

Vaping's image problem

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Surveys suggest that public understanding of the risks and benefits of e-cigarettes has become divorced from the scientific evidence. A Eurobarometer survey conducted in 2020 and published in February 2021 reveals widespread ignorance and negativity towards vaping in the EU combined with low rates of e-cigarette use and stubbornly high rates of smoking.

Scare stories in the media, inaccurate claims from public health agencies, and the United States' problems with so-called EVALI (e-cigarette or vaping product use associated lung injury) have all contributed to vaping's image problem.

Years of misinformation have caused the public to become systematically biased against e-cigarettes and other reduced-risk nicotine products. If consumers were given accurate information, more smokers would benefit from innovations in harm reduction and smoking rates would likely decline. Public health organisations and governments have often been responsible for fostering myths about vaping and could lead the way in debunking them.

Introduction

Extensive research shows that vaping is much less harmful to health than smoking and that e-cigarettes help people quit combustible tobacco. Invented, manufactured, and sold by the private sector, e-cigarettes and other reduced-risk nicotine products allow consumers to enjoy many of the benefits of combustible tobacco without having to tolerate the health risks of smoking. As such, e-cigarettes are a classic example of the free market providing a solution to a health problem.

The Eurobarometer findings

The European Commission's Special Barometer 506 was published in February 2021. Titled 'Attitudes of Europeans towards tobacco and electronic cigarettes' it provides extensive survey evidence from August-September 2020 about the use of, and attitudes towards, vaping in the EU-27 and the UK. The previous two editions of the survey were carried out in 2014 and 2017.

The main findings from the 2020 survey are as follows:

Since 2014, the smoking rate in the EU has fallen only slightly, from 26 per cent to 25 per cent. Smoking prevalence varies enormously across the bloc, from seven per cent in Sweden to 42 per cent in Greece. The UK and the Netherlands have the second lowest smoking rate (at 12 per cent). Although the authors of the Eurobarometer report do not mention it, Sweden and the UK have both embraced safer alternatives to cigarettes: snus in Sweden and e-cigarettes in Britain. In contrast to the sluggish rate of decline in the rest of the EU, Eurobarometer finds that smoking prevalence has dropped by nearly half in the UK and by a third in Sweden since 2014.

Between 2014 and 2020, the prevalence of current e-cigarette use has remained static at two per cent of the adult population. The proportion of EU citizens who have ever tried e-cigarettes has risen only slightly, from 12 per cent in 2014 to 14 per cent in 2020.

Thirty per cent of those who have a history of smoking and have tried using e-cigarettes or heated tobacco say that these products helped them give up smoking completely. The authors of the Eurobarometer report describe this as '**just** three in ten' (author's emphasis) as if it were a small number, but it is twice the figure reported in the 2014 and 2017 surveys (14 per cent). Given how difficult most smokers find it to stop smoking, a 30 per cent quit rate is highly impressive, particularly since many of those who experimented with e-cigarettes would not have been strongly motivated to quit in the first place. Moreover, a further 27 per cent say they reduced their tobacco consumption as a result of vaping.

Among those who have little or no experience with vaping, only seven per cent say they find e-cigarettes appealing. Even among smokers, the figure is only 14 per cent.

Of those who have little or no experience with vaping, only 20 per cent think e-cigarettes and heated tobacco products help smokers quit. Seventy per cent think they do not. The figure is higher among those who have tried e-cigarettes and among those who have spent longer in full-time education, but only in the UK does a majority acknowledge that vaping helps people quit smoking.

The Eurobarometer also provides insights into why people start vaping. By far the most common reason is to stop or reduce tobacco consumption (57 per cent) followed by the related belief that vaping is less harmful than using tobacco (37 per cent). Nearly a quarter of vapers mentioned e-cigarettes being cheaper than tobacco as a reason (23 per cent) and 20 per cent said

they like e-cigarette flavours. Being allowed to vape in places where smoking is banned was mentioned by 17 per cent of e-cigarette users. Only 8 per cent said that it was because they thought e-cigarettes were 'cool or attractive'.

Seventy per cent of all respondents were in favour of banning the use of e-cigarettes and heated tobacco products in places where smoking is banned. This is an increase of seven percentage points since 2014, although the inclusion of heated tobacco in the 2020 survey may partly explain this. 47 per cent of all respondents were in favour of banning e-cigarette flavours, up from 40 per cent in 2017 (the question was not asked in 2014).

Those who actually use e-cigarettes are far less likely to support these prohibitions, with 13-27 per cent supporting a flavours ban and 38-43 per cent supporting an indoor use ban. By contrast, 71 per cent of those who have little or no experience with vaping think e-cigarettes should be regulated as strictly as cigarettes.

Since 2017, the proportion of EU citizens who believe e-cigarettes are 'harmful to the health of their users' has increased from 55 per cent to 65 per cent. In 2012, the figure was just 27 per cent. The question does not quantify harm. E-cigarettes are much less harmful than smoking, but are not necessarily harmless, so people are right to say yes to it. Nevertheless, the rise in the number of people identifying e-cigarettes as harmful may reflect an exaggerated perception of risk and may explain why so many Europeans are in favour of strict regulation.

The problem

The Eurobarometer survey reveals some troubling trends. Smoking prevalence remains stubbornly high while vaping prevalence remains very low. Around half of the EU's smokers have never tried e-cigarettes and only 14 per cent of them find e-cigarettes appealing. There is a wide and growing perception that e-cigarettes do not help smokers quit and attitudes towards regulation are hardening.

This is paradoxical because the evidence that vaping helps people stop smoking gets stronger every year. The benefits of e-cigarette use in smoking cessation have been shown in a series of randomised controlled trials, the gold standard of scientific evidence. Bullen et al. (2013), Caponnetto et al. (2013) and Adriaens (2014) all showed that smokers were more likely to quit smoking if they used e-cigarettes than if they used a placebo or nicotine replacement therapy. This was particularly impressive since two of the randomised controlled trials involved smokers who had no desire to quit at the outset.

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More recently, Hayek et al. (2019) found smokers to be nearly twice as likely to quit using e-cigarettes than if they used nicotine replacement therapy, and Walker et al. (2019) found that smokers using nicotine patches plus a nicotine e-cigarette were more likely to quit than those using patches plus a zero-nicotine e-cigarette.

The evidence that vaping is vastly less harmful to health than smoking remains unchallenged. E-cigarettes have now been on the market for over a decade without being linked to any serious health condition. There is no evidence that vaping increases the risk of cancer or heart disease. Cancer Research UK acknowledges that e-cigarettes are 'far closer to other nicotine replacement therapy (NRT) products than tobacco in terms of harm'¹. Public Health England concluded that vaping is at least 95 per cent safer than smoking. The Royal College of Physicians and many other health groups encourage smokers to switch to e-cigarettes. Even organisations that do not actively promote vaping acknowledge that it is significantly less harmful than smoking.

Meanwhile, evidence from the economics literature confirms that e-cigarettes are a substitute for tobacco, not a complement or 'gateway' to it. Interventions that make vaping less attractive to consumers, such as taxes and flavour bans, have been repeatedly shown to increase cigarette consumption and smoking prevalence (Snowdon 2020).

To the frustration of experts in the field, public opinion is moving in the opposite direction to the peer-reviewed literature. As McNeill et al. (2021: 147) note: 'Perceptions of the harm caused by vaping compared with smoking are increasingly out of line with the evidence'. The proportion of adult smokers in England who think vaping is as dangerous or more dangerous than smoking rose from 36 per cent to 53 per cent between 2014 and 2020 (ibid.: 143). If this is how misinformed people are in a country where health agencies have been broadly supportive of tobacco harm reduction, it is easy to see why vaping is facing a backlash in other places. A survey published last year found that 59 per cent of Europeans wrongly believe that vaping is as dangerous or more dangerous than smoking (Graveley et al. 2020). Several studies have shown that a majority of both smokers and non-smokers wrongly believe that nicotine causes cancer (Wilson et al. 2011).

¹ https://www.cancerresearchuk.org/health-professional/awareness-and-prevention/e-cigarette-hub-information-for-health-professionals/safety#E-cigs_safety0

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The most likely explanation for this is the steady stream of scare stories reported in the media and the relentless efforts of anti-vaping academics, particularly in the USA. False claims about e-cigarettes, such as the supposed risk of vapers developing 'popcorn lung' or suffering brain damage, have spread virulently on social media. Experiments on mice, zebra fish and other small animals have been inappropriately extrapolated to humans, with their findings further exaggerated by the sensationalist press. The cumulative effect of dozens of scary headlines has dealt a blow to the public's confidence in vaping as a safer substitute for smoking.

A series of tragic deaths from so-called EVALI (e-cigarette or vaping product use associated lung injury) in the USA in 2019 added fuel to the fire. In reality, the deaths were caused by black market THC oil being adulterated with Vitamin E acetate, but they were widely and irresponsibly depicted as the result of normal e-cigarette use. Anti-vaping activists successfully exploited the epidemic to advance their campaign against e-cigarette flavours and vape pods. Although EVALI was confined to North America, it became a global news story and added to the growing sense that e-cigarettes were more harmful than previously thought.

In this climate of misinformation, smokers can be forgiven for taking a 'better the devil you know' approach and steering away from reduced-risk products. Some health agencies must take a share of the blame. Most notably, the World Health Organisation has taken a strong anti-vaping line for years, mixing half-truths and exaggerations while supporting the outright prohibition of e-cigarettes. A recent report from the European Commission's Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) was little better. It cherry-picked evidence and selectively quoted authorities to revive discredited theories about the 'gateway effect' and the 'renormalisation' of smoking while casting doubt on vaping's role in smoking cessation. McNeill et al. (2021: 35) found that the SCHEER report failed to follow established practice for systematic evidence reviews and that many of its claims about e-cigarette safety were based on products that are banned in the EU.

Conclusions

Survey evidence suggests that nicotine consumers, the majority of whom are cigarette smokers, are suffering from information asymmetry. In economics, information asymmetry typically involves exploitation by commercial entities who know more about their product than consumers do. In this instance, those in the e-cigarette industry do indeed know more about the product than the consumer, but this knowledge has been drowned out by misinformation from the media and by some, but not all, public health agencies. Heavy restrictions on advertising under the EU Tobacco Products Directive prevents the industry from correcting popular misconceptions.

Consumers cannot make rational transactions without being reasonably well informed about the product. The Eurobarometer and other surveys suggest that a majority of consumers are not merely ignorant about the risks and benefits of e-cigarettes, but are woefully misinformed. Moreover, their understanding has become worse over time.

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This has led to a market failure. Consumption of e-cigarettes is lower than it would be if people were better informed, and consumption of cigarettes is higher. The public is in urgent need of better information. E-cigarettes have tremendous public health potential, but this disruptive technology is in danger of being snuffed out by apathy and over-regulation. In their report for Public Health England, McNeill et al. (2021: 17) conclude that a 'greater emphasis needs to be placed on how best to communicate evidence of relative harm to smokers so that they can consider all the options available to them'.

Education is a core responsibility of public health agencies. Public health campaigners often lobby for labelling and health warnings on tobacco, alcohol, and other products, even when the risks are well known. We have strong evidence that a majority of consumers, including smokers, are systematically misinformed about the risks of e-cigarettes and nicotine. If consumers are to make an informed choice, this information asymmetry must be corrected. Public health organisations and governments have often been responsible for fostering myths about tobacco harm reduction. They could lead the way in debunking them.

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