Key points:

- ASH Scotland does not take a simplistic view either “for” or “against” e-cigarettes, recognising that the evidence base on these novel devices is incomplete.
- Many smokers are using e-cigarettes with the intention of quitting, and there is evidence that these devices do help some people to quit smoking.
- There is concern that many smokers may reduce their smoking and “dual use” both e-cigarettes and tobacco, failing to realise the health benefits of quitting.
- A substantial “gateway effect”, where young people start vaping and then move on to smoking, has not been observed in survey data in Scotland (although there may be some evidence of this in other countries and some UK-based studies).
- Using an e-cigarette is definitely less harmful than smoking, but it is difficult to say by how much, given the myriad health problems related to smoking.
- It is important that smokers receive factual information about e-cigarettes, and concerning that many believe these devices are as harmful as tobacco cigarettes.
- The role of tobacco companies in this market is concerning given their ongoing efforts to expand markets for combustible tobacco world-wide and potential for e-cigs to become a gateway for their communications with young people.
- Heated tobacco products are not e-cigarettes, and should be regulated in the same way as any other tobacco product.

About ASH Scotland

ASH Scotland - Action on Smoking and Health (Scotland) - is the independent Scottish charity taking action to reduce the harm and inequality caused by tobacco use. Our activities include an expert information service, campaigning for political action on tobacco and health, supporting community groups to help their service users affected by tobacco use, building public support and awareness for making Scotland free from tobacco and supporting charities, enforcement agencies, the NHS and others to contribute to achieving that goal.

Legislation on e-cigarettes in Scotland

The law on e-cigarettes in Scotland is largely the same as those in England and Wales, due largely to EU-wide regulation under the 2014 Tobacco Products Directive. The Health (Tobacco, Nicotine etc., and Care) (Scotland) Act 2016 introduced some legislation beyond this framework:

- An age limit of 18 on purchasing the devices (from April 2017)
- A ban on ‘proxy purchasing’ by adults for under-18s (from April 2017)
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- prohibition on selling e-cigarettes from vending machines (from April 2017)
- a registration system for e-cigarette vendors, similar to the tobacco retailer’s register (from April 2017, with enforcement from October 2017)
- a ‘Challenge 25’ age verification policy for e-cigarette purchase (from April 2017)
- powers to regulate domestic e-cigarette advertising (eg. billboards, distributing samples and leaflets, point of sale) (expected in 2018).

Although regulations on domestic advertising are yet to be published, it is expected that they will restrict most areas of advertising which are not restricted under the Tobacco Products Directive (with the likely exception of point-of-sale advertising).

The evidence on e-cigarettes

As e-cigarettes are relatively new products, evidence about their health effects and use as a tool for smoking cessation is limited. The following paragraphs summarise ASH Scotland’s view of this developing evidence base. Our full evidence-based briefing on e-cigarettes is presented as Appendix 1.

NHS Health Scotland has recently published a consensus statement on e-cigarettes, which a wide range of Scottish health stakeholders (including ASH Scotland) have agreed upon. This is presented as Appendix 2.

E-cigarettes for quitting smoking

This is an area of active research. Three recent systematic reviews\(^2^-^4\) have rated the quality of evidence currently available as limited, although this will likely improve in the next few years as studies currently in the field are completed. It is essential that high-quality studies on this area of vital public health interest continue to be funded and conducted, to develop a wide and deep evidence base for policymaking.

That evidence which is currently available suggests that e-cigarettes can be effective for smoking cessation, but there is no agreement on the magnitude of this effect.

ASH Scotland encourages smokers to try any and all means to quit tobacco, including using e-cigarettes.

Dual use of tobacco and e-cigarettes

Smokers who reduce their cigarette use without quitting still suffer a great deal of health harm. In particular, cardiovascular damage does not have a 1:1 dose-response relationship with smoking, meaning that smoking just a few cigarettes a day can do most of the damage of a much heavier smoker.\(^5\) For that reason, cutting down isn’t enough.
Some research has indicated that around 75% of e-cigarette users use lit tobacco and e-cigarettes concurrently\(^6\),\(^7\). It has been estimated that 2.8 million adults in Great Britain currently use e-cigarettes,\(^8\) with around two thirds of those current smokers\(^9\). It is not known whether dual use is correlated with future successful quit attempts. If dual use is maintained for a long period instead of quitting tobacco entirely, this is likely to result in greater net harm to health.

**Children using e-cigarettes**

There is concern that non-smoking children may use e-cigarettes before moving onto tobacco. This hypothesis is known as the gateway effect.\(^10\)

Survey data in Scotland, including the Scottish Government’s SALSUS survey of young people, has not detected a substantial number of non-smoking children using e-cigarettes consistently, although experimentation is relatively common.\(^11\) However, there is some evidence that non-smokers who experiment with e-cigarettes are more likely to start smoking.\(^12\),\(^13\)

In Scotland, smoking rates among young people have fallen to record lows – 2% among 13-year-olds and 7% among 15 year olds as of 2016.\(^11\) Care should be taken to ensure that this progress continues. Continued monitoring is required to be sure that children do not begin using e-cigarettes at a higher rate, and that e-cigarette companies do not market to children.

**Health effects of using e-cigarettes**

It is difficult to say exactly what the long-term health effects of e-cigarette use will be. However, we can say with confidence that using an e-cigarette is less harmful than smoking lit tobacco. A smoker who switches completely from lit tobacco to e-cigarettes will significantly improve their health.

Public Health England has previously publicised the claim that e-cigarettes are 95% less harmful than tobacco.\(^9\) We regard this figure as overly speculative. Due to the paucity of the evidence base, we do not believe that it is currently possible to compare these two product categories in this way. Instead, we would state that e-cigarette use is “definitely less harmful” than smoking, the form of language used in the NHS Health Scotland consensus statement (Appendix 2).

**Smokers’ views of e-cigarettes**

There is evidence that many smokers now regard e-cigarettes as dangerous on the same order as lit tobacco.\(^8\) This could stop smokers from quitting using the devices. We would encourage responsible messaging to counteract this threat, such as highlighting the fact that smoking cessation services now support smokers who choose to quit using e-cigarettes (as is the case in most of Scotland’s health boards).

**The tobacco industry and e-cigarettes**
The e-cigarette market in the UK is now dominated by tobacco company-owned brands such as Vype (British American Tobacco) and blu (Imperial Brands). These companies are predominantly interested in tobacco, by far their larger source of profit, and have a history of misdirection, inaccuracy and deceit in carrying out this business.

It is essential that tobacco companies are never seen as “part of the solution” in public health. Article 5.3 of the Framework Convention on Tobacco Control sets out the UK’s obligation to protect decision making from these multinationals:

“In setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law.”

For this reason, tobacco companies, including their e-cigarette subsidiaries, should not be treated as stakeholders on issues of public health.

A related area of concern is the recent attempts of tobacco company Philip Morris International to infiltrate public health through its so-called “Foundation for a Smoke-free World”. The World Health Organization, health campaigners and a range of academics have rejected this tobacco-funded organisation as incompatible with the aims of public health, and with the Framework Convention on Tobacco Control. We urge the Committee not to engage with the Foundation, as to do so risks lending it undue credibility.

**Heated tobacco products**

Heated tobacco products (such as Philip Morris International’s iQOS) are tobacco products, and it is vital that a proper distinction is maintained between these devices and electronic cigarettes, which do not contain tobacco. While these products are very new, recent research has suggested that they may release a variety of harmful and potentially carcinogenic chemicals in both passive and active use. At this time, there is not sufficient evidence to believe that heated tobacco products will help smokers to quit, or that they will protect users from the harmful effects of tobacco.

The market in new, heated tobacco products is likely to expand substantially over the next few years, with a wide variety of devices emerging. These products may have widely differing methods of action and harm profiles, both to users and to bystanders. With that in mind, it is crucial that any regulatory regime is both comprehensive and flexible to deal with diverse products.

**References**


5. Schane RE, Ling PM, Glantz SA. Health Effects of Light and Intermittent Smoking. *Circulation* [Internet]. 2010 [accessed 2017 May 29];121(13). Available from: http://circ.ahajournals.org/content/121/13/1518.full


15. Action on Smoking & Health (Scotland) (ASH Scotland) is a registered Scottish charity (SC 010412) and a company limited by guarantee (Scottish company no 141711). The registered office is 8 Frederick Street, Edinburgh EH2 2HB.
Electronic cigarettes

March 2017

Key points:

- ASH Scotland does not take a simplistic view 'for' or 'against' e-cigarettes, instead focusing on reducing the harm caused by tobacco
- e-cigarettes are battery-powered devices that heat a liquid, often containing nicotine and flavourings, into a vapour to be inhaled by the user
- e-cigarettes are safer than lit tobacco, although they are unlikely to be completely harmless
- around 7% of adults in Scotland currently use e-cigarettes, many of them concurrently with lit tobacco
- there is not yet evidence that young people in the UK are starting e-cigarette use and then progressing to lit tobacco use
- the emerging evidence is that using e-cigarettes to quit smoking can be effective, but more research is required to quantify and understand their effectiveness
- regulations came into force in 2016 covering the design of the devices, advertising restrictions and age limits for purchase and sale, with more regulations expected in Scotland in 2017.

This briefing is intended for public health professionals, such as smoking cessation advisers. It is not intended to be a comprehensive review of evidence or a statement of ASH Scotland’s position on e-cigarettes. For further information, please visit www.ashscotland.org.uk or contact our Information Service on enquiries@ashscotland.org.uk
Introduction

ASH Scotland does not take a simplistic view either ‘for’ or ‘against’ electronic cigarettes. Our interest is in helping people improve their health by reducing the enormous harm caused by tobacco use. Our approach to electronic cigarettes will be guided by that principle.

In the debates over the relative risks associated with e-cigarettes, we must not lose sight of the fact that tobacco is the key concern. While the number of people who smoke has halved in the last 40 years, this still leaves just under 1 million people in Scotland\(^1\) with greatly increased risk of cancer, heart disease, stroke, dementia, rheumatoid arthritis and diabetes. Half of long-term smokers will die of a cause associated with their tobacco use\(^2\), often after many years of debilitating illness, and tobacco is far and away the largest preventable cause of death\(^3\).

We believe that ‘vaping’ will prove to be much less harmful than smoking – but not harmless, as some have suggested. So for a smoker to switch completely from tobacco to electronic cigarettes can bring significant health benefits, and we recommend any smoker to try the various options which might help them to quit tobacco, including e-cigarettes.

We note that the best health outcomes will still come from being free of any addictive substance.

What are e-cigarettes?

E-cigarettes are battery-powered devices which heat a liquid, often containing flavourings and nicotine, to produce a vapour inhaled by the user. The liquid, usually composed primarily of propylene glycol or glycerine, is aerosolised and inhaled deep into the lungs in a manner similar to tobacco smoke (and unlike licenced nicotine replacement products such as inhalators). This is thought to produce an experience closer to smoking than other products, but which does not carry the harmful effects of tobacco smoke.

A wide range of terms are used to refer to electronic cigarettes, reflecting a range of device types which may not resemble lit tobacco cigarettes. Among the more common are vaporisers, vape pens, e-shisha, electronic nicotine delivery systems (ENDS) and nicotine vapour products (NVPs, the term preferred by the Scottish Government).

There are a number of different types of device available. Devices known as ‘cigalikes’ or first-generation e-cigarettes resemble conventional cigarettes. They may be rechargeable and accept a refill of e-liquid in the form of a cartridge, or may be disposable. Second generation devices are larger, and are generally refillable and rechargeable. Third generation devices, sometimes known as ‘advanced personal vaporisers’, often have unusual shapes and designs and can be customised extensively.
Are e-cigarettes safer to use than smoking tobacco?

Yes. The evidence that is available shows that e-cigarettes do not present comparable risks to lit tobacco products. A smoker completely replacing tobacco products with e-cigarettes should significantly reduce harm to their health.

While there is wide agreement that these products are safer than cigarettes, it is far too soon to say that they are completely harmless. Several studies have attempted to quantify the relative risk posed by e-cigarettes compared to tobacco. One study\textsuperscript{4} determined that these products represent 5\% of the risk of cigarettes, while a Monte Carlo analysis of various possible scenarios resulted of a figure between 1-50\% of the risk\textsuperscript{5}. These widely varying estimates demonstrate the difficulty of attributing a meaningful value to this risk without long-term studies of the health of e-cigarette users.

How many people in Scotland are using e-cigarettes?

Adult awareness and use of e-cigarettes has increased rapidly in Scotland, as it has in the rest of the UK. In 2010 only 3\% of adult (age 18+) smokers in Scotland reported using an e-cigarette, while by 2015 this had risen to 20\%\textsuperscript{6}. In total, 7\% of the adult population of Scotland was thought to be using e-cigarettes in 2015\textsuperscript{7}.


Use of e-cigarettes in Scotland is currently almost entirely confined to smokers or ex-smokers, with very few never smokers using the devices according to recent survey data\textsuperscript{8}.

Young people and e-cigarettes
Recent Scottish data has shown that use of e-cigarettes among young people is closely linked to smoking status, with non-smokers far less likely to try or regularly use the devices than smokers.

According to 2015 SALSUS data, 91% of regularly smoking 15 year olds had tried an e-cigarette, while 24% were regular vapers (up from 5% in 2013). By contrast, 24% of non-smoking 15 year olds had tried an e-cigarette and just 1% used one regularly.

There has been a great deal of concern about the prospect of young people being attracted to using e-cigarettes, and then moving on to use lit tobacco as part of a ‘gateway effect’. A report of UK-based surveys of e-cigarette use suggested that, while experimentation is common, regular use is largely confined to young people who already smoke.

Some studies in the US have suggested that e-cigarette to tobacco progression may be likely to occur. An analysis of the 2011 and 2012 US National Youth Tobacco Surveys indicated that e-cigarette use was associated with higher odds of starting smoking.

**Do e-cigarettes help people stop smoking?**

Some recent studies suggest that e-cigarettes can have a positive role in smoking cessation, but the available evidence is largely of a low quality and more research is required. A 2016 Cochrane Review considered the gold standard for systematic reviews in medicine, stated that, while there was evidence from two trials that e-cigarettes could promote smoking cessation, confidence in this conclusion was low given the small number of relevant studies and lack of statistical certainty in their results. The review noted, however, that the relevant studies were largely well-conducted and that more relevant research is underway.

Some studies have suggested that e-cigarettes are roughly as effective as, or more effective than, NRT products. However, expert advice on stopping smoking, as available from the NHS, combined with appropriate medication remains the most effective proven method of quitting. Guidance published by NHS Health Scotland in 2014 suggests that stop-smoking services should not advise e-cigarette users who are trying to quit smoking ‘to discontinue use of such products if it risks relapse to smoking’.

The population-level effects of e-cigarette use are of interest. One analysis of available data in England suggested that, in 2014, 16-22,000 people quit smoking using e-cigarettes who would have continued to smoke if the devices were not available.

There is concern over the proportion of e-cigarette users who are ‘dual-using’ these products with lit tobacco, and therefore failing to realise significant health benefits. Some research has indicated that around 75% of e-cigarette users use lit tobacco...
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and e-cigarettes concurrently\textsuperscript{19,20}. It has been estimated that 2.8 million adults in Great Britain currently use e-cigarettes,\textsuperscript{21} with around two thirds of those current smokers\textsuperscript{22}. It is not known whether dual use is correlated with future successful quit attempts.

Some stop-smoking services in Scotland are now working with e-cigarette users, in line with harm reduction guidance published in 2014. This guidance encourages healthcare professionals to use clinical judgement when interacting with patients who use e-cigarettes, ensuring that users are still able to receive evidence-based smoking cessation support. While acknowledging that there are many unknowns about these devices, the guidance suggests that those who have quit using e-cigarettes should not be encouraged to stop using them, if there is likely to be a risk of relapse to smoking. Dual users should be encouraged where possible to quit lit, smoked tobacco.

E-cigarettes in public places

\textit{For further discussion of the health effects of e-cigarette emissions on non-vapers, please see our briefing ‘second-hand vaping’}.

There is some evidence that e-cigarettes can produce a ‘second-hand vapour’ effect, but the extent of any health effect related to this is not yet clear. Overall, the levels of air pollution produced by e-cigarette vapour are much lower than those produced by tobacco smoke, and can be expected to have a similarly reduced health impact.

As e-cigarettes do not burn tobacco they do not come under Scotland’s smoke-free public places legislation. Individual public and private sector bodies in Scotland are responsible for creating and implementing their own policies on e-cigarette use. It may be appropriate for some indoor areas to have bans on e-cigarette use, or (for clarity of enforcement of existing public places legislation) to ban ‘cigalikes’ which clearly resemble lit tobacco. However, the evidence does not currently justify a legislative ban on indoor use.

E-cigarette use is less harmful than tobacco use, and users should be encouraged to view these devices as offering reduced risk. It has been suggested that banning e-cigarettes in all enclosed public places could risk conflating the two in the minds of smokers, potentially encouraging them to continue using tobacco rather than take up e-cigarettes.

What regulations cover e-cigarettes?

In May 2016 a range of new regulations on e-cigarettes came into force under the revised European Union Tobacco Products Directive. European lawmakers agreed on a ‘two-track’ system whereby e-cigarettes that claim to help smokers quit will be subject to regulation as medicines. Other e-cigarettes may remain on the market provided they meet certain requirements, including:
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- a maximum nicotine concentration of 20 mg/ml and maximum volume of 10 ml for refill containers, and 2 ml for e-cigarettes with requirements for child and tamper-proofing
- mandatory consumer warnings on e-cigarettes packaging with information on ingredients
- a requirement for manufacturers to notify countries before placing new products on the market, to provide details on the ingredients and emission of the products, and to provide data of sales volumes and profile of product consumers
- a ban on most forms of advertising that have a cross-border effect (including television, radio and online advertising).

E-cigarettes sold on the market at present must also comply with general products safety legislation. Trading Standards is responsible for ensuring compliance with existing regulations.

The Scottish Parliament passed the Health (Tobacco, Nicotine etc., and Care) Act in March 2016. This Act introduced a number of measures aimed at regulating e-cigarettes. This includes:

- an age limit of 18 on purchasing the devices (from April 2017)
- a ban on ‘proxy purchasing’ by adults for under-18s (from April 2017)
- prohibition on selling e-cigarettes from vending machines (from April 2017)
- a registration system for e-cigarette vendors, similar to the tobacco retailer’s register (from April 2017, with enforcement from October 2017)
- a ’Challenge 25′ age verification policy for e-cigarette purchase (from April 2017)
- powers to regulate domestic e-cigarette advertising (eg billboards, distributing samples and leaflets, point of sale) (in 2018).

Most e-cigarette advertising, like other commercial advertising in the UK, is governed by the Committee of Advertising Practice (CAP). They have produced a series of rules\(^\text{23}\) for e-cigarette advertisements designed to promote social responsibility. These include avoiding the promotion of e-cigarettes to non-smokers or young people, a ban on imagery associated with tobacco brand or which promotes the use of tobacco products, and restrictions on making medical claims, including the effectiveness of using e-cigarettes to stop smoking.

References

1. NB: Calculated by combining the percentage of current adult smokers (aged 16+) from the 2014 Scottish Household Survey (20%) with the mid-2014 population estimates for Scotland aged 16+ (4,436,318).

6. All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 1036 adults. Fieldwork was undertaken between 26 Feb to 12 March 2015. The survey was carried out online. The figures have been weighted and are representative of all Scotland adults (aged 18+).


Consensus statement on e-cigarettes

Smoking kills. Helping people to stop smoking completely is our priority.

The purpose of this document is to clarify perceptions about any harms and benefits of using e-cigarettes. It is aimed at both health professionals and the general public.

E-cigarettes have been available for purchase for just over a decade in Scotland. They have become increasingly popular and many smokers report using them.

There is now agreement based on the current evidence that vaping e-cigarettes is **definitely less harmful** than smoking tobacco. Although most e-cigarettes contain nicotine, which is addictive, vaping carries less risk than smoking tobacco. Thus, it would be a good thing if smokers used them **instead** of tobacco.

Using e-cigarettes without stopping smoking (dual use) does not provide health benefits. Anyone who is using both should be strongly encouraged to stop smoking tobacco as soon as they can.

To be absolutely clear, e-cigarettes are useful for public health and health service purposes only as a potential route towards stopping smoking. Access to e-cigarettes needs to be controlled carefully; they are not products for children or non-smokers.

There is still a lot we do not know about e-cigarettes. They are not risk free, but based on current evidence, they have a much lower risk than tobacco. We need to carry out research to understand these risks but in the meantime we need to make the best use of the situation to reduce tobacco smoking further.

We have two key messages:

1. **To smokers we say:** whether or not you use e-cigarettes, try stopping smoking for the sake of your health and wellbeing and those around you. There is lots of help at hand to help you quit. NHS Scotland stop smoking services are free and are here to help you do that. See [www.nhsinform.scot/smokeline](http://www.nhsinform.scot/smokeline)

2. **To health professionals we say:** when smokers come to you, advise them about the different ways they can quit and which are most effective. Be clear with them that expert support and medicinal treatments* have the strongest evidence base to help people stop smoking. Do not turn anybody away because they choose to use e-cigarettes

* Medicinal treatments include nicotine replacement therapy (NRT), varenicline (Champix®), bupropion (Zyban®) and behavioural support.

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- ASH Scotland
- Cancer Research UK
- Chest Heart & Stroke Scotland
- Chief Medical Officer for Scotland
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- Directors of Public Health
- Faculty of Public Health
- NHS Ayrshire and Arran
- NHS Greater Glasgow and Clyde
- NHS Lothian
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- Roy Castle Lung Cancer Foundation
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