

TobaccoFreeCA



E-cigarettes: Questions and Answers

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Contents

| | |
|--|----|
| Are e-cigarettes less harmful than traditional cigarettes? | 3 |
| Are e-cigarettes good for my health? | 4 |
| Is there tobacco in e-cigarettes?..... | 5 |
| Is nicotine good for me? | 6 |
| Are PG and VG bad for my health? | 8 |
| Do e-cigarettes help you quit traditional cigarettes? | 9 |
| Why are flavors in e-cigarettes an issue? | 11 |
| Do e-cigarettes affect kids differently than adults? | 13 |
| What are social norms and what do e-cigarettes have to do with them? | 14 |
| Does Big Tobacco make e-cigarettes? | 16 |
| What is CPDH trying to accomplish with this campaign? | 18 |
| How is the e-cigarette campaign funded? | 19 |
| What are we up against | 21 |



Are e-cigarettes less harmful than traditional cigarettes?

Yes! The research and studies have all signs pointing to e-cigarettes being less harmful than traditional cigarettes.

Traditional cigarettes are burned, or are “combustible”. That means tar, carbon monoxide, and other chemicals associated with burning are inhaled. These are highly toxic to the body. There are approximately 600 ingredients in cigarettes. When burned, they create more than 7,000 chemicals. At least 69 of these chemicals are known to cause cancer, and many are poisonous. (<http://www.lung.org/stop-smoking/about-smoking/facts-figures/whats-in-a-cigarette.html>). We have never seen traditional cigarettes produce a positive health effect on our bodies, which is why traditional cigarettes are the #1 cause of preventable death in the US and quitting is the quickest path to achieving optimal health (http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/).

Switching completely from traditional cigarettes to only e-cigarettes, a person will inhale fewer toxic chemicals to get the same dose of nicotine. And we think that’s a really good thing! Many of you have commented how much better you feel already from switching from traditional cigarettes to e-cigarettes. Of course you do - you’re not inhaling 7,000 chemicals in your body!

All of this is good news. And to many of you, it’s old news. Those in the cessation treatment profession would agree, quitting traditional tobacco is a process. It is a personal journey that people pursue differently and use different quitting methods. (<http://www.cancer.gov/cancertopics/causes-prevention/risk/tobacco/withdrawal-fact-sheet>).

And, yes, studies suggest e-cigarettes are less harmful than traditional cigarettes, but that doesn’t make them “safe”.



Are e-cigarettes good for my health?

E-cigarettes may be considered less harmful than cigarettes, but that doesn't make them harmless or safe to use. CDPH's mission is to educate Californians so they can make the best health decisions for themselves and their families. Because of this, there are some negative health impacts of e-cigarettes to inform you about:

1. E-cigarettes expose users and bystanders to some harmful chemicals, including at least 10 chemicals that are on California's Proposition 65 list of chemicals (http://oehha.ca.gov/prop65/prop65_list/files/P65single03272015.pdf) known to cause cancer, birth defects and reproductive harms
<http://tobaccocontrol.bmj.com/content/early/2013/03/05/tobaccocontrol-2012-050859.abstract>
<http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0668.2012.00792.x/epdf>
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0057987>
<http://www.nejm.org/doi/full/10.1056/NEJMc1413069>
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0057987>.
2. The ingredients in e-cigarette e-liquid, like propylene glycol and flavoring agents, are known to cause inflammation of the respiratory system which plays a role in the development of cancer and chronic obstructive pulmonary disease (<http://www.sciencedirect.com/science/article/pii/S1438463913001533>). While there is a dose/response relationship in the development of disease, we want to highlight for the public that e-cigarettes contain some of the same toxic chemicals as traditional cigarettes, as well as additional chemicals that cause respiratory system inflammation (<http://tobaccocontrol.bmj.com/content/early/2013/03/05/tobaccocontrol-2012-050859.abstract>, <http://www.sciencedirect.com/science/article/pii/S1438463913001533>). The interaction between these other chemicals and the particulate matter they produce is unknown.
3. E-cigarettes typically contain nicotine, a highly addictive neurotoxin. Many people don't realize that nicotine is a dangerous chemical that is as addictive as heroin (<http://profiles.nlm.nih.gov/ps/access/NNBBZD.pdf>). The lethal dose of nicotine for a grown adult is only 50-60mg (<http://www.cdc.gov/niosh/idlh/54115.html>). Some e-cigarette brands market the ability to mix their own e-liquid. This would require individuals to handle liquid nicotine themselves, which is very dangerous. Additionally, the effect of nicotine on adolescents is very troubling ([http://www.ajpmonline.org/article/S0749-3797\(15\)00035-5/fulltext](http://www.ajpmonline.org/article/S0749-3797(15)00035-5/fulltext)). Adolescents are going through critical periods of brain development, and are especially vulnerable to the toxic effects of nicotine (<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>) (<http://www.cdc.gov/mmwr/preview/mmwrhtml/00055070.htm>).

Quitting all tobacco products, including e-cigarettes, completely is the path to a healthy California.



Is there tobacco in e-cigarettes?

E-cigarettes do not burn tobacco, but they do contain nicotine, which is derived from tobacco plants, and is the same component that makes traditional cigarettes so addictive.

In 2010, a federal court issued a decision that e-cigarettes and other products made or derived from tobacco can be regulated as “tobacco products” under the Family Smoking Prevention and Tobacco Control Act of 2009. On April 25, 2014, the FDA issued its proposed rule deeming e-cigarettes as tobacco products and a plan for regulating e-cigarettes as tobacco products. (<http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm252360.htm>, <http://www.fda.gov/TobaccoProducts/Labeling/ucm388395.htm>, <http://www.fda.gov/downloads/TobaccoProducts/NewsEvents/UCM397724.pdf>, http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf414643). The CDC and World Health Organization also consider e-cigarettes to fall within the spectrum of tobacco products.

An e-cigarette is a device that delivers tobacco-derived nicotine to its users, and has the same potential for addiction as traditional cigarettes. Additionally, studies show youth who use e-cigarettes are more susceptible to start using traditional cigarettes than those who don't. (<http://www.ncbi.nlm.nih.gov/pubmed/25143298>, <http://tobacco.ucsf.edu/sites/tobacco.ucsf.edu/files/u795/Dutra-Ecigs-with-supplement.03.2014.pdf>, <http://pediatrics.aappublications.org/content/early/2014/12/09/peds.2014-0760.abstract>). The State Health Officer's Report on E-Cigarettes (<http://www.cdph.ca.gov/programs/tobacco/Documents/Media/State%20Health-e-cig%20report.pdf>), documents how e-cigarettes can lead California teens and young adults to a nicotine addiction and traditional cigarette use.



Is nicotine good for me?

There is a lot of misinformation floating around that nicotine is safe and harmless. Some even claim it's as safe as caffeine. However, this is not true. It's been more than 25 years since the U.S. Surgeon General C. Everett Koop noted in a report, titled *The Health Consequences of Smoking: Nicotine Addiction*, that nicotine is a highly addictive neurotoxin, known to be as addictive as heroin and cocaine (<http://profiles.nlm.nih.gov/ps/access/NNBBZD.pdf>). Not only is nicotine addictive, but can be lethal in small doses in adults and children (<http://www.cdc.gov/niosh/idlh/54115.html>). Here's some information about the health impact of nicotine:

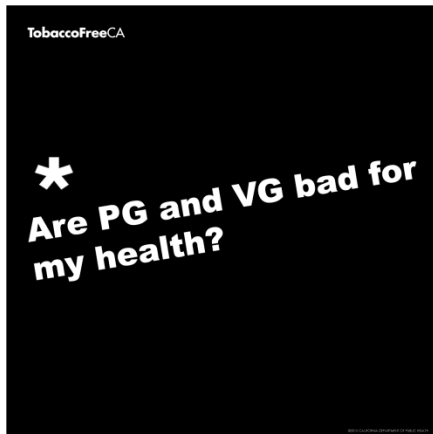
- In 1988, U.S. Surgeon General concluded that many smokers have great difficulty quitting in large part due to the addicting properties of nicotine, which is present in all forms of tobacco.
- In 1990, the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency added nicotine to the Proposition 65 list of chemicals known to cause cancer, birth defects, or reproductive toxicity (<http://oehha.ca.gov/prop65/background/p65plain.html>).
- Nicotine affects the cardiovascular and central nervous systems, causing blood vessels to narrow, raising the pulse and blood pressure (<http://www.ncbi.nlm.nih.gov/books/NBK53017/pdf/TOC.pdf>), thus increasing the risk for coronary heart disease and stroke.
- Nicotine has a harmful impact on pregnancy and the developing baby's health, contributing to low birth weight, premature delivery, and stillbirth (<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>). Nicotine is also known to cross the placenta and is detectable in the breast milk of mothers who smoke or are exposed to nicotine in secondhand smoke (<http://www.ncbi.nlm.nih.gov/pubmed/7787925>) (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1463577/>). Nicotine is thought to play a key role in the increased risk of sudden infant death syndrome in infants of mothers who smoked during pregnancy (<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>).
- Handling nicotine directly can be very dangerous, since nicotine is easily and quickly absorbed through the skin. The poisoning can also occur through ingestion, inhalation, and mucous membranes. The National Institute for Occupational Safety and Health (NIOSH) requires protective gear for handling nicotine (http://www.cdc.gov/niosh/ersbdb/emergencyresponsecard_29750028.html).

While the toxicity and addictiveness of nicotine in adults is worrisome, exposure to nicotine is even a greater concern for children and teens. Accidental poisonings are a concern in small children; in adolescents, on the other hand, using nicotine can have detrimental effects on brain growth and development and increase the likelihood of future tobacco use and smoking-related harms. Adolescents are still going through critical periods of brain growth and development and are especially vulnerable to the toxic effects of nicotine ([http://www.ajpmonline.org/article/S0749-3797\(15\)00035-5/fulltext#s0030](http://www.ajpmonline.org/article/S0749-3797(15)00035-5/fulltext#s0030), <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>, <http://www.cdc.gov/mmwr/preview/mmwrhtml/00055070.htm>, <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>).

Nicotine is so dangerous that even a brief period of continuous or intermittent exposure in adolescence can cause lasting neurobehavioral damage and lead to changes in their brain function such as poor decision making, impulse control and executive function (<http://www.sciencedirect.com/science/article/pii/S0006899303028853>).

Some e-cigarette product brands pitch the ability for users to mix their own e-liquid, which could require them to handle liquid nicotine. This is very dangerous, as improper handling of nicotine can cause poisoning. Many e-liquid bottles that contain nicotine are not adequately labelled and do not have child-resistant caps. As a result, by the end of 2014, e-cigarette poisonings among young children tripled in one year, making up more than 60% of all e-cigarette poisoning calls (<http://link.springer.com/article/10.1007%2Fs10900-013-9807-5>).

In order for Californians to make informed decisions about their health, it is important to have the full range of facts. Tobacco products, including e-cigarettes, which contain nicotine, have multiple negative health effects.



Are PG and VG bad for my health?

Propylene glycol (PG) and vegetable glycerin (VG) serve as the liquid carriers for nicotine, flavoring additives, and other chemicals in e-cigarettes. These chemicals are found in many food products and are FDA-approved. But it is critical to note that these chemicals were approved by the FDA as food additives, to be ingested as a food product – not inhaled. Safe when ingested does not mean safe when inhaled.

(<http://www.accessdata.fda.gov/scripts/fcn/fcnDetailNavigation.cfm?rpt=scogslisting&id=262>)

(<http://www.accessdata.fda.gov/scripts/fcn/fcnDetailNavigation.cfm?rpt=scogsListing&id=142>)

Chemicals change when they are heated. They become more volatile and additional toxic chemicals are created during the heating process. This is why inhaling heated PG or VG, as one does with e-cigarettes, is not the same as ingesting it. In fact, heating PG or glycerin at high temperatures has been shown to produce formaldehyde, a known respiratory irritant and human carcinogen identified on California’s Prop 65 list of chemicals that cause cancer or reproductive toxicity. Many e-cigarette devices allow the user to adjust the temperature at which the e-liquid is heated. Typically, the hotter the setting, the larger the aerosol cloud produced. These higher temperature settings produce more formaldehyde. (<http://www.nejm.org/doi/full/10.1056/NEJMc1413069>, <http://www.ncbi.nlm.nih.gov/pubmed/24832759?dopt=Abstract>, <http://monographs.iarc.fr/ENG/Monographs/vol88/mono88-6E.pdf>).

A question we regularly receive is whether VG is any less harmful to a person’s health than PG. Research shows that VG, when heated, does create toxic and carcinogenic compounds (<http://www.ncbi.nlm.nih.gov/pubmed/24832759?dopt=Abstract>). Adding the word ‘vegetable’ may make it sound healthier, but that doesn’t make it healthy for you.

Another comment we have heard is that PG is used in asthma inhalers, so it must be safe. A few things to keep in mind here: 1) asthma inhalers are drug devices which have gone through rigorous clinical testing where the effectiveness and safety of these products has been scientifically demonstrated; 2) there are safety standards for the manufacturing of these products; 3) as an approved medical device, these products contain detailed information regarding dosage, administration, warnings, adverse reactions, and drug interactions; 4) asthma inhalers are prescribed and used under the care of a physician who monitors a patient’s use and reaction to medications; 5) asthma inhalers do not heat propylene glycol—heating changes chemicals and in the case of propylene glycol has been found to produce formaldehyde; and 6) the frequency in which asthma inhalers are used is much different than vaping devices, so the amount of propylene glycol one is exposed to is unlikely to be similar.

E-cigarette companies currently don’t have to submit research showing potential health effects of their products, don’t have to adhere to any manufacturing safety standards, and don’t have to disclose any of the ingredients. This leaves consumers at risk because they are unaware of how chemicals such as PG and VG can affect human health.



Do e-cigarettes help you quit traditional cigarettes?

We have seen a number of individual testimonials about e-cigarettes helping people quit traditional cigarettes, many using the hashtag #vapingsavedmylife. The California Department of Public Health supports any and all efforts to quit traditional cigarettes. We know the vast majority of people want to stop smoking, but have a hard time quitting. Knowing how hard it is, any time a person is able to quit traditional cigarettes completely, we applaud them.

Because of this we get asked a lot about why we don't promote e-cigarettes as a way to quit smoking. There are a few reasons we don't endorse e-cigarettes as quit smoking aids or devices:

1. E-cigarettes are not FDA-approved quit smoking devices. FDA-approved nicotine replacement therapies (NRTs) undergo a rigorous approval process and are subjected to animal and human clinical trials before being made available to the public. In addition, there are regulations governing manufacturing, labeling, packaging, and warning requirements. The purpose of this process is to ensure that these products are safe and effective. This is not true for e-cigarettes and other devices that heat up liquids that include nicotine and are inhaled into the lungs. E-cigarette companies can go through the process of having their products FDA-approved as cessation devices. However, as of today, it is not evident that any of the hundreds of e-cigarette companies out there have submitted applications to do so.
(<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm>,
<http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm172906.htm>)
2. Studies show that using both e-cigarettes and traditional cigarettes during the quitting process is problematic. Though smokers may reduce the number of cigarettes they smoke, many end up using both products simultaneously, and never actually quit altogether. This means that any potential health benefits are diminished and the cardiovascular risks associated with smoking stay essentially the same and continue to cause significant health problems for the individual. Additionally, e-cigarettes may hinder people from successfully beating their addiction to nicotine.
(<http://circ.ahajournals.org/content/129/19/e490>; <http://circ.ahajournals.org/content/129/19/1972>)
(<http://ntr.oxfordjournals.org/content/early/2013/05/07/ntr.ntt061.abstract>,
<http://www.ncbi.nlm.nih.gov/pubmed/24229843>)
3. There is no conclusive scientific evidence showing that e-cigarettes are a safe and effective method to reduce traditional cigarette use at the population level. More research is needed to determine if these products help people to completely quit smoking, or if they increase the adverse impact of smoking combustible products by discouraging cessation, encouraging long-term dual use, and if they increase tobacco use and nicotine addiction among non-users. (<http://www.ncbi.nlm.nih.gov/pubmed/23415116>,
<http://onlinelibrary.wiley.com/doi/10.1111/add.12623/abstract>,
<http://www.ncbi.nlm.nih.gov/pubmed/24229843>,
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4122246/>, <http://www.biomedcentral.com/1471-2458/11/786>, <http://www.ncbi.nlm.nih.gov/pubmed/21406283>,
<http://ntr.oxfordjournals.org/content/early/2013/05/07/ntr.ntt061.abstract>)

Addiction comes in 3 parts: physical, psychological, and behavioral. Nicotine replacement therapies (NRTs) were designed to help people with the physical part of addiction, while also breaking the psychological and behavioral

parts. NRTs were not designed for long-term use, which is different than how many people view switching to e-cigarettes. Many people may switch to e-cigarettes with no plan to quit using them. Because people are switching to this form of nicotine replacement for on-going use, the long-term health risks are still unknown. Additionally, the people who simply switch may still continue the psychological and behavioral parts of traditional cigarette addiction, even though they may be decreasing their nicotine consumption.

Much of the e-cigarette debate centers on what's referred to as 'harm reduction.' Harm reduction is the idea that, even though e-cigarettes have known negative health risks, those risks are less than traditional cigarettes' negative health risks, and because of this, it reduces overall harm. However, looking at a larger 'public health' picture that goes beyond helping current people quit traditional cigarettes

(http://www.tma.org/tmalive/Html/Advertisements/Reference_43_Popova_et_al_Alternative_Tobacco_Product_Use_and_Smoking_Cessation.pdf), there is a real concern for teens and young adults starting a lifelong nicotine addiction through e-cigarettes, especially since the long-term health risks are still unknown. There is also concern about the mounting scientific evidence that shows teens and young adults are more inclined to start smoking traditional cigarettes if they use e-cigarettes

(<http://pediatrics.aappublications.org/content/early/2014/12/09/peds.2014-0760.abstract>,

<http://www.newswise.com/articles/youth-who-have-used-e-cigarettes-report-greater-intent-to-try-regular-cigarettes-study-finds>). Looking at this larger picture then, the question is whether harm is really being reduced if a new generation is becoming addicted to nicotine, a product with known health risks, and are also more likely to try traditional cigarettes.



Why are flavors in e-cigarettes an issue?

The liquid solution used in e-cigarettes, called 'e-juice' or 'e-liquid', typically contains nicotine, propylene glycol or glycerin, additives, and is available in a wide variety of flavors including bubble gum, cherry and chocolate. As of early 2014, there was over 7,500 e-cigarette flavors available (http://tobaccocontrol.bmj.com/content/23/suppl_3/iii3.full).

Most adults like some sweets now and then. Because of this, some strongly deny that e-cigarette flavors are being used to attract kids, claiming that adults enjoy them too and that's who the flavors are aimed at. While it is true that people of all ages enjoy sweet flavors, recent studies show teens now use e-cigarettes more than traditional cigarettes, and one of the top reasons cited for using e-cigarettes is the appealing flavors (<http://www.monitoringthefuture.org//pubs/monographs/mtf-overview2014.pdf>, <http://ntr.oxfordjournals.org/content/early/2014/12/05/ntr.ntu257.abstract>).

E-cigarettes come in traditional flavors like cherry, vanilla and chocolate, but there are also flavors like *Kaptain Peanut Butter Crunch*, *Twinkin' of You*, *Vape the Rainbow*, *Crazy Dew*, and *Fairytale*. When these flavors include names and packaging that mimic cartoon characters and food products that are almost exclusively marketed to youth, it makes it hard to believe that e-cigarette and e-juice makers aren't trying to market their products to kids. Keep in mind that flavored cigarettes (with the exception of menthol) were banned in 2009 because evidence showed that youth were attracted to and far more likely to use flavored cigarettes than adult smokers (<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/>). It's been known for some time that youth are more attracted to flavored tobacco products, so why would e-cigarettes be any different? (http://www.cdc.gov/media/releases/2013/p1022-flavored-cigarettes.html?utm_source=rssutm_medium=rssutm_campaign=more-than-40-percent-of-middle-and-high-schoolers-who-smoke-use-flavored-little-cigars-or-flavored-cigarettes).

With thousands of enticing flavors coupled with youths' exposure to millions of dollars in e-cigarette advertising, e-cigarette use among high school students has tripled.

(<http://pediatrics.aappublications.org/content/134/1/e29.short>; <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6345a2.htm>). The aggressive marketing and the kid-friendly flavors and packaging are creating a new generation at risk for getting hooked on nicotine. Unfortunately, kids that use e-cigarettes are more inclined to try traditional cigarettes, and those kids are more likely to progress from experimenting with traditional cigarettes to becoming established smokers that are less likely to quit. (<http://ntr.oxfordjournals.org/content/early/2014/08/18/ntr.ntu166.abstract>, <http://archpedi.jamanetwork.com/article.aspx?articleid=1840772>).

Not only is there real worry about teens using e-cigarettes, but the candy, fruits and desserts pictured on e-juice packaging - even the name 'juice' - can be especially confusing and appealing for very young children. There has been a significant rise in the number of calls to poison control centers in California and nationally related to e-cigarettes or e-juice for both adults and children, many of whom are aged five and under. In California, from 2012 to 2013, the number of calls to the poison control center involving e-cigarette exposures in children ages five and under increased sharply from 7 to 154. By the end of 2014, e-cigarette poisonings among young children tripled in one year, making up more than 60% of all e-cigarette poisoning calls (<http://www.ncbi.nlm.nih.gov/pubmed/24338077>). Even a very small amount of e-liquid may be lethal to a young child, and because there are no regulations for e-cigarettes or e-liquids, often cartridges leak and are not equipped

with child-resistant packaging, creating a potential source of poisoning. New York saw its first e-cigarette related death last December, when a 1-year old boy ingested liquid nicotine (<http://abcnews.go.com/Health/childs-death-liquid-nicotine-reported-vaping-gains-popularity/story?id=27563788>).



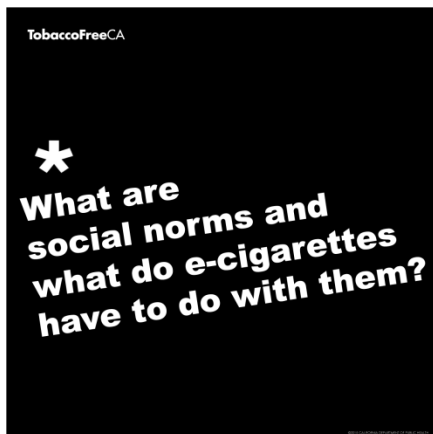
Do e-cigarettes affect kids differently than adults?

Yes, e-cigarettes affect kids differently than adults. This difference is one of the central concerns the California Department of Public Health (CDPH) has regarding e-cigarettes. With youth usage increasing at an alarming pace, and with e-cigarette use surpassing traditional cigarette use in high and middle schoolers for the first time ever, CDPH has made the education of e-cigarette-related health risks, especially for youth, a top priority.

E-cigarettes typically contain nicotine. A few days ago, we talked about the addictiveness and toxicity of nicotine for people in general. However, adolescents are especially sensitive to the effects of nicotine and are also more likely to underestimate its addictiveness (<http://www.ncbi.nlm.nih.gov/pubmed/15766615>). Since adolescents are still going through critical periods of brain growth and development, they are especially vulnerable to the impact of nicotine. Studies show that that exposure to nicotine during adolescence can harm brain development and affect future tobacco use and smoking-related harms (<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>, <http://www.sciencedirect.com/science/article/pii/S0006295209003384>, <http://www.sciencedirect.com/science/article/pii/S0006322304011023>, <http://www.ncbi.nlm.nih.gov/pubmed/16937098>). Research also shows that adolescents who use tobacco products report some symptoms of nicotine-dependence even at low levels of use (<http://www.nejm.org/doi/full/10.1056/NEJMsa1405092>).

Even a brief period of continuous or intermittent nicotine exposure in adolescence can elicit lasting neurobehavioral damage (<http://perspectivesinmedicine.cshlp.org/content/2/12/a012120.full>) and put teen users at an increased risk of developing psychiatric disorders and cognitive impairment later in life.

Nicotine affects the health of adults as well; however, the impact on adolescents is much greater and thus a major reason for concern. Flavors are one of the top reasons kids use e-cigarettes. And recent research suggests that youth who would have never smoked cigarettes may now become addicted to nicotine through e-cigarettes, and those who use e-cigarettes are more susceptible to using traditional tobacco (<http://archpedi.jamanetwork.com/article.aspx?articleid=1840772>), we all need to be concerned about enabling a new generation of kids to become lifelong nicotine addicts and potential Big Tobacco customers.



What are social norms and what do e-cigarettes have to do with them?

Some of you may remember when smoking traditional cigarettes were allowed in workplaces, restaurants, and on airplanes; when cigarette advertisements were on TV, and doctors even gave brand endorsements. At that time, those things were socially normal and acceptable, otherwise known as 'social norms.' Nowadays most people would cringe at the idea of someone smoking on an airplane or next to you at a restaurant. And a doctor who endorsed using cigarettes would be laughable. This is what's known as 'social norm change.'

More than 25 years ago, California voters approved the Tobacco Tax and Health Protection Act of 1988, and established the California Tobacco Control Program. The Act instituted a 25-cent tax on each pack of cigarettes and earmarked five cents of that tax to fund California's tobacco control efforts. These efforts include supporting local health departments and community organizations, a media campaign, and evaluation and surveillance.

California's comprehensive approach changed social norms around tobacco-use and secondhand smoke, the result of which has been a reduction in both adult and youth smoking rates by 50%, more than one million lives saved, and \$134 billion in health care costs averted.

Fast forward to today. What would you do if someone was using an e-cigarette at the table next to you in a restaurant, on an airplane, or in your house? Many people don't know what to do. E-cigarettes represent a new public health challenge because they have the potential to re-normalize smoking behavior and tempt a new generation of youth and young adults into the cycle of nicotine addiction.

(http://apps.who.int/gb/fctc/PDF/cop5/FCTC_COP5_13-en.pdf) Many e-cigarettes resemble cigarettes, and their use in places where smoking traditional cigarettes is prohibited can easily send the wrong message to young adults and impressionable youth that using any smoking devices indoors is allowed – setting our social norms back 20+ years. Not only this, but e-cigarette makers actively advertise their products as a way to get around smoke-free policies, resulting in a de-normalization of those same laws (<http://www.forbes.com/sites/robwaters/2014/01/27/e-cigarette-makers-give-public-the-finger/>).

Advertising is an important part of creating social norms. In 3 years, the amount of money spent by e-cigarette makers on advertising e-cigarettes increased more than 1200% (<http://democrats.energycommerce.house.gov/sites/default/files/documents/Report-E-Cigarettes-Youth-Marketing-Gateway-To-Addiction-2014-4-14.pdf>, <http://www.ncbi.nlm.nih.gov/pubmed/24650844>). Often using celebrities, e-cigarette advertisements are heavily marketed on popular television channels, where traditional cigarette advertising has been banned for decades. Many of the TV channels have a substantial proportion of youth viewers. (http://www.cdc.gov/tobacco/basic_information/e-cigarettes/adult-trends/, http://www.merkley.senate.gov/imo/media/doc/Durbin_eCigarette%20Survey.pdf, http://storre.stir.ac.uk/bitstream/1893/18225/1/deAndrade_etal_BMJ13.pdf) We saw these marketing tactics before. They were previously used by tobacco companies to market traditional cigarettes and normalize smoking behavior (http://tobacco.stanford.edu/tobacco_main/main_tn.php).

Social norms around smoking behavior and e-cigarettes are changing, partly because of the huge push in marketing from e-cigarette companies. However, since e-cigarettes haven't been around for decades, there is much we still need to learn about their long-term health impacts. Until we know more, keeping e-cigarettes out of places where traditional cigarettes are prohibited is a good idea.



Does Big Tobacco make e-cigarettes?

Yes! Many people are surprised that Big Tobacco companies are also in the e-cigarette business. But they are. All three Big Tobacco companies jumped into the e-cigarette market in the last few years, and with it, the amount of e-cigarette advertising has escalated.

Big tobacco companies are heavily investing in e-cigarettes either by buying up e-cigarette companies, or launching their own product lines. Big Tobacco entered the e-cigarette market in 2012 when Lorillard (maker of Newport cigarettes) purchased blu. (http://legacyforhealth.org/content/download/4542/63436/version/1/file/LEG-Vaporized-E-cig_Report-May2014.pdf) 2014 was another big year for Big Tobacco entering the e-cigarette market, as the two largest tobacco companies, R.J. Reynolds and Altria (Philip Morris), launched their own e-cigarette brands. R.J. Reynolds launched Vuse nationally (<http://blogs.wsj.com/corporate-intelligence/2013/11/18/big-tobacco-begins-its-takeover-of-the-e-cigarette-market/>). And Altria (Philip Morris) began selling its own product nationally, MarkTen, and also acquired e-cigarette brand Green Smoke (<http://www.wsj.com/articles/SB10001424052702304914204579393083711733854>).

Big Tobacco is not only ramping up their e-cigarette product lines, but their advertising as well. In 2013, \$82 million was spent on e-cigarette advertising, with 56% spent by Lorillard advertising its blu brand. (http://legacyforhealth.org/content/download/4542/63436/version/1/file/LEG-Vaporized-E-cig_Report-May2014.pdf; E-cigarette Competitive Spend Data: Kantar Media Intelligence). Last year, an estimated \$119 million was spent on e-cigarette advertising. That's a 45% increase in one year, with 89% coming from the Big Tobacco companies. (Kantar Media Intelligence data, 2015) Most of that was due to Altria (Philip Morris) and R.J. Reynolds launching their e-cigarette brands halfway through 2014. In six months, the two tobacco giants made up 55% of all e-cigarette advertising spent in the entire year. This doesn't bode well for 2015, as both Altria (Philip Morris) and R.J. Reynolds will both be advertising their products for a full year.

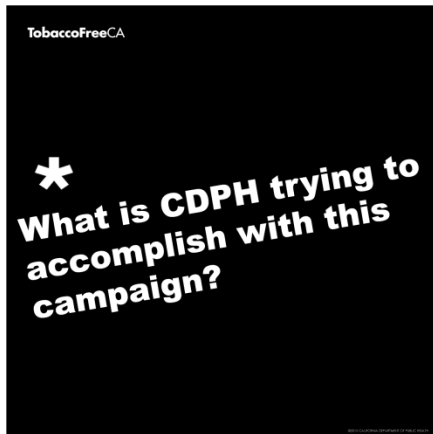
While you might not be seeing the ads, youth and young adults are. In 2013, 73% of teens ages 12-17 were exposed to blu's print and TV ads. (http://legacyforhealth.org/content/download/4542/63436/version/1/file/LEG-Vaporized-E-cig_Report-May2014.pdf; <http://pediatrics.aappublications.org/content/early/2014/05/27/peds.2014-0269.full.pdf>) Imagine how many more teens have seen e-cigarette advertising since mid-2014, when all three of the Big Tobacco companies were aggressively advertising their products.

And Big Tobacco is pulling out their old marketing play books as well. Many of the same marketing tactics used to market traditional cigarettes are now being used to market e-cigarettes.

(http://tobacco.stanford.edu/tobacco_main/ecigs.php;
http://www.tobaccofreekids.org/tobacco_unfiltered/post/2013_10_02_ecigarettes)

Many believe that Big Tobacco companies are behind anti-e-cigarette movements, because e-cigarettes could pose a threat to traditional tobacco sales. However, that simply is not true. All three of the Big Tobacco companies are involved in the e-cigarette business, because young nicotine addicts today mean customers in the future. The investment Big Tobacco is making into acquiring and marketing e-cigarette products shows just how interested they are in making these highly addictive products a success. There are even predictions that Big Tobacco will enter the vapor-mod-tank (VMT) market, depending on market trends, which is currently dominated by independent manufacturers (http://www.vaporworldexpo.com/PDFs/Vapor_World_Expo_Key_Takeaways.pdf).

Big Tobacco companies want people to use any of their products; e-cigarettes and traditional cigarettes. Not all e-cigarette companies have ties with Big Tobacco. However, make no mistake, Big Tobacco is involved in the e-cigarette business in a big way.



What is CDPH trying to accomplish with this campaign?

In order for Californians to make the best health decisions possible for themselves and their families, it is important they be educated on the negative health impacts of e-cigarettes and the proliferation of e-cigarette marketing and products. Of particular concern are youth and young adults using e-cigarettes and who are the targets of aggressive marketing. The results are troubling: a 2014 national survey found that among 8th and 10th graders, current e-cigarette use was double that of traditional cigarettes <http://www.monitoringthefuture.org//pubs/monographs/mtf-overview2014.pdf>.

The “State Health Officer’s Report on E-cigarettes” (<http://www.cdph.ca.gov/programs/tobacco/Documents/Media/State%20Health-e-cig%20report.pdf>) marked the start of an educational campaign to warn Californians about the health risks of e-cigarettes, including a media and public education campaign. CDPH developed this campaign to counter the misinformation and myths about these products that are promoted by the e-cigarette industry, particularly by Big Tobacco.

Just as we did 25 years ago, when California became the first state in the nation to comprehensively address smoking, CDPH is again aggressively tackling a health issue that has received far too little attention until now. That’s why Californians are seeing the ads now. There is a lot of work to do to expose the misinformation and marketing tactics being used by the e-cigarette companies to sell these highly addictive products.

The CDPH public health campaign is only engaged in providing public health education around the issue of e-cigarettes. We know many cities, counties and the California Legislature are deliberating legislation about how to deal with e-cigarettes. However, CDPH does not lobby nor does it take positions on legislation.

If you have any legislative or policy questions on this subject, or any other tobacco-related subject, feel free to contact your representative: <http://findyourrep.legislature.ca.gov/>.



How is the e-cigarette campaign funded?

You may have seen claims that the California Department of Public Health (CDPH) is spending \$75 million on the e-cigarette public education campaign. This is false. This sensationalized budget figure was publicized by the Americans for Tax Reform (ATR), an organization known to be affiliated with tobacco companies (<http://www.publicintegrity.org/2013/05/30/12740/tobacco-giant-funded-conservative-nonprofits>). ATR used a figure from a CDPH California Tobacco Control Program (CTCP) Advertising Campaign Request for Proposals document that covered creating advertising messages for all tobacco control-related topics over a five-year period (7/1/2014-6/30/2019). The maximum yearly budget for the public health advertising campaign for all tobacco control-related topics is up to \$15 million. This year, CDPH is spending approximately \$7 million on the e-cigarette public health education campaign. CDPH's five-year public health advertising campaign provides educational messages, in English, Spanish and Asian languages, on the following topics:

- Health effects associated with using cigarettes, little cigars, cigarillos, smokeless tobacco, e-cigarettes
- Media literacy countering tobacco industry influences
- Exposure to second and thirdhand smoke
- Toxic tobacco waste and its impact on the environment
- Promoting free cessation help available from the California Smokers' Helpline

Additionally, a group that calls themselves the 'vaping militia,' Consumer Advocates for Smoke-free Alternatives Association (CASAA), and the Smoke-free Alternatives Trade Association (SFATA), made false claims that the CDPH, and the e-cigarette public health education media campaign, are funded by what's called the Master Settlement Agreement (MSA), (<http://publichealthlawcenter.org/topics/tobacco-control/tobacco-control-litigation/master-settlement-agreement>). CDPH's health education campaign is not funded by MSA at all. These efforts are funded by Proposition 99 revenue, otherwise known as the Tobacco Tax and Health Protection Act of 1988. This voter approved initiative instituted a 25-cent tax on each pack of traditional cigarettes and designated 5 cents of that 25-cent tax to fund activities to prevent and reduce tobacco use in California. These efforts include supporting local health departments and community organizations, a media campaign, and evaluation and surveillance. California's comprehensive approach has changed social norms around tobacco-use and secondhand smoke. As a result of California's investment in a comprehensive effort to dissuade tobacco use, both adult and youth smoking rates dropped by 50 percent, more than one million lives were saved and California has realized \$134 billion in health care cost savings.

There are also some comments about decreasing tobacco sales resulting in a decrease in the excise tax, meaning less funding for the California Tobacco Control Program. This is 100% true. And this fact is also not a surprise – from the very beginning we knew we were in the business of going out of business. This decrease in funding was built into the Act, and CDPH has operated under those provisions for 25 years. In that time, we went from being ranked 8th at 22.2% to 2nd at 12.5% in the nation for lowest adult smoking rate, cutting California's smoking rate nearly in half (<http://www.lung.org/finding-cures/our-research/trend-reports/Tobacco-Trend-Report.pdf>, <http://www.stateoftobaccocontrol.org/state-grades/california/highlights.html>). This "decreasing budget"

phenomenon isn't new just because e-cigarettes have come on the scene. We've been working hard, year after year to reduce tobacco use in California. The decline in tobacco tax revenue is a clear sign of the effectiveness of the program. However, just because the budget is declining doesn't mean that our job is done nor does it negate the state health department's responsibility to educate the public about the health and safety issues related to new and emerging tobacco products, including e-cigarettes.

With e-cigarettes, CDPH is deeply concerned about the 'renormalizing' of smoking and nicotine addiction by a new generation lured to use tobacco products. Studies are showing that e-cigarettes keep people smoking traditional cigarettes, and promote dual use. And see how Big Tobacco's traditional cigarette and e-cigarette brands are being marketed together (see picture in comments below)?



Found at a convenience store in CO.

What are we up against

Supplemental information regarding vaping industry tactics:

Since the launch of our new public health education campaign on e-cigarettes on March 23rd, we've seen an exceptional amount of negative commenting that is made to appear like a grassroots effort. However, looking further into this activity, we realized this is a vocal group of vaping advocates, and the result of a highly orchestrated effort to drown out any public health education conversation around e-cigarettes. This is a technique called 'social media bombing,' where things like 'astroturfing' are employed, and they have one clear goal — to shut down important public health education. In fact, a March 28 news article, "How Big Vaping is Misinforming the Public about E-cigarettes," exposes what's been happening since the March 23rd launch of the public health campaign in California, as well as similar efforts to undermine public health campaigns that took place in Chicago and in the UK. Check it out: <http://www.vox.com/2015/3/28/8301923/e-cigarette-information>.

Today, an article from Wired also describes these efforts to undermine e-cigarettes public health messaging: <http://www.wired.com/2015/04/war-vapings-health-risks-getting-dirty/>.

These tactics feel all too familiar. The tobacco companies and their many front groups are infamous for using all kinds of tricks to deceive the public for more than 50 years:

http://www.tobaccofreekids.org/content/what_we_do/industry_watch/doj/FinalOpinionSummary.pdf

CDPH's mission is to educate Californians so they can make the best health decisions for themselves and their families. We will continue to work hard to inform the public with credible, reliable information about the negative health effects produced by all tobacco products, including e-cigarettes.

(<http://www.cdph.ca.gov/programs/tobacco/Documents/Media/State%20Health-e-cig%20report.pdf>)