Roundtable report

EXPLORING THE EVIDENCE: THE ROLE OF E-CIGARETTES IN SMOKING CESSATION

January 2018

Funded by

CANCER RESEARCH UK

Media partner

PULSE

On 3 November 2017, Cancer Research UK brought together a group of healthcare professionals and researchers to explore the current evidence regarding e-cigarettes.

The group discussed several important topics, including the safety and efficacy of e-cigarettes, the role they play in smoking cessation and key techniques to use when conveying evidence-based smoking cessation advice to patients.

Published in the United Kingdom by Cogora Limited, 140 London Wall, London EC2Y 5DN, UK.

Date of preparation: December 2017

THE PANEL...

Professor Linda Bauld
University of Stirling and Cancer Research UK

Dr Alex Bobak
GPSI Smoking Cessation, Wandsworth

Dr Owen Carter
Macmillan GP and Cancer Commissioning Lead, Wandsworth CCG

Professor Peter Hajek
Wolfson Institute of Preventable Medicine, Queen Mary University of London

Dr Ben Noble
Strategic GP Lead CRUK and East Midlands Cancer Alliance

Dr Bunmi Olajide
GPSI Cancer and Cancer Prevention, Havering and Clinical Lead for Planned Care, Havering CCG

Louise Ross
Stop Smoking Service Manager, Leicester City Council

Dr Amit Sharma
Macmillan GP and Medical Director Tulasi Medical Practice, Dagenham

THE CHAIR...

Theresa Saklatvala
Chair, Content Director, Cogora

Funded by CANCER RESEARCH UK

Exploring the evidence: the role of e-cigarettes in smoking cessation

From left to right: Professor Linda Bauld, Dr Owen Carter, Dr Amit Sharma

Smoking is the leading cause of preventable death in the UK, accounting for approximately 27% of cancer deaths, 40% of respiratory deaths and 20% of circulatory deaths.[1]

Electronic cigarettes, known as e-cigarettes, are a rising alternative to tobacco. These devices allow users to inhale vaporised nicotine dissolved in propylene glycol or glycerine.

Emerging evidence has shown that e-cigarettes can help people cut down or stop smoking.[2] In fact, one study suggested that e-cigarettes may have contributed to approximately 18,000 additional long-term ex-smokers in England in 2015.[3]

Despite this, public perceptions of the relative safety of e-cigarettes are worsening. Studies show that in 2017, 30% of smokers who had never tried an e-cigarette were more likely to believe that they were equally or more harmful than smoking, a view that has grown from 25% in 2016. In light of this, healthcare professionals (HCPs) have an important role to play in helping smokers understand the options available for them.

This report explores the key themes discussed in the roundtable to help HCPs provide evidence-based, balanced advice regarding smoking cessation and e-cigarettes to their patient populations.

KEY THEMES FROM THE DISCUSSION

E-cigarettes almost certainly provide a much safer alternative to tobacco

The group unanimously accepted that e-cigarettes are likely to be far less harmful than smoking. Unlike rolling tobacco or cigarettes, e-cigarettes do not contain the cancer-causing product tobacco. As a result, these devices lack the process of tobacco combustion, as well as the presence of smoke, tar and carbon monoxide.

Short-term data support the relative safety of these devices, with some researchers estimating that e-cigarettes may be approximately 95% safer than smoking tobacco.[4] Though this figure is an estimate, and has been the subject of some controversy, studies

'Current evidence suggests that e-cigarettes are safer than smoking.'

– Peter Hajek

Funded by CANCER RESEARCH UK

Dr Ben Noble (left) and Professor Peter Hajek (right)

have shown that the exposure to key harmful toxicants in tobacco smoke is significantly reduced when making a complete switch to these devices.[5,6] Levels of these toxicants in e-cigarette users were also shown to be comparable with those in participants exclusively using other nicotine replacement therapies (NRTs).[7]

However, it was stressed that more long-term research would be welcomed to further explore the impact these devices may have on an individual's health.

E-cigarettes can be effective quitting aids and should be considered as one option for smoking cessation treatment

Many of the delegates agreed that e-cigarettes have been shown to effectively help some patients quit smoking when other medications and techniques have failed. The Cochrane Review was cited in support of this, concluding that use of nicotine-containing e-cigarettes was more effective in helping people quit smoking than those using a placebo.[8]

Other research has also supported their efficacy in comparison with the use of some NRTs. One 2014 study was raised as an example of this,

'E-cigarettes are about as effective as any nicotine replacement therapy product – these devices help people stop smoking.'

– Linda Bauld

demonstrating that participants who used e-cigarettes and no other support during their quit attempt were 60% more successful than those who used no aid at all.[9] In comparison, those who used over the counter NRTs proved to be no more successful than those who attempted to quit smoking unaided.[9]

However, the importance of Stop Smoking Services (SSSs) should not be overlooked. All delegates agreed on the quality and efficacy of the treatment and support offered at these services, concluding that these still remain the most effective method of smoking cessation.[10] In fact, one delegate highlighted that incorporating e-cigarette-based advice and support into these services may increase the interest of patients in smoking cessation, providing a unique point of discussion to help further explore the other options available. Furthermore, it is likely that behavioural support combined with e-cigarette use will increase its efficacy as a cessation aid.

The gateway hypothesis lacks validity

The group felt that there was no convincing evidence in the UK to support the premise that e-cigarettes are acting as a gateway product in either adult or youth populations. Data have shown that only a small percentage of adult never smokers (0.3%) and youth never smokers (0.5%) are current daily vapers.[11,12]

One delegate pointed out that if e-cigarettes were in fact a gateway product, one would surely see a rise in the overall population smoking rates since the release of this product. However, many studies have shown the opposite to be true, with current smoking rates in England declining from 19.9% of adults over the age of 18 in 2010 to 15.5% in 2016.[13]

'Expecting that e-cigarettes would promote smoking is like expecting a word processor would promote typewriters. It just makes no sense.'

– Peter Hajek

Training in smoking cessation is essential across the healthcare system

There was a general concern from the group about the limited information available across the healthcare system regarding smoking cessation. Due to the significant health risks caused by tobacco cigarettes – with this remaining the largest cause of preventable death in the UK[14] – effective smoking cessation interventions should be incorporated to minimise tobacco-related health problems. Therefore, it is important to equip all HCPs with the tools and skills needed to ensure patients receive balanced, evidence-based messages that encourage behavioural change in smoking populations.

It was agreed that training in smoking cessation becoming common practice would help standardise knowledge across healthcare services, and could increase the accuracy and balance of the information presented to the general population.

PARTICULAR RESOURCES WERE HIGHLIGHTED AS EFFECTIVE AIDS...

- The National Centre for Smoking Cessation and Training (NCSCT) released an e-cigarette briefing document outlining advice for HCPs involved in supporting patients who wish to quit using e-cigarettes.[15]
- The Royal College of Physicians (RCP) report on exploring the use of non-tobacco nicotine products, such as e-cigarettes, in aiding harm reduction through smoking cessation.[16]
- The Public Health England (PHE) e-cigarette evidence update report, which explores the research available on e-cigarettes, including insights into e-cigarette prevalence, their impact on smoking behaviour and the potential safety issues surrounding these devices.[17]

Advice should be conveyed to patients in a balanced and evidence-based manner

The group discussed the importance of conveying informed advice to patients. Currently, public perception of e-cigarettes is inaccurately low, with only 13% of the population understanding that these devices are less harmful than smoking tobacco.[11] Consequently, delegates explored ways HCPs can incorporate evidence-based discussions into their care.

The delegates agreed that a proactive, positive, informed approach should be adopted when discussing these devices with patients. HCPs should ensure that all decisions made are led by the service user and encourage their patients to try evidence-based cessation methods, such as the effective support offered at NHS SSSs. For those using e-cigarettes, it may be worth suggesting patients explore different devices, settings and e-liquids to help them find the most effective combination that works for them.

With product legislation and regulation being introduced across Europe as of last year, delegates agreed

Dr Bunmi Olajide (left) and Dr Alex Bobak (right)

Funded by CANCER RESEARCH UK

'Our job as communicators in healthcare is to provide patients with evidence based advice in a positive way to ensure it is acted upon.'

– Alex Bobak

Dr Bunmi Olajide

that patients should be made aware that any device sold legally in the EU has met these regulations. For example, MHRA's notification scheme ensures all products sold do not contain certain ingredients, such as caffeine and taurine, and incorporate child resistant packaging.[18]

It was also raised that many patients are currently concerned about 'swapping addictions'. The delegates agreed that patients should be informed that this is not the case when switching to e-cigarettes, explaining that these devices, like NRT, provide users a different delivery method of nicotine as opposed to an alternative drug. In doing so, e-cigarettes minimise the harm caused by smoking tobacco.

NICE harm reduction guidelines were raised in support of this advice, outlining that patients may use nicotine-containing products as a means of smoking cessation and harm reduction.

In addition, these devices offer users more control over the nicotine they consume compared with tobacco cigarettes. This means that patients may be able to reduce their nicotine consumption, e.g. by switching to e-liquids with lower nicotine contents, if they so wished.

It is important to note that not all patients may benefit from e-cigarettes. For example, arthritic patients may find these devices too difficult to operate. HCPs should therefore encourage these users to experiment with other simpler devices or explore different methods of smoking cessation.

FURTHER RESEARCH IS REQUIRED...

Part of the discussion focused on what future research is needed to build further confidence in the relative safety of e-cigarettes and their role in smoking cessation.

Key research areas raised included:

- **Long-term safety data.** Although short-term studies provide promising support of the safety of e-cigarettes, some delegates felt that further probing into the possible long-term health effects may help guide HCPs to incorporate these devices into their smoking cessation efforts.
- **Effect on the respiratory system.** One delegate raised that, although we have evidence comparing the cancer and cardiovascular risks associated with e-cigarettes and smoking, more research is needed into its effects on the pulmonary system.
- **What can technology offer?** One delegate highlighted that, in today's technological world, we should be able to use and exploit technology to help patients with smoking cessation. Research should be conducted into the types of apps and everyday devices that could be developed to help smokers reduce their habits and improve their health.

Dr Owen Carter

Dr Alex Bobak

LAST WORD

Whilst we do not yet have sufficient evidence for the long-term safety of e-cigarettes, the current research available suggests that the benefits provided by smoking cessation are likely to outweigh any potential long-term risk that may arise from these devices.

E-cigarettes provide nicotine-dependent patients access to the substance on which they are dependent in an easy-to-access, user-friendly way whilst limiting the health risks associated with smoking.

Based on this information, the RCGP updated their stance on e-cigarettes last year, recommending that, where appropriate, e-cigarettes should be offered as one option for smoking cessation.[1] They emphasise that HCPs should provide advice on the relative risks of smoking and e-cigarette use, and actively engage with smokers who want to quit with the help of e-cigarettes. Those who wish to use e-cigarettes in smoking cessation should also be encouraged to seek support at their local SSSs.

BMA have also recently released a position statement on e-cigarettes, stating that the potential risks associated with these devices may be minimised based on the benefits provided by aiding smoking cessation.[18]

In light of this, it is important that HCPs have a thorough understanding of the evidence surrounding these devices so they can effectively convey this information to their patients, ensuring their advice is positive, balanced and based on evidence.

For more information and resources on e-cigarettes, please visit Cancer Research UK's e-cigarette hub: **cruk.org/ecighub**

FURTHER READING AND RESOURCES

- Shahab L, 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.
- McAuley TR, et al. Comparison of the effects of e-cigarette vapor and cigarette smoke on indoor air quality. Inhal Toxicol. 2012;24(12):850-7.
- Brown J, et al. Real-world effectiveness of e-cigarettes when used to aid smoking cessation: a cross-sectional population study. Addiction. 2014;109:1531-40.
- Beard E, et al. Association between electronic cigarette use and changes in quit attempts, success of quit attempts, use of smoking cessation pharmacotherapy, and use of stop smoking services in England: time series analysis of population trends. BMJ. 2016; 354:i4645.
- Royal College of General Practitioners' Position Statement on the use of electronic nicotine vapour products (E-Cigarettes). Available at: http://www.rcgp.org.uk/cancer
- Cancer Research UK's E-cigarette hub. Available at: http://www.cruk.org/ecighub
- National Institute for Health and Care Excellence's guideline on Smoking: harm reduction. Available at: https://www.nice.org.uk/guidance/ph45/resources/smoking-harm-reduction-pdf-1996359619525

Dr Amit Sharma (left) and Louise Ross (right)

The roundtable 'Exploring the evidence: the role of e-cigarettes in smoking cessation' was convened in London on 3 November 2017, with the support of Cancer Research UK, and was attended by senior GPs and researchers from across the UK.

References

1. Royal College of General Practitioners. RCGP Position Statement on the use of electronic nicotine vapour products (E-Cigarettes). 6 September 2017. Available at: http://www.cancerresearchuk.org/sites/default/files/rcgp_e-cig_position_statement_approved_060917_clean_copy.pdf (last accessed November 2017).
2. Beard E, West R, Michie S, et al. Association between electronic cigarette use and changes in quit attempts, success of quit attempts, use of smoking cessation pharmacotherapy, and use of stop smoking services in England: time series analysis of population trends. BMJ. 2016;354:i4645.
3. NHS Digital. Statistics on NHS Stop Smoking Services in England April 2015 to March 2016. 18 August 2016. Available at: https://www.gov.uk/government/statistics/statistics-on-nhs-stop-smoking-services-in-england-april-2015-to-march-2016 (last accessed November 2017).
4. Nutt D, Phillips LD, Balfour D, et al. Estimating the harms of nicotine-containing products using the MCDA approach. Eur Addict Res. 2014;20:218-225.
5. Hecht SS, Carmella SG, Kotandeniya D, et al. Evaluation of toxicant and carcinogen metabolites in the urine of e-cigarette users versus cigarette smokers. Nicotine Tob Res. 2015;17:704-709.
6. Wagener TL, Floyd EL, Stepanov I, et al. Have combustible cigarettes met their match? The nicotine delivery profiles and harmful constituent exposures of second-generation and third-generation electronic cigarette users. Tob Control. 2017;26(E1):e23-e28.
7. 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.
8. Hartmann-Boyce J, McRobbie H, Bullen C, et al. Electronic cigarettes for smoking cessation. Cochrane Database of Systematic Reviews. 2016;9:CD010216; ePub ahead of print.
9. Brown J, Beard E, Kotz D, et al. Real-world effectiveness of e-cigarettes when used to aid smoking cessation: a cross-sectional population study. Addiction. 2014;109(9):1531-1540.
10. Kotz D, Brown J, West R. 'Real-world' effectiveness of smoking cessation treatments: a population study. Addiction. 2013;109(3):491-499.
11. ASH Factsheet. Use of e-cigarettes (vapourisers) among adults in Great Britain. May 2017. Available at: http://ash.org.uk/information-and-resources/fact-sheets/use-of-e-cigarettes-among-adults-in-great-britain-2017/ (last accessed November 2017).
12. Bauld L, MacKintosh AM, Eastwood B, et al. Young people's use of e-cigarettes across the United Kingdom: findings from five surveys 2015-2017. Int J Environ Res Public Health. 2017;14(9):973.
13. NHS Digital. Statistics on Smoking, England – 2017. 15 June 2017. Available at: https://digital.nhs.uk/catalogue/PUB24228 (last accessed November 2017).
14. Adult smoking habits in the UK: 2016. Office for National Statistics. 15 June 2017. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2016 (last accessed November 2017).
15. National Centre for Smoking Cessation and Training. Electronic cigarettes: A briefing for stop smoking services. January 2016. Available at: http://www.ncsct.co.uk/publication_electronic_cigarette_briefing.php (last accessed November 2017).
16. Royal College of Physicians. Nicotine without smoke: Tobacco harm reduction. 28 April 2016. Available at: https://www.rcplondon.ac.uk/projects/outputs/nicotine-without-smoke-tobacco-harm-reduction-0 (last accessed November 2017).
17. Public Health England. E-cigarettes: an evidence update. 28 August 2015. Available at: https://www.gov.uk/government/publications/e-cigarettes-an-evidence-update (last accessed November 2017).
18. British Medical Association. E-cigarettes: Balancing risks and opportunities. 2017. Available at: https://www.bma.org.uk/collective-voice/policy-and-research/public-and-population-health/tobacco/e-cigarettes (last accessed November 2017).

Cogora
We know healthcare