

ash wales
cymru
action on smoking and health

Briefing on electronic cigarettes

June 2016



1. Background

Smoking an electronic cigarette (e-cigarette) is known as 'vaping'. E-cigarettes are designed to deliver nicotine without burning tobacco. Most consist of three main components: a battery, an atomiser and a (replaceable) nicotine cartridge. When a user inhales on the device, the air flow is detected, causing the liquid in the cartridge to be heated so that it evaporates. This vapour delivers the nicotine to the user.

Over the past decade e-cigarettes have evolved and gained increasing popularity, but continue to be at the centre of much debate.

Concerns around e-cigarettes involve product safety and the long-term health implications of use. With regards to young people in particular, arguments have been raised that e-cigarettes could act as a gateway to tobacco smoking, whereby young people who do not use tobacco cigarettes experiment with e-cigarettes and go on to try and then regularly use tobacco cigarettes. A further concern relates to whether the ever-increasing use of e-cigarettes, which are not covered by the smoke-free premises regulations, are leading to a perceived renormalisation of smoking as an activity.

At the same time, e-cigarettes have been promoted as a much safer alternative to conventional tobacco cigarettes. E-cigarettes deliver nicotine without the need for combustion meaning the vast majority of the chemicals and carcinogens found in tobacco cigarettes that are responsible for smoking-related diseases are not present in e-cigarettes. The exact extent to which e-cigarettes are less harmful than tobacco cigarettes tends to be disputed, the claim by an independent evidence review commissioned by Public Health England¹, for instance, that e-cigarettes are around 95% less harmful than smoking is not universally accepted. However, the evidence overwhelmingly shows the risk to health posed by e-cigarettes in the short term is likely to be considerably less compared to smoking conventional tobacco. E-cigarettes have also been cited as a popular, effective and viable smoking cessation device. In England, since the third quarter of 2013 a higher percentage of smokers have tried to stop smoking using e-cigarettes compared to any other popular smoking cessation aid. Indeed, by the last quarter of 2014 approximately 15% more smokers used e-cigarettes as a means to give up smoking relative to over-the-counter NRT². Research is also becoming available signifying the effectiveness of e-cigarettes as a smoking cessation aid. In 2014 Brown et al undertook a cross-sectional population study aimed at assessing the real-world effectiveness of e-cigarettes when used to aid smoking cessation³. Among the findings of the study was that e-cigarette users were more likely to report abstinence than either those who used NRT bought over-the-counter or those who used

no smoking cessation aid. Moreover, there is emerging evidence suggesting that the advent of e-cigarettes is playing a role in the observed reduction in smoking prevalence. According to Professor Robert West the number of smokers in England estimated to have quit in 2014 who would not have quit if e-cigarettes had not been available is 16,000-22,000⁴. This appears to be borne out by further evidence from the Smokers' Toolkit study which revealed that people attempting to quit smoking without professional help are about 60% more likely to report succeeding if they use e-cigarettes than if they use willpower alone or over-the-counter nicotine replacement therapies³.

2. Research

The majority of the existing research on e-cigarettes finds no evidence to suggest that the devices act as a gateway to tobacco smoking among young people, or that they serve to renormalise smoking as an activity. Developments in e-cigarette use must be monitored, however, to ensure this remains the case. In terms of the impact on health, virtually all research studies find e-cigarettes are far less harmful than tobacco cigarettes in the short term. Given use of e-cigarettes is still a relatively new phenomenon more research of a longitudinal nature is required over multiple years to determine the impact of e-cigarettes on long term health.

Over the past month new research findings relating to e-cigarettes have emerged at both a Wales and UK level.

2.1. Recent findings in Wales

(i) ASH Wales 2016 e-cigarette survey⁵

The aim of this report is to provide an insight into the awareness and use of e-cigarettes among young people aged under 18 living in Wales. The survey was circulated over the period November 2015 to January 2016, and responses from 838 young people formed the basis of the results.

Findings showed that awareness of e-cigarettes was very high among the young people surveyed, with just over 90% of respondents reporting that they knew what an e-cigarette was prior to completing the survey. A variety of different sources informed this awareness, including, in particular, use by strangers/friends, shop advertisements, plus the media/social media and internet.

Use of e-cigarettes was far more prevalent among respondents who had previously smoked or currently smoke tobacco cigarettes. Of the 570 young people who had never smoked tobacco cigarettes just 11.1% (n = 63) had ever used an e-cigarette, with the majority of these individuals (n = 47) having tried an e-cigarette only once. Regular use of e-cigarettes (more than once a month) by never smokers was rare at 1.1% (n = 6). Respondents from the most deprived parts of Wales were far less likely to have never used an e-cigarette (48.6%) relative to respondents located in the least deprived areas of the country (75.4%). A number of reasons were provided for using e-cigarettes by survey participants, including an inquisitorial attitude to their taste and because friends were using them.

Of those respondents who reported using both e-cigarettes and tobacco cigarettes at some point (n = 175), 90% had first used tobacco cigarettes suggesting the absence of any gateway theory. The survey results however do suggest that e-cigarettes represent an effective smoking cessation device among respondents. For those study participants who had used both e-cigarettes and tobacco cigarettes, 25% (n = 43) smoked fewer tobacco cigarettes after first using an e-cigarette, with a further 34% of dual e-cigarette and tobacco cigarette users (n = 59) ceasing to smoke tobacco cigarettes altogether.

(ii) Welsh Health Survey 2015⁶

The Welsh Health Survey provides information on the health and health-related lifestyles of people living in Wales. The Welsh Health Survey 2015, released in June 2016, contained for the first time statistics on e-cigarette usage in Wales. One in twenty (6%) of respondents (aged 16+) stated they currently use an e-cigarette. Interestingly this was the case for 16% of current smokers and 8% of ex-smokers, compared to just 0.06% of never smokers. This pattern of use was also evident when considering ever use of e-cigarettes, with this the case for 51% of current smokers, 14% of ex-smokers and 1% of never smokers. Amongst adults who reported currently using an e-cigarette, 59% were current smokers, 41% were ex-smokers, and 1% had never smoked.

There was no major difference in current e-cigarette use according to the gender of the respondent, however the survey suggests some variation based on the level of deprivation of the survey participant. The percentage of adults currently reporting using an e-cigarette was more common in the most deprived areas, ranging from 3 per cent in the least deprived fifth to 8 per cent in the most deprived fifth of areas.

2.2. Recent UK findings

(iii) Royal College of Physicians report⁷

In April 2016 the Royal College of Physicians (RCP) released a report titled 'Nicotine without smoke: tobacco harm reduction' in which they conclude that e-cigarettes are likely to be beneficial to UK public health. Based on this report they therefore suggest that smokers can be reassured and encouraged to use e-cigarettes, and the public can be reassured that e-cigarettes are much safer than smoking.

Based on the latest available evidence the RCP report concludes that:

- E-cigarettes are not a gateway to smoking – in the UK, use of e-cigarettes is limited almost entirely to those who are already using, or have used, tobacco
- E-cigarettes do not result in normalisation of smoking – there is no evidence that either nicotine replacement therapy (NRT) or e-cigarette use has resulted in renormalisation of smoking. None of these products has to date attracted significant use among adult never-smokers, or demonstrated evidence of significant gateway progression into smoking among young people
- E-cigarettes and quitting smoking - among smokers, e-cigarette use is likely to lead to quit attempts that would not otherwise have happened, and in a proportion of these to successful cessation. In this way, e-cigarettes can act as a gateway from smoking
- E-cigarettes and long-term harm - the possibility of some harm from long-term e-cigarette use cannot be dismissed due to inhalation of the ingredients other than nicotine, but is likely to be very small, and substantially smaller than that arising from tobacco smoking. With appropriate product standards to minimise exposure to the other ingredients, it should be possible to reduce risks of physical health still further. Although it is not possible to estimate the long-term health risks associated with e-cigarettes precisely, the available data suggest that they are unlikely to exceed 5% of those associated with smoked tobacco products, and may well be substantially lower than this figure.

The report acknowledges the need for proportionate regulation, but suggests that regulation should not be allowed significantly to inhibit the development and use of harm-reduction products by smokers. A regulatory strategy should take a balanced

approach in seeking to ensure product safety, enable and encourage smokers to use the product instead of tobacco, and detect and prevent effects that counter the overall goals of tobacco control policy.

(iv) ASH England Smokefree Britain Survey⁸

Each year ASH England undertake a survey on the use of e-cigarettes among adults in Great Britain. The total sample size of the 2016 survey was 12,157. Fieldwork was undertaken between 2nd March and 23rd March 2016. All surveys were carried out online. The figures have been weighted and are representative of all GB Adults (aged 18+).

The survey found awareness of e-cigarettes to be widespread, with 96% of smokers and 93% of the general population having heard of the devices.

ASH estimates that there are currently 2.8 million adults in Great Britain using e-cigarettes (6% of the adult population). Of these, approximately 1.3 million (47%) are ex-smokers while 1.4 million (51%) continue to use tobacco alongside their e-cigarette use. Use of the devices is confined to current and ex-smokers and use amongst never smokers remains negligible and has not changed since 2012.

The main reason for e-cigarette use given by ex-smokers who are currently vaping is to help them stop smoking while for current smokers the main reason is to reduce the amount they smoke.

In terms of perceptions of harm in relation to e-cigarettes there appears to be a worrying trend. The public and smokers are increasingly failing to recognise that e-cigarettes are less harmful than smoking. In 2016 only 15% of adults correctly identified that e-cigarettes are a lot less harmful than smoking whereas 21% correctly identified they were a lot less harmful than smoking in 2013. In addition, more than three times as many people in 2016 than in 2013 think they are as harmful or more harmful than smoking.

With regards to the frequency of use the survey shows this varies according to the smoking status of the vapour. Ex-smokers are almost twice as likely as smokers to be using e-cigarettes daily (88% compared to 45%).

Only 9% of vapers are using an e-liquid containing over 19 mg/ml (the new limit imposed as part of the Tobacco Products Directive (TPD) is 20mg/ml) while 77% of vapers report using e-liquids containing 18 mg/ml of nicotine or less. Furthermore, among daily vapers only 11% report using more than 4ml of e-liquid a day. Under the TPD the new limit for tank sizes is 2ml while the size limit for bottles is 10ml. The vast majority (72%) are using 4ml or less of e-liquid a day.

3. Regulations

In May 2016 the EU's revised Tobacco Products Directive (TPD)⁹ came into force. This revision included many updates to regulations on tobacco products but also set out new regulations covering e-cigarettes. There are transitional arrangements allowed by the TPD so that in the UK e-cigarettes or refill containers which are not in compliance with the TPD can be released for sale on the UK market until 20 November 2016. From 20 May 2017 all products sold to consumers must be fully compliant with the TPD.

E-cigarettes containing up to 20 mg/ml of nicotine will be regulated by the TPD (levels of 18mg/ml have been reported on user websites as suitable for typical smokers). Above that level, or if manufacturers and importers decide to opt into medicines regulation, such products will require authorisation by the Medicines and Healthcare Products Regulatory Agency (MHRA) as over the counter medicines in the same way as nicotine replacement therapy (NRT).

The TPD is intended to introduce harmonised standards across the EU, improve the quality of products and reduce the risk of accidents, particularly in relation to children accidentally drinking liquids or products leaking. To achieve this it includes a number of standards which products must meet.

The new product rules under the TPD for electronic cigarettes will:

Introduce a size limit for e-liquids of 10ml for dedicated refill containers and 2ml for disposable electronic cigarettes, cartridges and tanks.

- Require products to be child and tamper proof.
- Require the pack to include a health warning covering 30% of the surfaces of the unit packet and any outside packaging stating 'This product contains nicotine which is a highly addictive substance.'
- Require instructions for use, information on addictiveness and toxicity on the packaging and accompanying information leaflet.
- Ban certain promotional and misleading descriptors on packaging.
- Ensure that all substances contained in the product and information on the product's nicotine content are declared on the label.
- Require manufacturers to inform Member States before placing new or modified products on the market and notify a range of product information concerning composition, emissions and sales/marketing data.

- Introduce a registration scheme for businesses engaged in cross-border distance sales of electronic cigarette products.
- Prohibit the advertising or promotion, directly or indirectly, of electronic cigarettes and re-fill containers on a number of media platforms, including on television, radio, newspapers and magazines.

6. References

1 McNeil A, et al (2015). E-cigarettes: an evidence update. A report commissioned by Public Health England. Available at: <https://www.gov.uk/government/publications/e-cigarettes-an-evidence-update>

2 West R, Brown J, Beard E. (2015). Trends in electronic cigarette use in England. www.smokinginengland.info/latest-statistics.

3 Brown J, Beard E, Kotz D, et al. (2014). Real-world effectiveness of e-cigarettes when used to aid smoking cessation: a cross-sectional population study. *Addiction*, 109; pp1531-1540.

4 West R, Shahab L, and Brown J (2016). Estimating the population impact of e-cigarettes on smoking cessation in England. *Addiction* 111: DOI: 10.1111/add.13343.

5 ASH Wales (2016). A study into young people's e-cigarette awareness and usage in Wales – 2016.

6 Welsh Government (2016). Welsh Health Survey 2015.

7 Royal College of Physicians (2016). *Nicotine without smoke: Tobacco harm reduction*. London: RCP.

8 ASH (2016). Use of electronic cigarettes (vapourisers) among adults in Great Britain. Available at: http://www.ash.org.uk/files/documents/ASH_891.pdf

9 Revision of the Tobacco Products Directive. European Commission, March 2014. Available at: http://ec.europa.eu/health/tobacco/products/revision/index_en.htm