

MYTHBUSTERS

Truth over lies

A stylized white icon of a vape device with a cloud of smoke, positioned to the right of the word 'MYTHBUSTERS'.

Myth 1: Vaping is more harmful than smoking

Myth Description:

Misinformation about different aspects of vaping is widely spread. As a result, many people tend to believe that vaping is more harmful than smoking.

Reality:

Vaping is 95% less harmful than smoking.

General Statement:

The myth that vaping is more harmful than smoking is widespread and entails many misconceptions about the actual risk-profile of vaping.

Public Health England has [stated](#) that vaping is 95% less harmful than smoking and concluded that: *“Vaping poses only a small fraction of the risks of smoking and switching completely from smoking to vaping conveys substantial health benefits over continued smoking.”* Recently the [largest literature review of its kind by Kings College, London reconfirmed](#) this, and found that “the use of vaping products rather than smoking leads to a substantial reduction in exposure to toxicants that promote cancer, lung disease and cardiovascular disease.”

As Professor Michael Russell [wrote](#) in 1976: *“People smoke for nicotine but they die from tar”*. This precisely explains why vaping is a significantly safer alternative to smoking - in contrast to conventional cigarettes, vapes do not emit smoke, which leads to [a significant reduction in toxic combustion products](#). [Vaping is significantly less harmful than smoking](#) because the most harm from conventional cigarettes derives from toxicants in tobacco and combustion products. When combustion and other toxic modes of delivery are absent, nicotine in itself is much less harmful.

Myth 2: Vaping does not work for quitting and is more addictive than smoking

Myth Description:

The myth that vaping fails to enable quitting and that it is more addictive than smoking, suggests that individuals who use vapes are unable to quit cigarettes, and are more likely to become addicted to nicotine than those who smoke.

Reality:

Vaping is one of the most successful smoking cessation tools and LESS addictive than smoking.

General Statement:

Studies have shown vapes are typically [less addictive](#) than tobacco cigarettes. While some individuals may become dependent on vapes, this is likely to be less common than with cigarettes. Moreover, [evidence](#) suggests that vapes are a useful tool for smokers who are trying to quit, as they can help to gradually reduce nicotine dependence. The myth that vaping is more addictive than smoking is unfounded and unsupported by scientific evidence.

Additionally, there is no scientific evidence to support the myth that vaping is more addictive than smoking. The addictive potential of vapes is primarily related to the nicotine they contain. However, the amount of nicotine in vapes is typically much lower than in tobacco cigarettes, and e-cigarettes also deliver nicotine in a different way.

The [Royal College of Physicians](#) has also stated that vapes have a low addiction potential, and that they are primarily used by smokers as a tool to quit smoking. Vaping is a [recommended](#) means of quitting for smokers in [France](#), the [United Kingdom](#), [Canada](#), and [New Zealand](#); and, according to a Queen Mary University clinical trial, it is [twice as effective](#) for quitting smoking as nicotine replacement therapies.

While some individuals may become dependent on vapes, this is likely to be less common than with cigarettes. Overall, the scientific evidence shows that the myth that vaping is more addictive than smoking is unfounded, and that vaping is an effective tool for those looking to quit.

Myth 3: Vaping nicotine causes cancer

Myth Description:

Many people think that nicotine is a harmful component and that vaping it causes cancer. It is, therefore, usually claimed that vaping nicotine is as harmful as smoking. Despite the fact that e-cigarette vapour does not contain the most harmful elements in tobacco smoke, such as tar or carbon monoxide, it still causes cancer, it is prejudiced, as are its users.

Reality:

Nicotine is not the problem – toxins in cigarettes are.

General Statement:

Smokers do not die from their addiction but from the harmful effects of the ingredients in tobacco smoke. In the cardiovascular system, much like caffeine, nicotine leads to a slight increase in blood pressure and heart rate. These effects are clinically harmless, the risk of serious illnesses (heart attack, stroke) or mortality is not increased by nicotine.

There is no question that people should not be encouraged to start consuming nicotine. But public health authorities must abstain from tarring current smokers with the brush that their vaping is as harmful as cigarettes. The British [National Health Service](#) follows a pragmatic approach towards nicotine consumption and vaping by stating that: *“While nicotine is the addictive substance in cigarettes, it’s relatively harmless. Almost all of the harm from smoking comes from the thousands of other chemicals in tobacco smoke, many of which are toxic. Nicotine replacement therapy has been widely used for many years to help people stop smoking and is a safe treatment.”*

Smokers who switch to vaping improve their health no matter if they keep consuming nicotine or not, according to a recent [study](#). Their health is of concern with how they consume the nicotine. Additionally, nicotine is an [important factor](#) in whether smokers are able to switch. The authors of this [study](#) found that vaping *“with nicotine delivery approaching that of a cigarette are more effective in helping ambivalent smokers to quit cigarette smoking.”* Shirley Cramer, Chief Executive of Royal Society For Public Health, said: *“Getting people onto nicotine rather than using tobacco would make a big difference to the public’s health – clearly there are issues in terms of having smokers addicted to nicotine, but this would move us on from having a serious and costly public health issue from smoking related disease to instead address the issue of addiction*

to a substance which in and of itself is not too dissimilar to caffeine addiction.”

As we know, nicotine is not a problem in conventional nicotine replacement therapy. Therefore, it cannot be a bigger problem in vaping. Otherwise, we would see the same concern about thousands of people addicted to nicotine patches or nicotine gums. Rather, we see quite the contrary, as smokers are not satisfied with traditional cessation methods and therefore look to vaping as a means of quitting.

Myth 4: Vaping causes diseases such as EVALI and popcorn lung

Myth Description:

Many adults mistakenly believe that vaping is the cause of EVALI and popcorn lung, and many other health problems.

Reality:

Vaping is way less harmful than smoking and reduces health risks substantially.

General Statement:

EVALI is an acronym for “E-cigarette or Vaping Associated Lung Injury.” The term was coined by the CDC after an outbreak of lung injuries in late 2019 that appeared to be linked to patients having a history of vaping nicotine, THC or both.

The CDC [announced](#) in January 2020 that the strongest link to the outbreak was illicit THC vapour products tainted with Vitamin E acetate and not vaping in general. If it were the case we would have seen EVALI cases around the world, but this was only happening in US over a limited time.

The term “popcorn lung” refers to a lung condition called bronchiolitis obliterans, which was first identified in workers at a microwave popcorn factory who were exposed to high levels of diacetyl, a chemical used in some popcorn flavourings. [Cancer Research UK](#) clearly states that vaping doesn’t cause popcorn lung and there are no cases of popcorn lung reported.

Myth 5: Vapour = smoke

Myth Description:

It is believed that e-cigarette vapour and cigarette smoke is the same and, therefore, it is equally toxic and harmful.

Reality:

The vapour caused by e-cigarettes is completely different from cigarette smoke, and it is much less harmful.

General Statement:

Even though they look similar, there is a huge difference between e-cigarette vapour and cigarette smoke.

Smoke is the direct result of burning or combustion. After tobacco combustion, thousands of chemicals are released, many of them harmful and cancerous when inhaled, such as carbon monoxide, methanol, arsenic, chromium, cadmium, or ammonia.

Unlike traditional cigarettes that create more than [7,000 chemicals when burned, 69 of which have been identified as potential carcinogens](#), vape liquids' compounds are common food ingredients deemed safe and not harmful by regulatory bodies including the European Food Safety Authority (EFSA). Everything contained in vape juices and e-liquids is safe to ingest according to several health authorities including the U.S. Center for Disease Control. Due to this, the cancer risk of vaping relative to smoking is 0.4% according to a [study](#) conducted by the University of St. Andrews. The additional lifetime cancer risk for an e-cigarette user is 0,0095% compared to 2,4% of a smoker found by the same study.

The explained differences between smoke and e-cigarettes vapour has also led to the conclusion that secondhand vaping is also not harmful. The aerosols from e-cigarettes contain nicotine that can be inhaled by bystanders, but they do not carry carcinogenic substances like combusted tobacco smoke does. Leaving aside the fact that nicotine is relatively safe, [research](#) showed that “those near a ‘vaper’ inhale 100 times less nicotine than a passive smoker (...) negligible levels that rule out the existence of the passive vaper”.

Myth 6: Vaping is a gateway to smoking

Myth Description:

Many countries are recording their lowest-ever levels of daily smokers and this is great news for all public health, but unfortunately these results are rarely celebrated. Instead, we see politicians and media warning about a new wave of smokers due to vaping. It is claimed that vaping is a gateway to smoking.

Reality:

Vaping is a gateway OUT of smoking!

General Statement:

The highly regarded healthcare NGO Cochrane concluded in its latest [meta-review](#) that there is “high certainty evidence” that vaping with nicotine increases quit rates compared to NRT [nicotine replacement therapy]. Additionally, the correlation between the introduction and the higher popularity of vaping and declining smoking rates suggests that vaping is an important innovation to help people quit smoking. The [National Academies of Sciences, Engineering, and Medicine Report](#) found that the smoking rate has decreased overall more rapidly since vaping became more prominent in the United States. The researchers concluded: “The inverse relationship between vaping and smoking was robust across different data sets for both youth and young adults and for current and more established smoking.”

Another [study](#) found that vaping was twice as effective as nicotine-replacement products in helping smokers quit.

Vaping is a [recommended](#) means of quitting for smokers in [France](#), the [United Kingdom](#), [Health Canada](#), and [New Zealand's](#) Ministry of Health also recommend vaping to smokers looking to quit. The smoking rate in the UK has been steadily declining in recent years, and it is [now at its lowest rate since records](#) began. This decline has been attributed to the introduction of e-cigarettes and other vaping products, which have been credited with helping many people to quit smoking. There is also no gateway from vaping to smoking seen: Only 1.5 % of those who had never smoked said that they currently vape.

The effectiveness of e-cigarettes as a smoking cessation tool is undeniable, keeping in mind that it targets smokers as opposed to non-smokers. Recent trends framing e-cigarettes as a gateway to smoking do not stand up to scrutiny.

Myth 7: Vaping flavours are not for adults

Myth Description:

Those wanting to ban vaping flavours argue that they are not used by adults, and that they are instead a gateway for underage vaping and smoking.

Reality:

More than two thirds of vapers use flavours other than tobacco, and they play a big role in both helping smokers switch and making sure they do not take up cigarettes again.

General Statement:

Vaping flavours are oriented towards adults to help them forget the taste of tobacco, switch to vaping and quit cigarettes. They are very commonly used, with more than two thirds of vapers using non-tobacco flavours regularly.

Vaping flavours are not only instrumental in helping smokers switch, but also ensure that they do not take up cigarettes again. According to Yale School of Public Health, flavoured vaping devices are associated with an 230% increase in the odds of adult smoking cessation. Restricting flavours would push 5 out of 10 vapers back to smoking cigarettes or the black market.

Furthermore, there is no evidence that links vaping flavours with teenage or underage smoking, while many studies show how other socio-economic and environmental factors are behind children taking up vaping or cigarettes.

Myth 8: There is a youth epidemic of vaping

Myth Description:

One of the most commonly used arguments by those looking to restrict vaping is that there is a youth epidemic of vaping. They argue that millions of teenagers worldwide are becoming addicted to nicotine and taking up cigarettes due to vaping.

Reality:

There is no data supporting the view that vaping is spreading among teenagers as a so-called 'epidemic', and evidence shows that it is not a gateway to smoking for them.

General Statement:

There is not such a thing as a youth vaping ‘epidemic’ as often claimed. Recently FDA Center for Tobacco Products Director, Brian King, [admitted](#) this himself publicly. It is also clear that vaping is not a gateway to smoking for teenagers.

Evidence that youth [vaping](#) and [smoking](#) have decreased rapidly in the last years refutes the idea: *“the use of cigarettes and smokeless tobacco decreased more rapidly since 2012 as e-cigarette use began to increase. Smoking and smokeless tobacco use reached historically low levels among adolescents in the US”*. Similar evidence can be found in [Germany](#), similarly in the [UK](#) *“youth smoking rates are at an all-time low and youth (11-18 year-old) use of e-cigarettes is rare and largely confined to those that already smoke tobacco cigarettes”*. According to [Professor Polosa](#) (University of Catania, Italy), *“EC use has surged greatly among high school students and young adults over the last decade but fortunately has declined significantly since its peak in 2019. During the same time period, smoking rates have constantly fallen to new low record levels”*.

Different socio-economic and environmental factors such as [personality traits](#), [genetic predisposition](#), or parental smoking habits are behind children taking up vaping or smoking. If anything, [vaping appears to divert a subset of youth at high risk of cigarette smoking away from smoking](#). In fact, most teenagers try vaping after they have already started smoking, and not the other way around. A [review of fifteen studies](#) published in 2019 stated that “a true gateway effect in youths has not yet been demonstrated”, and, according to researchers from the University of New South Wales, Sydney and the University of Queensland, Herston, [at least 70-85% of all adolescents try vaping after having already started smoking](#), and regular vaping is very rare (below 0,5%) among teenagers who are non-smokers.

Myth 9: Higher taxation will improve public health

Myth Description:

Policy makers trying to improve public health believe that raising taxes on vaping products, restricting access or banning the products will reduce vaping use and have a net positive effect on public health, with no unintended consequences.

Reality:

Higher taxes on vaping reduce consumption, but they do not improve public health. As an unintended consequence, vapers turn back to smoking or to the black market, and high taxes on vaping products end up having a net negative effect on public health.

General Statement:

Vaping products' sales and use is very responsive to prices, and it is well established that tax increases on these products reduce their usage. Several studies have shown that tax increases in both [Europe](#) and the [US](#) have driven down e-cigarette sales, but this does by no means mean that higher taxes improve public health. The evidence shows that combustible and electronic cigarettes are [substitute](#) products and that, therefore, [tax increases on vaping products are likely to boost cigarette smoking, particularly among young adults](#).

As a result, tax increases on vaping end up backfiring, [increasing smoking rates and damaging public health](#). In order to improve public health, experts recommend [risk-based taxation](#) - meaning the less harmful products (such as vaping) being less taxed than cigarettes - to incentivise smokers to switch.

Restricting access to the products in other ways or banning their sale and use also have unintended consequences and do more harm than good. When users cannot buy their products in the market, they [resort to the black market or go back to smoking](#). A [flavour ban in San Francisco](#) resulted in rising smoking rates among teenagers for the first time in decades, while a [flavour ban in Massachusetts](#) resulted in higher sales of cigarettes. In the black market, products do not comply with quality and safety regulations, are more harmful to users and damage public health.

Myth 10: There is no evidence about vaping and therefore it is dangerous

Myth Description:

Even though vaping has been around for more than 15 years, many people believe there is still no (long term) evidence about the actual risks of vaping.

Reality:

More than 100 health and government organizations have concluded that while the long-term risks of using e-cigarettes are not fully understood, it is highly probable that vaping is significantly less harmful than smoking based on basic scientific principles.

General Statement:

The British [Royal College of Physicians](#) estimates that the long-term risk of vaping is likely no more than 5% of the risk of smoking. Vaping has been studied for over 15 years, and the chemicals in vapour and in the bodies of vapers have been extensively researched.

Vaping produces substantially fewer harmful chemicals than smoking, and smokers who switch to vaping have significantly reduced levels of toxic chemicals in their bodies. The estimated [lifetime cancer risk from vaping is less than 0.5%](#) of the risk from smoking based on the level of carcinogens and their potency.

Switching from smoking to vaping has improved several health aspects, like asthma, COPD, lung function, and cardiovascular markers. Reports of serious adverse effects from vaping are rare, and numerous modelling studies suggest that vaping has a net public health benefit.

More than [82 million people use vaping products](#), and we almost never hear about any serious side effects. Vaping is definitely less harmful in the short and medium term, so it is most likely also less harmful in the long term.

Despite broad use of alternative nicotine products in [Sweden](#) and with a nicotine intake similar to that of the other EU countries, Sweden's incidence of cancer is 41% lower, and as a result, cancer-related deaths are 38% lower. Additionally, tobacco-related deaths are almost 40% lower. The Swedish example proves that smokeless nicotine products can significantly improve public health and that nicotine is not the substance causing cancer in cigarettes.

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OUT OF
VAPING IS A GATEWAY ~~TO~~ SMOKING

95% LESS
VAPING IS ~~MORE~~ HARMFUL THAN SMOKING.

SECONDHAND VAPING IS NOT HARMFUL.
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MYTHBUSTERS
Truth over lies 

HELP ADULTS TO QUIT SMOKING
~~FLAVOURS ARE NOT FOR ADULTS~~

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