

**Vaping 101: What Is Vaping and the Latest Data**  
**Thursday, September 26, 2024**  
**Webinar Hosted by the New York State Quitline**

***Questions & Answers***

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*1. Question from Suzanne Soganics:*

**Just wondering what data has been collected to date and why quitting vaping is more difficult than quitting cigarettes. Wellbutrin doesn't seem to be as effective on vaping.**

There are a few national efforts to measure the use of cigarettes, vaping products, and other tobacco products cross-sectionally and longitudinally in youth and adults. The PATH Study is a great resource, and so are surveys like NYTS and NHIS.

I'm not sure the evidence is clear to indicate that vaping is harder to quit than cigarettes. A few years ago, vaping was more transient than cigarette smoking in both youth and adults, but at the population level today it's not clear if that trend has changed.

What is clear is that the absolute success rates in people who are trying to quit either tobacco product is low.

Practitioner support at every office visit to establish a tobacco use treatment plan that includes pharmacotherapy, and behavioral counseling can double quit success. The NYS Quitline offers a [Patient Referral Program](#) as an adjunct to assist practitioners' support. Referred patients are offered behavioral support options and a supply of nicotine replacement medications.

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*2. Question from Dr. Samuel Grief, MD:*

**So, with vaping, are people inhaling not just nicotine but also propylene glycol?**

Yes. Propylene glycol is generally regarded as safe but much less is known about its safety when vaporized and inhaled.

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*3. Question from "Tobacco Free":*

**Do we know anything about the concentration of a puff? Many vapes are 15,000 puffs or 7,500 burst puffs. How does this compare to cigarettes? How can we help make this more understandable for the public?**

Actual dose per vaping puff is difficult to measure because the puffs tend to be more variable and are not constrained by limitations introduced through burning. Some puffs are very long and deep while others are short and shallow. Nicotine delivery depends on the nicotine concentration but also the chemical formulation of

the product and other factors like the voltage settings of the device. However, devices with thousands of puffs have orders of magnitude more capacity than a traditional tobacco cigarette, which a user might get 10 to 15 puffs on average. These types of vaping products can offer a much lower cost per puff to the person using it, which is an important factor for trial and continued use.

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*4. Question from Linda Caffrey:*

**Are cartridges regulated? In other words, do we really know what the cartridges contain?**

All vaping products are required to submit their product to the FDA for review and authorization. Currently, there is still a backlog of some applications and enforcement action is prioritized elsewhere.

However, many of the products currently on the market today have not gone through the FDA review process at all and retailers are selling these products illegally. There may be many thousands of retailers doing this. The FDA has announced a multi-agency collaboration to increase enforcement efforts, and some recent fines and penalties have been publicized.

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*5. Question from "Tobacco Free":*

**What do we know about the impact on the environment of these products?**

This is an area where some groups are just starting to study. E-cigarette waste is potentially a more serious environmental threat than cigarette butts since e-cigarettes introduce plastic, nicotine salts, heavy metals, lead, mercury, and flammable lithium-ion batteries into waterways, soil, and to wildlife.

And there are some different types of issues with vaping product waste. One is the leeching of leftover e-liquid into the environment – nicotine is a potent aquatic toxin. Another is the heating source is typically powered by a lithium-ion battery, which if not properly disposed can create environmental exposures. Another is the devices themselves are typically not biodegradable even under severe conditions and end up in a landfill, possibly also leeching chemicals when exposed to sunlight and the elements. And e-cigarettes left on the street eventually break down into microplastics and chemicals that flow into the storm drains to pollute our waterways and wildlife.

More information about the topic is available here from the Truth Initiative: [LINK](#)

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*6. Question from Viel Pena:*

**Do e-cigarettes have chemicals that contain oil composition?**

The EVALI outbreak deemed to be primarily driven by tainted cannabis vaping products that had used vitamin E acetate, an oily chemical used for the e-liquid solvent in cannabis products that effectively gummed up respiratory openings in some people. Commercial nicotine e-liquids do not contain an oily solvent. The CDC

webpage on EVALI notes "National and state data from patient reports and product sample testing show tetrahydrocannabinol (THC)-containing e-cigarette, or vaping, products, particularly from informal sources like friends, family, or in-person or online dealers, are linked to most EVALI cases and play a major role in the outbreak." ([https://archive.cdc.gov/www\\_cdc\\_gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://archive.cdc.gov/www_cdc_gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html))

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*7. Anonymous question:*

**Does nicotine cause any coronary artery disease or other vascular disease?**

Nicotine is a vasoconstrictor, increases heart rate and makes the walls of arteries more rigid. These mechanisms in the presence of cigarette smoke, which has carbon monoxide, reduce oxygen availability. People who smoke cigarettes consistently have higher rates of CHD. However, it is not universally established nicotine by itself causes CHD despite these biologic mechanisms. For example, NRT is not thought to cause heart disease.

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*8. Anonymous question:*

**Have scientists tested for toxicity of all the crazy "flavors" people are vaping?**

A few studies have looked at different chemical combinations that are used to produce various flavor sensory perceptions in people. Some studies suggest certain flavors may have more toxicity potential than other flavors. However, this is against a backdrop of repeated exposures to all of the other chemicals in cigarette smoke or vapor with each and every puff. It's unclear what the relative contribution of toxin exposure is from the flavor chemicals vs. everything else.

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*9. Question from Suzanne Soganics:*

**I've read about "popcorn lung." Is there any evidence that e-cigs/vaping leads to this?**

Popcorn lung is caused by exposure to a chemical called diacetyl, and diacetyl is found in some chemical formulations for flavored e-liquids. However, I'm not aware of any cases of popcorn lung being attributed to vaping. Based on these data, it's hard to say vaping is a cause of popcorn lung but more studies should be done to look at the health effects of vaping in relation to those who continue to smoke as well as to people who quit cigarettes.

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*10. Question from Diana M. Bridges:*

**What cause for individuals who developed major lung injury (and end on respiratory support) with short term use of e-cig, when harms and awareness became known?**

One of the challenging things for scientists who study the health effects of e-cigarettes is how to separate out risk of vaping vs. past cigarette smoking, as well as how to control for the duration of vaping.

Studies of cigarette smoking show elevated chronic disease risk only after many years of exposure day after day. Frequent vaping has only started to become more prevalent since about 2017 after the designed chemistry that JUUL Labs first created and is not widespread in all vaping products. Looking ahead, though, more studies are positioned to look at onset of health conditions in people who've vaped for several years to better understand if there are elevated health risks compared to people who continue to smoke and compared to people who don't use other tobacco products.

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*11. Question from Jennifer Hill:*

**A few people have told me they think nicotine patches and gum will harm them, even kill them. Do you know where that idea is coming from?**

Nicotine patches and gum are lifesaving medications that are FDA approved to treat nicotine dependence, especially to cigarettes. They are far, far more regulated than vaping products, which are regulated by the FDA as consumer products.

As an evidence-based tobacco treatment strategy, the NYS Quitline has offered and distributed over-the-counter nicotine replacement therapy to thousands seeking help to quit tobacco and vape use. Part of our job is to quell the misconceptions about the safety of these products and educate people on their proper use. The offer of NRT through the Quitline remains the most popular service requested.

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*12. Question from Linda Caffrey:*

**Would you recommend nicotine vaping over NRT in an effort to quit smoking?**

I would always recommend people make a concerted effort to quit smoking with the FDA-approved medications with behavioral support. No longer smoking is the goal. Each time someone tries to quit they gain experience with the process, and it helps boost their chances for the next time. Often patients ask about vaping, and that is an opportunity to engage in a conversation with the patient about why they are asking about that – and to remind them we support their efforts to stop smoking and support them engaging in evidence-based treatment. The FDA Center for Tobacco Product's new position on the continuum of risk provides some added framework for talking about the relative risk of vaping products, but there is a lot more work to do to understand what that means for each patient.

As an evidence-based tobacco treatment strategy, the NYS Quitline has offered and distributed over-the-counter NRT to thousands seeking help to quit tobacco and vape use. NRT remains our most popular service offered.

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*13. Question from Jacob Hartman:*

**Shouldn't the Cochrane review trigger a new lawsuit challenging the Sottera decision?**

I'm not a lawyer but I presume that past legal precedent can be overturned with new legal precedent. I'm not aware of efforts by any group to make this challenge, though, I certainly may not be aware of all of the latest information.

The other thing is that the Cochrane review is focused only on randomized controlled clinical trial evidence. There are many examples of randomized trials that "work" under the tightly controlled treatment delivery and careful selection of people to the trial, but when the intervention is adopted in the public setting it no longer "works."

To be clear, the epidemiological data for vaping and cigarette cessation has many studies that show no difference and that evidence base in continuing to grow. The point I make with the Cochrane review is that it shows that, at least for some people under some conditions, vaping products can help some people wean off cigarettes. What we don't yet know fully is who those people are and what those conditions are. We also don't have any information on what would happen to those people who quit with vaping – perhaps they would have quit at the same rate if they used an FDA-approved medication instead, or perhaps, they are reaching new people who are not able or willing to engage in FDA-approved treatment options. So, this is a complex topic to grapple with!

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*14. Question from Taimi Smith:*

**I work with a lot of members that suffer from COPD and continue to smoke cigs. Would vaping be a better choice, or would the vapor make their situation worse?**

People with COPD should look to stop using all tobacco products, especially combustible products. I believe continuing to smoke cigarettes is the worst-case scenario for these patients. Continued efforts to get people to engage in evidence-based treatment options with professional behavioral support will give them the best chance to quitting smoking and also yield the best clinical benefit for pulmonary health. There are some groups looking at switching to vaping in this population and if that makes a difference – some of the work out of Jim Sargent's team at Dartmouth address this and in a couple studies there may be some symptom reduction in the relatively few people who are able to switch completely to vaping from cigarettes but this is generally not as large of a benefit as stopping smoking altogether. Dual use of both products does not yield clinical benefit. My best advice is to put the effort to help these people stop smoking rather than switch to vaping.

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15. Question from Andrew Gotlin, MD:

**Any best practice guidance for vaping cessation using NRT?**

I am not aware of best practice guidance of NRT or any other treatment for vaping cessation. This is an area that needs more development and discussion among the various professional societies.

However, through the NYS Quitline, patients seeking help to quit vaping are offered a supply of NRT as an alternative to continued vaping use.

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16. Question from Jason Merryl Dey:

**Any conversation about increasing the dose of nicotine replacement therapy with the recent emergence of nicotine pouches/liquids with increasing nicotine content (i.e., 9-15mg/pouch), or the impact of that on cessation efforts?**

RESPONSE

Clinicians / tobacco treatment specialists can make treatment decisions based on the characteristics of the patients who present to them and one of those factors is adjusting nicotine replacement dosing – for example, dosing the patch plus ad hoc gum used to manage cravings. While I'm not aware of efforts to raise the listed nicotine dose of available NRT products, nicotine dose can be titrated by clinicians.

An updated Tobacco Treatment Medications Prescribing Chat was recently posted by the NYC Department of Mental Health and Hygiene and can be found [HERE](#).

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17. Question from Sarah E. Reynolds:

**What are the effects of vaping/nicotine on an unborn baby during pregnancy? Is secondhand vape dangerous to children/infants?**

Cigarette smoking is clearly shown to reduce birth weight, the risk of low birth weight, and some birth defects. Secondhand cigarette smoke can also increase low birth weight risk and other adverse pregnancy outcomes.

When it comes to vaping, the science is not yet established if vaping is definitively harmful – but the few studies available suggest harm is biologically possible and some support evidence to that point.

Note:

The NYS Quitline provides healthcare professionals and others serving commercial tobacco and vape users, with free tools and resources, including the [Patient Referral Program](#). Free services available include a supply of nicotine replacement medications, Quit Coach telephonic treatment phone and/or digital chat support, and the [Learn2QuitNY](#) text program. Quitline services can be accessed by calling 1-866-NY-QUITS (1-866-697-8487) or visiting [nysmokefree.com](https://nysmokefree.com).