

Item No.	Classification: Open	Date: 23/03/2021	Meeting Name: Health & Social Care Scrutiny Commission
Report title:		Vaping Safety	
Ward(s) or groups affected:		All Wards	
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EXECUTIVE SUMMARY

A wide variety of e-cigarette types are available in the UK. UK legislation creates a strict regulatory framework for e-cigarette capacity, strength and safety, as well as providing information to retailers and consumers about problematic products that do not meet regulations.

In other countries where regulation is not as strict, there have been incidents of additives, that are banned in the UK, leading to cases of e-cigarette, or vaping, product use-associated lung injury (EVALI).

When used safely, according the regulations, e-cigarettes have the potential to play an important role in reducing smoking prevalence, which is the leading cause of death, ill health and health inequalities in England.

The use of e-cigarettes is not risk free; however, a growing body of evidence indicates that e-cigarettes are substantially less harmful to health than smoking, and that they can also be used as an effective aide to stop smoking.

RECOMMENDATION

It is recommended that members of the Health & Social Care Scrutiny Commission note this report and its content.

CONTEXT

E-cigarettes were invented in China in 2003 and became available in the UK in 2006. Since then, the e-cigarette market has expanded to include hundreds of different types of products including cigarette-like products, pen-like products, and a vast array of different atomisers and vaporisers, which are available from a range of retail outlets and online.

Regulatory framework

There are different regulatory frameworks for e-cigarettes across the world. The UK (and EU) has one of the strictest regulatory frameworks for e-cigarettes.

Non-nicotine containing vaping products fall under the General Product Safety Regulations 2005, enforced by local authority Trading Standards. Nicotine vaping products are regulated by the Revised European Union Tobacco Products Directive (2014/40/EC) (EUTPD), transposed into UK law by the Tobacco and Related Products Regulations 2016 (TRPR). The national competent authority for the TRPR regulations relating to vaping products is the Medicines and Healthcare products Regulatory Agency (MHRA), acting for the Secretary of State for Health and Social Care. Regulations for nicotine-containing products are summarised below:

Table 1: Summary of the nicotine-containing vaping product regulations¹

<p>Notification requirements</p> <ul style="list-style-type: none"> • EC manufacturers must submit a range of details to MHRA before putting a product on the market and update when products are manufactured or withdrawn
<p>Maximum capacities and nicotine strength allowed</p> <ul style="list-style-type: none"> • Tank capacity: 2mL • E-liquid refill container capacity: 10mL • Strength of e-liquid: 20mg/mL
<p>Other safety and quality standards</p> <ul style="list-style-type: none"> • Child-resistant and tamper evident packaging • Prohibition of certain additives such as colourings • Protection against breakage and leakage, and a mechanism for ensuring re-filling without leakage
<p>Information provision</p> <ul style="list-style-type: none"> • Health warning and provision of information on pack or device/bottle
<p>Advertising</p> <ul style="list-style-type: none"> • All broadcast media and cross-border advertising prohibited • Domestic advertising allowed such as outdoor, posters, cinema, and so on • All advertising must adhere to a Committee of Advertising Practice Code • Health claims on advertising are allowed under strict conditions (see below)
<p>Age of sale law</p> <ul style="list-style-type: none"> • 18 years and proxy purchasing also prohibited
<p>Public places</p> <ul style="list-style-type: none"> • No legislation but local proprietors or organisations can decide

¹ Reproduced from Vaping in England: an evidence update including vaping for smoking cessation, February 2021 - A report commissioned by Public Health England
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962221/Vaping_in_England_evidence_update_February_2021.pdf

This means that the safety of e-cigarettes in the UK is different to e-cigarettes purchased in other countries where regulatory standards are different.

There have been incidents of serious harm linked to e-cigarettes in countries where regulation is less stringent – for example, the recent outbreak of e-cigarette, or vaping, product use-associated lung injury (EVALI) in the US, which was linked to the use of Vitamin E acetate in products. Vitamin E acetate is an additive that is used to vape THC – the active ingredient in cannabis. Vitamin E acetate is banned from UK regulated nicotine-containing e-cigarettes – for this reason, there have only been a couple of suspected cases of EVALI in the UK, with one only confirmed. It has been suspected that these are linked to unregulated products purchased online or via other black market means.

The MHRA has a public facing database of products that have been notified including a list of withdrawn notifications. Retailers are advised to check these lists when sourcing new supplies of any vaping product or vaping liquid. Consumers can also check these lists if interested.

CURRENT POSITION

Prevalence

Smoking prevalence among adults in England continues to fall and was between 13.8% and 16.0% in 2019/20, equating to about 6 to 7 million smokers. Vaping prevalence is lower than smoking prevalence - around 6% (between 5.5% and 6.3%), equating to about 2.7 million adult vapers in England.

The most common reasons for vaping reported in recent surveys were to quit (29.7%), stay off (19.4%) or reduce (11.2%) smoking tobacco².

Reviews of safety

Evidence so far indicates that e-cigarettes are far less harmful than smoking as they do not contain tobacco or involve combustion.^{3,4} There is no smoke, tar or carbon monoxide, and studies looking at key toxicants have generally found much lower levels than in cigarettes. They do contain nicotine, which is addictive, but is not responsible for the major health harms from smoking.

A safety review by the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT) in 2020 considered the absolute risks associated with vaping products as well as relative risks compared with tobacco

² ibid

³ Burstyn I. [Peering through the mist: systematic review of what the chemistry of contaminants in electronic cigarettes tells us about health risks\(link is external\)](#). BMC Public Health. 2014;14(1):18.

⁴ Shahab L, Goniewicz ML, Blount BC, et al. [Nicotine, carcinogen, and toxin exposure in long-term e-cigarette and nicotine replacement therapy users: a cross-sectional study](#). Ann Intern Med 2017;166(6):390-400.

cigarettes. It also considered possible risks to bystanders when vaping products are used⁵.

The review concluded that the risk of adverse health effects from vaping products is expected to be much lower than from cigarettes. The review found that exposure to particulate matter and nicotine could be associated with adverse health effects and that the effects of inhaling flavouring ingredients is uncertain in those who use e-cigarettes. The COT also suggested people who had not smoked tobacco but vaped would likely experience some adverse health effects. The review conceded that for most health effects, the risks to bystanders will probably be low, although exposure to nicotine in ambient air may occur in some individuals (as would be the case for conventional cigarette smoke).

The role of e-cigarettes in smoking cessation

PHE identifies that: “alternative delivery devices such as nicotine vaping products could play a critical role in reducing the enormous health burden caused by cigarette smoking which remains the largest single risk factor for death and years of life lived in ill-health and a leading cause of health inequalities in England, and the second most important risk factor for death and Disability Adjusted Life Years globally”.

A UK randomised controlled trial in 2019 compared the use of e-cigarettes or a nicotine replacement therapy (patches, gum, inhalators, etc.) alongside behavioural support for a minimum of 4 weeks. Amongst the 886 participants, 1 year abstinence rates were 83% higher in the e-cigarette group⁶.

PHE recommends that combining e-cigarettes (the most popular source of support used by smokers in the general population), with stop smoking service support (the most effective type of support), should be a recommended option available to all smokers.

They recommend that Stop smoking practitioners and health professionals should provide behavioural support to smokers who want to use an e-cigarette to help them quit smoking.

In 2013, The National Institute for Health and Care Excellence (NICE) commented⁷:

“Although these products are not licensed medicines, they are regulated by the Tobacco and Related Products Regulations, many people have found them helpful to quit smoking cigarettes. People using e-cigarettes should stop smoking tobacco completely, because any smoking is harmful.

⁵ COMMITTEE ON TOXICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT (COT), (2020) Statement on the potential toxicological risks from electronic nicotine (and non-nicotine) delivery systems (E(N)NDS – e-cigarettes)
<https://cot.food.gov.uk/sites/default/files/2020-09/COT%20E%28N%29NDS%20statement%202020-04.pdf>

⁶ Hajek, P., et al., A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy. N Engl J Med, 2019. 380(7): p. 629-637.

⁷ National Institute for Health and Care Excellence (2013) Tobacco: harm reduction approaches to smoking (PH45).

“The evidence suggests that e-cigarettes are substantially less harmful to health than smoking but are not risk free. The evidence in this area is still developing, including evidence on the long-term health impact”

NICE currently is examining vaping products as part of producing its updated guideline ‘Tobacco: preventing uptake, promoting quitting and treating dependence (update)’. The publication of this has been delayed until September 2021.

Public perceptions

Perceptions of the harm caused by vaping compared with smoking are increasingly out of line with the evidence, with just 29% of current smokers believing that vaping is less harmful than smoking, 38% believing vaping to be as harmful as smoking, 18% not knowing whether vaping or smoking is more harmful and 15% of smokers believing vaping to be more harmful than smoking. Misperceptions may be more pronounced among smokers from social grades C2, D and E⁸.

CONCLUSION

There is a growing evidence base that e-cigarettes are significantly less harmful than conventional cigarettes. E-cigarettes do not contain tobacco, which contains the bulk of cancer-causing compounds. They do contain nicotine, which is addictive, but is not responsible for the major health harms from smoking. E-cigarettes are likely to play an increasingly important role in helping smokers to quit.

⁸ Vaping in England: an evidence update including vaping for smoking cessation, February 2021 - A report commissioned by Public Health England
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962221/Vaping_in_England_evidence_update_February_2021.pdf