

# The UK Electronic Cigarette Research Forum Briefing

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## Electronic Cigarette Research Briefing – Spring 2026

This research briefing is part of a series of quarterly updates aiming to provide an overview of new studies on electronic cigarettes (e-cigarettes). The briefings are intended for researchers, policy makers, health professionals and others who may not have time to keep up to date with new findings and would like to access a summary that goes beyond the study abstract. The text below provides a critical overview of each of the selected studies then puts the study findings in the context of the wider literature and research gaps.

The studies selected do not cover every e-cigarette-related study published each quarter. Instead, they include high profile studies most relevant to key themes identified by the UK Electronic Cigarette Research Forum, including efficacy and safety, smoking cessation, population level impact and

**Let's talk e-cigarettes – University of Oxford podcasts** Jamie Hartmann-Boyce and Nicola Lindson discuss emerging evidence in e-cigarette research. In the latest episode, they discuss emerging evidence in e-cigarette research and interview Jodi Gilman, Department of Psychiatry at Harvard Medical School and Massachusetts General Hospital. This podcast is a companion to the Cochrane living systematic reviews of e-cigarettes for smoking cessation and interventions for vaping cessation and shares the evidence from the monthly searches. Subscribe with [iTunes](#) or [Spotify](#) to listen to regular updates or find all episodes on the [University of Oxford Podcasts site](#). This podcast series is funded by Cancer Research UK (CRUK).

### **Cochrane Living Systematic Review of E-cigarettes for Smoking Cessation update**

The latest update to the CRUK-funded Cochrane Living Systematic Review of E-cigarettes for Smoking Cessation was published in November 2025 and includes 14 new studies. A further update is currently underway.

### **New Cochrane Living Systematic Review of Interventions for Quitting Vaping**

A new Cochrane Living Systematic Review of interventions for vaping cessation was published in November 2025. It includes 15 studies, with low certainty evidence of effectiveness of a text message-based intervention in young people and of varenicline; there wasn't enough evidence on other interventions to draw any conclusions. Searches for this review are now undertaken monthly, with the review updated any time new studies emerge that could change, strengthen or weaken the conclusions.

*Visit the website (<https://www.cebm.ox.ac.uk/research/electronic-cigarettes-for-smoking-cessation-cochrane-living-systematic-review-1>) for full information on both living systematic reviews, including briefing documents, and new studies found since the latest versions.*

marketing. For an explanation of the search strategy used, please see the end of this briefing.

You can find our previous research briefings at [www.cruk.org/UKECRF](http://www.cruk.org/UKECRF).

If you would prefer not to receive this briefing in future, just let us know.

## Commentary

This quarter, we have a well-rounded group of studies using different methods. A new set of consensus recommendations on the health effects of vaping and e-cigarettes (**Kouzoukas *et al***) is an interesting addition to the area. After systematically reviewing the available evidence on carcinogens, cardiovascular effects, respiratory health and nicotine dependence, the international team (led out of Canada) convened subject matter experts, people with lived experience of vaping, and members of allied health professions to arrive at a set of 14 consensus-driven and evidence-based recommendations. Across all four health areas, consistent conclusions were: people who do not smoke should not vape; people who do smoke and are unable to quit using other evidence-based approaches should switch completely to vaping (including people with pre-existing respiratory diseases like asthma and COPD); and people who vape should avoid their long-term use, where relapse to combustible cigarettes is not a concern.

Studies from this quarter relate back to these points. **Pesola *et al*** report secondary analysis of a randomized trial and find that, of those in the vaping condition who were still vaping at a year, most were using fruit flavours. Those using tobacco flavours were more likely to still be smoking. The authors conclude that, for people who want to use e-cigarettes to help them quit smoking, clinicians should consider recommending non-tobacco flavours. Additionally, they report that people dual using in the intervention period were more likely to ultimately quit smoking than those who were only smoking. These findings should offer reassurance for those concerned that dual use may perpetuate continued smoking – in this sample, the opposite was true.

Despite clear evidence – as acknowledged by **Kouzoukas *et al*** – that vaping is substantially less harmful than smoking, many people still perceive the opposite to be true. **East *et al*** conducted a systematic review of interventions to change vaping harm perceptions, and examined associations between these perceptions and vaping and smoking behaviours. Generally, interventions to change perceptions of vaping tended to achieve their aims, though interventions communicating that vaping is harmful and addictive increased the misperception that vaping is as harmful as smoking. The authors also found some evidence that absolute and relative harm perceptions predict vaping and smoking behaviours, making risk perception interventions a valuable driver in changing behaviour.

**Jackson *et al*** used Smoking Toolkit Study data to examine age-specific trends in patterns of nicotine use in England from 2014 to 2024. They observed generational shifts, with nicotine use rising among young adults, but with those who do use nicotine shifting from daily smoking towards vaping or non-daily smoking. Older adults also showed some movement away from daily smoking, but daily smoking still remained more common in this group. These trends suggest vaping may gradually replace smoking as the dominant form of nicotine consumption in England. To that end, the new **Cochrane** review of interventions for quitting vaping can help us address the last point from **Kouzoukas *et al***, which discourages long-term vaping, and also appears to be an area that will increase in relevance to people living in England in the years to come, given findings from **Jackson *et al***. Though trial evidence is still in its infancy, evidence was promising for a text-message based intervention and for varenicline. Many ongoing studies have been identified, and as this review is a living systematic review, their results will be incorporated once they become available.

## [Kouzoukas \*et al\*: The health effects of vaping and e-cigarettes: consensus recommendations](#)

### **Study aims**

This study used evidence synthesis and a consensus-building process to formulate guidance for health professionals and the general public on the health effects of nicotine e-cigarettes and harm reduction. Four systematic reviews were carried out on carcinogen exposure, cardiovascular effects, respiratory health and nicotine dependence along with an umbrella review covering these and other health effects. Subject matter experts deliberated on recommendations and voting was carried out to arrive at agreed guidance. People with lived experience of e-cigarette use and members of allied health and academic professions provided feedback.

### **Key findings**

- Recommendations were reached, including:
- People who do not currently smoke should not use nicotine e-cigarettes.
- People who use combustible tobacco and have not been able to stop using the best evidence-informed approaches should switch completely to e-cigarettes to reduce exposure to tobacco-related cancer-causing chemicals and cardiovascular toxicants, improve measures of cardiovascular function, and reduce dependence.
- People who use combustible tobacco with pre-existing respiratory diseases such as chronic obstructive pulmonary disease or asthma who have been unable or unwilling to stop smoking using current best evidence-based approaches should switch completely to e-cigarettes for better lung health.
- People who use e-cigarettes should avoid long-term use, where relapse to combustible cigarettes is not a concern, to reduce exposure to cancer-causing chemicals and respiratory toxicants and potentially minimise respiratory symptoms and dysfunction and as this maintains dependence.

### **Limitations**

- Subject matter experts were from high-income countries, so recommendations may not be relevant to wider global populations.
- The smoking status of the people with lived experience of e-cigarette use was not collected
- Consensus was based on 80% agreement among participants who voted, so the results do not reflect abstentions.
- Evidence on long-term health effects of e-cigarette use remains limited, so some of the recommendations relate to exposures rather than health outcomes such as cancer and the recommendations will require updating.
- It is unclear how the recommendations can be applied to adolescent populations.

Kouzoukas E, Navas C, Zawertailo L, Fougere C, Bacon SL, Chadi N, Evans WK, McNeill A, Melamed O, Moraes TJ, Nnorom O, Schwartz R, Shahab L, Ween M, Selby P. The health effects of vaping and e-

cigarettes: consensus recommendations. *Int J Drug Policy*. 2026 Feb;148:105117. doi: 10.1016/j.drugpo.2025.105117. Epub 2025 Dec 23. PMID: 41443121.

## [Pesola \*et al\*: Patterns of e-Cigarette Use and Smoking Cessation Outcomes: Secondary Analysis of a Large Randomised Controlled Trial to Inform Clinical Advice](#)

### Study aims

This secondary analysis of a randomised controlled trial investigated any associations between e-liquid flavour, device characteristics and use pattern, and smoking cessation and reduction. Participants who smoked and were accessing stop smoking services and not using nicotine replacement therapy or e-cigarettes were randomised to receive either nicotine replacement therapy or an e-cigarette starter kit with a tobacco flavoured e-liquid. Participants in the e-cigarette arm were instructed to purchase e-liquid of their choice when their initial supply ran out. Participants reported product use, including e-liquid strength and flavour, device characteristics and smoking and vaping status at 1 and 4 weeks, 6 months and 1 year. Outcome measures were smoking abstinence at each time point (self-reported abstinence biochemically verified at 4 weeks and 1 year) and urges to smoke. Analyses were adjusted for sex, cigarette dependence and age.

### Key findings

- Of the 235 (out of the 438 randomised to receive an e-cigarette) participants in the e-cigarette arm who were still using e-cigarettes at 1 year:
  - just over a third (88) were still using the original device provided through the trial. The rest had purchased their own devices;
  - less than half reported still using tobacco flavoured e-liquid at 1 year. Fruit flavours were the most popular, with 133 participants reporting using them.
  - participants still using tobacco flavoured e-liquids were less likely to quit smoking than those using other flavours (RR = 0.56, 95% CI = 0.35 to 0.89).
- Participants who reported both smoking and vaping at 1 week were more likely than those who reported exclusive smoking to be abstinent from smoking at 4 weeks (RR = 4.45, 95% CI 1.96–10.10).
- Participants who reported both smoking and vaping at 4 weeks were more likely to have a biochemically verified reduction in smoke intake by 50% or more at 1 year (RR = 2.37, 95% CI = 1.36–4.11).
- Participants who were abstinent from smoking and using e-cigarettes reported lower urges to smoke than those using NRT at weeks 1 ( $b = -0.25$ , 95% CI =  $-0.45$  to  $-0.04$ ) and 4 ( $b = -0.37$ , 95% CI =  $-0.58$  to  $-0.16$ ).

### Limitations

- The analyses are exploratory and p values are not reported for all outcomes.
- The original trial was conducted between 2015 and 2018, so the results may not generalise to the present vaping landscape.

- It was not possible to compare smoking abstinence at 1 year between participants who exclusively smoked and those who dual used because there was only one person in each exclusive smoking group.
- Some subsample sizes were small, and confidence intervals are wide.
- As an observational study, it isn't able to establish causality, and there may be unmeasured confounding by covariates not adjusted for.

Pesola F, Myers Smith K, Przulj D, Ladmore D, Phillips-Waller A, McRobbie H, Hajek P. Patterns of e-Cigarette Use and Smoking Cessation Outcomes: Secondary Analysis of a Large Randomised Controlled Trial to Inform Clinical Advice. *Nicotine Tob Res.* 2025 Dec 10:ntaf240. doi: 10.1093/ntr/ntaf240. Epub ahead of print. PMID: 41368708.

### [East et al. Interventions to change vaping harm perceptions and associations between harm perceptions and vaping and smoking behaviours: A systematic review](#)

This systematic review investigated the effectiveness of interventions aimed at changing harm perceptions of vaping. Outcomes investigated were changes in perceptions of absolute or relative (compared to smoking) harms of vaping, after the intervention (compared to before/concurrently), harm perceptions of nicotine or vaping and smoking behaviours. Studies in young people (sample majority aged under 18) and adults (sample majority aged 18+ or mean sample age 20+).

#### **Key findings**

- Most interventions aimed at young people focused on absolute harms of vaping and nicotine, for example that vaping and nicotine were harmful and addictive, whereas those aimed at adults were more likely to include information about the relative harms of vaping compared to smoking.
- Some interventions in both young people and adults included inaccurate information, such as that vaping was more harmful than smoking.
- There was evidence that interventions were effective at changing perceptions of vaping and nicotine in both age groups, including absolute harms and inaccurate perceptions relative harms.
- Most studies investigating any association between vaping harm perceptions and vaping and smoking behaviours in young people investigated absolute harm perceptions.
- There was evidence of associations between harm perceptions of vaping and vaping and smoking behaviour. For example, lower absolute harm perceptions were associated with vaping uptake and perceiving vaping as less harmful than smoking was associated with switching from smoking to vaping.

#### **Limitations**

- Heterogeneity and risk of bias of the underlying studies were high.

- All studies in young people and most in adults were from the US, so findings may not generalise to the UK.
- Almost all intervention studies investigated changes in harm perceptions immediately after the intervention, limiting ability to describe any longer-term changes.
- Intervention studies are unable to replicate real-world exposure, through which people receive messages about vaping and smoking through multiple channels, which may be inconsistent with one another.

East K, Simonavičius E, Taylor EV, Brose L, Robson D, McNeill A. Interventions to change vaping harm perceptions and associations between harm perceptions and vaping and smoking behaviours: A systematic review. *Addiction*. 2026 Jan;121(1):8-43. doi: 10.1111/add.70129. Epub 2025 Jul 25. PMID: 40708371; PMCID: PMC12710839.

### [Jackson et al. The changing face of nicotine use in England: Age-specific annual trends, 2014 to 2024](#)

#### **Study aims**

This repeat cross-sectional study used data from the Smoking Toolkit Study to investigate trends in use of consumer (non-medicinal) nicotine products in England between 2014 and 2024. Prevalence of use of combustible tobacco, e-cigarettes, nicotine pouches and heated tobacco were measured. The study also investigated patterns of use, including exclusive and dual use, daily and non-daily use and smoking history in respondents who vaped. Results were stratified by age group in order to explore any associations between age and product use.

#### **Key findings**

- In the youngest age group (18-24), there was a sharp increase in vaping from 5.0% in 2014 to 25.0% in 2024 (PR = 5.00; 95% CI = 4.18–5.91), overtaking smoking as the most common form of nicotine use and primarily driving a net increase in overall nicotine use. Among respondents who smoked, non-daily smoking became more common than daily smoking and exclusive use of non-cigarette tobacco increased.
- Similar changes were seen in the 25-44 age group, although they became less pronounced as age increased. For example, the increase in vaping among respondents aged 25-34 was from 6.7% in 2014 to 20.7% in 2024 (PR = 3.09 (2.67–3.66)) and among those aged 35-44 there was a smaller increase from 6.0% to 14.2%; PR = 2.37 (1.94–2.83).
- Patterns of use, and overall nicotine use, were more stable among respondents aged 45 and over and changes became more modest as age increased. For example, increases in vaping and decreases in smoking prevalence were slower than in younger age groups and there was no significant decline in smoking among respondents age 65+. The shift from daily to non-daily smoking and increase in exclusive non-cigarette tobacco use were not observed in respondents aged 45 and over.
- Most respondents who vaped had a history of smoking in all age groups and throughout the time period, but the proportion reporting current smoking declined. This was driven by increases in the proportion of those who vaped and had never smoked (more in younger age

groups and no change in the 65+ age group) and those who reported long-term former smoking (more so in older age groups).

### **Limitations**

- The study is unable to conclusively separate effects of age, period and cohort.
- As a repeat cross-sectional study, it is unable to establish causality.
- Some confidence intervals are wide.
- The study did not include vaping history, so it was not possible to investigate any associations between vaping history and study outcomes.
- The study does not investigate motivations for any changes in nicotine use behaviours.

Jackson SE, Shahab L, Buss V, Tattan-Birch H, Cox S, Taylor E, Brown J. The changing face of nicotine use in England: Age-specific annual trends, 2014 to 2024. *Addiction*. 2025 Dec 7. doi: 10.1111/add.70243. Epub ahead of print. PMID: 41354055.

### **[Butler et al. Interventions for quitting vaping](#)**

#### **Study aims**

This Cochrane living systematic review investigated the efficacy of pharmacological and behavioural interventions for vaping cessation. 15 randomised controlled trials were included, studying combination nicotine replacement therapy, varenicline, cytisine, nicotine/vaping reduction and text message-based interventions. The main outcomes investigated were vaping cessation at six months or longer, change in combustible tobacco use at six months or longer, and number of participants reporting serious adverse events (SAEs) at least a week after starting treatment.

#### **Key findings**

- There was no significant difference in vaping cessation and smoking outcomes at 6 months or longer between participants randomised to receive combination nicotine replacement therapy (NRT) and no or minimal support. No SAEs were reported in either study arm.
- No studies reported vaping cessation and smoking outcomes at 6 months or longer in participants randomised to receive cytisine compared with placebo and there were no SAEs.
- Participants randomised to receive varenicline were significantly more likely than those in the placebo arm to stop vaping at 6 months (RR 2.71, 95% CI 1.33 to 5.49). No studies reported changes in combustible tobacco use and there was no significant difference in SAEs between the varenicline and placebo arms.
- No significant difference in vaping cessation at 6 months was found between participants randomised to vaping/nicotine reduction compared to no/minimal support. No studies reported changes in combustible tobacco use or SAEs.

- Participants randomised to receive a text message-based intervention were significantly more likely than those in the no/minimal support arm to stop vaping at 6 months (RR 1.32, 95% CI 1.19 to 1.47). There was no significant difference in smoking cessation and no SAEs reported.

### **Limitations**

- None of the included studies were conducted in the UK, and only one in Europe, so the findings may not generalise to the UK population.
- All findings were graded as low or very low certainty and most studies were assessed as being at high or unclear risk of bias.
- The number of available studies was small and no more than 4 reported each main outcome.
- Due to the small number of studies available for each outcome, sensitivity analyses excluding studies funded by the manufacturer of the intervention were not informative.
- Most studies appeared to recruit both participants who had and had not previously smoked tobacco cigarettes, so it was not possible to investigate any variation in outcomes by smoking history.
- The studies investigating text message-based interventions were carried out in young people aged 13-24, so it is unclear whether the findings generalise to other age groups.

Butler AR, Lindson N, Livingstone-Banks J, Notley C, Turner T, Rigotti NA, Fanshawe TR, Begh R, Wu AD, Brose L, Conde M, Simonavičius E, Hartmann-Boyce J. Interventions for quitting vaping. Cochrane Database of Systematic Reviews 2025, Issue 11. Art. No.: CD016058.

### **Search strategy**

The PubMed database is searched in the middle of every third month, for the previous three months using the following search terms: e-cigarette\*[title/abstract] OR electronic cigarette\*[title/abstract] OR e-cig[title/abstract] OR (nicotine AND (vaporizer OR vapourizer OR vaporiser OR vapouriser OR vaping)).

Based on the titles and abstracts new studies on e-cigarettes that may be relevant to health, the UK and the UKECRF, key questions are identified. Only peer-reviewed primary studies and systematic reviews are included – commentaries are not included. Please note studies funded by the tobacco industry are also excluded.

*This briefing is produced by Julia Cotterill from Cancer Research UK with assistance from Associate Professor Jamie Hartmann-Boyce at the University of Massachusetts Amherst, primarily for the benefit of attendees of the CRUK UK E-Cigarette Research Forum. If you wish to circulate to external parties, do not make any alterations to the contents and provide a full acknowledgement. Kindly note Cancer Research UK cannot be responsible for the contents once externally circulated.*