, the number of people who had successfully stopped smoking was very small — in the vaping group, the number was around 18%, while in the other therapies group, the number was only 10%.

## VAPE GLOSSARY

### CLOUD

A vape “cloud” is the sometimes-large pool of aerosol that’s created when someone is vaping. Clouds are more prominent in modified devices. In recent years, cloud competitions, where people try to expel the largest cloud, have popped up around the world.

### JUICE, E-JUICE, E-LIQUID

All of these refer to the liquid or oil put into vaping devices. The liquid can contain nicotine, cannabis or in some case, be flavored and nicotine/cannabis-free. While the things that make up each liquid can vary depending on manufacturer, they oftentimes contain mixes of propylene glycol, water and additional substances such as cannabinoid oil or varying levels of nicotine. Some liquids can contain diacetyl, a compound that provides butter-flavoring and can cause “popcorn lung.”

### MOD

A mod, as the name suggests, is a modified vaping device. Mods are wholly customizable, and can be made by hand, with many of the pieces being available for purchase online. Where some vape pens create minimal vapor clouds, mods can be customized to release large clouds. They also can vary in appearance — from rectangular box mods to large-width vape pens.

### ZEROING OUT

Utilizing different methods of inhalation to limit the amount of aerosol released from a drag off a vaping device.



# TALES OF AN UNDERAGE VAPER

CONTINUED FROM COVER

A peek inside the mind of an underage vaper shows why vaping has become so pervasive, and so hard to combat

By  
Andrew Pardiac  
SONOMA WEST  
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**EDITOR’S NOTE**  
*The name of the story’s interviewee has been changed in order to protect her from self-incrimination and/or poor public perception.*

She initially chose cigarettes when she was 15, then switched to vaping from a “mod.” She started with cigarettes because she has a father and older brother who smoke, she said.

Hailey made the switch to vaping due to the stigma around cigarettes and their smoke, especially at work in the food service industry, where she interacted with the public on a regular basis.

“People were looking at me weird. Or your breath stinks or your shirt smells, or — I have a lot of hair — so your hair smells. I was just spraying myself with perfume all the time. It was almost embarrassing. I decided that vaping was the way to go ... even though it’s a nasty habit,” she said, with a quick laugh at her last comment.

While her smoking habit made her red in the face, she said that vaping is common enough among the high school population to not be so demonized. Even among youth, smoking and cannabis use are common enough to not make her an unusual case.

Hailey maintained the habit while she was younger by buying single cigarettes for around a quarter a piece off friends.

“Now, you can kind of get e-juice wherever,” she said.

She said getting it online was easy. Once she turned 18, she was able to find the local stores that would sell it to her.

Driving is one of the main reasons she keeps up the habit, commuting to her jobs every day is easier with it. For many people who smoke and vape, being in the car is an almost natural place to take a drag.

“In the car, I have it on my lap at all times,” she said. “It’s also a quick fix on my lunch break. Like, stress gone.”

Socially, she said vaping hadn’t really led her to making any new friends who also vape, but she does often have people come up to join her on her breaks.

“I feel like a lot of people will come to me and be like, ‘Hey, can I have a cigarette?’ Or, ‘Hey, can we smoke together? Hey, let’s vape together.’ Even though it’s not a big deal. Like vaping is not even the hugest deal but people will still ask. And it’s like, ‘If you want,’” she said.

**CLOUDY CULTURE**

There is a part of vaping that is focused on the large, billowing clouds exhaled, which can be much thicker than cigarette smoke and heavy enough to roll across surfaces like tabletops when indoors. Some have even turned this “clouding” into competitions.

In order to make such large clouds, mods need to be used as opposed to vape pens, as a large amount of juice put into a mod can be aerosolized at a fast enough rate to create the look.

“When I used to smoke cigarettes, it was no big deal how big your cloud was,” Hailey said. “Then I got a small vape and I see all these people with big vapes and I said, ‘I’m going to get me one of those.’”

She said the mods themselves look cool in addition to the large clouds put out. She said that advertisements influenced her viewpoint,

as they use sex appeal associated with the mod products.

The new, stylized vape products like those that resemble guitar picks or flash drives “look silly” to Hailey and they can be very expensive. Though that high price point can also be a point of pride.

“It’s just another thing, like you want to have the coolest clothes, you want to have the coolest car,” she said.

**PRICE TO PAY**

Acquiring a mod and continuously buying juice for it is not cheap, according to Hailey.

“I spent about like \$95 on the bottom, \$45 on the top and then it’s about \$50 for two 60 milligram bottles and I do two 60 mill bottles a week in juice,” she said. “A few hundred dollars a month.”

Like many who vape, Hailey enjoys the flavors offered in the many juices.

“I’m obsessed with strawberry pucker. There’s so many different ones. There’s mango, there’s unicorn stuff now, it’s crazy. And people are like, ‘I want to try that now, just because,’” she said. “I think that’s another reason why people vape. There’s so many flavors and so many options.”

She said she prefers just buying vape juice as it is easier, but has also tried her friends’ concoctions made at home and said she hasn’t had any bad experiences with those, either.

Vaping is much smoother as well, she said, as opposed to cigarettes. She also said that the juice she vapes isn’t as strong as a cigarettes in terms of nicotine concentration.

**LEARNING CURVE**

Preventative education on vaping wasn’t much of a focus when she went to school, she said. She said she’s heard it’s changed in the last year but when she went, the focus was more on cigarettes.

“They teach you, that’s bad, that can kill you, show you all these lung cancer things like that,” she said.

When she started, she said that the fact it is against the law had no influence on her decision making.

As far as education outreach beyond the school system, she said it hasn’t caught her attention. What she has noticed are the many forms of advertisements for the products.

“I’ve seen advertisements, but nothing in the opposite direction,” she said.

She said she hasn’t seen any negative health effects over the two-plus years she’s vaped.

“I don’t see it as much of a health issue at all. I mean I guess when I’m like 60 years old it

could influence me. I have a grandparent who smoked all her life and now she cannot eat a meal without smoking afterwards, or like, take a walk without smoking. But I don’t see myself going in that direction, or I just don’t care about when I’m 60,” she said.

She did say that it’s unlikely that she will ever go back to smoking, which is the fear of many working to prevent underage vaping.

“It’s not that I have to much against smoking cigarettes but I just don’t like the way people look at you,” she said.

“I’ve asked my friends, ‘Are you addicted? Do you think you’re addicted?’ Because I was wondering for myself. I asked them, ‘Do you think I’m addicted?’”

**CAN’T STOP?**

The path to addiction can be unclear for young people just starting down the path.

“I’ve asked my friends, ‘Are you addicted? Do you think you’re addicted?’ Because I was wondering for myself. I asked them, ‘Do you think I’m addicted?’” Hailey said. “Most of them said, ‘No, I can quite at any time.’ They just like it.”

She said seeing addiction is more about whether health effects happen at an early age. If she get into her 20s and starts having respiratory problems, she said she’s done with it.

“Since I don’t see any bad things about it, I’m like, whatever,” she said.

Hailey said she probably wouldn’t go back in time and tell herself not to start vaping, though she would go back and not start smoking. Since smoking led to vaping for Hailey, that could have the butterfly effect of her never vaping, she supposed.



IT’S TIME TO HAVE A CONVERSATION ABOUT VAPING.

Statistics show an alarming number of young people are becoming addicted to nicotine through vaping. They think it’s cool and harmless, and don’t grasp that safer doesn’t mean safe. It’s time to tackle this public health epidemic as the community crisis it really is. News reports and anti-vaping school programs are a start, but more is needed. Join us in working on a way forward.

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THURSDAY, MAY 2 HEALDSBURG HIGH SCHOOL CAFETERIA 6:30 TO 8:30 P.M.	WEDNESDAY, MAY 22 ANALY HIGH SCHOOL LIBRARY 6:30 TO 8:30 P.M.
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**Panelists & Speakers:**  
Terese Voge, Impact Sonoma (Tobacco/Nicotine Prevention)  
Dr. David Anderson, M.D. (retired)  
Stacy Desideri, Principal, Windsor High School  
Andrew Pardiac, Managing Editor, Sonoma West Publishers  
Shauna Ferdinandson, Anal High School administrator  
Cameron Olson, WHS student

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West County Union High School District

### NATIONAL ANTI-VAPING CURRICULA

#### THE TOBACCO PREVENTION TOOLKIT

The Tobacco Prevention Toolkit, created by Stanford Medicine, is an online educational tool for middle and high school students, designed to prevent them from using tobacco and nicotine products. The kit provides basic information about the dangers of tobacco use, including vaping, and seeks to increase students’ awareness of marketing strategies that manufacturers employ to increase use among adolescents. Contains downloadable and customizable PowerPoints, worksheets and activities. It can also be used to help schoolteachers and administrators develop and set new school policies. The program is free.

#### CATCH MY BREATH

CATCH My Breath is an e-cigarette and JUUL prevention program for middle and high school students developed by The University of Texas (Houston) School of Public Health. The program includes an online curriculum, teacher resources and evaluation tools, parent materials, printable posters and implementation support. It was designed for students age 11 to 18. There are four lessons for each grade. This program is free. ”

#### ASPIRE

ASPIRE is a bilingual, online learning tool, in the form of a game, that helps middle and high school teens learn about being tobacco free. Students work their way through several levels of the game, taking quizzes at each level, to complete the program. It was funded by the MD Anderson Cancer Center. This program is free.

#### PROJECT ALERT

Developed by the Rand Corporation, this program folds tobacco prevention into a broader drug prevention curriculum. The core program consists of 11 weekly lessons for the core year, consisting of lesson plans, videos and handouts, and three booster lessons for the next year. A digital version of Project ALERT is available online free of charge.

#### PROJECT TOWARDS NO DRUG ABUSE (TND)

Developed by researchers at the University of Southern California, Project TND includes 12 classroom-based sessions for ages 14 to 19 years old. Each session is 40 to 50 minutes in length and includes a review of the previous session, a primary activity and a review of the activity. Students play the TND Game, in which teams of students compete for points by answering questions about the curriculum material. Classroom sessions use the Socratic method, classroom discussions, skill demonstrations, role-playing and psychodrama techniques. Materials include a teacher’s manual (\$90) and student workbooks (\$50) for each student. Recommended teacher training to implement the program is \$1,200 to \$1,900.



# PUFF, PUFF, VAPE

Teens discover the advantages of scentless cannabis vaping

By  
E. I. Hillin  
SONOMA WEST  
PUBLISHERS STAFF

It's a distinctive smell. Some describe it as skunky, others pick up an earthier tone. Whatever the scent associated with marijuana once was, times are a changin'. In the age of vaping, the act of heating a liquid which generates an aerosol, or "vapor" inhaled by the user, cannabis fans have found a way to ingest weed without the distinguishing smell that turns heads all the way down the block. For adults, vaping can be a discreet way of getting high, but for teenagers it can make smoking weed a whole lot easier to get away with. The trend is catching the attention of big tobacco, high school administrators, health institutions and teenagers across the United States. A report by the California Department of Public Health shows more than a quarter of California high school students who have used an electronic smoking device or vape used it with some form of cannabis.

WHY VAPE OVER SMOKE?

While the days of smoking cannabis flower, or the typical weed found in a joint or bong, are not over, there is a definite difference in the ways of ingesting cannabis today. Eli Melrod is the chief executive officer at Solful, a Sebastopol cannabis dispensary focused on quality of product. He said vaping is an ongoing, everyday part of conversation in the cannabis world.

"Everybody has heard of vaping, but a lot of people don't know what it is," he said. "It's like this elusive thing." While visiting community organizations and talking about cannabis, Melrod breaks down vaping on a basic level. "By definition vaping is essentially heating the flower or the oil to a temperature where it activates the cannabinoids and the terpenes and turns them into a vapor without actually combusting," he said. Vaping can be a better option for adults who want to use inhalation as the cannabis delivery method. When smoking a joint or using a pipe to inhale cannabis Melrod said, "you're getting burnt plant matter in addition to the cannabinoids and all the things you want to ingest and so for some people if they have compromised immune systems, it can be irritating or unpleasant." Following a national trend, Solful has seen an explosion in vaping product sales. Melrod said when Solful opened in 2017 about 35% of sales were cannabis flower and 20% were vape cartridges. "We now sale 25% vape cartridges and 25% flower," he said. "One out of every four dollars spent at Solful is on vape cartridges." The vape cartridges hold cannabis concentrates. In plain terms it can be viewed as liquid weed or a concentrated form of the cannabis flower. "You're essentially taking the flower and amplifying it," Melrod said.



Photo E.I. Hillin

**CANNABIS CARTRIDGES** — Vaping cartridges like the ones pictured here can be found at Solful, a cannabis dispensary in Sebastopol. Each vape cartridge contains different amounts of THC and can also contain different strains of cannabis, like indica or sativa. The content of the vape liquid determines the impact, which can result in a range of feelings like euphoria, relaxation or focus.

The liquid form leads to other perceived advantages of vaping, a swift response time and high potency. Melrod said vaping cannabis allows for a quick onset. "The minute you take a puff you feel differently whether that's a psychoactive effect or your using CBD for anxiety or pain relief," he said.

THE UNKNOWN RISKS

Cannabis concentrate is legal for all adults in the state of California and the products sold at Solful fall under strict regulations. Each product comes with a list of ingredients and percentages of content on the outer packaging. "At Solful we are really committed to knowing what we are selling, everything is pure and clean," Melrod said. In order for teenagers to get their hands on cannabis concentrates, they must find other ways. Melrod said that is where things can get dicey. "You've got to be really careful, particularly with the vape oils," he said. "There are many products on the market where they are cutting it with things like polyglycol, propylene glycol, glycerin, things that really have not been researched or approved." A common way of getting cannabis concentrate is purchasing online. The unregulated market can mean there is no way to tell what is in the concentrate.

Reports from the California Department of Public Health show that researchers do not fully understand how using cannabis oils in vapes affects health. A potential risk when ingesting unregulated vape oils comes with the unknown amount of THC, the cannabis ingredient responsible for psychoactive effects such as anxiety and paranoia. Another danger can be in adding smells to the vapor. Flavored vape oils are a popular product. Adding fruity or candy smells may make for a pleasant aroma, but the health consequences are not known. "We don't know the health impacts when you take flavoring like that and smoke it," Melrod said.

CANNABIS OVER TOBACCO

As with the generations before them, teenagers continue to be one step ahead of adults on finding new ways to bend the rules. According to statistics, the addition of electronic smoking devices like vapes does not seem to be causing an increase in cannabis use among teens. A California Department of Health report stated most teenagers are not using cannabis. The 2016 report showed only 15% of students used cannabis in the last 30 days. However, the same report showed more than 64% of California high school students who had both tried cannabis and smoking tobacco cigarettes said they had tried marijuana first.

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# VAPING POSES GRAVE WORRY FOR PEDIATRICIANS

Chemicals may pose short and long-term health consequences for teens

By  
**Katherine Minkiewicz**  
SONOMA WEST  
PUBLISHERS STAFF

To some middle school and older elementary school aged children vaping, which produces an aerosol from a heated and flavored nicotine liquid may seem like a harmless and fun thing to do with friends, however, the reality of vaping paints a dangerous picture.

The California Healthy Kids survey found that vaping has increased by almost double in the last two years and pediatricians are worried about the short- and long-term effects that vaping can pose. However, the most concerning aspect with children taking up the vape pen is the toxic cocktail of chemicals that can cause serious health risks and affect developing minds and bodies.

E-juices or liquid used in a vape pipe or tank are often disguised with a sweet flavor such as cotton candy, yet underneath the mask lies a toxic soup of the same chemicals found in antifreeze and even in laxatives.

“The solutions in the vapor contain antifreeze, carcinogens that can cause cancer and nicotine, which can become addictive. In a developing brain, it is more harmful than it is to adults,” said Shannon Udovic-Constant, a Kaiser Permanente pediatrician and vice chairperson of the California Medical Association board.

The human brain keeps developing until age 25 and according to the Centers for Disease Control and Prevention, using nicotine in adolescence can harm parts of the brain that control attention, control, learning, mood and impulse control. It can also affect the way memory or skill synapses are formed in the developing brain.

Other materials found in e-juices include glycerol, diacetyl and formaldehyde, according to Brian Ng, Kaiser pediatrician and a member of the Tobacco Regional Task Force for the Bay Area.

Not only used in vaping liquid, these three compounds are found in explosives, laxatives, household products and building supplies.

Other major health risks include heart and lung disease and cancer.

Udovic-Constant and Ng added that vaping as a gateway to smoking regular cigarettes is also a major area of concern and is an added health risk.

“Every study that I’ve seen of adults who

are smokers say they started smoking under the age of 18. It creates a dependency,” Udovic-Constant said.

**SHORT- AND LONG-TERM EFFECTS**

While studies are still being conducted on the long-term effects of vaping, there are a few short-term effects that are also cause for worry.

“Chemical inhalation can affect everyone differently, there is so much variability. But short-term effects can include coughing, shortness of breath and other respiratory symptoms,” Ng said.

According to Dr. Karen Holbrook, interim health officer with Sonoma County, short-term effects may also affect heart rate.

“Some devices make nicotine more concentrated and it can increase heart rate and blood pressure,” she said. “Kids sometimes will talk about having a ‘head rush’-like experience.”

E-cigarette batteries can also explode, resulting in burns from explosions or fires.

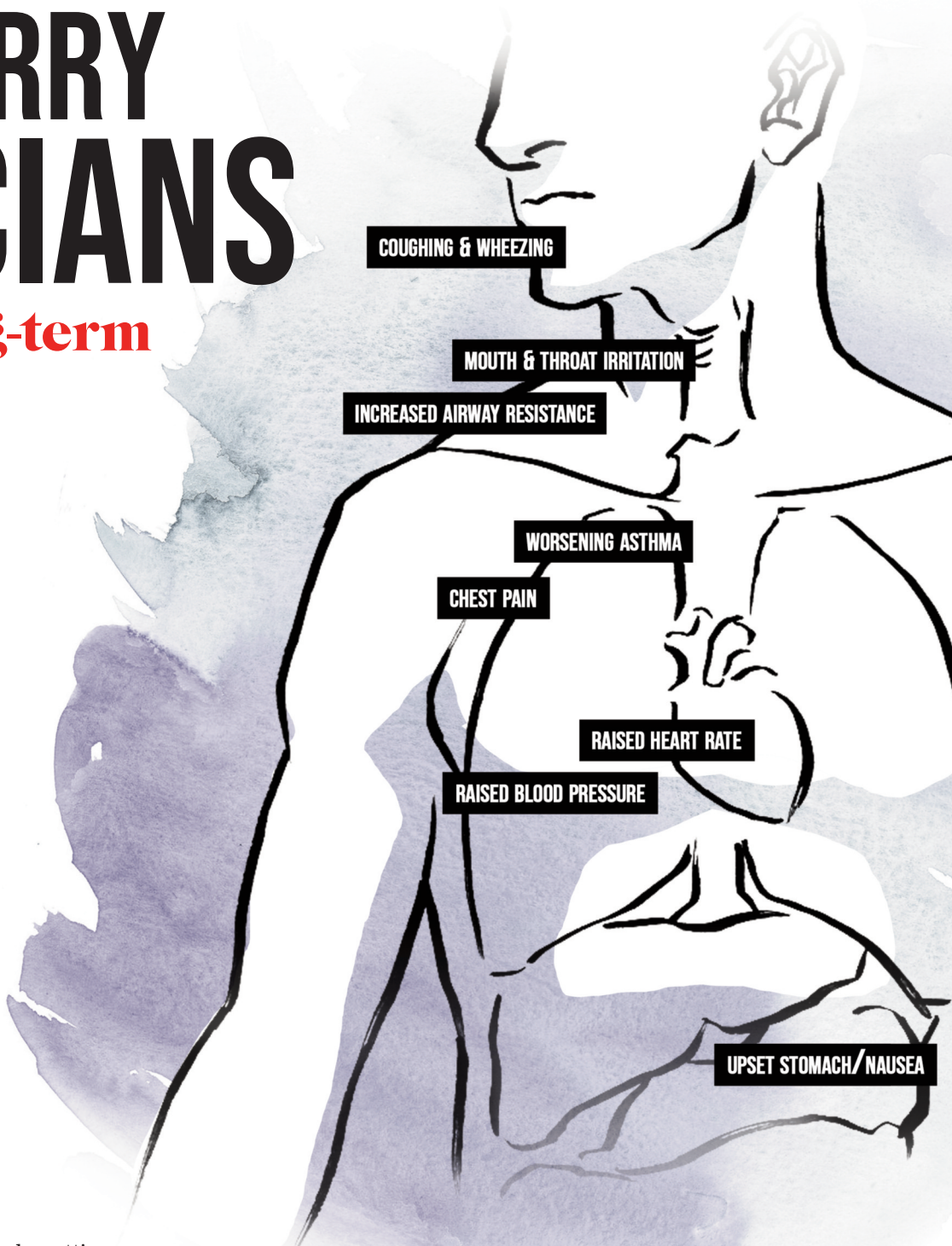
In 2016, a 15-year-old Windsor boy lost around half a dozen teeth when his modified vape pen exploded in his mouth. According to fire prevention officials, his teeth fell out of his mouth with the braces still intact and he received cuts to his lip and tongue. The boy was later referred to an oral surgeon after being taken to the Santa Rosa Kaiser Medical Center.

In regard to long-term effects Ng said, “There aren’t many studies that we look at right now that show long-term effects. There is so much variability so it is hard to get an idea. The verdict is still out there.”

While a 2018 National Academy of Medicine report found some evidence that e-cigarette use can increase frequency and the amount of cigarette smoking in the future, Ng said the topic is still on the mind of doctors, parents and educators.

Some ingredients in e-cigarettes may also be harmful to the lungs in the long term, the CDC reports “For example, some e-cigarette flavorings may be safe to eat but not to inhale because the gut can process more substances than the lungs.”

“It seems to be that more and more kids are using it and as a pediatrician it does make me worried in terms of what effects they may



Graphic by Robby McClellan

be setting themselves up for in their future,” Ng said.

So how do kids get involved with vaping? Both Ng and Udovic-Constant believe a large part of the answer lies in how tobacco companies target youth.

“If you look at some brands like Juul, in my opinion, they target youth with certain flavors. Kids can also see their peers doing it and they may try it as well,” he said. “Kids may also start since they think it is safe and that it is just ‘vapors.’”

Data from the National Youth Tobacco Survey (NYTS), a school-based questionnaire given to U.S. middle school (grades six to eight) and high school (grades nine to 12) students, found that during 2011 and 2012 students in grades six to 12 had an e-cigarette use increase from 3.3% to 6.8%.

The national youth survey also found that in 2018 nearly 21% of high school students and 5% of middle schoolers said they used an e-cigarette in the past five months.

Udovic-Constant pointed out that this is a 78% increase from 2017.

She added as a pediatrician, one of her goals is prevention of toxic habits such as vaping. For her, vaping is an urgent matter

that she said both her patients and their parents should be aware of.

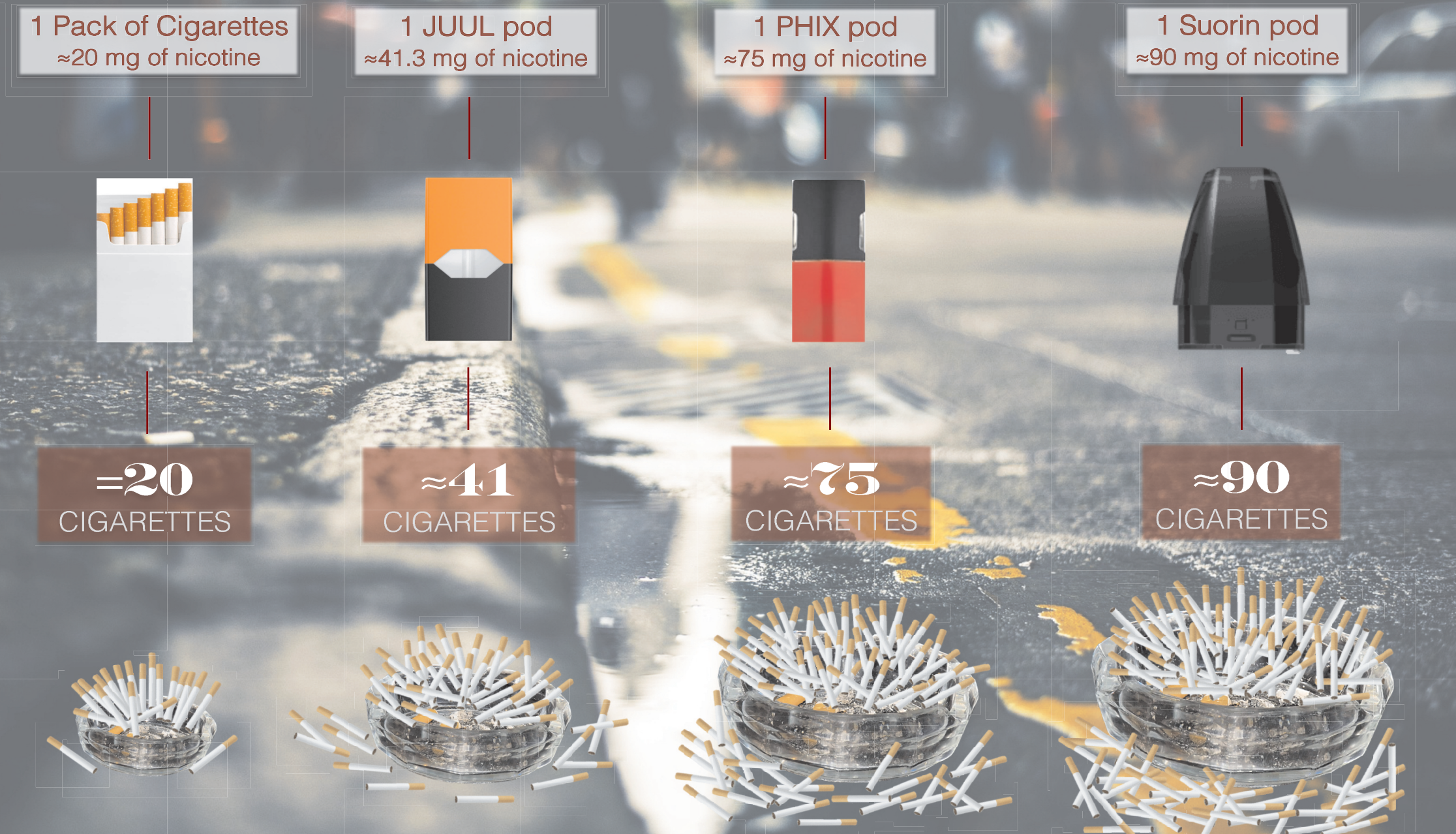
“I also have two kids, a 12-year-old daughter and a 15-year-old son and their middle school and high school is definitely sending information about it, so I am getting (the concerns) from a professional and a personal standpoint ... And I feel that this is becoming quite urgent.”

Sonoma County data from the California Healthy Kids Survey shows overall that 26.5% of 11th graders had used an e-cigarette in the past 30 days, with 21.7% of ninth graders reporting use within 30 days and 7.3% of seventh graders reporting use.

Terese Voge, health program manager of Impact Sonoma, said of the situation, “It’s sad to think that as a society we were really closing in on youth tobacco use, meaning rates for tobacco use were on the decline year-after-year, but then vaping came along. Now, for the first time in years, we’re seeing a rise in overall tobacco use ... and that’s all due to vaping.”

## HOW MANY CIGARETTES ARE IN A POD?

tobaccopreventiontoolkit.stanford.edu



**EQUIVALENCIES** — To get these figures, Stanford used the maximum amount of nicotine available for Juul pods (5%) and a 4.5% nicotine by weight e-juice for the Suorin pod; PHIX pods are sold with 5% nicotine by weight.

Graphic courtesy Stanford Medicine



# HIGH SCHOOLS WRESTLE WITH VAPING

## Districts struggle to find the most effective deterrents

By  
**Laura Hagar Rush**  
SONOMA WEST  
PUBLISHERS STAFF

High schools have traditionally been the first line of defense for public health campaigns affecting teens, but the sudden rise in teen vaping — up more than 30% in the last two years in Sonoma County — has left many local high schools struggling to respond.

“The rise of vaping really took people by surprise,” said Terese Voge, health program manager for the Sonoma County Department of Health Services’ Department of Alcohol, Tobacco and Drug Prevention. “Smoking had been going down, down, down and it looked like we were really winning that battle, then suddenly, vaping started going up, up, up.”

In 1965, California had more smokers per capita than any other state, but 50 years of aggressive anti-smoking campaigns and legislation drove the number of teen smokers from 28% in 1976 to just 5.4% in 2016. Traditional cigarette smoking among teens continues to drop, but vaping has risen so steeply that it’s threatening to reverse this hard-won pro. “Vaping is our No. 1 disciplinary issue,” said Bill Halliday, principal at Healdsburg High School, “more than social media bullying, more than marijuana use, more than any other issue on our campus.”

And Healdsburg isn’t alone: “It’s just rampant everywhere,” Voge said.

The Healthy Kids Survey looks at health behaviors in school districts throughout California, including the use of e-cigarettes.

- In Windsor Unified School District, the rate of 11th graders who reported vaping at least once in the last month climbed from 18% in 2016 to 31% in 2018.
- In West Sonoma County Union High School District, that number leapt from 19% in 2016 to 31% in 2018.
- Cloverdale doesn’t have data for 2016, but the percentage of 11th graders who reported vaping at least once in the last month was 25% in 2018.
- Healdsburg is the outlier. Vaping numbers among 11th graders actually went down, moving from 19% in 2016 to 16% in 2018. But it’s full steam ahead in the younger grades, jumping from 15% of ninth graders to 24% in 2018.

These are self-reported numbers, and many local experts — public health officials, school administrators and students themselves — say these numbers radically underestimate the true rate of teen vaping.

**Can schools prevent vaping?**

Most high schools have a single, state-mandated health class that deals with an array of issues, including alcohol, tobacco and drug use. This class is usually taught in the ninth grade as a way of inoculating students against some of the dangers they’ll face in their high school years. School districts in Healdsburg, Windsor, Cloverdale and west county have all added vaping education to their health class.

At El Molino High School in Forestville, a local parents group has been working with principal Matt Dunkle to do even more.

“We have education in our ninth-grade health class around the effects of vaping,” Dunkle said. “We’re still working on rolling out a program in the 10th, 11th and 12th grades to have vaping education across all four grade levels. Part of what we deal with is the structure of the day and how we can get those courses to happen.”

Officials at all of the high schools in this article say they are also looking at several national curricula about vaping, including Stanford University’s Tobacco Prevention Toolkit and others (see sidebar on page 4). As usual, school officials say providing these programs for the broader student body is a matter of time and money.

**A LITTLE HELP FROM THE JUSTICE DEPARTMENT**

At the end of 2018, West Sonoma County Union High School District (WSCUHS) won a \$760,483 grant from the California Department of Justice’s Tobacco Grant Program, which is funded by the California Healthcare, Research and Prevention Tax Act of 2016 (Proposition 56).

Proposition 56 increased taxes on cigarettes and other tobacco products by \$2 starting in April 2017. The funds generated by this tax go to support tobacco education and suppression programs, particularly those aimed at young smokers.

WSCUHS, which applied for the grant in cooperation with the Sebastopol Police Department and the Sonoma County Sheriff’s Department, will use the money to hire a full-time school resource officer (i.e., a police officer) to conduct tobacco and drug enforcement operations and do drug education at the district’s three campuses: Analy High School and Laguna High School in Sebastopol and El Molino High School in Forestville.

The school district will also use the funds to install tobacco and vape detectors in all the bathrooms throughout the schools, as well as updated signs regarding tobacco-related regulations on school campuses in both English and in Spanish.

Windsor, Healdsburg, Cloverdale and Rancho Cotate high schools are working together to submit an application for this same grant this year.

**VAPE DETECTORS: CATCHING THEM IN THE ACT**

Cloverdale Unified High School District isn’t waiting for a grant from the state. In February of this year, the district voted to use its own money to install vape detectors at two schools: Cloverdale High School and Washington School, a middle school with grades 5 through 8.

“The most common places that students vape are in the bathrooms and in the locker rooms,” Cloverdale Vice Principal Steve Stewart said, and that’s where the detectors have been installed.

The vape detectors, manufactured by Soter Technologies, can detect both smoke and certain chemicals in the air that are associated with vaping. (It can also detect the sounds of bullying.) When the devices detect something, they send a text message to Stewart’s and other administrators’ cell phones.

“The vape detectors were installed during spring break last month,” Stewart said. “When they were first installed, our phones were pinging every few minutes, but when we went to investigate we didn’t find anything, so we’re troubleshooting that with the company right now.”

**“Vaping marries the two things that teenagers love best: risky behavior and cute technology.”**

**STACY DESIDERI  
PRINCIPAL, WINDSOR HIGH SCHOOL**

All the other district and school officials in this article plan to install vape detectors on their campuses as well, when funding becomes available. Superintendent Toni Beal said WSCUHS has already used some of its grant money to order vape detectors for Analy, El Molino and Laguna high schools.

Not everyone is a fan of vape detectors, however.

Voge said vape detectors are, at best, a partial solution.

“You can add more and more vaping detectors, but that’s not going to get to the root of the problem,” she said.

Halliday agrees: “Vaping detectors in the bathroom are a very reactionary tool,” he said. “You’re just catching kids who’ve already made the bad decision. It would be nice if we had more models to help kids make better decisions before they get caught.”

**WHAT HAPPENS WHEN A STUDENT GETS CAUGHT VAPING AT SCHOOL?**

When vaping first became an issue in high schools, the tendency was to treat it like cigarette smoking on campus — as a disciplinary issue, punishable by detention or a short suspension. But as the number of vaping incidents rose, it became clear to many local administrators that a different approach was necessary. Now administrators



Photos Heather Bailey

**CONTRABAND** — Windsor High School principal Stacy Desideri sorts through the many confiscated vape products in her office. Desideri, like many combating underage vaping, believes better education is the best route to preventing teen addiction.

around the county are using a mix of techniques — some punitive and some treatment-based.

“A student’s first infraction with vaping, for possession, results in parent notification, suspension diversion (usually a writing assignment on the issue) and a referral to our Drug, Alcohol Prevention & Intervention (DAPI) counselor,” Analy High School principal Raul Guerrero wrote in an email. “For subsequent offences, the number of suspension days could be increased and could include a probationary period.”

WSCUHS superintendent Toni Beal added in a separate email that “As an administrative team, we are now integrating restorative measures as an integral part of our discipline system. We will be increasing counseling and support services for both students and families focused on addressing vaping and other drug and alcohol issues.”

Regarding the policy at Healdsburg High School, Halliday said, “If a student gets caught with a nicotine vape, we have detention and community service. We contact the parent, and we confiscate the device, which we throw away along with any materials. We also have some educational support materials that we give the student when we talk to them about it.”

Cloverdale also takes a multipronged approach: “For a first offense, we talk to them about why they do it on campus,” said Steve Stewart, “and we refer them to Team Success, a group of counselors that we contract with through the Sonoma County Department of Health Services.”

“For multiple offenses, we hold them accountable with a behavior contract and a suspension of one to three days (each case is different). We contact parents, and we have a reentry meeting with students and their families, where they sign a contract, that looks at a whole array of things that can make them more successful at CHS — not vaping is a major part of that — but it’s not the only part.”

**WINDSOR HIGH SCHOOL TAKES A HOLISTIC APPROACH**

Windsor High School principal Stacy Desideri has an entire drawer of e-cigarettes (Juuls, Suorins and other brands) that she has confiscated from students.

She’s not surprised that vaping has become as popular as it is.

“Vaping marries the two things that teenagers love best: risky behavior and cute technology,” she said.

Desideri said she has a long-term goal in mind when dealing with students who’ve been caught vaping at school.

“If you stick to the punitive model, what you’re going to see is that students will learn very quickly not to do this at school,” she said, “but what we really want is for them to stop vaping altogether because of its toll on the human body, its toll on families and its toll on society. For me, it’s not about not doing it at



school; it’s bigger than that.”

Desideri said she continues to be alarmed by how little both students and their families know about the dangers of vaping — about the effect of nicotine on the body, the risk of addiction and the likelihood that students who start out vaping will eventually turn into cigarette smokers.

“Students hear that vaping is safer than cigarettes, and in their minds, they just drop the ‘r’ and think it’s safe,” she said. “They don’t realize that (depending on the percentage of nicotine in the vape) if you take three hits off a vaping device, you’ve ingested the same amount of nicotine that’s in three cigarettes. With that kind of timeline, you can see how addiction happens very quickly.”

In dealing with students who’ve been caught vaping at school, Desideri said Windsor High puts the emphasis on education.

“For a first offense for a child who is not in trouble in other ways, we tend to give attention and education,” she said.

Students who’ve been caught more than once may get a detention or an in-school suspension, but they also get mandatory vaping education as a part of these measures.

“We’ve begun using a program called ASPIRE,” Desideri said. One of several national vaping curricula, ASPIRE is a bilingual online learning game that immerses the student in the imaginary world of Cigarette City — a surreal hellscape that the game calls “the tobacco capital of the future.”

“It’s not something that takes a half hour,” she said. “It takes several hours to work your way through all the levels. I give students two weeks to complete the game, and I ask them to share it with their parents.”

In addition, Desideri said some students at the high school are organizing to help fellow students beat their nicotine addiction.

“A group of students who are part of our pre-med core, which is students who are interested in medicine or in becoming first responders, began a research project, looking at the Healthy Kids data and the problems that kids face today, and they tried to come up with teen-generated solutions.”

“They’re proposing a peer

mentorship to support students who are trying to break the cycle of tobacco addiction, which is really hard. They’re basing this on the model of Alcoholics Anonymous, where people who are trying to break their addiction have a partner or a sponsor. The idea is that we’ll have a core of students trained by the county to act as sponsors and help their fellow students beat their addiction.”

The problem, according to Desideri, is that most students who get caught vaping at school don’t see vaping as an addiction, and, for the most part, they’re not interested in quitting.

“They say, ‘I only do it because it’s fun. I don’t need your help.’ They see it as recreational,” she said. “I’m hearing a lot of ignorance about addiction. They say they’re not addicted, and yet they can’t make it through lunch without a hit.”

Desideri tries to explain the issue to her students this way:

“I talk about use, abuse and addiction. By my definition, use is someone who does it once in a while. They don’t own anything (like a Juul) and it’s not causing any harm or conflict in their life. Abuse is a person who is using more regularly, and it’s causing some harm in their life — they’re fighting with parents, they’re in trouble at school over it, they’re losing sleep, or having to do extra chores. Addiction is when it’s causing harm in your life and you’re not choosing to walk away from it. For some students, this gets through to them. But not everyone.”

**LOOKING FORWARD**

Unsurprisingly, school administrators like Desideri say education — for students, parents and community members — is key to ending the vaping epidemic.

“The more we can educate our community about what this is, what it looks like and what’s at stake, the better we’re going to be able to fight this thing. One of our biggest challenges is it is so new that that awareness, recognition and understanding just doesn’t exist yet.”

According to Voge, the stakes couldn’t be higher.

“Kids who vape — they’re the next generation of smokers. It’s really sad,” she said.



# ASPIRING TO BE TOBACCO-FREE

## School district uses gameplay as alternative approach to discipline

By  
**Zoë Strickland**  
SONOMA WEST  
PUBLISHERS STAFF

Imagine that you're sitting with a friend, they're vaping, and suddenly they start to choke on the aerosol they're inhaling. In an effort to save them, you go through a door that transports you to "smoke city," an alternate reality where tobacco rules. From there, you have to complete a series of tasks and tests in order to find your friend, who's still having a negative reaction to the vape. That's the premise of ASPIRE (A Smoking Prevention Interactive Experience), a game developed to help educate young people on the impacts of tobacco and nicotine.

ASPIRE was developed by The University of Texas' MD Anderson Cancer Center, and though it isn't vaping-specific, the game tackles different kinds of tobacco and nicotine use — ranging from traditional cigarettes to vaping devices to hookah.

"ASPIRE is being used by youth ages 13 to 18 in 41 states across the U.S.," said Giselle Montest, program manager of the department of behavioral sciences for the University of Texas' MD Anderson Cancer Center. "Since January 2018, 31,376 have used the program with over 70 memorandum of understanding (MOU) agreements signed by several schools, districts and community organizations that work with adolescents."

One of those is the Windsor Unified School District.

In Windsor, the program is available to students at Cali Calmecac, Windsor Middle School and Windsor High School. For WHS principal Stacy Desideri, the game is appealing because it demands more attention from students than other potential disciplinary action.

"So many of our responses are disciplinary and short term in response. If you're going to make a change that's going to impact something as challenging as nicotine addiction, a one-day consequence isn't going to have an impact," she said. "We've been wondering what sort of strategies could we do to have students do some sort of long-time commitment to change."

One strategy involves giving them a chance to play through ASPIRE.

"It would be challenging to complete in one session," Desideri said. As part of the gameplay, ASPIRE has you watch some short informational videos and interact with the game. To ensure that players are paying attention, players have to take quizzes before they can advance to the next level.

"You can't just turn it on and watch some videos, or turn it on and play Candy Crush. You have to interact with it," she continued. "(Students) actually have to commit over an extended period of time to thinking about what is the harm if I bring this into my life. I think this game has some potential because they don't always see vaping as harmful."

While ASPIRE is used in Windsor as a disciplinary program, the creator of the game said that his goal is to reduce smoking initiation as a whole.

"What we're fighting here is addiction," ASPIRE creator Dr. Alexandrew Prokhorov said. "We see hookah, e-cigarette ... use as an addiction."

Prokhorov added that many of the similar programs he's seen only tackle one specific kind of nicotine use, such as smoking cigarettes, and that the folks at the MD Anderson Cancer Center "believe that single product programs aren't as good as multiple product programs."

ASPIRE was initially created in 2002, but has since been updated to include more devices and to appeal to today's audience.

"The concept was to provide education in a fun, game-like format, so the videogame feel was prevalent in the design from the very beginning," Prokhorov said. "With the new forms of tobacco and nicotine (consumption), we needed to update the program to include new information."

When they were looking to develop the new version that's used by schools like WHS, deemed ASPIRE 2.0, Prokhorov said that they made a concentrated effort to develop a program that they could easily update as information changes.

Since adopting the game in early March, Desideri said that she's had seven students opt to play it.

"We can't force it," she said, adding that it's offered as a consequence if a student is in a situation where their actions warrant consequences.

"We offer them an opportunity to learn and grow in response," she said. "If you share with students, 'We want you to take some time to reflect until you've grown' ... students have all been receptive to it."

One student recently finished the program and went back to Desideri with her thoughts. While the student admitted that parts of the game were corny, she found parts of it interesting. Desideri said that the student was surprised at some of the information she learned about smoking — specifically, the game's statistic that smoking one cigarette can take 11 minutes off of a smoker's life.

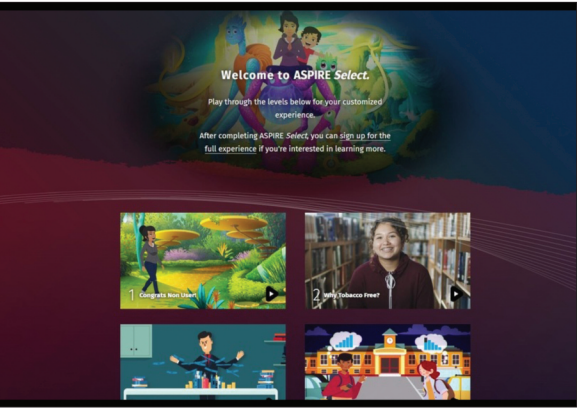
While some may roll their eyes at a game premise that puts the player in an alternate, tobacco-crazed world, Desideri said that she understands and agrees that there needs to be multiple resources for districts to offer students who are battling with tobacco addiction.

"I agree, one size does not fit everybody," she said. "For some kids, they're not going to respond to this one. What I don't want to do is decide, 'If you don't like this one, I have nothing for you.' I want to keep finding out another way until we can have everybody safe."



Graphics courtesy MD Anderson Cancer Center

**PREVENTION** — ASPIRE is a module-based learning tool that leads players on a quest while presenting statistics and quizzes about tobacco use.



# THE WHY BEHIND VAPING

## Flavor, peer pressure, "cool" factor among reasons teens start vaping

By  
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There are many reasons why people decide to vape. E-juice — a heated and flavored nicotine liquid that produces vapor — comes in sweet flavors such as cotton candy and the vapor produced does not give off the same strong odor as traditional cigarettes.

It is these characteristics and more that may be the reason why middle and high school aged kids pick up a vape pen despite health concerns.

According to David Anderson, a retired Healdsburg physician, kids may start vaping for a variety of reasons. The biggest factors that may lead kids to vaping include peer pressure/seeing friends vape, the "cool" factor, flavored e-juice, misinformation and a user-friendly factor.

While e-cigarettes contain an unhealthy mix of chemicals such as those found in antifreeze as well as carcinogens, Anderson said, "If your buddy is doing it, then you may be more likely to do it."

Anderson also talked about the "cool" factor, saying in his experience, when something is a "no-no" for kids, it makes them want that item even more.

"They are thought to be 'cool' or whatever is the current terminology, as they are considered a 'no-no' item so they are thus 'cool,'" Anderson said.

Terese Voge, Sonoma County health program manager of Impact Sonoma, said for kids e-cigs are like a novelty.

Yet flavored vape liquid is perhaps the biggest contributing factor.

"Flavor increases appeal," Anderson said.

Current flavors on the market include peppermint, coffee, lemon tart, candy crash and more.

According to the Partnership for Drug-Free Kids, "More than half of teens who vape say they do it because they like the flavors that e-cigarette liquids come in."

"The research definitely shows that it is a huge factor," Voge said of flavored

e-cigarette liquid.

According to research from the Division of Pediatric Pulmonary and Sleep Medicine, Department of Pediatrics, Children's Hospital Los Angeles and the Department of Preventive Medicine, Keck School of Medicine, University of Southern California, Los Angeles, when Southern California adults and youth were asked why they used e-cigarettes the No. 1 reason was because they "come in flavors." "They taste better," was the second selected reason.

However, Anderson added that kids can also become misinformed on how dangerous vaping really is which, may lead kids to think that vaping is OK.

According to an article from the Truth Initiative, an organization that aims to encourage tobacco free lives, 63% of Juul (an e-cigarette brand) users do not know that the product always contains nicotine.

Voge mentioned that kids don't often even think of them as tobacco.

She added that a lot of them do not know that e-cigs contain nicotine.

Lastly, Anderson said that vape products are often easy for students to use during school since the vapor does not give off a strong smell.

Anderson mentioned that a high school nurse observed that when kids come back from vaping they don't smell, making it easier to use without getting caught.

Anderson, who worked with the city of Healdsburg to raise the purchase age for tobacco products to age 21, said with vape products becoming more popularized his work to decrease tobacco use among younger kids has somewhat reversed.

"We accomplished a lot by making California the second state (after Hawaii) to raise the purchase age for all tobacco products to 21. But now this accomplishment is being eroded by ... these e-cigs," Anderson said.