

Foster care, adoption and electronic cigarettes

In recent years there has been a rapid increase in the use of products that contain nicotine but do not contain tobacco. This rise has been driven by the advent of the electronic cigarette. This briefing has been produced jointly by ASH and the Fostering Network following approaches by organisations seeking clarity over whether potential foster carers and adoptive parents should be permitted to use electronic cigarettes. Fostering through Social Enterprise has also been consulted.

The evidence presented here is the best available at the time of writing and is intended to inform individual policy development. The evidence is continuing to emerge and there are a range of views on what the most appropriate policy would be for individual services. Public Health England also published a [review of the evidence](#) which those interested in further detail may find useful.

This briefing is designed to provide information to Local Authorities and service providers and assist them in developing policy reviews which cover the use of electronic cigarettes by foster carers and adoptive parents. It covers the following questions:

1. What is an electronic cigarette?
2. What are the similarities and differences between 'vaping' and 'smoking' and using Nicotine Replacement Therapy (NRT)?
3. Is there any harm from secondhand vapour?
4. What are the safety concerns about the products?
5. Do electronic cigarettes normalise or denormalise smoking?
6. Are electronic cigarettes effective in helping people to quit smoking?

The final section provides information on issues to take into account when developing a policy.

Background information on electronic cigarettes

The following relevant facts about "electronic cigarettes" that should inform all policies:

- Electronic cigarettes are not cigarettes in any meaningful sense. They are nicotine delivery systems that do not contain tobacco. The nicotine is delivered orally to the user in the form of vapour, rather than in the form of smoke. Therefore, they are much closer to other non-tobacco licensed nicotine products, such as sprays, patches and gum, than they are to cigarettes.
- Nicotine is an addictive drug that can be toxic in relatively low doses. However, by far the greatest harm caused by cigarettes is from other toxic ingredients of cigarette smoke.¹
- Electronic cigarettes are therefore significantly less harmful than smoked tobacco. They are currently used primarily by smokers as an aid to cutting down cigarette use or quitting smoking altogether.^{2,3}
- In March 2014 ASH estimated that there were 2.1 million current users of electronic cigarettes in the UK, a tripling of the number of users since 2012. This number is almost entirely made of current and ex-smokers; with perhaps as many as 700,000 people having fully replaced smoking with electronic cigarette use.³ There is little evidence to suggest that anything more than a

negligible number of never smokers regularly use the product. Research carried out for ASH also suggests that there is no current compelling evidence to suggest that young people are using electronic cigarettes as a “gateway” to smoking.³ However, this could change and needs to be kept under review.

1. What is an electronic cigarette?

The term “electronic cigarette” (also called e-cigarettes and vaporisers) is a generic one which refers to numerous different products. This can be confusing. Some, but not all electronic cigarettes are designed to look and feel like normal cigarettes. Some produce a vapour, whilst others produce no vapour at all. Some electronic cigarettes are also reusable, whilst others are designed for single use.

In general an electronic cigarette is a battery powered device which delivers nicotine. It typically contains water, nicotine and propylene glycol [which is used to help vaporise the liquid nicotine]. Crucially it does not contain or burn tobacco and therefore does not create smoke which is a product of combustion.

A typical electronic cigarette consists of three main components: a battery, an atomiser and a cartridge containing nicotine. Some electronic cigarettes also have an indicator light at the end that glows when the user draws on the device. When a user sucks on the device a sensor detects air flow and heats the liquid in the cartridge so that it evaporates. The vapour from the evaporated liquid delivers the nicotine to the user.



The image above highlights the difference in appearance of electronic cigarettes. As you can see some of these have been designed to look like traditional cigarettes, whilst others look noticeably different.

2. What are the similarities and differences between ‘vaping’, ‘smoking’ and using nicotine replacement therapy?

People are often unclear about the differences between electronic cigarettes, traditional cigarettes and nicotine replacement therapy (NRT). The following information outlines some of the key differences and similarities.

	Smoked cigarettes	Electronic cigarettes	Nicotine Replacement Therapy
Level of harm to users	<p>Tobacco kills one in two life time users. It is responsible for 100,000 premature deaths every year in the UK. This is more than the combined total of the next six causes of preventable deaths, including alcohol and drugs misuse.</p>	<p>Electronic cigarettes do not contain or burn tobacco. Therefore they do not release smoke, which is the harmful component of smoking.</p> <p>There are other chemicals commonly used in electronic cigarettes which we don't know to be harmful to human health, but long term effects may become apparent.</p> <p>As with NRT the level of nicotine would not be expected to cause harm.</p>	<p>Long term use of nicotine replacement therapy has not been shown to be hazardous even among those with conditions such as cardiovascular disease (CVD).</p>
Level of harm to bystanders	<p>Secondhand smoke has been shown to be hazardous to bystanders in enclosed spaces.</p> <p>In the UK secondhand smoke causes around 2,700 deaths in people aged 20-63 and a further 8,000 deaths a year among people aged 65 years and older.⁴ Each year children breathing in other people's cigarette smoke also results in 300,000 GP visits.⁵</p>	<p>Electronic cigarettes produce vapour not smoke. Several studies have found no evidence to suggest that secondhand vapour is harmful to human health.^{6,7} Therefore there is no evidence so far, that vapour causes harm to bystanders.</p>	<p>There is no evidence of harm to bystanders.</p>

	Smoked cigarettes	Electronic cigarettes	Nicotine Replacement Therapy
Look and feel	<p>Cigarettes can be both pre-rolled and roll your own.</p> <p>In general in the UK cigarettes have a white tube and brown coloured filter.</p>	<p>Some, but not all, electronic cigarettes have been designed to look and feel like traditional cigarettes. Others look nothing like a cigarette and increasingly products come in many shapes and sizes.</p> <p>The behaviour of using an electronic cigarette also mimics the action of using a cigarette and there are concerns amongst some that this may re-normalise smoking.</p>	<p>NRT tends to look nothing like traditional cigarettes. It comes in many forms and in general has the look and feel of a medicine. Common types of NRT include:</p> <ul style="list-style-type: none"> • Patches • Gum • Nasal spray • Inhalator • Mouth spray • Lozenges
Level of nicotine	<p>The delivery of nicotine from a cigarette depends on how it is smoked.</p> <p>In general cigarettes deliver nicotine quickly to the brain and in high doses.</p>	<p>The delivery of nicotine from an electronic cigarette depends on how it is used, the level of nicotine in the product and the experience of the user.</p> <p>Some products do not contain any nicotine, some do not contain the levels of nicotine that they claim.</p> <p>No electronic cigarette yet compares with a cigarette as a nicotine delivery system in terms of efficiency and concentration of nicotine.</p>	<p>The level of nicotine a user takes from NRT depends on the type of product, the level of nicotine and the way the product is used.</p> <p>Patches give a fairly low steady level of nicotine whereas the mouth spray provides a quicker, stronger hit.</p> <p>No NRT yet compares with a cigarette as a nicotine delivery system.</p>

	Smoked cigarettes	Electronic cigarettes	Nicotine Replacement Therapy
Who uses the products	<p>Greater proportions of smokers are from disadvantaged backgrounds.</p> <p>There are higher levels of smoking among young adults compared with older adults but very low levels among teenagers.</p>	<p>Use of electronic cigarettes seems to be confined to those who already smoke or who have recently quit smoking.³</p> <p>ASH estimates that as of March 2014 there were just over 2 million users in Great Britain.</p>	<p>Smokers and some recent ex-smokers use NRT. Research from Scotland found that 40% of recent ex-smokers had used NRT during the three months prior to interview.⁸</p> <p>Electronic cigarettes recently overtook NRT as the device people were most often using to support their quit attempt.</p>
How are they regulated	<p>Tobacco products are subject to a range of regulations. This includes advertising bans and taxation.</p>	<p>From 2016 electronic cigarettes will either be regulated by the Medicines and Healthcare products Regulatory Agency (MHRA) as medicinal products or under the EU Tobacco Products Directive as consumer products.⁹</p> <p>This will place quality controls on the products and restrictions around advertising</p>	<p>NRT is regulated as a medicine. There are quality controls on products and restrictions on advertising.</p>

3. Is there any harm from secondhand vapour?

At present there is no evidence to suggest that there is harm from secondhand vapour to bystanders.

Unlike a conventional cigarette nothing burns in an electronic cigarette. As a result they do not produce toxic smoke which is the cause of the many well documented harms to both the smoker and to those exposed to secondhand smoke.¹⁰

Most electronic cigarettes do produce vapour. This vapour consists largely of propylene glycol. Any toxins which are in vapour arise from contaminants in the nicotine solution and products of heating it to generate vapour. Other than nicotine the principle component in electronic cigarettes is propylene glycol, which as Public Health England states does not have any adverse effects on the lungs.¹¹

Several studies which looked for evidence of harm have found nothing to suggest that secondhand vapour is harmful to human health.^{7,12} One study exposed animals to propylene glycol for 12 to 18 months at doses 50 to 700 times the level the animal could absorb through inhalation. Compared to animals living in normal room atmosphere, no localised or generalised irritation was found and kidney, liver, spleen and bone marrow were all found to be normal.¹³ However, the effect of propylene glycol has not been tested in models that replicate sustained inhalation over many years.

A separate study found that the use of electronic cigarettes indoors may result in non-users being exposed to nicotine. However the average concentration of nicotine exposure resulting from electronic

cigarette was found to be 10 times lower than from conventional cigarettes.¹⁴ What is more, nicotine, at these levels, is not in itself harmful to human health; its effects are similar to that of caffeine.

4. What safety concerns are there about the products?

While there are few concerns about the safety of vapour from electronic cigarettes there are concerns about other factors and we suggest services review health and safety policy and procedures:

- Some electronic cigarettes can be refilled and the liquids used to refill them can be toxic if drunk in their concentrated form. The National Poisons Information Service has reported an increase in incidents involving these liquids. They stated that: *“While any cases of poisoning are of concern, our previous research showed that fortunately fewer than one-in-ten of patients developed symptoms of toxicity which lasted more than four hours and only two patients had long lasting symptoms. However, just over a third of the telephone enquiries concerned children aged four and younger and of these, 10% developed symptoms which needed hospital care”*.¹⁵ **Good health and safety practice needs to be adhered to. As with other potentially toxic household items, electronic cigarettes and refill liquids should be kept out of the reach of children and pets.** From 2016 all products will have to include safety features to prevent children from easily opening them.
- There have been reports of faulty charging devices causing house fires.¹⁶ Trading Standards and the Electrical Safety Council recently issued guidelines to users of electronic cigarettes following a number of reports of chargers exploding whilst in use.¹⁷ The guidelines include ensuring that electronic cigarettes are not left charging for long periods, left plugged in overnight or whilst nobody is at home.

5. Do electronic cigarettes normalise or denormalise smoking?

As the behaviour of using an electronic cigarette to some extent mimics the behaviour of smoking, concerns have been raised that electronic cigarettes could act as a “gateway” for smoking, or that electronic cigarettes could model smoking behaviour for children and therefore encourage them to smoke. Alternative hypotheses argue that adults using electronic cigarettes instead of smoking traditional cigarettes could further denormalise smoking by demonstrating a preference for safer alternatives. While ‘first generation’ versions of these products looked more like traditional cigarettes increasingly the products are being designed to look different. This has reduced some anxieties about the renormalising potential of electronic cigarettes.

At this stage there is not enough evidence to provide a conclusive answer.

The use of electronic cigarettes has grown significantly in recent years. According to research commissioned by ASH, the number of smokers who report having tried electronic cigarettes increased from 9% in 2010 to 22% in 2012, 35% in 2013 and 51% in 2014. During the same time period smoking rates amongst 15 year olds have declined significantly from 15% in 2009,¹⁸ to 10% in 2012.¹⁹

Studies from the US,²⁰ Korea,²¹ and the UK²² have concluded that there is evidence to suggest that electronic cigarettes are being used by non-smoking children and hence could be a gateway to smoking. Other research has disagreed with these conclusions.²³

The data from all the research cited above is fairly consistent. It shows that while there is an increasing level of experimentation with electronic cigarettes among young people, current electronic cigarette use is confined to those who have already tried smoking.^{24,25}

Public Health England has said: “Although there are concerns that e-cigarettes might lead people into smoking, only 1% of never smokers have ever tried e-cigarettes. While their use in England is rising, encouragingly smoking rates continue to fall.”

6. Do electronic cigarettes help people to quit smoking?

The most recent evidence on the effectiveness of electronic cigarettes to help people stop smoking would suggest that they are effective. Two randomised controlled trials have both found evidence to suggest that the products are at least as effective as over the counter NRT.^{26,27} Furthermore a UK study has found that electronic cigarettes are 60% more effective than smokers who try to quit 'cold turkey' or those who purchase nicotine replacement therapy without the support of a professional.²⁸

Smokers are increasingly using these products as an aid to quitting, and electronic cigarettes have over taken NRT as the most common product used to support them in a quit attempt.²⁹

Population level data is also promising with the rapid growth in electronic cigarette use among smokers correlating with a marked increase in quit attempts, motivation to quit and an increasing number of successful quit attempts.

Some people have concerns that the ongoing use of electronic cigarettes or other nicotine containing products does not constitute quitting smoking. However, NICE guidance is clear that licensed nicotine containing products: "*may be used as long as needed to prevent relapse*".³⁰

Issues to take into account when developing a policy

What should our policy aim to address?

The evidence is continuing to emerge in relation to electronic cigarettes. It will be for individual organisations to make an assessment of the available evidence to determine the policy they wish to take. The issues policies may wish to address include:

- The needs of children and young people – how will your policy balance the unknown risk of electronic cigarettes potentially modelling smoking with the equally unknown possibility of electronic cigarette denormalising smoking? How important will these factors be when weighed against the potential of a safe and loving home?
- The level of knowledge and understanding about electronic cigarettes among staff and carers – how can your policy support the provision of good information in the context of a growing evidence base?
- To what extent should your policy support staff and carers using electronic cigarettes as part of a quit attempt? – The latest evidence suggests they are more effective than over the counter medicine but they are not currently regulated as medicines.
- The extent to which your policy should support staff and carers to use electronic cigarettes as an alternative and safer form of nicotine than smoking – NICE guidance recommends that for smokers who are not ready or able to quit completely a harm reduction approach should be used which could include substituting tobacco for another source of nicotine.

The above discussion of the evidence should help to inform your analysis.

What is needed to communicate our policy?

Regardless of the policy your organisation adopts in relation to electronic cigarettes, it will be important to consider how this is communicated. There is poor understanding among the public regarding the relative safety of electronic cigarettes compared to tobacco and any policy should aim to reduce this confusion.

Given the growing number of people who are using electronic cigarettes to successfully quit smoking it will also be important to consider how any policy is communicated to them.

When should we review our policy?

As has been noted in this document, the agenda and evidence base around electronic cigarettes is growing quickly. Over the next few years it is anticipated that a number of products will become licenced as medicines and EU regulation will change the market for the rest of the products. It may be appropriate to build in regular reviews to any policy.

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March 2010: 2,297 adult smokers
March 2012: 12,436 adults
February 2013: 12,170 adults
March 2014: 12269 adults
Children:
March 2013: 2,178 children aged 11-18
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